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<b>M8 – Establish and fund life-cycle replacement for IT assets</b>			
Maximum One-Time Costs:	\$15,000	Project Start:	1 <sup>st</sup> Qtr 2003
Annual/Recurring Costs:	\$1,413,000	Project Duration:	Rekurs annually
<p><b>Key business drivers:</b> Brookline has an established fund to replace desktop PC hardware based on a pre-defined lifecycle. As investments are made in the enterprise IT initiatives recommended by this plan, this fund must also incorporate costs for infrastructure and applications to assure that these funds are available to replace these assets at the end of their useful life.</p> <p><b>Recommended Project:</b> This project establishes replacement funding for mission-critical applications – Financial Management, Public Safety, Payroll, Permitting, School Administration, and Maintenance Management. This project also establishes infrastructure replacement (e.g., servers, routers) funding. Monies would be placed in the fund each year, to ensure upgrades and replacement funds will be available when needed.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Delivers more efficient and effective maintenance through scheduled upgrades</li> <li>• All departments are assured of a reasonably up-to-date PC inventory</li> <li>• Levels IT replacements spending over time, simplifying budget projections</li> </ul> <p><b>Cost Assumptions:</b> The one-time cost of \$15,000 assumes Brookline hire a consultant to assist in establishing the plan. The low-end cost of \$0 assumes internal staff performs the required work.</p> <p>Of the \$1.4 million recommended annual funding for this project, approximately \$0.6 million annually is currently planned for funding beginning in FY2004. Major components of the additional funding required include:</p> <ul style="list-style-type: none"> <li>• School servers and instructional technology – \$0.3 million</li> <li>• Brookline infrastructure (e.g., routers, hubs, etc.) – \$0.1 million</li> <li>• Core applications – \$0.4 million including: <ul style="list-style-type: none"> <li>• Financial Management (\$80,000 annually – five year life)</li> <li>• Permitting System (\$70,000 annually – ten year life)</li> <li>• Public Safety System (\$150,000 annually – ten year life)</li> <li>• School Administration System (\$100,000 annually – ten year life)</li> <li>• Maintenance Management (\$25,000 annually – ten year life)</li> </ul> </li> </ul> <p>Core application replacement costs include hardware, software, conversion, implementation, and training.</p>			

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<b>M9 – Conduct annual review and update of IT strategic plan</b>			
<b>Maximum One Time Costs:</b>	<b>\$0</b>	<b>Project Start:</b>	<b>4<sup>th</sup> Qtr 2003</b>
<b>Annual/Recurring Costs:</b>	<b>N/A</b>	<b>Project Duration:</b>	<b>Rekurs annually</b>
<p><b>Key business drivers:</b> The priorities and projects recommended in this plan reflect a "point in time" planning effort. As the plans goals are accomplished, new challenges and new technologies will impact Brookline's priorities – requiring a fresh look at the strategic plan.</p> <p><b>Recommended Project:</b> This project consists of an annual update of the IT strategic plan by the Brookline management team. The team will meet in the fourth quarter to revise the plan as necessary to support changes in Town and School priorities.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Maintains focus on IT strategy</li> <li>• Develops consensus on priorities for future technology direction</li> </ul> <p><b>Cost Assumptions:</b> The low-end cost of \$0 assumes internal staff will review and revise the plan. No recurring costs are associated with this project.</p>			

**APPLICATION PROJECTS**

**A1 – Implement Human Resource system**

<b>Maximum One-Time Costs:</b>	<b>\$85,000</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr 2005</b>
<b>Annual/Recurring Costs:</b>	<b>\$10,000</b>	<b>Project Duration:</b>	<b>12 months</b>

**Key business drivers:**

Human resources information is currently scattered across the payroll system, an internal MS Access database, and manual records. This reduces HR department efficiency and complicates management reporting. Except for tracking teacher credentials, management has chosen not to implement the HR functionality of the existing Harper's system.

**Recommended Project:**

The project, as a first step, implements the HR functionality of Harper's and/or implements the HR capabilities of MUNIS. As a follow-on, the project adds Web functionality to support distributed employee records maintenance and annual benefits re-enrollment.

**Benefits Include:**

- Improved ability to track employee records including benefits and training
- Better customer service to employees as self-service capabilities are provided
- Improved efficiency for HR department

**Cost Assumptions:**

The high-end estimate of \$85,000 assumes that Brookline chooses to implement HR using MUNIS. \$55,000 of this amount is software and timekeeping interfaces, the remaining \$30,000 is for implementation-related costs. Recurring costs of \$10,000 cover software and interface maintenance.

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<b>A2 – Implement Maintenance Management System</b>			
<b>Maximum One-Time Costs:</b>	<b>\$270,000</b>	<b>Project Start:</b>	<b>2<sup>nd</sup> Qtr 2003</b>
<b>Annual/Recurring Costs:</b>	<b>\$18,000</b>	<b>Project Duration:</b>	<b>21 months</b>
<p><b>Key business drivers:</b> A maintenance management system is a core business application that is commonly automated in a town of Brookline's size. The Public Works department has requested funding for this application for several years, and while they have acquired a small component for fleet maintenance, Brookline needs to take an enterprise-wide view of this application to gain economies of scale. In addition, the steering committee ranked this as a high priority for Brookline.</p>			
<p><b>Recommended Project:</b> This project implements a packaged solution to automate management of assets including fleet, facilities, infrastructure, and parks through their life cycle. It manages regulatory compliance, certification, and maintenance information for these assets. It generates work orders and preventive maintenance schedules and assigns personnel, equipment, and inventory to work. Provides the ability to track and analyze time, materials, and costs for all maintenance activities. Can interface with wireless devices for dispatch, asset records, and plans/drawings. Also interfaces to the financial/payroll, and inventory systems.</p>			
<p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Ability to perform preventive maintenance producing longer asset life and reducing repair costs</li> <li>• Improved ability to track and manage assets and determine true cost of ownership on assets</li> <li>• Improved project management and better project planning</li> <li>• Keeps projects on time and within budget</li> </ul>			
<p><b>Cost Assumptions:</b> The high-end estimate of \$270,000 includes: \$50,000 for hardware, \$75,000 for software, vendor implementation costs of \$75,000, contracting for a project manager for \$80,000, training staff for \$15,000. Recurring costs include 12% for hardware maintenance, and 20% vendor maintenance fees. The low-end cost of \$142,000 assumes dedicating an internal project manager and acquiring a lower cost system.</p>			

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<b>A3 – Establish a management reporting platform and develop key reports</b>			
<b>Maximum One-Time Costs:</b>	<b>\$76,000</b>	<b>Project Start:</b>	<b>3<sup>rd</sup> Qtr 2003</b>
<b>Annual/Recurring Costs:</b>	<b>\$3,200</b>	<b>Project Duration:</b>	<b>12 months</b>
<p><b>Key business drivers:</b> Currently there is no consistent method to develop and deliver management reports that identify key performance indicators within each department. The need for these reports was identified as a high priority by the steering committee.</p> <p><b>Recommended Project:</b> This project develops user-friendly reports using a standard tool. A consultant would work with each department to develop a set of standard reports that identify and report on key management performance measures. Each department will run the reports on a regular schedule. The reporting tool will require interfaces to management systems, including Financial Management, HR, Permits Plus, Pentamation, and Maintenance Management.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Efficiently automates the generation of management information</li> <li>• Improves operational decision making</li> </ul> <p><b>Cost Assumptions:</b> The high-end cost for this project assumed product-licensing costs of \$16,000 and \$60,000 for consulting assistance for report development and training. The low-end cost of \$16,000 is for product licensing and assumes Brookline conducts this project internally. Recurring costs of \$3,200 were based on vendor maintenance and support fees.</p>			

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<b>A4 – Extend MUNIS functionality to all departments</b>			
<b>Maximum One-Time Costs:</b>	<b>\$49,000</b>	<b>Project Start:</b>	<b>3<sup>rd</sup> Qtr 200d</b>
<b>Annual/Recurring Costs:</b>	<b>N/A</b>	<b>Project Duration:</b>	<b>30 months</b>
<p><b>Key business drivers:</b> MUNIS provides solid accounting functionality, but departments have been slow to implement its decentralized aspects. Accomplishing this requires a combination of training, business process change within departments, and application tailoring.</p> <p><b>Recommended Project:</b> This project will provide training for staff in MUNIS features and functions. In addition, consulting services will assist departments in aligning their procedures, forms, etc. to more fully utilize MUNIS functions, eliminate redundant processes, and streamline their work. Implementation of the Windows graphical version is dependant on the school administration replacing Mac's with PC's.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Eliminate redundant processes and forms</li> <li>• Improved use of MUNIS functionality resulting in increased staff productivity</li> <li>• Improved employee satisfaction (e.g. graphical interface is easier to use, better understanding of functionality)</li> </ul> <p><b>Cost Assumptions:</b> The high-end project costs of \$49,000 assumes MUNIS consulting services for 300 hours to assist in deploying the graphical version and training 120 users. The training cost of \$4,000 assumes 15 users per class for 8 sessions at \$500 each. The low-end estimate of \$19,000 assumes only 100 hours of MUNIS consulting and \$4,000 for user training. It is assumed Brookline will use internal staff to deploy the software to user desktops. No recurring costs are associated with this project.</p>			

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<b>A5 – Complete implementation of Permits Plus</b>			
Maximum One Time Costs	\$60,000	Project Start:	3 <sup>rd</sup> Qtr 2002
Annual/Recurring Costs	\$6,000	Project Duration:	24 months
<p><b>Key business drivers:</b> The Town uses Permits Plus to provide permit management in the Health Department, Building Department, and Town Administration. Significant efficiency gains can be realized through workflow automation in other departments using this tool, and additional staff training in the available features. In addition an automated interface to MUNIS for permit fees collected would eliminate the need for duplicate data entry.</p> <p><b>Recommended Project:</b> This project will require provide additional training to staff and consulting services to automate workflow features. The permit process workflow in each department will be assessed and automated where possible. In many cases the permit process spans departments, which also requires the inter-departmental permit process workflow to be automated.</p> <p>This project also includes development of an automated interface to MUNIS for collection of permit fees.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Integrates and streamlines permit processing from initial application through completion</li> <li>• Provides faster permit turnaround service to customers</li> <li>• Automates inspection scheduling.</li> </ul> <p><b>Cost Assumptions:</b> The estimate to provide training and workflow consulting is \$30,000. The estimated cost for Interface development to MUNIS is \$30,000. The low-end cost of \$0 assumes Brookline performs this work internally. Recurring costs of \$6,000 are for on-going maintenance of the MUNIS interface.</p>			

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<b>A6 – Deploy Pentamation to teachers and community</b>			
<b>Maximum One-Time Costs:</b>	\$56,000	<b>Project Start:</b>	1 <sup>st</sup> Qtr 2003
<b>Annual/Recurring Costs:</b>	N/A	<b>Project Duration:</b>	36 months
<p><b>Key business drivers:</b> The Pentamation suite of products meets the School's student administrative needs at the high school. The web version is in use by teachers in the high school to track attendance, grades, and detailed student information. The K-8 teachers would benefit from extending the same functionality to the K-8 schools. Internet enablement would allow parents and students access to this data from any convenient location.</p> <p><b>Recommended Project</b> This project deploys Pentamation to teachers, and provides Internet access for assignments and schedules to parents and students. In addition, funding is allocated to train teachers on the use of the Pentamation web product.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>♦ Provides teachers and administrators with an integrated view of student activities</li> <li>♦ Supports state and federal reporting requirements</li> <li>♦ Improve communication between students, teachers, and parents</li> <li>♦ Improves efficiency by eliminating manual tracking of student information</li> </ul> <p><b>Cost Assumptions:</b> The high-end costs for this project assume \$30,000 for consulting to assist in rolling out Pentamation to the schools and publicizing the use in the community. Additionally, the cost for Pentamation training for teachers to utilize the web based student administration module assumes a Pentamation trainer for 26 one-day sessions at \$1,000 per day for a total of \$26,000. The low-end costs of \$26,000 assumes the costs for training teachers and Brookline will roll out and publicize Pentamation to the community. No recurring costs are associated with this project.</p>			

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<b>A7 – Implement Internet priorities</b>			
<b>Maximum One Time Costs:</b>	<b>\$270,000</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr 2003</b>
<b>Annual/Recurring Costs:</b>	<b>\$43,000</b>	<b>Project Duration:</b>	<b>24 months</b>
<p><b>Key business drivers:</b>  Brookline identified eGovernment as a top priority, and has invested significant effort in providing Internet services to the public. The Internet is the most visible evidence that a municipality is using technology to improve service. Brookline should continue to evaluate opportunities for Internet enabled services to the community.</p>			
<p><b>Recommended Project:</b>  This project reviews services provided by Brookline to identify which services can be offered over the Internet, and determining the best method to implement these services – internal hosting or outsourcing.</p> <p>Currently Brookline hosts its own Internet site, with the exception of recreation registration, but outsources the process to collect fees. The Town may consider bringing all services in-house which would include development of interfaces to applications, acquiring and implementing an eCommerce engine to process transactions, and acquiring a recreation registration system.</p>			
<p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>♦ Improved customer service and satisfaction with Internet access</li> <li>♦ Improved student services with access to homework and assignments</li> </ul>			
<p><b>Cost Assumptions:</b>  The project costs assume purchase of an eCommerce engine for \$50,000, registration system acquisition and implementation for \$70,000, and \$30,000 for five interfaces with each current eCommerce applications. The recurring costs \$43,000 are for hardware, software, and interface maintenance.</p>			

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<b>A8 – Implement intranet priorities</b>			
<b>Maximum One Time Costs</b>	\$75,000	<b>Project Start:</b>	3 <sup>rd</sup> Qtr 2004
<b>Annual/Recurring Costs</b>	N/A	<b>Project Duration:</b>	18 months
<b>Key business drivers:</b>			
The intranet provides a centralized location and simple method for employees to access and submit information to support their job function. As Brookline implements new applications, intranet functionality should be a key consideration.			
<b>Recommended Project:</b>			
This project implements the intranet functions of existing and new applications. Priorities include submission and tracking of help desk problems, access to HR information and annual benefits enrollment, integrated scheduling for staff and facilities, and provisioning of computer based training courses			
<b>Benefits Include:</b>			
<ul style="list-style-type: none"> <li>• Reduced paperwork and paper flow creating a more efficient workforce</li> <li>• Improved employee satisfaction</li> </ul>			
<b>Cost Assumptions:</b>			
The initial costs for this project are accounted for in project A1 – Implement HR system, M6 – Establish IT help desk, and M5 – Develop delivery and coordination framework for IT training. The high-end costs of \$60,000 is to hire a consultant to modify the default web pages acquired with purchased applications and develop a unified look and feel. The low-end cost of \$0 assumes Brookline performs this work internally. No recurring costs are associated with this project.			

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<b>A9 – Upgrade classroom applications</b>			
<b>Maximum One-Time Costs</b>	<b>\$706,000</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr 2004</b>
<b>Annual/Recurring Costs</b>	<b>\$136,000</b>	<b>Project Duration:</b>	<b>36 months</b>
<b>Key business drivers:</b>			
The plan and recommendations developed through project M7 will identify appropriate Instructional Technology applications at all grade levels. Based on the recommendations of project M7, there will be a need to acquire software products at each grade level.			
<b>Recommended Project:</b>			
This project acquires the applications recommended by the Instructional Technology Strategic Plan, deploys them in the classroom, and trains teachers in their use.			
<b>Benefits Include:</b>			
<ul style="list-style-type: none"> <li>♦ Enhances student learning</li> <li>♦ Improves teacher satisfaction with adequate support and availability of technology curriculum tools</li> <li>♦ Improves parental satisfaction with the quality of school instruction</li> </ul>			
<b>Cost Assumptions:</b>			
The project provides \$200 per desktop for Instructional Technology applications. The low-end estimate of \$366,000 assumes no increase in desktops, the high-end assumes an increase of 1700 desktops for a total of 3400 desktops. Both estimates include teacher training in use of the tools (\$26,000). Recurring costs of \$136,000 is assumed for software maintenance.			

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<b>A10 – Replace/upgrade Document Management System</b>			
<b>One-Time Costs:</b>	<b>\$790,000</b>	<b>Project Start:</b>	<b>3<sup>rd</sup> Qtr 2004</b>
<b>Annual/Recurring Costs:</b>	<b>\$32,000</b>	<b>Project Duration:</b>	<b>18 months</b>
<p><b>Key Business Drivers:</b>            The Town has expressed a desire to reduce storage and handling of paper documents. Several departments have acquired document scanners, with only the Selectmen, Town Counsel, and Comptroller's Office currently utilizing the system to image documents, accounts payable checks and supporting documents, journal entries, cash receipts, contracts, and payroll reports. The Town Clerk is in the design phase of implementation.</p> <p>The Town has exceeded the capacity of the scanners and necessary disk space to store images, requiring frequent offloading to CD ROM. The underlying database used to organize the documents is Btrieve. In order to expand and meet the needs of other departments, a system with higher capacity equipment for scanning and storage using an up-to-date enterprise database is required.</p>			
<p><b>Recommended Project:</b>            This project updates the existing system and implements an electronic document/record management system. The project will be implemented in Finance and the Selectmen's Offices to continue support of imaging records and expand the scope to include historical archived data, in the Town Clerk's office to image official and legislative records (Ordinances, Resolutions, Selectmen Meeting Minutes, etc.), and in the Building Department to image construction related documents. The project will require backfile conversion (i.e., conversion of existing documents into electronic form) of approximately 1,000,000 pages.</p>			
<p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>◆ Improved ability to respond to citizen requests</li> <li>◆ Enhanced staff productivity</li> <li>◆ Improved capability to track and manage documents throughout their lifecycle</li> <li>◆ Ability to comply with local, state and federal record retention requirements</li> <li>◆ Reduces errors by helping to ensure that only one version of a document remains current at any time and that all concerned parties have the latest approved revisions and/or releases</li> </ul>			
<p><b>Cost Assumptions:</b>            The high-end estimate of \$790,000 includes: contracting for development of a document management implementation plan for \$75,000, \$100,000 for hardware, \$100,000 for software, vendor implementation costs of \$270,000, contracting for a project manager for \$80,000, training staff for \$15,000, and backfile conversion for \$150,000 (.15 cents per document). The low-end estimate of \$609,000 assumes Brookline will use an internal project manager and hire a temporary employee for one year to convert documents. Recurring costs of \$32,000 include 12% for hardware maintenance, and 20% vendor maintenance fees.</p>			

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**T1 – Establish a data center**

<b>Maximum One-Time Costs</b>	<b>\$175,000</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr. 2004</b>
<b>Annual/Recurring Costs</b>	<b>N/A</b>	<b>Project Duration:</b>	<b>6 months</b>

**Key business drivers:**

Network and operational services are provided from several locations throughout Brookline. The move to an enterprise IT service organization would be most efficiently supported from a centralized data center.

**Recommended Project:**

Consolidate the Town servers and related IT infrastructure to the high school, Sperber Education Center, or Municipal Service Center, and consider relocation to Town Hall in conjunction with the remodeling project.

**Benefits Include:**

- Achieve economies of scale for systems support
- Provide a single source to manage Brookline's infrastructure

**Cost Assumptions:**

The high-end cost of \$175,000 assumes hiring a consultant for \$75,000 to plan the relocation and \$100,000 to outfit the facility, provide rewiring, and move equipment. The low-end cost of \$50,000 assumes the cost to outfit the facility, provide rewiring, and move equipment, and uses internal staff to plan the relocation. No recurring costs are associated with this project.

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<b>T2 – Upgrade LAN/ WAN in schools</b>			
<b>Maximum One Time Costs</b>	<b>\$1,350,000</b>	<b>Project Start:</b>	<b>3<sup>rd</sup> Qtr. 2003</b>
<b>Annual/Recurring Costs</b>	<b>\$24,000</b>	<b>Project Duration:</b>	<b>42 months</b>
<b>Key business drivers:</b>			
A stable high-speed WAN is critical to effective enterprise application deployment, and upgrading the LAN's in the schools is key to deployment of Pentamation and instructional technology.			
<b>Recommended Project:</b>			
This project will complete school LAN upgrades to provide high-speed access to support rollout of Pentamation and Instructional Technology. It will also configure and/or upgrade existing WAN infrastructure to support centralized management.			
<b>Benefits Include:</b>			
<ul style="list-style-type: none"> <li>♦ Provides reliable, high-speed access to applications and data for students and teachers</li> <li>♦ Supports access to enterprise applications at all Brookline facilities</li> </ul>			
<b>Cost Assumptions:</b>			
The high and low-end costs for this project are the same and include \$300,000 to upgrade four schools and \$150,000 for one school for a total of \$1,350,000. Recurring costs of \$24,000 are for hardware maintenance of network routers.			

<b>T3 – Implement an enterprise database</b>			
<b>Maximum One/Time Costs</b>	<b>\$660,000</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr. 2006</b>
<b>Annual/Recurring Costs</b>	<b>\$106,000</b>	<b>Project Duration:</b>	<b>12 months</b>
<p><b>Key business drivers:</b>            Database standards are currently closely tied to specific applications, resulting in “data silos” and impeding enterprise information sharing. Movement to an enterprise database assumes that core applications will converge on a common standard. As Brookline converts to an enterprise database environment, it will be necessary to hire a database administrator to support the database separately from the applications.</p>			
<p><b>Recommended Project:</b>            Incorporate the requirement for new systems to support an enterprise database and migrate existing applications to the standard to ensure efficient access to data across the WAN/LAN. In addition, develop a standard data dictionary for detailed definitions of data within each application. This includes hiring a database administrator as part of the IT Operations staff to support and maintain the database(s) and data dictionary.</p>			
<p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>• Improved access to data</li> <li>• Improved management reporting</li> <li>• Easier to maintain data</li> </ul>			
<p><b>Cost Assumptions:</b>            The high-end cost estimate of \$660,000 for this project include development of a common data dictionary to name and describe data stored in the enterprise database. The cost to develop the data dictionary and reconcile individual applications with the dictionary is \$330,000. Additional costs of \$120,000 to convert existing data, and \$160,000 to acquire enterprise database licenses for Permits Plus, MUNIS, Pentamation, Harper’s Payroll, and \$50,000 for an enterprise database server.</p>			
<p>The low-end cost estimate of \$230,000 assumes Brookline develop the data dictionary and reconcile individual applications to the dictionary. The additional cost of \$120,000 is required for vendor conversion for Permits Plus, MUNIS, Pentamation, and Harper’s Payroll. The low-end cost also includes standard database licenses for existing applications is estimated at \$60,000, and an enterprise database server at \$50,000. Recurring costs include software and hardware license maintenance, 20% and 12% respectively, and \$67,500 for a database administrator, not including fringe benefits.</p>			

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<b>T4 – Migrate School administrative staff to PC platform</b>			
<b>Maximum One Time Costs:</b>	<b>\$37,000</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr. 2003</b>
<b>Annual/Recurring Costs:</b>	<b>\$4,000</b>	<b>Project Duration:</b>	<b>3 months</b>
<p><b>Key business drivers:</b> School Administrative staff who use Macintosh equipment need to access MUNIS, Harper's Payroll, and other systems which are optimally accessed from a Windows PC. The School has committed to migrating these individuals to PC's.</p> <p><b>Recommended Project:</b> This project is for the purchase of an estimated 52 PC's to replace Macintosh desktops in the School administrative offices, at Town Hall and at the schools.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>♦ Allows Brookline to deploy a graphical version of MUNIS</li> <li>♦ Improved and consistent access to information</li> <li>♦ Improved support</li> </ul> <p><b>Cost Assumptions:</b> The project provides \$30,000 to lease or purchase 52 new PC's to replace Mac's and includes costs for Microsoft Office Suite. An additional \$7,000 is included to hire a consultant to setup and install the equipment. Recurring costs are included within project M8 to fund technology replacement.</p>			

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<b>T5 – Upgrade classroom computing platform</b>			
<b>Maximum One-Time Costs:</b>	<b>\$0</b>	<b>Project Start:</b>	<b>1<sup>st</sup> Qtr. 2004</b>
<b>Annual/Recurring Costs:</b>	<b>\$986,000</b>	<b>Project Duration:</b>	<b>36 months</b>
<p><b>Key business drivers:</b> The plan and recommendations developed through project M7 will identify appropriate Instructional Technology hardware standards for all grade levels. Based on the outcome of project M7, there may be a need to improve the desktop to student ratio, particularly given Department of Education guidelines still under development in this area.</p> <p><b>Recommended Project:</b> The project assumes increasing the existing Instructional Technology desktops from 1700 to 3400, improving the desktop to student ratio by a factor of 2. The project may also replace existing Mac's with PC's, creating a pure PC network of 3400 desktops.</p> <p><b>Benefits Include:</b></p> <ul style="list-style-type: none"> <li>♦ Enhances student learning</li> <li>♦ Improves teacher satisfaction with support and availability of technology curriculum tools</li> <li>♦ Improves parental satisfaction with the quality of school instruction</li> </ul> <p><b>Cost Assumptions:</b> The recurring costs assume leasing an additional 1700 Mac and/or PC desktops, along with hiring a consultant to setup and install the equipment.</p>			

Assessment

1

2

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Strategy  
Development

Implementation  
Planning

[ customer  
satisfaction  
survey results ]



## **INFORMATION TECHNOLOGY STRATEGIC PLAN**

### Appendix C: Customer Satisfaction Survey Results

As part of the assessment, PTI conducted a survey of Brookline employees regarding their satisfaction with decision-making, applications, service delivery, technical infrastructure, and, for the Schools, instructional technology.

The survey asked Brookline staff and management to rank their agreement with 36 positively worded statements on a scale of 1 (strongly disagree) through 5 (strongly agree).

The survey is grouped into five sections:

- **Service Delivery** – the ongoing services provided by the Town and School technology support staff
- **Technical Infrastructure** – the networks, servers, databases, and other components required to run the applications
- **Applications** – the software programs that support daily activities
- **IT Decision Making** – the processes used to set priorities and make decisions regarding technology investments
- **Instructional Technology** – the use of IT to facilitate the delivery of curriculum in the classroom

*Please note that while the survey had statements applying to Instructional Technology tools, training, and support, the scope of recommendation in this study is limited to support services for Instructional Technology.*

There were 130 responses to the survey, representing about 9% of Brookline employees who received it. Of these:

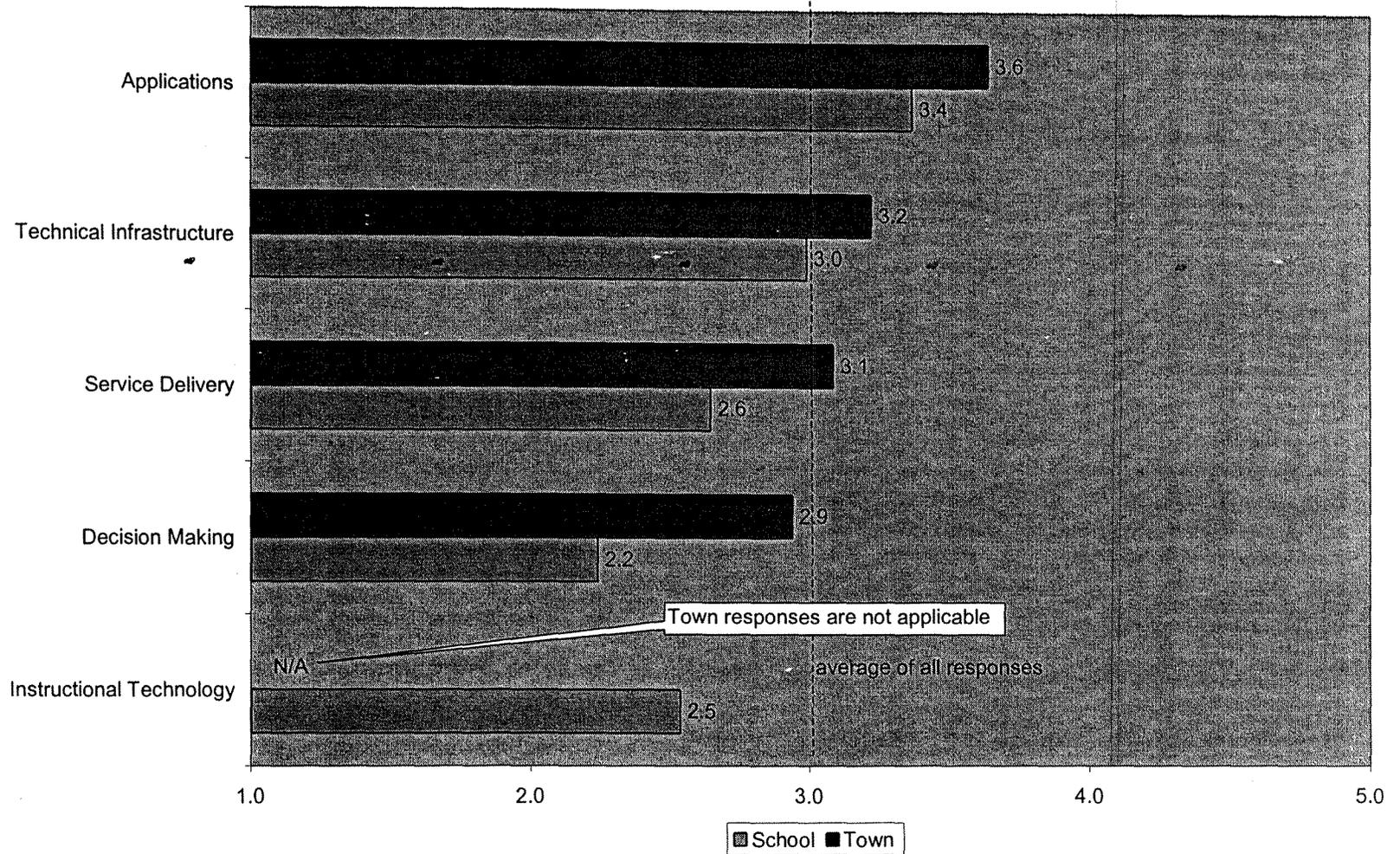
- There were 66 responses from School instructional staff and 2 from School administration – *thus School-related findings primarily represent the views of teachers*
- There were 40 responses from Town staff and 22 from Town management

The remainder of this chapter summarizes the following information from the survey:

- Average Response for Town and School by Category
- Selected Statements for Applications by Town and School
- Selected Statements for Technical Infrastructure by Town and School
- Selected Statements for Service Delivery by Town and School
- Selected Statements for Decision Making by Town and School
- Selected Statements for Instructional Technology by Town and School

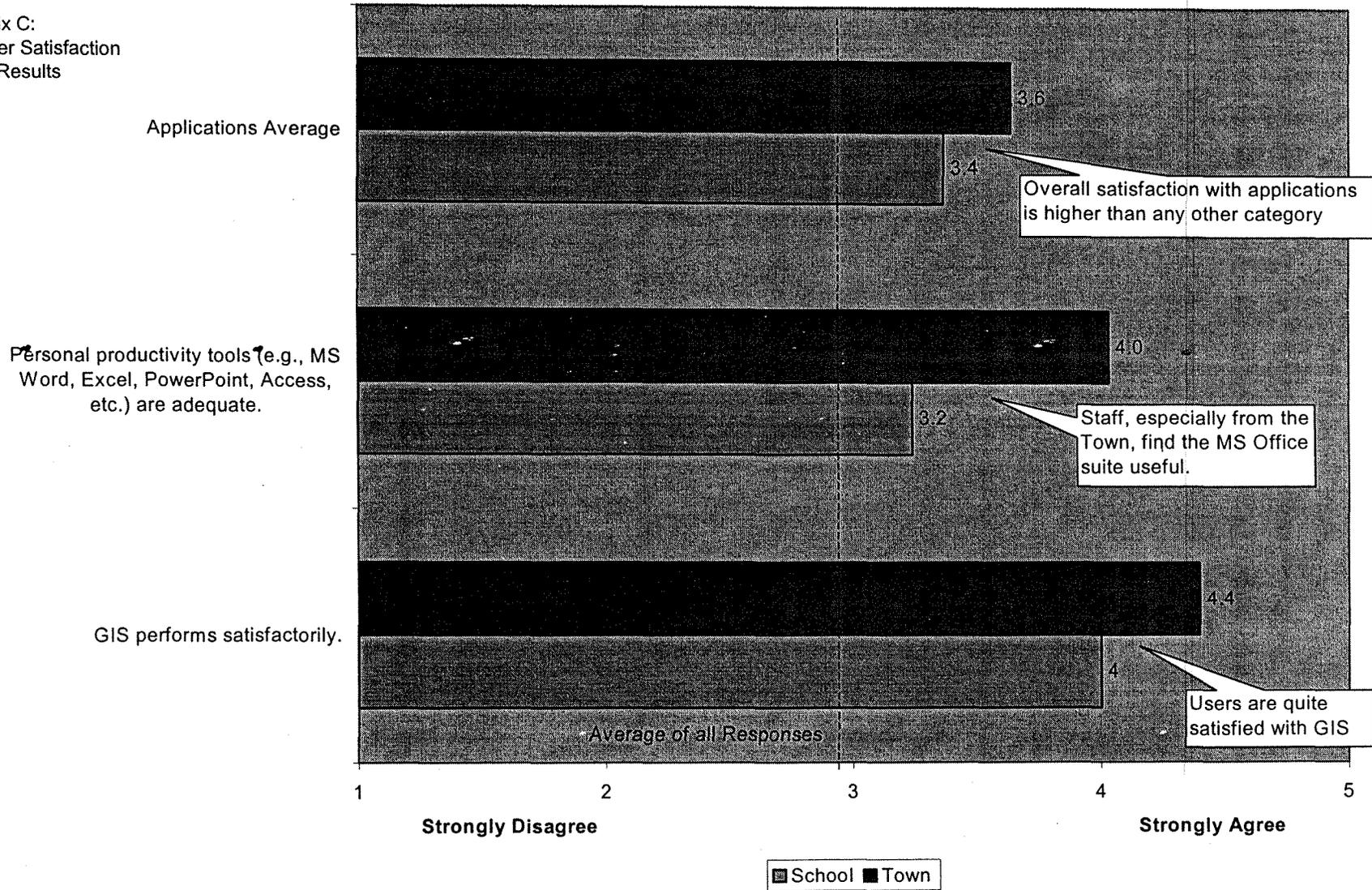
**Average Response for Town and School By Category**

Appendix C:  
Customer Satisfaction  
Survey Results



**Selected Statements for Applications**

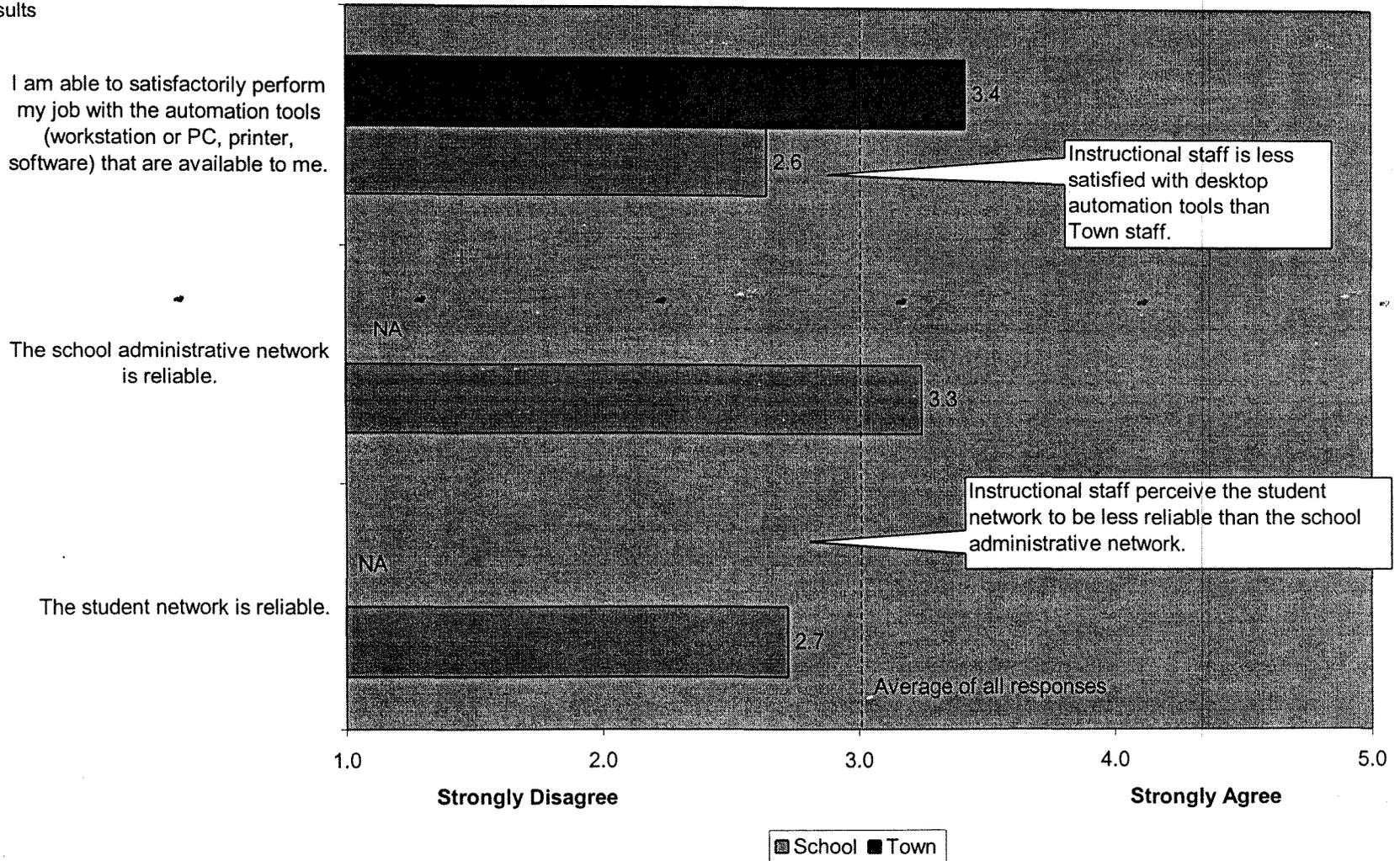
Appendix C:  
Customer Satisfaction  
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**INFORMATION  
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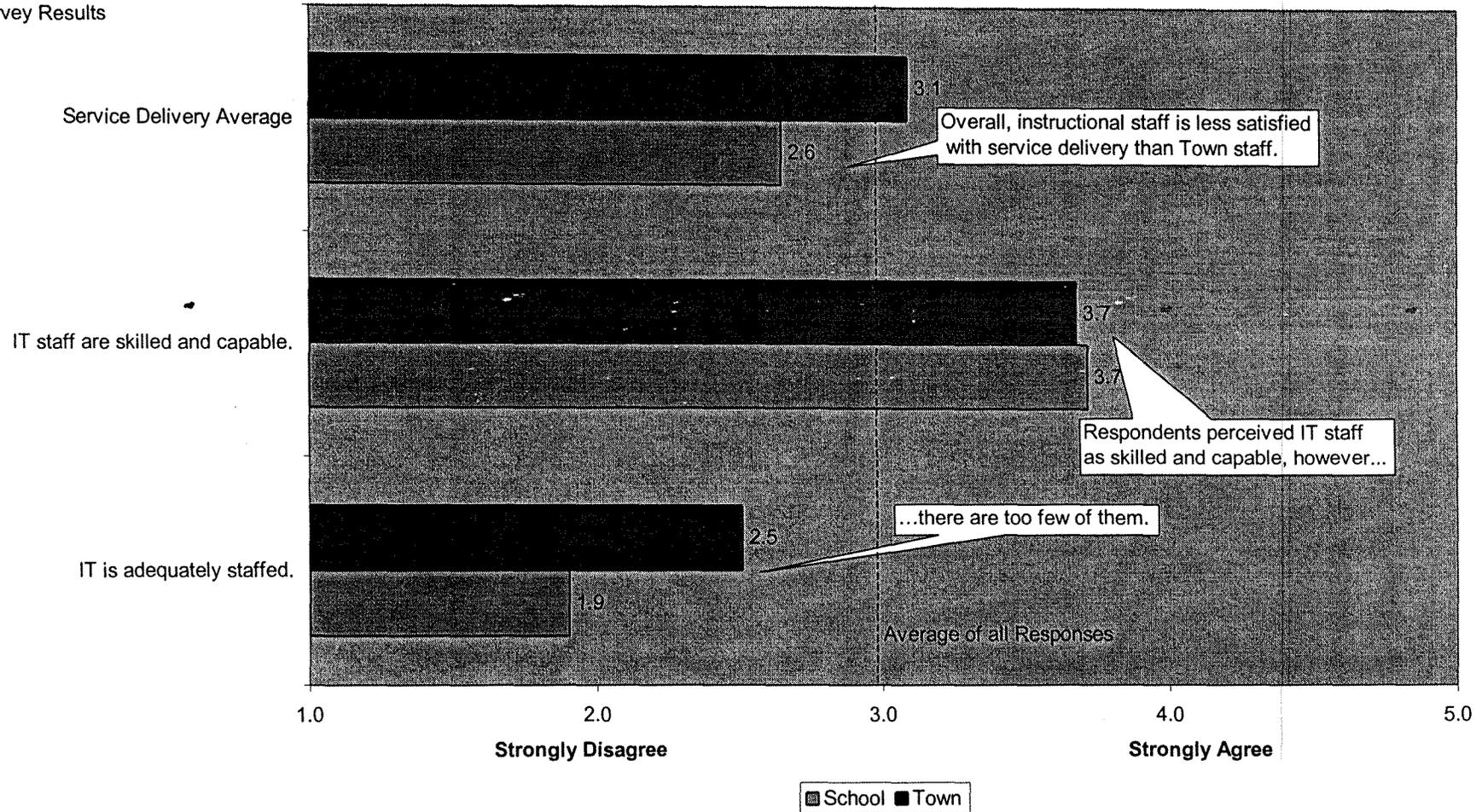
**Selected Statements for Technical Infrastructure**

Appendix C:  
Customer Satisfaction  
Survey Results



**Selected Statements for Service Delivery**

Appendix C:  
Customer Satisfaction  
Survey Results



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PLAN**

**Selected Statements for Decision Making**

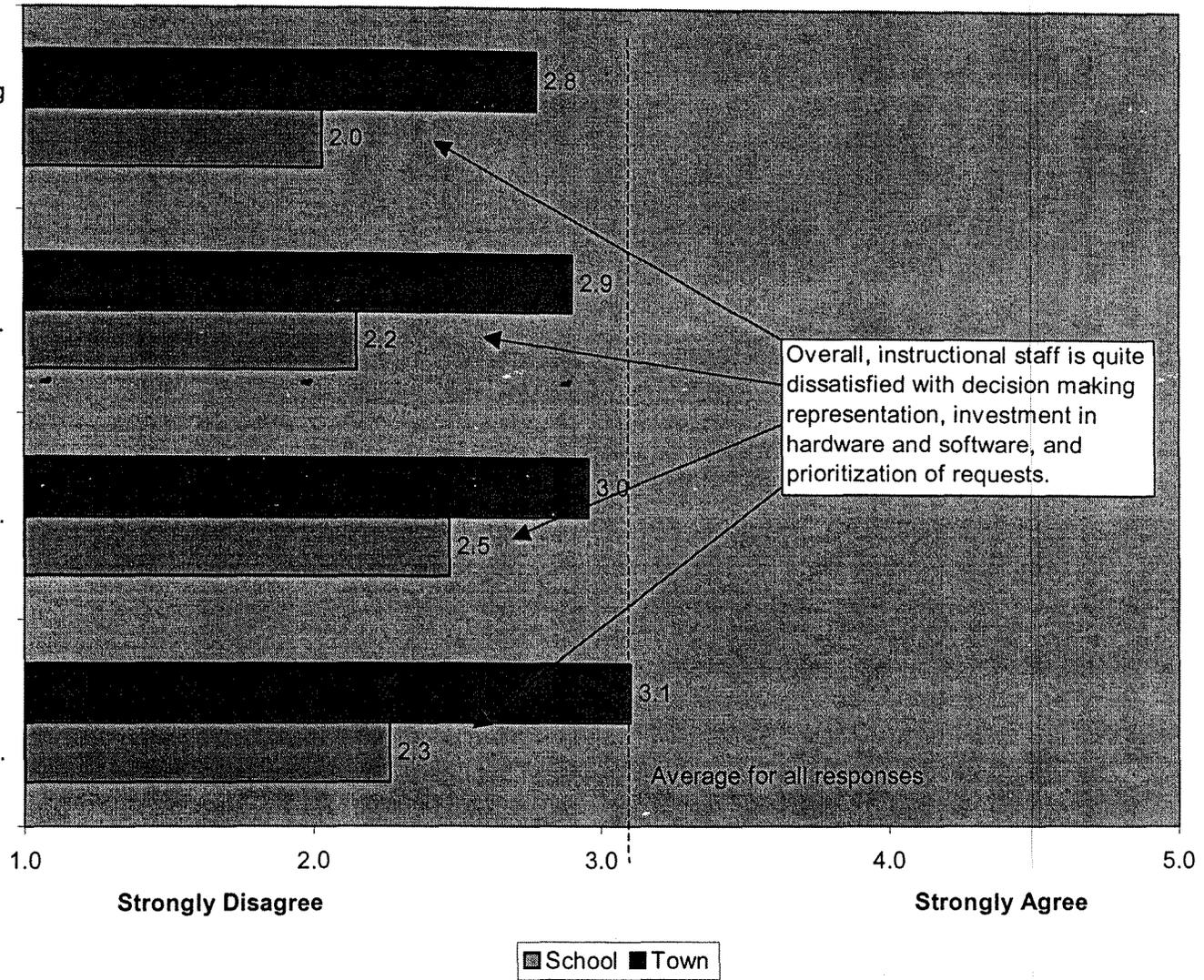
Appendix C:  
Customer Satisfaction  
Survey Results

IT effectively manages its backlog  
of outstanding requests.

The process used to acquire IT  
hardware and software is adequate.

The Town invests adequately in IT.

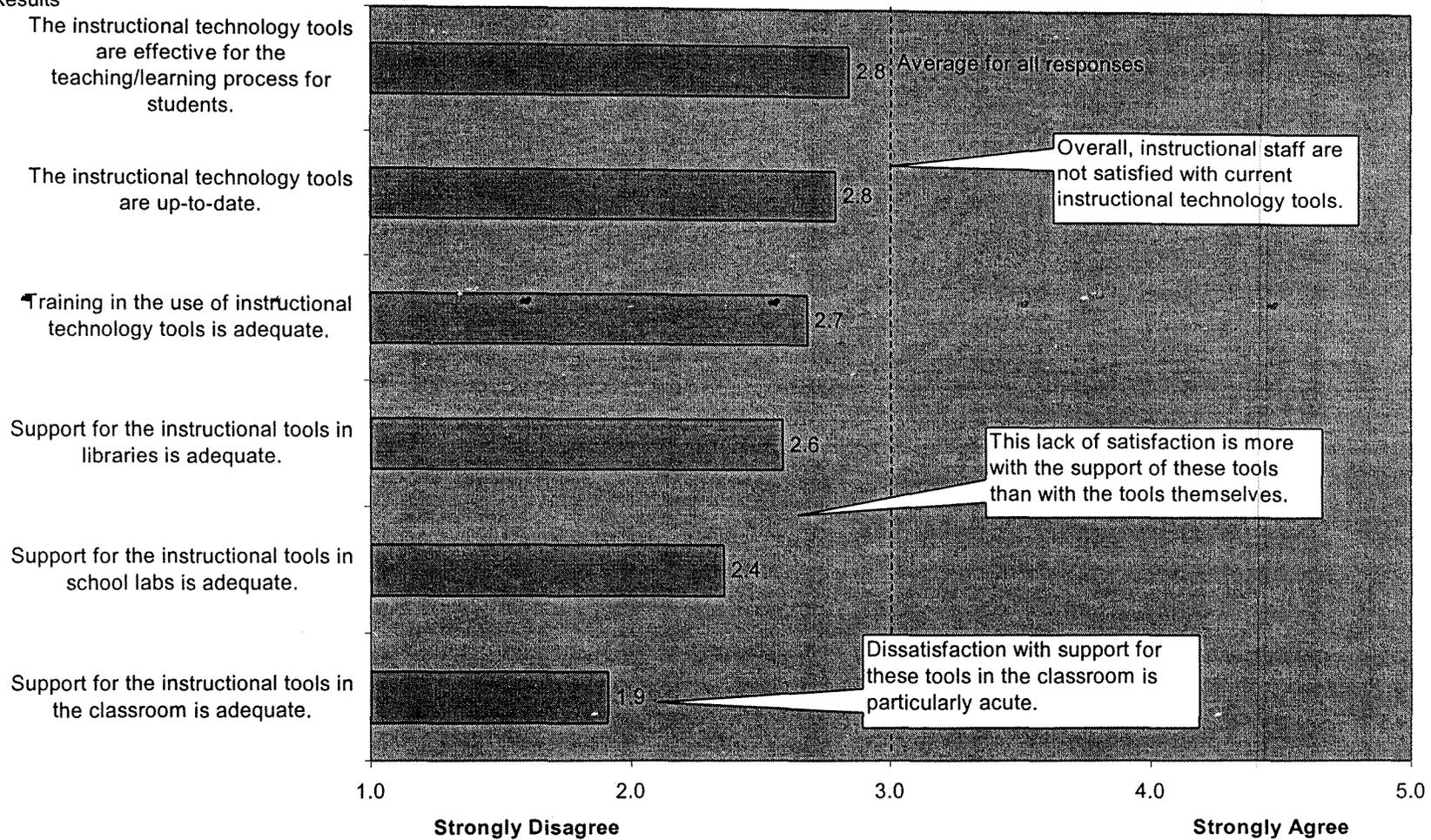
My department is sufficiently  
represented in the technology-  
related decision making process.



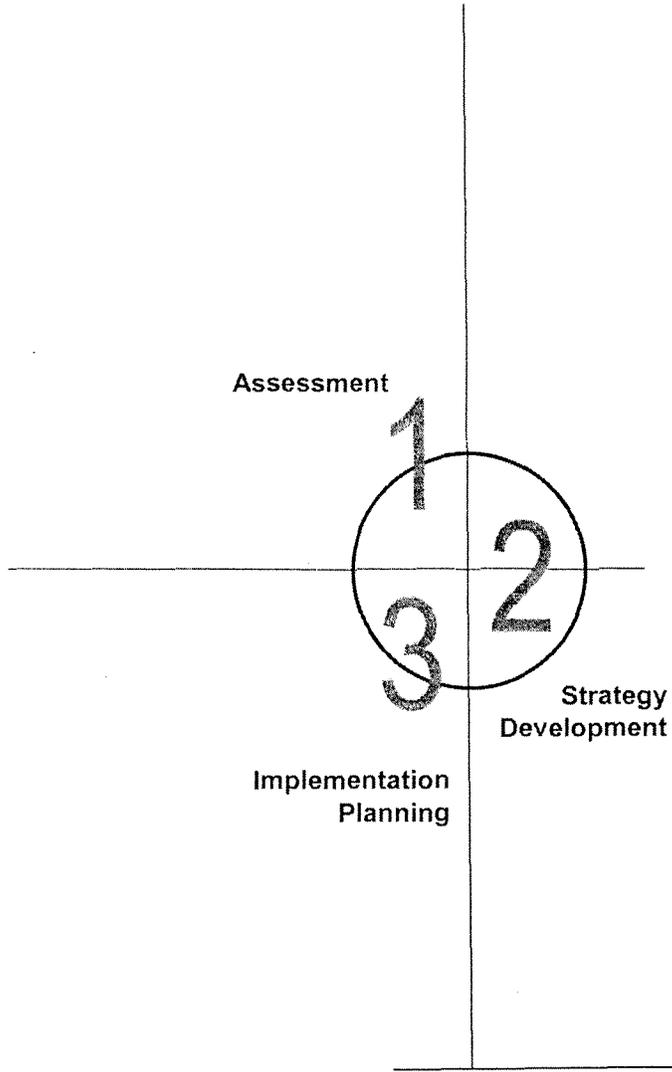
**INFORMATION  
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**Selected Statements for Instructional Technology**

Appendix C:  
Customer Satisfaction  
Survey Results







[ **best practices  
overview** ]

Town and School of Brookline  
Information Technology Strategic Plan  
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Appendix D:  
Best Practices  
Overview

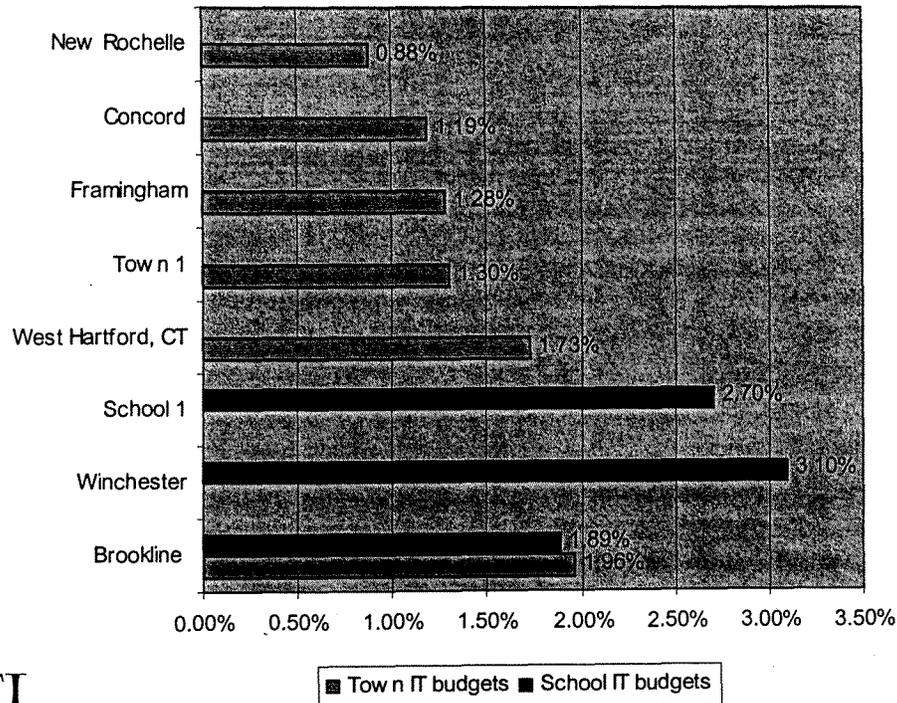
This appendix compares overall IT spending at Brookline with other public organizations studied by PTI, and summarizes best IT practices among these organizations derived from our planning work.

**OVERALL IT SPENDING**

As part of the assessment, PTI conducted a survey of municipalities comparable to Brookline – having a town and school as part of the same local government entity, and with populations of similar size.

The survey was sent to fifteen municipalities, requesting them to identify their total budget, IT budget, IT staffing levels, and technical configuration. The chart below depicts IT spending as a percentage of overall budget for the town and school operations of the responding municipalities.

**IT SPENDING AS A PERCENTAGE OF OPERATING BUDGET  
New England Municipalities**



Responses were received from three schools and five towns. Some respondents who requested that their name not be published are listed as "Town 1," "School 1," etc.

The chart would seem to indicate that Brookline spends more for IT on the town side, and less on the school side, than other municipalities in the region. A few cautions to this observation are in order:

- Brookline figures are based on an internal calculation of the split between certain shared town and school service. This split was not available for the other municipalities. It is possible that lower town IT spending could be offset by higher school IT spending – or vice versa.
- PTI's assessment of Brookline's IT spending included a thorough investigation of IT-related budget items in all of the departments, giving a true picture of the annual IT operating cost. Survey responses from other municipalities were inconsistent in this area.
- Similarly, assessment of Brookline's IT staffing costs included identification of non-titled IT staff in the departments. Most respondents did not report any IT staff costs in this category.

*Overall, it is likely that these effects combine to understate IT spending at the other municipalities surveyed.*

**More important than comparisons to neighbors is answering the question "How much *should* Brookline be spending on IT?"** This is ultimately determined by the needs of the community, which drive the IT projects recommended in this plan. Like any modern enterprise, Brookline's increased spending on IT (if properly implemented) will result in productivity increases throughout the organization – allowing the Town and School to deliver increased service levels with the same number of staff overall.

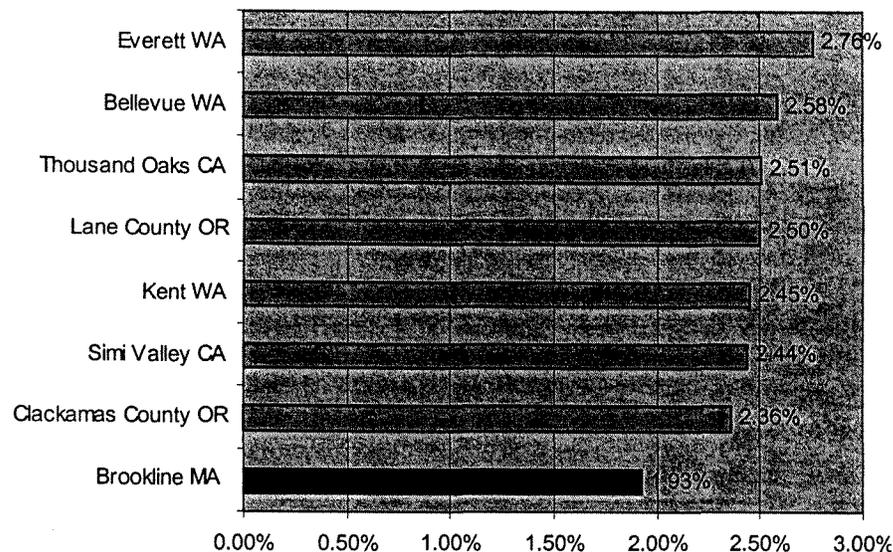
Based on its experience with West Coast cities and counties, PTI can answer the question "How much are progressive local governments spending on IT?"

We have found that most local governments spend between 1.5% and 3.0% of operating budget on IT. While Brookline falls within the lower third of that range, many cities and counties that consider themselves local technology leaders are spending considerably more than that, as shown by the chart below.

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Appendix D:  
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Overview

**IT SPENDING AS A PERCENTAGE OF OPERATING BUDGET  
West Coast Cities & Counties**



**In conclusion, while there is no “right” number for IT spending, Brookline could clearly devote more of its budget to information technology without being accused of overspending in this area.**

**PUBLIC SECTOR BEST PRACTICES**

This section is organized by the four dimensions of IT planning used elsewhere in this document. It reflects the “winning strategies” of other public sector organizations that PTI has observed.

**SERVICE DELIVERY**

Striking the right balance between centralized efficiency and departmental control is crucial to the success of any IT organization. In addition to capable and credible leadership, a successful central IT organization is characterized by:

- Regular feedback from departmental users and management to ensure that IT services meet enterprise and departmental needs
- External input from an oversight group to ensure that IT directions align with community needs and industry best practices
- Performance measures and targets for each of the major services that it provides
- Staffing adequate to provide responsive service, within broad industry guidelines (for instance, target of 100 – 150:1 PC to support staff ratio)

**APPLICATIONS**

In a well-managed local government, applications are chosen on the basis of how well they:

- Automate core services and internal processes
- Meet community demands for e-Government convenience and information access
- Align with the major “architecture-driving applications” already in place (e.g., software that supports financial management, public safety, maintenance management, permit management)

The keys to successful implementation of these applications include:

- Define and utilize IT project management standards and methodology for all IT projects along with automated project management tools

## **INFORMATION TECHNOLOGY STRATEGIC PLAN**

### Appendix D: Best Practices Overview

- ♦ Dedicate a full-time, experienced project manager for all IT system implementations
- ♦ Assign knowledgeable departmental staff (i.e., subject matter experts) for new systems implementations, and hire backfill staff to perform their normal job functions for the entire lifecycle of the project
- ♦ Emphasize business process change over customization, realizing that the up-front inconvenience and cost of these process changes will deliver improved efficiency and lower maintenance costs in the long run
- ♦ For truly mission-critical applications and services, provide redundancy and fail-over capability

### **IT DECISION MAKING**

The key to effective IT decision making in the public sector is to have an active and involved IT governance committee with representation from all enterprise stakeholders. This committee should:

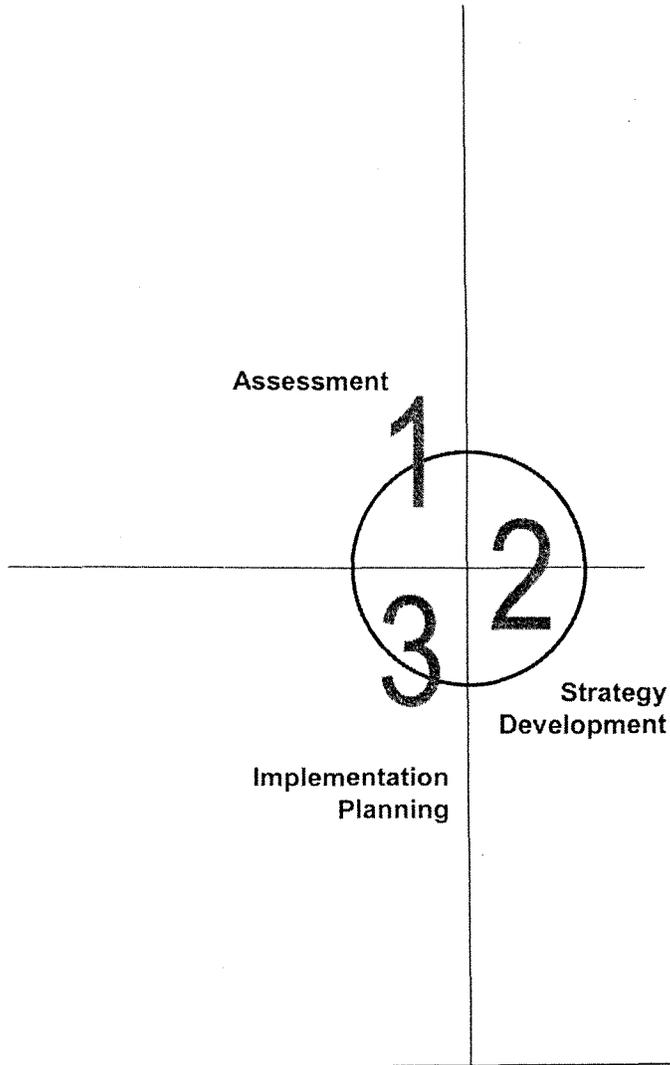
- ♦ Have a defined process for prioritizing IT investment decisions
- ♦ Consider the formation of technical subgroups to address specific areas of interest (e.g., wireless, GIS, data warehouse, etc.)
- ♦ Interact with the annual capital budget process
- ♦ Obtain senior level commitment in the organization for the use of technology to improve business practices and customer service

### **TECHNICAL INFRASTRUCTURE**

The technical infrastructure will be strongly influenced by the "architecture driving applications" that form the core of enterprise automation. Within these boundaries, the organization should:

- ♦ Define, maintain, and enforce standards for the IT environment including PC's, servers, operating systems, and network infrastructure
- ♦ Establish security policies and procedures and acquire tools to monitor and protect the organization from outside intrusion and unauthorized access to information and facilities
- ♦ Manage the infrastructure over the long-term toward the fewest effective number of servers, least number of different databases, etc.





[ business  
function model ]



## INFORMATION TECHNOLOGY STRATEGIC PLAN

### Appendix E: Business Function Model

This appendix presents the results from the business function modeling workshop conducted as part of the assessment phase. The ideal application architecture, presented in Chapter 3, is derived from the function model.

The appendix is divided as follows:

- Understanding the business function model
- Function Model Diagramming Conventions
- Business Function Model
- Function Model Definitions

### UNDERSTANDING THE BUSINESS FUNCTION

A business function model identifies and graphically displays, in a structured format, the activities Brookline performs to meet its business objectives. Each of the activities shown in a business function model becomes a potential candidate for automation. The model, therefore, serves as a template for driving an organization's overall approach to automating its business functions.

It is important to distinguish between a function model and an organization model. *An organization model depicts an enterprise's structure, typically in hierarchical fashion. A business function model depicts what an organization does*, independent of organizational structure.

Business functions tend to be much more stable than organizational units. Organizations typically change over time to accommodate changes in how an enterprise does its work. The business functions themselves remain relatively unchanged, unless the business significantly alters its mix of services and/or products. Each function depicted in the business function model can be broken down into levels of sub-processes. These sub-processes can be analyzed and re-designed to improve efficiency.

### DIAGRAMMING CONVENTIONS

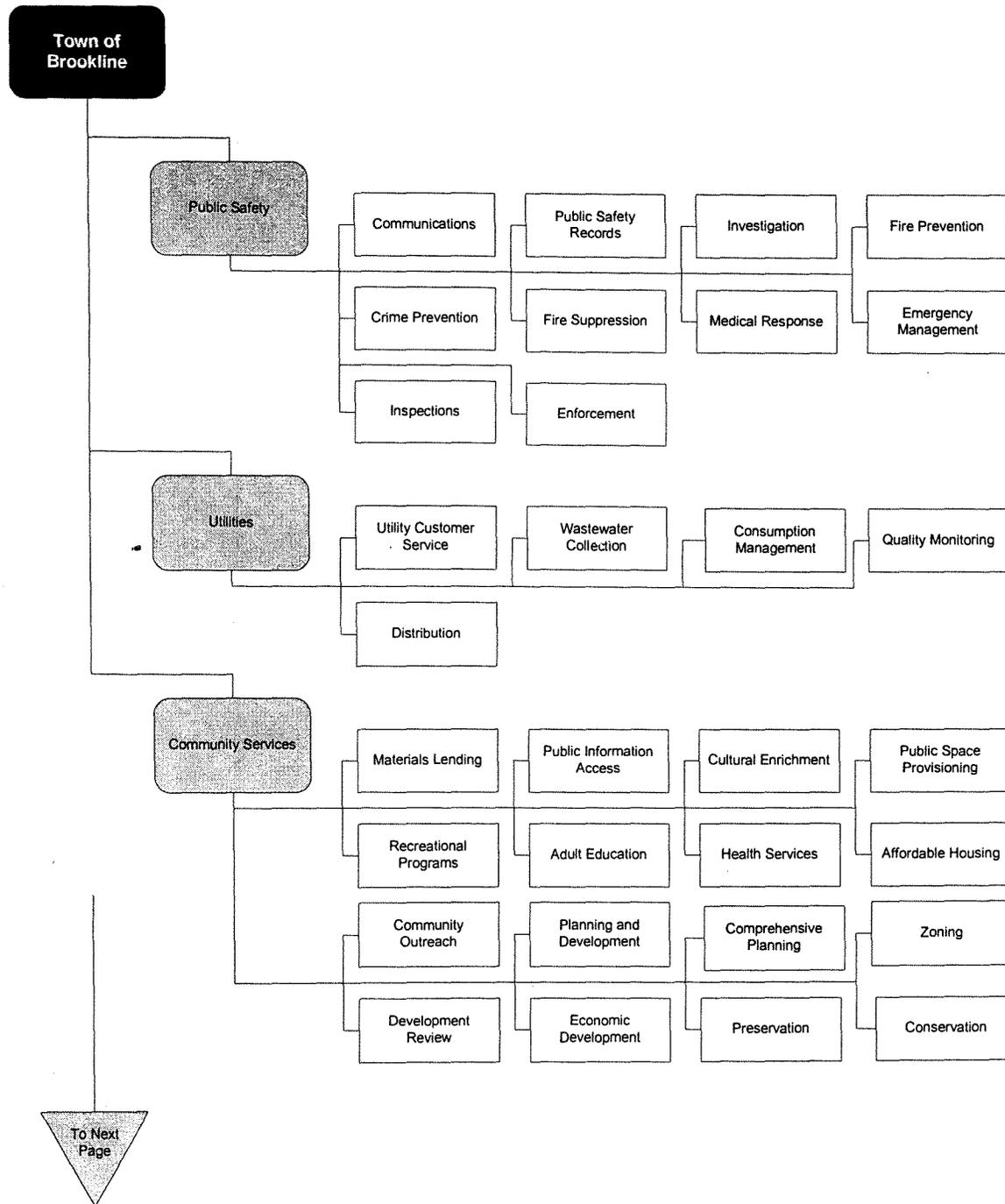
Business function models contain three primary components:

- **Functional Areas** - the major categorization of all tasks required to conduct business (e.g., "Financial Management" might be a functional area)
- **Functions** - a group of ongoing activities which, together, completely support one functional area (e.g., "Accounts Receivable" would be a subordinate function within the "Financial Management" functional area)
- **Processes** - executable business activities that can be identified in terms of specific input and output (e.g., "Invoice Customer" would be a process within the "Accounts Receivable" function)

The diagram on the following pages depicts a function model of Brookline's business activities. The "roundtangles" represent functional areas. The rectangles connected to the right of the roundtangles represent subordinate business functions. Lower level processes are not defined in this model. Please note that the order in which the functional areas and functions are listed does not imply any precedence or dependence.

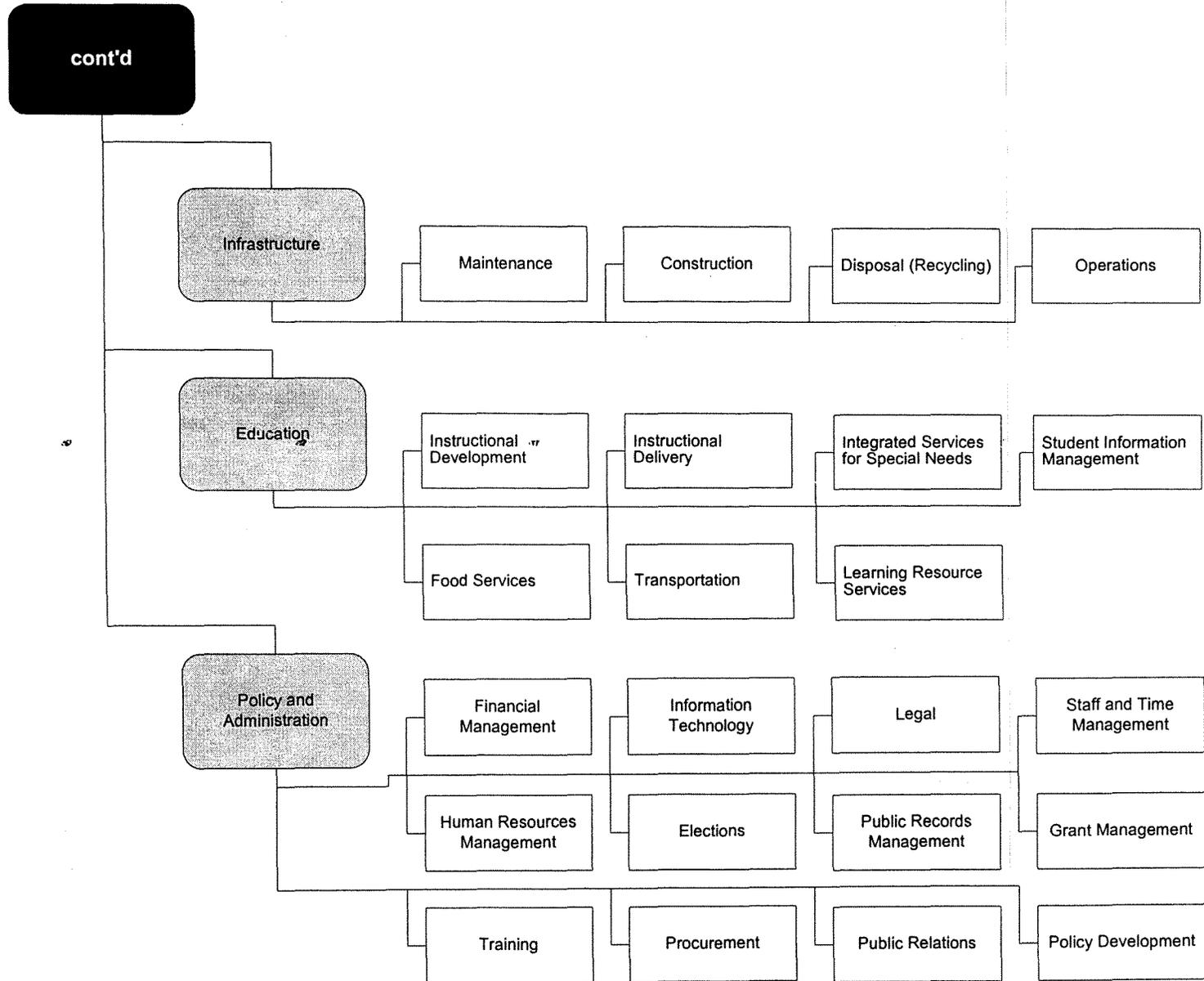
**INFORMATION  
TECHNOLOGY  
STRATEGIC  
PLAN**

Appendix E:  
Business Function  
Model



**INFORMATION  
TECHNOLOGY  
STRATEGIC  
PLAN**

Appendix E:  
Business Function  
Model



## **FUNCTION MODEL DEFINITIONS**

### **PUBLIC SAFETY**

Those functions related to working in partnership with our citizens to ensure all people will enjoy a high quality of life without fear of crime. To work together to solve problems and provide the most responsive and highest quality police service. To proactively prevent crime, maintain order, and apprehend offenders in a manner consistent with the law.

### **COMMUNICATIONS**

The processes related to incidents that police, fire, and emergency medical service personnel are dispatched to respond to in a safe and timely manner.

### **PUBLIC SAFETY RECORDS**

The processes related to storing, preserving and classifying information according to municipal, state, and federal guidelines.

### **INVESTIGATION**

The processes related to the determination of the cause and origin of alleged crimes and incidents.

### **FIRE PREVENTION**

The processes related to enforcing, educating, and inspecting buildings.

### **CRIME PREVENTION**

The processes related to preventing crimes by educating and informing the public to safeguard their person and/or property.

### **FIRE SUPPRESSION**

The processes related to extinguishing fires.

### **MEDICAL RESPONSE**

The processes related to responding to life threatening emergencies by police, fire, and emergency medical services.

### **EMERGENCY MANAGEMENT**

The processes related to preparing and responding to disaster incidents that includes organizing related activities and disseminating information to citizens and all appropriate agencies.

### **INSPECTIONS**

The processes related to physically checking and enforcing various rules, regulations, and laws by the overseeing agency.

### **ENFORCEMENT**

The processes related to enforcing all local, state, and federal laws.

### **UTILITIES**

Those functions related to the operation, maintenance, and support of basic water and wastewater services that promote the health, safety, and welfare of the community.

### **UTILITY CUSTOMER SERVICE**

The processes related to the billing and complaint resolution for utility service to 60,000 customers.

### **WATER DISTRIBUTION**

The processes related to the operation and maintenance of the municipal water distribution system in accordance with industry standards.

### **WASTEWATER COLLECTION**

The processes related to the operation and maintenance of municipal sewerage and stormwater collection systems in accordance with applicable federal and state regulations.

### **CONSUMPTION MANAGEMENT**

The processes related to the metering of water and wastewater usage and the implementation of water conservation and drought management policies.

# **INFORMATION TECHNOLOGY STRATEGIC PLAN**

Appendix E:  
Business Function  
Model

## **QUALITY MONITORING**

The processes related to the collection and testing of potable water samples to ensure adequate and reliable water for domestic use and the monitoring of sewage and stormwater discharges for compliance with federal and state regulations.

## **COMMUNITY SERVICES**

Those functions related to supporting, coordinating, and delivering basic recreation, cultural, and home services to enhance the well being of the community.

## **MATERIALS LENDING**

The processes related to the loaning of library items and ensuring their return.

## **PUBLIC INFORMATION ACCESS**

The processes related to providing staff and equipment to help citizens obtain cultural, governmental, and commercial information.

## **CULTURAL ENRICHMENT**

The processes related to promoting artistic and intellectual endeavors, such as reading groups, public art displays, open studios, etc.

## **PUBLIC SPACE PROVISIONING**

The processes related to leasing town-owned facilities, including meeting rooms, fields, pools, golf clubs, etc., to groups and individuals.

## **RECREATIONAL PROGRAMS**

The processes related to the registration and delivery of active and leisure opportunities to all age groups.

## **ADULT EDUCATION**

The processes related to providing instruction for a fee to citizens who are not eligible for public school.

## **HEALTH SERVICES**

The processes related to educating the public about medical issues, preventing medical problems, and to intervening when necessary.

## **AFFORDABLE HOUSING**

The processes related to helping lower income citizens obtain apartments and houses in Brookline.

## **COMMUNITY OUTREACH**

The processes related to providing services and support to groups such as veterans, seniors, children, ethnic groups, etc.

## **PLANNING AND DEVELOPMENT**

The processes related to the planning, development, and management of the public and private physical environment while improving the quality of life for Town residents.

## **COMPREHENSIVE PLANNING**

The processes related to adopting official statement of a legislative body of a local government that sets forth (in words, maps, illustrations, and/or tables) goals, policies, and guidelines intended to direct the present and future physical, social, and economic development that occurs within its planning jurisdiction and that includes a unified physical design for the public and private development of land and water.

## **ZONING**

The processes related to land usage policy so as to ensure public safety and to protect the community's resources.

## **DEVELOPMENT REVIEW**

The processes related to the review of and development of proposals for code compliance, protection of lifestyle, property values, and safety.

## **ECONOMIC DEVELOPMENT**

The processes related to preservation and enhancement of the vitality of commercial centers and promotion of appropriate business development.

# **INFORMATION TECHNOLOGY STRATEGIC PLAN**

Appendix E:  
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Model

## **PRESERVATION**

The processes related to the promotion, protection, restoration, and preservation of the Town's historical and cultural assets.

## **CONSERVATION**

The processes related to the preservation and protection of the Town's environment.

## **INFRASTRUCTURE**

Those functions related to developing, planning, managing, operating, maintaining, and disposing of public property, facilities, and related equipment.

## **MAINTENANCE**

The processes related to the repair and ongoing preservation or enhancement of structures and resources.

## **CONSTRUCTION**

The processes related to development, renovation and Massachusetts General Laws management for facilities and structures.

## **DISPOSAL (RECYCLING)**

The processes related to the removal and release of ownership of public property and items.

## **OPERATIONS**

The processes related to the daily functioning and ongoing usage of structures and resources.

## **EDUCATION**

Those functions related to dissemination of information to students and staff.

## **INSTRUCTIONAL DEVELOPMENT**

The processes related to developing the curriculum frameworks and curriculum to align with the Brookline Public Schools learning expectations.

## **INSTRUCTIONAL DELIVERY**

The processes related to the presentation of curriculum to students with the goal of meeting the Brookline Public Schools learning expectations.

## **INTEGRATED SERVICES FOR SPECIAL NEEDS**

The processes required to meet the needs of the diverse student population of Brookline Public Schools (e.g. IEP, Medical, Language, Vocations, Gifted and Talented, Guidance, Early Childhood).

## **STUDENT INFORMATION MANAGEMENT**

The process related to the gathering and archiving information that provides data for state reports and decision-making. (e.g. registration, attendance, report cards, interim progress reports, scheduling, medical records, IEP).

## **FOOD SERVICES**

The process related to delivery of food to students and staff including menus, nutrition requirements, scheduling and deposits.

## **TRANSPORTATION**

The process related to scheduling and management of the delivery of students to their educational support centers.

## **LEARNING RESOURCE SERVICES**

The processes required to support and extend the curriculum to facilities (media centers, computer labs etc), within Brookline Public Schools.

## **POLICY AND ADMINISTRATION**

Those functions related to establishing, implementing, and maintaining the mission of the Town.

## **STAFF AND TIME MANAGEMENT**

The processes related to the planning of effective and efficient use of human resources.

## **INFORMATION TECHNOLOGY STRATEGIC PLAN**

Appendix E:  
Business Function  
Model

### **FINANCIAL MANAGEMENT**

The processes related to the planning of effective and efficient use of economic resources and the recording, reporting on, and analyzing financial information.

### **HUMAN RESOURCE MANAGEMENT**

The processes related to recruiting and retaining employees, and administering compensation, benefits, classification, and other general employee relations.

### **INFORMATION TECHNOLOGY**

The processes related to the planning, acquisition, implementation, operation, management, and maintenance of computer, video, electronic data systems, geographic information systems, Internet/intranet facilities used by the Town. Also includes coordination with telephone service providers, and maintenance of telephone and voice mail systems.

### **LEGAL**

The processes related to law, litigation, and prosecution.

### **ELECTIONS**

The processes related to voter registration, boundary/precinct identification, and conducting and certifying elections.

### **PUBLIC RECORDS MANAGEMENT**

The processes related to storage, retrieval, and management of the lifecycle of public documents including the recording of documents, provision of public access to documents, fee collections, and document preservation by multi-media means.

### **GRANT MANAGEMENT**

The processes related to the application for, recording, monitoring, and managing of funds and other resources given by other public and private entities.

### **PROCUREMENT**

The processes related to ordering and receipt of goods and services.

### **PUBLIC RELATIONS**

The processes related to media relations, exchange of information with the public regarding Town government, outreach to neighborhood associations, and preparation of other informational releases.

### **POLICY DEVELOPMENT**

The processes related to developing, revising, and directing the implementation of the services provided to the Town.

### **TRAINING**

The processes related to the establishment, delivery, and evaluation of programs to improve the personal and professional development of Town staff.



Assessment

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# [IT staffing model definitions]

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# **INFORMATION TECHNOLOGY STRATEGIC PLAN**

## Appendix F: IT Staffing Model Definitions

This appendix presents definitions for the staffing matrix's five functional areas and their subordinate functions.

As part of our assessment, PTI gathered information on the IT staffing levels within the Town and School. Staff were asked to quantify their workload associated with each of the functions.

### **CUSTOMER SERVICES**

Those functions related to directly supporting users of IT systems and services.

#### **HELP DESK (TIER 1)**

The processes related to providing a first point of contact for users to report problems. Includes initial problem resolution, triage, and problem escalation.

#### **DESKTOP PC SUPPORT (TIER 2)**

The processes related to setup, installation, maintenance, and general desktop software support of the organization's desktop computers, applications, and peripherals.

#### **BUSINESS APPLICATION SUPPORT**

The processes related to supporting the use of the organization's business application software.

#### **TRAINING**

The processes related to providing technology-related instruction to staff aimed at enhancing their skills, knowledge, and performance. Includes training requirements analysis, course design and development, and training delivery.

### **SYSTEM SERVICES**

Those functions related to implementing, maintaining and supporting the organization's computers, systems software, and connectivity.

#### **NETWORK CONNECTIVITY (WAN/LAN)**

The processes related to implementing and maintaining the operational integrity of the organization's local and wide-area networks. These processes include responding to user requests for assistance, performance monitoring, coordinating with external

network service providers and taking appropriate corrective actions as needed.

### **SERVER ADMINISTRATION**

The processes related implementing and maintaining network servers. These processes include administration and operation of servers and other logical network devices, performance monitoring, and administering configuration data.

### **DATA CENTER OPERATIONS**

The processes related to administering the operation of the host/mainframe computing platforms, managing their operating systems to keep functionality at maximum performance levels, and managing associated peripheral devices.

### **DATABASE ADMINISTRATION**

The processes related to planning, implementing, and administering the data structures required to support the organization's applications portfolio, and to maintaining with the organization's data structures. Includes synchronization, validation, tuning, backup, and recovery.

### **SECURITY ADMINISTRATION**

The processes related to developing, maintaining, and administering the security plan for the organization's host processors, servers, personal computers, communication devices and networks.

### **TELEPHONE SYSTEMS SUPPORT**

The processes related to implementing and maintaining the operational integrity of the organization's voice network. This includes responding to user requests for assistance, administering data associated with the voice network, performance monitoring, coordinating with telecommunications providers and taking appropriate corrective actions as needed.

### **RADIO/WIRELESS SUPPORT**

The processes related to implementing and maintaining the organization's radio and wireless infrastructure for data communications with mobile equipment and personnel. This includes responding to user requests for assistance, performance monitoring, coordinating with vendors and regulatory bodies, and taking appropriate corrective actions as needed.

# **INFORMATION TECHNOLOGY STRATEGIC PLAN**

## Appendix F: IT Staffing Model Definitions

### **BUSINESS APPLICATION SERVICES**

Those functions related to providing, maintaining and supporting the use of software needed to meet the operational, management, and reporting requirements of the organization.

### **APPLICATION DEVELOPMENT**

The processes related to engineering new software that meets system-wide needs, integrates third party software, and accommodates special requests. Includes major enhancements to existing applications. Development phases include design, coding, testing, and implementation

### **CUSTOM APPLICATION MAINTENANCE**

The processes related to updating and making minor enhancements to existing software applications to meet new requirements and comply with external mandates. Includes extracting data for use by other applications, and customizing reports for users.

### **PACKAGE APPLICATION MAINTENANCE**

The processes related to installing, integrating, interfacing, and testing business-specific packaged applications and their associated data, including managing vendor relationships, and providing necessary business context for integration. Includes installing new releases and bug fixes.

### **SMALL APPLICATION SUPPORT**

The processes related to responding to user requests for assistance in developing and maintaining single-user applications and their associated data structures.

### **INTERNET/INTRANET SUPPORT**

The processes related to planning, implementing and supporting Internet and intranet services for the organization, including maintaining requisite system resources and tools.

### **REQUIREMENTS ANALYSIS**

The processes related to describing business needs, evaluating alternatives, recommending an approach to address the requirements and creating the data and process models and detailed specifications for software that would meet the requirements.

### **IT PLANNING**

Those functions related to the planning and oversight of the technology function at the organization.

### **STRATEGIC PLANNING**

The processes related to identifying and evaluating the future directions for IT application, networks, and hardware for the organization, including: capacity planning, strategic planning, technology research, and feasibility studies.

### **RESEARCH AND DEVELOPMENT**

The processes related to evaluation and testing of current and future IT products and services, and to the deployment of pilot projects to test the viability of these technologies for the organization. Includes dissemination of relevant information to appropriate parties

### **DISASTER RECOVERY/PLANNING**

The processes related to developing, maintaining, updating, and testing the organization's IT disaster recovery/business resumption plan, and to activating and managing the plan in the event of a disaster.

### **GOVERNANCE COORDINATION**

The processes related to supporting the organization's management on matters related to IT decision-making. Activities may include coordinating meetings, establishing agendas, providing background materials and recommendations, keeping minutes and preparing presentations.

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Appendix F:  
IT Staffing Model  
Definitions

**IT ADMINISTRATION**

Those functions related to the planning, oversight, and security of the technology function at the organization.

**ASSET MANAGEMENT**

The processes related to managing the IT properties of the organization. Includes tracking serial numbers, licenses, warranties, and inventory.

**IT PROCUREMENT**

The processes related to acquisition of goods and services in support of all IT functions; including the development of RFP's, evaluation and selection of vendors, management of purchasing activities, receipt and inventory of goods, and tracking of warranty information and performance guarantees.

**PROJECT MANAGEMENT**

Those processes related to the oversight and coordination of major technology initiatives.

**STANDARDS AND POLICIES DEVELOPMENT**

Those processes related to the creation and updating of enterprise-wide standards and policies related to hardware and software procurement.

**ADMINISTRATIVE SUPPORT**

The processes related to the provision of clerical, administrative, and related services required for the ongoing operation of the IT department.

**DEPARTMENTAL MANAGEMENT**

The processes related to management and oversight of the organization's technology functions, including: staff evaluation, quality assurance, and budgeting.



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This appendix summarizes our analysis of the gaps between "ideal" applications and the corresponding applications currently in use by Brookline. In some cases, no current application corresponding to the "ideal" exists at all. In those instances, the gap results from the complete absence of the required functionality.

The following section provides a representation of the gap analysis work sheet that explains its contents. PTI completed one work sheet for each ideal application. The remainder of this appendix contains the detailed gap analysis for each ideal application.

<b>Application Name</b>	
<b>Ideal Application Description:</b>	The description of the application from the ideal application architecture.
<b>Benefits:</b>	The expected benefit to be gained from the ideal application.
<b>Existing Applications:</b>	The name(s) of existing applications that provide functionality in this area.
<b>Gap Analysis Summary:</b>	<p>A description of gaps in the ability of existing application(s) to support necessary business processes. Areas investigated include:</p> <ul style="list-style-type: none"> <li>• Functionality – The ability of existing applications to support necessary business processes</li> <li>• Ease of Use – Issues with regards to comprehensibility and usability of the corresponding applications</li> <li>• Data Sharing – The ability of the corresponding existing applications to provide flexible access to data</li> <li>• Standardization – The level of standardization of data formats, programming languages, and platforms of the corresponding existing applications</li> </ul>
<b>Overall Gap Assessment:</b>	<p>A rating of the level of current automation support as compared to that supplied by the ideal application:</p> <ul style="list-style-type: none"> <li>• "Minimal" indicates a well automated application</li> <li>• "Moderate" indicates that some gap exists</li> <li>• "Severe" indicates that the existing applications do not automate the function well, or that no application exists</li> </ul>

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<b>Cafeteria Management</b>	
<b>Ideal Application Description:</b>	This application supports the delivery of School's food service program. The functionality includes food supplies inventory, meal planning to assure compliance with Federal nutrition guidelines, point of sale, creation and maintenance of student accounts, and financial management, and tracking. It includes an interface to the student information database, and Financial Management system to track collection of funds, bank deposits, and purchasing of supplies.
<b>Benefits:</b>	Ensures efficient meal preparation meeting nutritional guidelines for students. Provide accurate inventory and accounting to consistently deliver the nutrition needs of students. Streamlines compliance with mandated reporting requirements.
<b>Existing Applications:</b>	DSMP (District Meal Plan), SCMP (School Meal Plan), along with Inventory & Production from Prepaid Card Systems
<b>Gap Analysis Summary:</b>	This application was acquired and fully implemented in the School's cafeterias over a three-year period. The system is efficient and well-designed, meeting all the requirements of the Schools. The system supports supply chain automation utilizing the Internet for food inventory management, which is partially implemented. However, there is no interface to MUNIS and all purchases and financial accounting for sales are entered manually. In addition the Pentamation student database information is imported on a monthly basis and requires extensive manual work to validate the information.
<b>Overall Gap Assessment:</b>	<u>Minimal</u>

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<b>Computer Aided Dispatch (CAD)</b>	
<b>Ideal Application Description:</b>	This application provides dispatchers with access to all information resources needed to dispatch emergency response to a call. Capabilities include real-time display of apparatus and staff locations, support for voice, coordination of status messaging, and call prioritization, integration with 911 phone system. Interfaces with incident management, GIS/mapping, arrest/booking system, detective case management, restraining order, and provides location incident history.
<b>Benefits:</b>	Expedites dispatch of proximate units to incidents. Improves communication of key information – including incident address, status, location history, etc. – to mobile units. Reduces average run times.
<b>Existing Applications:</b>	Laramore CAD
<b>Gap Analysis Summary:</b>	<p>Users find the dispatch component of the CAD system to be an effective and user-friendly system for dispatch of police personnel. There is very good integration with the GIS system that provides a graphical view of all police activity within Brookline. This application provides all of the base dispatch functionality the required. The use of radio frequency transmission rather than CDPD to support remote access by officers utilizing laptops currently limits access to centrally stored data due to lack of bandwidth.</p> <p>Plans are in place to consolidate Fire, Emergency, and Police dispatch into one location and Laramore will be utilized as the standard dispatch system.</p>
<b>Overall Gap Assessment:</b>	<u>Minimal</u>

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<b>Computer Aided Drafting and Design (CADD)</b>	
<b>Ideal Application Description:</b>	This application provides standardized computer support for electronic drafting, design, and review of engineering drawings. It includes an interface to GIS and Document Imaging, and a link to Permit Management and Records Management.
<b>Benefits:</b>	Improved productivity, better management and control over the design process.
<b>Existing Applications:</b>	AutoCAD
<b>Gap Analysis Summary:</b>	<p>This product is used by Engineering and Transportation section of the Public Works department for design of new facilities and additions to existing enterprise facilities. In addition, they receive AutoCAD format "as-built" plans from contractors for water, sewer, and drain connections. The team of engineers is well versed in this product and find that it supports all of their requirements for managing engineering drawings.</p> <p>There is no direct interface to any other systems, although there are plans in place to submit all changes to the GIS coordinator to update the GIS system.</p>
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Curriculum Delivery Tools</b>	
<b>Ideal Application Description:</b>	This is a set of applications that assist teachers in the delivery of educational materials to students that enhance the learning experience and provide teachers with a method to assess student progress. The applications should support a variety of on line materials including: documents, presentations, images, lesson plans, labs, homework, etc. The applications should interface with the student management system to transmit appropriate learning metrics to track and report mandated student progress.
<b>Benefits:</b>	Provides a variety of learning media to enhance student experience and aid teachers in tracking and assessing progress.
<b>Existing Applications:</b>	N/A
<b>Gap Analysis Summary:</b>	While assessment of the applications that support curriculum delivery is out of scope for this study, we did identify a significant gap in classroom support for the teachers who need to use these tools for instruction. This service delivery gap is corroborated by the low rating from teachers on the customer satisfaction survey responses, the focus group conducted with School principals and instructional staff, and our interviews with School management.
<b>Overall Gap Assessment:</b>	<u>Severe</u>

<b>Disaster Response Management</b>	
<b>Ideal Application Description:</b>	This application supports the organization and dissemination of information related to natural or man-made disasters. It also helps emergency and Town personnel manage and implement pre-existing disaster response plans. The application also automates federal interactions including FEMA reporting and fund recovery. Includes GIS and Dispatch interfaces and a link to accounts payable (Financial Management), Timekeeping/Labor Distribution, and Purchasing/Inventory to facilitate the accounting of funds, labor, and materials used for an emergency response.
<b>Benefits:</b>	Improved preparedness and responsiveness related to emergency situations. Provides increased accountability for reimbursement of funds spent to meet emergency requirements.
<b>Existing Applications:</b>	None
<b>Gap Analysis Summary:</b>	N/A
<b>Overall Gap Assessment:</b>	<u>Severe</u>

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<b>Document Management</b>	
<b>Ideal Application Description:</b>	This application allows for the automated control of documents, electronic or otherwise, throughout their life cycle at the Town, from initial creation through final archiving and destruction. Functions include document identification and search capabilities, application of record retention rules, storage and retrieval, tracking, and version control. It interfaces with workflow and document imaging systems.
<b>Benefits:</b>	Provides greater control over the production, storage, distribution, and archiving of Town documents. Yields greater efficiencies in the ability to reuse information, and reduces document production time. Provides improved security/access control, including better control over the legal discovery process.  Reduces errors with automated version control and assures that all concerned parties have the latest approved revisions and/or releases.
<b>Existing Applications:</b>	Laserfiche
<b>Gap Analysis Summary:</b>	The system in place is currently being used for scanning Selectmen's minutes and other documents; Town Counsel legal files; accounts payable checks and supporting documents; payroll reports; some human resource files; contracts; and general ledger journal entries and backup. Minimal disk space is provided for the application requiring frequent offloading to CD ROM. The underlying database used to organize the documents is Btrieve. The current version offered by the vendor requires SQL Server. Given the age and capacity constraints, the current Btrieve system would not be expandable to meet Brookline's needs outside of the existing Finance, Town Counsel and Selectmen applications.
<b>Overall Gap Assessment:</b>	<b>Severe</b>

<b>Election Management</b>	
<b>Ideal Application Description:</b>	This application supports the ability to create ballots for elections, a method to collect, tally and report votes. It includes support for delineating precinct and district boundaries, displaying precinct-level tallies of registered voters, and generating street files (street indexes) to automatically assign voters to precincts.
<b>Benefits:</b>	Improves speed and efficiency of voting process. Simplifies generation of mandated reporting to State and Federal agencies
<b>Existing Applications:</b>	Accu-Vote
<b>Gap Analysis Summary:</b>	Brookline utilizes the State supplied and supported Voter Registration Information System. The system supplies the required information to manage voter registration, precinct management and Town elections.
<b>Overall Gap Assessment:</b>	<b>Minimal</b>

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<b>Financial Management</b>	
<b>Ideal Application Description:</b>	This application supports the recording, management, reporting, and analysis associated with assets and liabilities. It includes support of general ledger, accounts receivable, accounts payable and budget creation, and management.
<b>Benefits:</b>	More timely and accurate information about the Brookline's financial position. Improved access to financial management information. Enables the Town to flexibly structure financial operations and accounts to meet diverse reporting requirements. Improved budget tracking.
<b>Existing Applications:</b>	MUNIS
<b>Gap Analysis Summary:</b>	<p>The existing tool meets most of Brookline's requirements. The application provides the required base functionality. The application employs a character-based interface and numbered menu navigation. The system's displays provide data that is frequently misleading, when compared to reports generated by the system against the same data. This is due in large part to the complex database data table interface.</p> <p>A manual interface process to "import" payroll information is done each week. Interfaces to other fee and fine collection systems, and Permits Plus do not exist and therefore requires duplicate data entry.</p> <p>There is no notification workflow function to notify staff of authorization requirements, or rejections.</p> <p>While there has been extensive and repeated training at the end user level for standard system reports and query tools, there has been minimal training in the IQ product utilized to generate reports and queries. Due to the complex nature of the database's data table, it is difficult for departments to generate meaningful financial management reports.</p>
<b>Overall Gap Assessment:</b>	<b><u>Moderate</u></b>

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<b>Geographic Information Systems (GIS)</b>	
<b>Enabling Technology Description:</b>	This enabling technology efficiently captures, stores, updates, manipulates, analyzes, and displays spatial and survey-accurate tabular geographically referenced information. Integrates with other systems that carry discrete data about mapped objects (engineering drawings, inspection sketches, etc.) to provide an accessible, coherent set of information about the Town's mapable entities. GIS represents an enabling technology upon which applications such as Permit Management and Utilities Management can be built. Interfaces with CAD, Maintenance Management, and Permit Management.
<b>Benefits:</b>	Streamlines efforts to produce maps. Allows Brookline to view itself geographically from a single perspective. Allows utilities, public safety, planning, and development to perform their jobs more efficiently and accurately.
<b>Existing Applications:</b>	ArcView, ArcInfo
<b>Gap Analysis Summary:</b>	Brookline has expended significant effort to develop an award winning GIS system. The GIS system supports the basic GIS functionality and has done a very good job of developing the layers of information necessary to support the Town and Schools mapable entities. The GIS system is integrated with the Police CAD system, building inspection functions, water and wastewater management, property assessment.
<b>Overall Gap Assessment:</b>	<u>Minimal</u>

<b>Grant Management</b>	
<b>Ideal Application Description:</b>	This application manages a grant relationship from the initial opportunity through development, award, execution, and closure. It also tracks grant beneficiaries, funding, and automates regulatory reporting. Includes a link to Financial Management.
<b>Benefits:</b>	Maximizes revenue base and facilitates the most appropriate disbursement of funds. Tracks data necessary to ensure appropriate use of funds. Ensures compliance with regulatory agencies.
<b>Existing Applications:</b>	None
<b>Gap Analysis Summary:</b>	N/A
<b>Overall Gap Assessment:</b>	<u>Severe</u>

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<b>Human Resources/Training</b>	
<b>Ideal Application Description:</b>	This application provides online processing and maintenance of employee records. It stores current and historical data related to demographics, academic and professional credentials, compensation, benefits, assignments, attendance, etc., and reporting on these attributes. It supports training, recruiting, labor contract negotiations, grievance tracking, regulatory compliance, safety compliance, and environmental mandates related to Town employees. Allows for employees to access information about themselves and perform some transactions without the assistance of specially trained staff. Interfaces with Payroll and Financial Management.
<b>Benefits:</b>	Provides "one-stop-shopping" for retrieving employee data. Eliminates redundant data entry, decreasing inconsistencies among systems. Facilitates summary reporting for long-term human resources decision making. Automates the recording of an individual's training hours, licenses, and certifications. Reduces staff workload by allowing employees to review their own records with appropriate security.
<b>Existing Applications:</b>	Harper's Payroll; MS Access; Excel
<b>Gap Analysis Summary:</b>	The Harper's Payroll system is used to track a few of the HR functions. Group Health benefits are maintained using an internally developed MS Access application. While Harper's does offer a Human Resources module, the Town and School have opted to make minimal use of it, mostly in the areas of employee education and certifications. Currently, Brookline cannot access a comprehensive list of open positions in the Town and School. The existing application is not integrated with the MUNIS financial management system and the Comptroller performs a weekly import of payroll data manually. The lack of true HR reporting features and access to benefit information adds time to many departmental tasks.
<b>Overall Gap Assessment:</b>	<u>Severe</u>

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<b>Internet</b>	
<b>Enabling Technology Description:</b>	This enabling technology allows access to a worldwide communications infrastructure for the purposes of communicating, exchanging data, and executing transactions with external entities.
<b>Benefits:</b>	Provides convenient access for citizens to government services. Cost-effective and expandable means of communicating with outside service providers, other departments, approval bodies, citizens, etc.
<b>Existing Applications:</b>	IIS, Microsoft Front Page, Microsoft ASP
<b>Gap Analysis Summary:</b>	<p>Brookline has developed a rich content web site that allows citizens to pay taxes, utility, sewer, and refuse bills, and provides online registration for classes and facilities, including parks and playgrounds over the Internet using a third party service provider. The Town is one of a small number of communities in the state that offers such services to its citizens.</p> <p>The school has an extensive but static and unorganized presence on the web. Smart web applications need to be built that can easily be used by teachers, administrators, and students for a variety of functions including posting job openings, agendas, homework assignments, and lectures. In addition, parents should also be able to look up class schedules, grades, attendance, etc.</p>
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Intranet</b>	
<b>Enabling Technology Description:</b>	This enabling technology provides for secure dissemination of information among staff utilizing a web browser for access. Intranet's can include employee information, educational materials, as well as information that can be used to assist customers over the phone.
<b>Benefits:</b>	Allows staff to securely access Town and School applications from multiple locations. Removes bandwidth barrier for access to applications.
<b>Existing Applications:</b>	IIS, Microsoft Front Page, Microsoft ASP
<b>Gap Analysis Summary:</b>	<p>The Town intranet functionality consists of extensive Human Resource information, a telephone directory, and several on-line databases to assist Town staff, as well as downloadable software such as the First Class email client.</p> <p>Brookline has minimal intranet functionality with limited awareness by staff of its availability. The intranet site is not available to all departments, specifically the Police Department. (The Libraries are purposely not provided access as a security measure.) The Brookline intranet is accessed by 300 Town employees, thus more time should be spent on making sure it meets all employee needs, especially in the area of customer service.</p> <p>Intranet enablement does not exist in Brookline's application portfolio with the exception of Harper's Payroll for web based time reporting. While, the Town has purchased the Laserfiche Weblink application, which would allow departments to access data stored on Laserfiche through the intranet, it has not been implemented.</p>
<b>Overall Gap Assessment:</b>	<b><u>Severe</u></b>

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<b>Investigation/Crime Analysis</b>	
<b>Ideal Application Description:</b>	This application assists in managing the criminal aspects of public safety-related incidents. It maintains victim and witness information, informant data, field contacts, etc. Includes crime analysis capabilities. Also supports the assignment and transfer of detectives to cases and the monitoring of case status. May use Document Imaging to support case file maintenance and workflow routing. Receives incident information from the Emergency Dispatch application.
<b>Benefits:</b>	Facilitates coordination of investigation materials. Provides secure, efficient access to individual and incident records. Ensures that notes and comments remain appropriately attached to case file information without reliance on paper/manual filing. Facilitates the identification of patterns and trends in location and types of criminal activity.
<b>Existing Applications:</b>	Laramore
<b>Gap Analysis Summary:</b>	This module of the Laramore application supports the functionality required by detectives to perform investigations and crime analysis, providing all of the required detail and historical information. The application is well integrated with the other Laramore modules and Brookline's GIS system.
<b>Overall Gap Assessment:</b>	<u>Minimal</u>

<b>Legal Research</b>	
<b>Ideal Application Description:</b>	This application provides access to LEXIS/NEXIS, Westlaw or CD Law legal databases. These databases provide editorially enhanced cases and statutes, rules and regulations, and legal periodicals.
<b>Benefits:</b>	Expedites legal research and analysis.
<b>Existing Applications:</b>	Westlaw
<b>Gap Analysis Summary:</b>	This is a standard research tool that supports the functional requirements of Brookline. Legal support staff are able to utilize the Internet to access case law, statutes, and other legal data to represent the Town and School in all legal matters.
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Library Management</b>	
<b>Ideal Application Description:</b>	This ideal application automates all library management functions. It provides bibliographic control, including all cataloging and associated functions. It also provides for circulation control, indexing, searching, and serial control. The application automates the acquisition process and includes electronic interfaces with distributors to download procurement data into the bibliographic system. Additionally, the system provides all functionality necessary to allow customer self-service, even over the Internet. It also allows for the dissemination of media through video and CD ROM.
<b>Benefits:</b>	Helps the library more effectively manage its publication resources. Improves customer experience through enhanced user interface and increased connectivity options. Allows more effective deployment of limited staff resources.
<b>Existing Applications:</b>	Minuteman
<b>Gap Analysis Summary:</b>	Minuteman has a functional, character-based user interface. The Town's Library supports Internet access to the media catalog and a patron can review a list of media they have reserved or checked out. The School and Town libraries are not integrated and do not communicate to share media. Many of the critical components of an ideal Library Management are not available.
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

<b>Maintenance Management</b>	
<b>Ideal Application Description:</b>	This application automates management of the Town and School's fixed assets including fleet, facilities, infrastructure and parks through their life cycle. It manages regulatory compliance, certification, and maintenance information for these assets. It generates work orders and preventive maintenance schedules and assigns personnel, equipment, and inventory to work. Provides the ability to track and analyze time, materials, and costs for all maintenance activities. Can interface with wireless devices for dispatch, asset records, and plans/drawings. Also interfaces to the financial/payroll, inventory, and HR systems.
<b>Benefits:</b>	Longer asset life and reduced repair costs. Assists in planning short-term equipment replacement needs and long-term budgeting for ongoing maintenance, repair, and replacement. Ensures that equipment is tested regularly for safety and structural integrity. Assists in the scheduling of maintenance personnel. Improved tracking of costs related to ownership of various enterprise assets.
<b>Existing Applications:</b>	None
<b>Gap Analysis Summary:</b>	The Town recently began implementation of a Fleet Maintenance Management system. This is a minimal application that addresses a small portion of the Town and School's needs.
<b>Overall Gap Assessment:</b>	<u>Severe</u>

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<b>Management Reporting</b>	
<b>Ideal Application Description:</b>	This application provides management with a single source for critical data. It reports on key management performance measures on a regular schedule. Interfaces with most management systems, including Financial Management, CIS, and Maintenance Management.
<b>Benefits:</b>	Efficiently automates the generation of management information, obviating the need for time consuming custom reporting. Improves operational decision-making.
<b>Existing Applications:</b>	IQ, Crystal Reports
<b>Gap Analysis Summary:</b>	<p>While Brookline has a few tools that provide the most basic level of functionality called for by this ideal application, many users are unaware of these tools, few users have been trained on them, and in some cases they have not been implemented at all. Moreover, the ideal of an "automated" set of reports is entirely non-existent. There is no way for managers to effectively see information from disparate systems in any manner not involving significant human intervention. By not having well defined interfaces or a data mart, the Town and School lacks the tools that typically serve as a foundation for this sort of automation.</p> <p>The lack of standard reporting, particularly summary reporting, was a major complaint from users. Over 150 Town and School users have been trained in MUNIS standard reports generation and queries. Approximately 35 key users have been trained on IQ basics for MUNIS. However, given the complexities and inconsistencies of the MUNIS data dictionary, management reporting remains problematic.</p>
<b>Overall Gap Assessment:</b>	<u>Severe</u>

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<b>Payroll</b>	
<b>Ideal Application Description:</b>	This application supports the payroll processing for Brookline employees. It consists of check calculation, tax calculation, report generation and check signing and sealing. Interfaces with Human Resource and Financial Management applications, and the bank for direct deposit transmission.
<b>Benefits:</b>	More timely and accurate information about Brookline's financial position. Streamlines employee time entry for payroll processing, provide consistent and accurate payroll, distribution, tax filing, and management reporting. Provides management with employee expenses and work activities.
<b>Existing Applications:</b>	Harper's Millineum
<b>Gap Analysis Summary:</b>	<p>The existing Harper's tool meets most of Brookline's requirements. It provides all of the base functionality required, in a straightforward environment. The application employs a graphical and web based user interface for time entry, although they differ and do not capture the same data. Regular users found it efficient for data entry – at least in most cases.</p> <p>Some users report difficulty with stability of the application due to the transmission of payroll data to Harper's for processing. The application does not integrate with the MUNIS financial system, and Brookline has not implemented the HR module. While the School and Town both utilize the Harper's payroll system, separate databases are maintained, making the implementation difficult to manage. There is no mechanism to generate reports from the time entry and reports are extracted using MS Access.</p>
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Permit Management</b>	
<b>Ideal Application Description:</b>	This application supports the entry and tracking of permit, inspection, and code compliance data, and issues permits. It supports calculation and management of impact fees and credits, tracks information specific to specialized permit issuance such as hazardous materials and pyrotechnics, schedules inspections, and tracks results. Supports code enforcement activities. Includes a GIS interface and a link to Financial Management for billing, cost recovery, and payment of credits. Takes advantage of GIS resources to locate properties and retrieve related information. Also supports an interface to CAD to transmit safety-related permit information to public safety response personnel. Supports coordination of permit activities among Town departments.
<b>Benefits:</b>	Integrates and streamlines permit processing from initial application through completed construction and maintenance of facility. Provides faster permit turnaround service to customers. Improves access to records for incident response purposes. Automates inspection scheduling.
<b>Existing Applications:</b>	Permits Plus
<b>Gap Analysis Summary:</b>	<p>The Town uses Permits Plus to provide most of the core functionality of this ideal application. Overall, the application meets at least the basic user needs with an intuitive graphical user interface.</p> <p>The application is in use by the Health Department, Building Department, and Town Administration.</p> <p>There is no interface to MUNIS and fees collected and entered into Permits Plus are re-keyed into MUNIS. Additional training is required for users to utilize the word processing interface, which are now manually typed into Word documents. Implementation and training is needed to utilize the workflow and business rule features in order to streamline work. Currently email is utilized to notify and forward work to other departments.</p>
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Personal Productivity</b>	
<b>Ideal Application Description:</b>	This standardized suite of desktop software tools provides word processor, spreadsheet, presentation, document publishing and exchange, scheduling, and email capabilities.
<b>Benefits:</b>	Allows for convenient internal file sharing and communication with external sources. Serve as "shadow" applications to support custom and packaged applications. Improves scheduling efficiency and coordination and generally allows Town staff to focus on doing their work as opposed to how they do it.
<b>Existing Applications:</b>	MS Word, Excel, PowerPoint, First Class email
<b>Gap Analysis Summary:</b>	The Town completed an effort to standardize desktops around the Microsoft Office suite of products. Although the project was successful for PC's, there continues to be a problem sharing information with Macintosh users, most notably in School Administration.  The First Class email system is not robust and has very limited storage and time limits restrictions for on-line access. It does not provide a much needed integrated scheduling and calendaring.
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

<b>Project Management</b>	
<b>Ideal Application Description:</b>	This application allows project managers to define, monitor, and control individual, departmental, or enterprise-wide projects. It supports resource leveling and staff planning for proposed work as well as what-if analysis of proposed staffing changes. Additionally, it tracks the proposal, issuance, and acceptance of contracts, and monitors vendor performance during the life of the project. Includes a link to Financial Management and Maintenance Management.
<b>Benefits:</b>	Improved project management and better project planning. Better work load planning, standardized project management methodology and work breakdown structures. It also allows the project manager to track performance versus plan, making adjustments as required to stay on time and within budget.
<b>Existing Applications:</b>	None
<b>Gap Analysis Summary:</b>	N/A
<b>Overall Gap Assessment:</b>	<u>Severe</u>

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<b>Property Assessment</b>	
<b>Ideal Application Description:</b>	This application provides all property ownership, tax, and demographic information necessary for planning, development, and management functions. Includes sophisticated query and reporting capabilities, as well as some basic forecasting functions. It requires annual updating to keep tax information current.
<b>Benefits:</b>	Provides a highly efficient and user-friendly way of performing complex data manipulation tasks on property information. It gives the Town the tools necessary to effectively plan and forecast its tax base and demographic changes.
<b>Existing Applications:</b>	Computer Assisted Mass Appraisal (Consortium) IQ
<b>Gap Analysis Summary:</b>	The existing application was originally developed for the State of NY, and is regularly updated through a consortium. The application uses an Oracle database and the Assessors office utilizes IQ for reporting. The database interfaces with the GIS system and this information is provided over the Internet to Brookline's citizens.
<b>Overall Gap Assessment:</b>	<u>Minimal</u>

<b>Public Safety Records Management</b>	
<b>Ideal Application Description:</b>	This application tracks information related to incident responses from the initial call-in through summarization for federal reporting. Supports standard police and fire reporting codes, Town-specific reporting, and internal performance measures. Collects time and staffing information through a link with CAD, and geocoding information through a link with GIS.
<b>Benefits:</b>	Facilitates post-incident reporting and follow-up. Supports as-needed queries and searches related to an incident for internal and external reporting purposes.
<b>Existing Applications:</b>	Laramore
<b>Gap Analysis Summary:</b>	The applications supporting this function are common, modern applications from a proven vendor. The basic RMS functionality described above is present in Brookline's implementation, and the graphical user interface is easy for casual users to master quickly.  The application is well integrated with all other Public Safety applications, and GIS. The system is not in use by the Fire or Emergency Management departments, although the Fire implementation is in process.  The application meets the needs of the Town's Police department, and should support to the same level the Fire departments records management needs.
<b>Overall Gap Assessment:</b>	<u>Minimal</u>

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<b>Purchasing/Inventory</b>	
<b>Ideal Application Description:</b>	<p>This application fully automates the entire life cycle of Brookline's purchases. Allows requisitions and purchase orders to be generated online, decentralized out to the departments and divisions. Automates the approval process, including basic workflow functionality. It allows for purchases to be made online, directly from vendors. It includes sophisticated vendor information management, including a catalog of vendor information, to reduce repeated data entry.</p> <p>Once a purchase has been made, the system also automates the receipt to inventory process. It allows for automatic two-way or three-way matching. It automatically pre-populates the inventory with any information known at the time of purchase. It tracks warranty information as well as asset disposition, and automates the entire monthly, semi-annual, or annual inventory activity. Where appropriate, the system can also be tailored to predictively order or generate requisitions (with appropriate controls) for commonly-used items when their inventory levels drop below a user-defined or system generated inventory level.</p>
<b>Benefits:</b>	<p>Greatly streamlines the purchase process, making it a paperless activity inside the Town. Improves the Town's management of its assets, allowing it to more efficiently manage inventory levels. Reduces the chance of errors in billing and receiving. Allows Brookline to purchase as a single entity, which in turn will enable it to take better advantage of bulk purchasing and other discounts. Curtails the need for redundant data entry, thereby reducing associated errors.</p>
<b>Existing Applications:</b>	MUNIS
<b>Gap Analysis Summary:</b>	<p>MUNIS is used to enter purchase requisitions and issue purchase orders, although some departments continue to manually type their purchase requisitions.</p> <p>Inventory is automated on an ad-hoc basis, mostly in departments, often by simple Access databases or spreadsheets.</p>
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Registration/Scheduling</b>	
<b>Ideal Application Description:</b>	This application supports the ability to create schedules and track registrants for the Town's recreation, training, and volunteer programs. It also automates fee collection and communication with enrollees and instructors/coordinators. Includes interfaces with Internet support for registration and payment and Financial Management.
<b>Benefits:</b>	Increases the efficiency of administrating training, volunteer, and Parks programs. Facilitates improved customer service due to time-efficient registration. Avoids conflicts of instructors and facilities. Improves utilization rate of facilities.
<b>Existing Applications:</b>	None
<b>Gap Analysis Summary:</b>	The Town Recreation Department is planning to install and implement an application to support registration for recreation activities. Although this will support Recreation's requirements, other departments will continue to use manual registration and scheduling. Because this application was not operational at the time of assessment this was given a severe gap.
<b>Overall Gap Assessment:</b>	<b><u>Severe</u></b>

<b>Staff Scheduling</b>	
<b>Ideal Application Description:</b>	This application supports the needs of departments to schedule shifts, support for bargaining unit agreements, and optimization of resource usage. Supports dial-in shift scheduling, automated call-out to reserve staff, and reporting on state and federal labor requirements. Interfaces to CAD, Maintenance Management, and Human Resources.
<b>Benefits:</b>	Fully automates staffing and time reporting functions.
<b>Existing Applications:</b>	Public Safety - Laramore
<b>Gap Analysis Summary:</b>	The Police department has completely automated shift scheduling, integrated with other Laramore components. The Fire department will be fully automated in the near future and Laramore will meet their scheduling needs.
<b>Overall Gap Assessment:</b>	<b><u>Moderate</u></b>

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<b>Student Information System</b>	
<b>Ideal Application Description:</b>	This application supports School administrative requirements to track student information. It includes student registration, student demographics, course management and scheduling, grade reporting, ad-hoc reporting, attendance tracking, incident and disciplinary processing, special education and student medical management.
<b>Benefits:</b>	Provides teachers and administrators with an integrated view of student activities, supports state and federal reporting requirements, and support proactive management of staff and facilities.
<b>Existing Applications:</b>	Pentamation
<b>Gap Analysis Summary:</b>	The Pentamation suite of products meets the School's student administrative needs at the high school. The package will require customization to meet the needs of K-8 teachers and principals. A web based version is currently being implemented for all teachers to provide real time entry and tracking of student information.
<b>Overall Gap Assessment:</b>	<u>Moderate</u>

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<b>Utility Customer Information System</b>	
<b>Ideal Application Description:</b>	This application provides a single tool for managing the Brookline's relationship with its utility customers. Includes full automation of call center functionality, including queries on such information as utility billing, customer history, address history, and service history. It also allows for the easy creation of service orders and can include all utility bill generation functionality. Interfaces with Financial and Maintenance Management, as well as some utility control/monitoring systems, where appropriate. Allow customers to pay, request service changes, and review account history over the Internet.
<b>Benefits:</b>	Streamlines the utility customer relationship, allowing Brookline to more efficiently provide service and respond to customer requests. Centralizes all associated activities, providing improved response and reducing redundant tasks. Provides integration with the Internet and the Financial Management System.
<b>Existing Applications:</b>	MS Access
<b>Gap Analysis Summary:</b>	<p>The Town currently is using handheld scanners to gather water usage data from customers. This information is downloaded into an Access database to generate customer bills.</p> <p>The bank collects payments, transmits payment details to the Collector who posts them to the Customer information database. The database contains customer detail, billing and payment information.</p> <p>While the current application provides the tool to collect and track payments it does not support the detailed tracking and management reporting functions of a Utility CIS application. There is no interface to a Maintenance Management system, or the Financial system.</p>
<b>Overall Gap Assessment:</b>	<b><u>Severe</u></b>