INFORMATION TECHNOLOGY INVENTORY

Information is power. Access to information is critical to the growth and prosperity of Fitchburg. Communities across the country looking toward the future are positioning themselves to continue to improve their connection to the "information age".

This element of the master plan addresses the various information exchange systems in place in the public sector in Fitchburg. These systems include computers, data processing and networks as well as other communication systems. A review is provided of the systems in city hall and other city departments, the educational resources in the school system--both public and private. Private wireless telecommunication providers, commercial radio providers, and wired (cable television, telephone, etc.) providers are also inventoried. The element concludes with a review of the goals and objectives in planning for information and technology services and a series of recommendations for future action are provided

MUNICIPAL NETWORK OVERVIEW

CITY HALL

City Hall is served by an Ethernet network with category 5 plenum-rated cable at 140 locations in offices throughout City Hall. A centralized patch panel, six 10MB Bay Networks Ethernet switches and a Bay Networks 10/100 Master switch are located in the Office of the Planning Coordinator's GIS room. This fully switched environment ensures a full 10MB for every network connection.

WIDE AREA NETWORK (I-NET) AND INTERNET ACCESS

The City Hall Ethernet network is connected to the cable television-based I-Net with a Zenith cable modem that connects the computer network with other city buildings (currently Police, Central Fire, School Administration, Oak Hill Fire Station, and the Water Division office on Broad Street) and with the Internet. The network is connected to the Internet through an Internet Service Provider on Main Street. A city-owned router between the cable modem and Ultranet's Internet access point on Main Street separates the city from the Internet.

The city is currently negotiating a new cable franchise agreement with Cablevision, the city's cable television provider, to allow for additional I-Net drops. Currently proposed are I-Net connections for every public and private school in Fitchburg, and connections to several community organizations, Housing Authority locations, and senior citizen centers.

CITY HALL FILE SERVERS

Assessors - An Intel-based server running property revaluation software serves two public access terminals at the Assessor's front counter, Assessor staff, and a terminal at the Building Department. The newly installed Assessor's system runs Windows NT and Microsoft SQL Server. This environment will

support standard SQL commands to communicate with the Planning Department's Geographic Information System (GIS) and the interdepartmental permit tracking system.

Building Department - A Novell NetWare 3.12 server (25 user license) with a 90 MHz Pentium Processor and a 1 GB disk and Ethernet card provides NetWare file and print service for the Building Department. This server is the home for the interdepartmental permit tracking system that serves Building, Health, Planning, Zoning Board of Appeals, Fire and License Commission permits. This system is currently under development.

Planning Department - A Sun Sparcstation 20 Unix workstation running Arc/Info Geographic Information System (GIS) software serves as the city's primary GIS computer. This computer also provides access to other departments running ArcView GIS and Arc Explorer software to allow use of GIS data stored on the Sun. In addition, PC X-Terminal software provide GIS access for various users at other locations. A Windows NT workstation also runs Arc/Info GIS, and serves as the secondary GIS platform.

Treasurer Department - An Intel 486DX computer running SCO Unix and municipal software from Local Government Software of America (LGSA, formerly Arlington Data Systems), which includes water and wastewater billing, payroll, voter registration, and property tax, is currently the primary municipal computer system, although this system is being replaced with an HP LHII Intel server running MUNIS software under SCO Unix. This system supports several city departments including the Auditor, City Clerk, Treasurer, Water, and Wastewater. The city is currently installing this new system, and extending it to service Schools, Purchasing and other departmental functions.

OTHER CITY DEPARTMENTS

Fire Department - The Fire Department has a networked system under development which will support several Fire Department users, and users at the Oak Hill and Summer Street Fire Stations over the city's I-Net with cable modems. In addition the Fire Department and the Police Department are implementing a shared public safety computer system connected with dedicated leased telephone lines and based on the Police Departments RS/6000 server.

Police - The Police Department has a IBM RS/6000 Unix server running CPLIMS Law Enforcement software. The server currently supports 36 users over Ethernet. The system utilizes Informix RDBMS and Uniplex Office Automation. Personal Computers are serving as terminals to the system, and also run Windows 3.1 and Microsoft Office Version 4.2.

The Police have access to the Criminal Justice Information System (CJIS) through two dedicated phone lines. CJIS provides access to the Law Enforcement Agencies Processing System

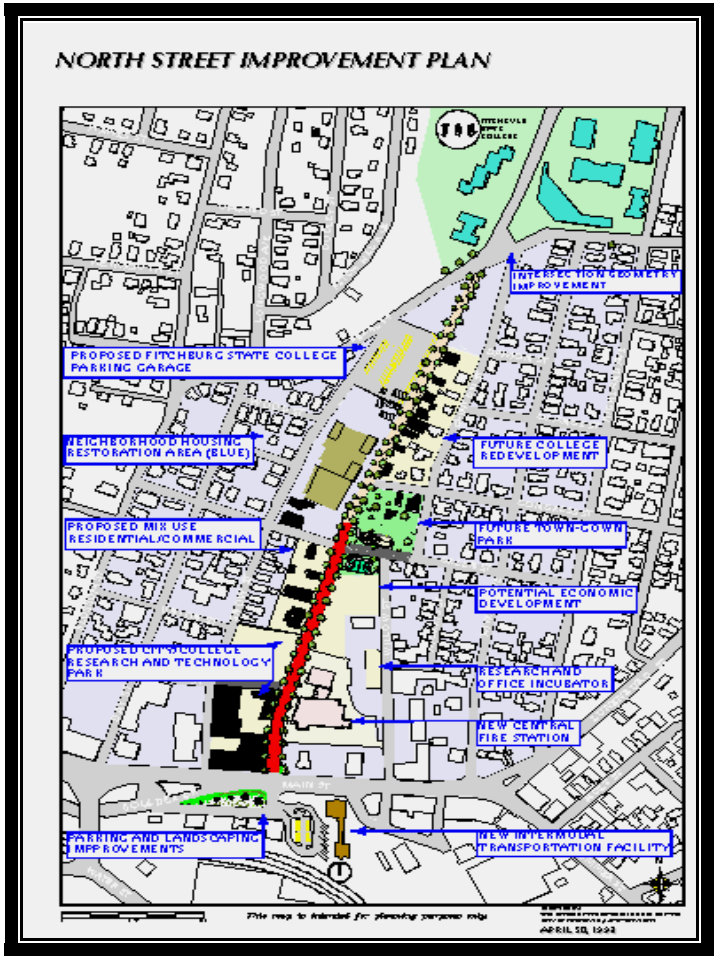
(LEAPS), the National Law Enforcement Telecommunications System (NLETS), the National Crime Information Center (NCIC) and the Automated License and Registration System (ALARS).

In addition, the Police have a Sun Sparcstation workstation running ArcView 3.0 GIS software to provide mapping capability to the information manager.

School Administration - The School Administration has a Novell server that networks a number of administrative computers. This School Administration LAN is connected to the City Hall LAN via a cable modem, and provides access to the City's new MUNIS financial system.

OTHER COMPUTER-RELATED RESOURCES

Application Software - The Office of the Planning Coordinator has developed a full-featured **Geographic Information System (GIS)** that provides analytical capabilities and informational access to geographic information for many departments in the city. This system is based on Arc/Info software by Environmental Systems Research Institute, and runs on a



GIS allows detailed mapping and spatial analysis.

Sparcstation 20 Unix workstation and a Windows NT workstation. The city owns three licenses, so the system supports access from anywhere on the network, including other locations around the city over the cable-based I-Net. The GIS is used for a large variety of applications, and includes parcel information, political boundaries, building footprints (which shows where buildings are located), streetlights (with ID numbers, wattage and brightness), fire hydrants (with static and residual pressures, which system they're on, and the number of nozzles), ward and zoning lines, FEMA 100 Year floodplains, wetlands (derived from aerial photos), census blocks and tracts, school districts, and other spatial information. While Geographic Information Systems are becoming increasingly common, the breadth and quality (source scale) of Fitchburg's GIS is unparalleled for a community this size.

Permit Tracking System - An **interdepartmental permit tracking system** is under development by the city that will include permits issued by the Building, Fire and Health Departments, the Zoning Board of Appeals, and the License Commission. This application will enable all participating departments to access the status of a given project. In addition, this application allows users to "view" the subject parcel through the GIS through the use of "map objects", which integrates GIS-type functionality in a database application. This state of the art system is currently being developed and installed, and is expected to be fully operational by the end of 1998.

Specialized Hardware - The Planning Office has a color E-size ink jet plotter with an Ethernet interface.

The Engineering Division has an 8 color pen plotter with a serial port connection.

The Planning Office has a 36" x 48" backlit digitizing table connected to the Sun workstation. This table allows digitizing of large size plans, and the backlighting makes it easier to overlay maps of the same scale for input into the GIS.

MUNICIPAL INTERNET RESOURCES

Most offices in City Hall have computers, many of which are connected to the Internet.[1] (See section on I-Net above) The mtech.mec.edu accounts are serviced by the Montachusett Regional Vocational Technical School at no cost to the city. Additional e-mail accounts will likely be added as network interface cards are added to existing computers in City Hall.

The City of Fitchburg has a World Wide Web Page that resides on Net1Plus, an Internet provider in Lunenburg, at no charge to the city. This Web Home page is located at

[1] For a list of current personnel e-mail addresses see Appendix: INTERNET.

http://www.net1plus.com/users/Fitchburg and is maintained by David Streb of the Office of the Planning Coordinator. The city's Home Page provides information about various programs and activities in Fitchburg, such as the Zoning Ordinance, the Fitchburg Development Guide and a complete list of properties in tax title with instructions on how to purchase these properties. Also available are Geographic Information System (GIS) programs and data coverages, and other items of interest to Fitchburg residents and "visitors" alike, Other "links" include area schools, non-profit organizations, other area web pages, and other informational resources by and about Fitchburg.

MUNICIPAL COMPUTER AND NETWORK ANALYSIS

The City's computer network expanded incrementally from the development of a multi-user Geographic Information System, which required Ethernet-based graphical terminal to provide access for users. The cable network and I-Net were initially installed to support this use, and not designed to support city-wide networking. Fortunately, a centrally located wiring closet, category 5, plenum rated certified wiring, and seven Ethernet switches will support advanced network services in City Hall.

A newly installed Windows NT Server provides computer networking services to the MUNIS users in City Hall. Other computer users rely on peer to peer networking, or Novell file and print services. The City has implemented Microsoft Exchange server for internal e-mail to the NT users, but Internet e-mail and address resolution is handled by computers outside of the city.

There is currently no Information Systems Department within the City. When the various departments have computer-related issues to be solved, they rely on the informal assistance of employees within the city that have developed some technical expertise, or rely on an outside computer consultant.

SCHOOL EDUCATIONAL RESOURCES

Applewild School has a computer lab in the lower school, a lab in the information center, and another large bank of computers in the reference area. The school uses Power Macintoshes and has recently implemented an administrative software program. This summer the school plans to network the campus. More information regarding their information resources is available from nfcrowley@aol.com.

Crocker School has a school-wide network of 40 Apple II GS computers, networked to two different Macintosh file servers. A total of 15 386 PCS and three 486 PCS are distributed throughout the school. Each classroom has at least one networked Apple II GS and one Apple IIe. In addition, there are a total of seven IBM PC Jr's in a computer lab. Three computers are connected to the Internet, two of which are available to students. In addition, Crocker School maintains a web page at http://www.net1plus.com/users/crocker .

The **South Street Elementary School Complex** has 12 PCS of 486 processor or greater. A few lack CD-ROMS. 10 are in the Library. One of the ten has access to the a phone line. Two are in classrooms. One fifth grade class has an Internet-capable PC.

McKay Elementary School's computer lab consists of 20 Apple IIGS with color monitors, networked to a Macintosh fileserver. The school was wired in the summer of 1997 to provide Internet access. In addition to the computers in the computer lab, several multimedia PC's rotate around the building for classroom use. Also, the McKay World Wide Web page at http://www.ultranet.com/~renda/mckay/ provides an avenue for McKay students to publish their stories and artwork on the Internet.

A total of 28 486 computers with CD-ROMS are at **Reingold Elementary School**. Every classroom in grades 3, 4 and 5 has a 486 with printer. A mixture of 486 computers and Apple II GS computers are in grades 1 and 2, with a changeover to all PC's by 1998. One computer of three available is connected to the Internet at any one time (there is only one dedicated phone line). Reingold School was the only Fitchburg school that participated in Net Day in 1997. As a result, Reingold School is fully wired for connecting every classroom.

St. Anthony's School recently added a computer lab at the school with 13 IBM compatible computers with CD-ROMs and 7 printers. In addition, there are four IBM PC 286s, two IBM 386s, one IBM 486 and three Macintosh. Another IBM compatible PC with printer is in use in the school office, and a multimedia Macintosh will soon be added to circulate among the classrooms. No Internet access is available yet.

St. Bernard's Elementary School reports the following computer resources:

- 3 Macintosh Perform computers with printers
- 3 Apple IIe computers
- 8 IBM Personal 3270s
- a Compaq Presario 1425
- a DEC PC 340 dxlp
- 4 IBM PC Juniors

St. Bernard's does not currently have Internet access.

St. Joseph's School has seven Apple IIe's and ten IBM PC Jr's and 12 Pentium PCS with CD-ROMS.

At **B.F. Brown Middle School**, two computers are connected to the Internet. Approximately ten personal computers are available at B.F. Brown, plus several Apple II GS computers. In addition there are two small computer labs with 8086 computers networked with Novell 2.x networking software.

Memorial Middle School has eight personal computers, one with an Internet connection, in addition to 25 IBM PCs in a lab

in the library, which are used for an accelerated reading program.

Fitchburg High School has two computers connected to the Internet. There are six computer labs and computers in the library, for a total of approximately 180 computers. Most are 486 or above, but there are some Apple II GS computers in various classrooms. All computers are networked to the Library servers. The school also has a Technology Lab for Industrial Technology courses.

At the **Montachusett Regional Vocational Technical School**, all classrooms and shop areas have at least one computer permanently assigned. The school has five computer labs as well as several teaching areas with ten or more computers. Every office, shop and classroom is connected to a fiber-optic Ethernet network. Monty Tech's network provides full graphical access to the Internet, file sharing and print services. There are currently seven file servers and an Internet web server. In addition, a variety of on-line resources are accessible through the network. Both the Student Information System (which allows teachers to directly enter morning attendance and quarterly grades) and a computerized Curriculum Management System are accessible from all computers. All staff as well as many students have Internet e-mail accounts.

There are currently over 350 Macintosh and Windows based systems connected to the network, which supports cross platform compatibility, and which allows simultaneous sharing of information on both platforms. Monty Tech also provides free dial-up capability for staff to access the network as well as the Internet from their homes.

Notre Dame Preparatory School has a computer lab with one dedicated phone line for Internet. Within that lab are 2 IBM compatible 386 computers with color monitors, 3 486s with color monitors, 10 Apple IIe computers, and one Apple IIc. All Apple computers have black and white monitors. In addition, Administration and Guidance have a 386, 3 486s, and an Apple IIc. Notre Dame's e-mail address is ndhs@net1plus.com.

St Bernard's High School has two computer laboratories, one with 30 IBM PCS and one with 25 AST 486s. These are primarily used to teach computer courses but are available to students during study hour and after school. The school library has a NetWare network that supports ten computers, provides access to a ten disk CD-ROM changer, and shared Internet access. In addition, St. Bernard's has a 10 computer CAD LAN in the tech drawing classroom, two Macintosh Quadras in the math department for student and faculty use, and seven Apples in the geometry classroom.

Fitchburg State College currently has a 384K frame relay link to the Massachusetts Education Computer Network (MECN), which serves as their Internet provider. A T-1 (1.5 MB)

connection is in place, connecting the college to University Information Systems, a division of the University of Massachusetts President's Office, the college's Internet provider.

The various buildings on the college campus have been wired with fiber. All of the dormitory rooms have cable, telephone, and high-speed Internet access.

In addition, many computer labs are available for student use at Fitchburg State College, many with Internet access. Each student is given an e-mail account and file space for a personal web page upon request. The college is contracting with a private cable television provider for cable service to the college, not utilizing the local cable franchisee, Cablevision.

The Fitchburg campus of **Fisher College** provides 20 classroom and 4 Resource Center computers that have unrestricted access to the Internet through a 56KB digital line to the College's Information Services office in Boston. World Wide Web, FTP and e-mail services are available for the students. The twenty computers in the classroom are Pentium-class computers, as are two of the four Resource Center computers.

The students in the Computer Support Specialist program have access to hosting their own web pages on the college's main web server in Boston, at http://www.fisher.edu.

Each of the computers have been set up to link to the major college libraries and corporate resources throughout the United States. Each system also provides a direct Telnet connection to the main Fisher College Library in Boston.

SCHOOL COMPUTER ANALYSIS

The Telecommunications Act of 1996 provided an "e-rate", or discounted Internet access rate, for schools and libraries. This program will provide a 50%-80% reimbursement for the costs to the Fitchburg Public Schools for implementing network cabling and telecommunication connections between public schools and the Internet.

At this writing every elementary, middle and high school has been wired for fiber and cable to fully connect every classroom to each other and the Internet. Reingold School had previously been completed with parent and technical volunteers as part of "Net Day". Network electronics are planned for a later phase, to be completed in 1998.

Unfortunately, both the public and private Fitchburg schools have antiquated computers that do not fully meet the modern standards for computers. While significant purchases have been made, much remains to be done for both computer hardware and teacher training.

WIRELESS TELECOMMUNICATION FACILITIES[2]

MUNICIPAL WIRELESS COMMUNICATIONS

The Fire Department, Police Department, Civil Defense, and Department of Public Works all require radio telecommunications in the city. All these entities jointly operate a 45 foot tall guyed lattice tower antenna near Overlook Reservoir, at 240 Flat Rock Road.

Lt. Patrick Faucher of the Fitchburg Fire Department had this antenna evaluated by Babrick Tower a few years ago. According to Lt. Faucher, this evaluation found the antenna in need of several repairs. The cement piers used to attach the guy wires are too shallow, and installation of thimbles is required at the top of the guy wires where they attach to the antenna structure. The angle of the guy wires is too steep, and allow the antenna to torque and twist in the wind. Grounding wires for protection against lightning strikes are broken. The fence surrounding the structure is in need of replacement and should surround the anchor points of the guy wires to prevent vandalism. Vegetation grows in the area of the tower and presents a fire hazard, which causes a danger to the 500 gallon propane tank and the radio shack. In addition, this structure should be higher for better coverage of the city, as the top of the tower is below the tree line. The **Fitchburg Fire Department** has, in addition to the Overlook Antenna referenced above, antennas at the following areas:

Central Fire Alarm Building, 42 Elm Street
Central Fire Station, 20 Oliver Street
Oak Hill Fire Station, 231 Fairmount Street
Summer Street Fire Station, 42 John Fitch Highway
South Street School, 376 South Street
79 Caswell Road - an existing commercial antenna
795 High Rock Road - a wooden utility pole with three antennas (police, fire, new fire box-alarm system - see below)
Bell Atlantic Antenna, 1080 Franklin Road (near Oak Hill Country Club)

Fire Alarm System

In addition to the Fire Department's wireless operational requirements, the Fire Department operates a box alarm service for resident businesses and homeowners. A new fire box alarm system is being implemented at this time that features a two-way wireless communication system that transmits up to 72 different channels of information from each location. This system provides greater information regarding the nature of an alarm emergency (where a fire may be located, trouble with the fire alarm panel, etc) than was provided with the old telephone-based system, and is significantly less expensive for the user to operate due to the avoidance of telephone lease charges. Businesses will

[2]Current zoning and other regulatory provisions concerning wireless transmission can be found in Appendix: WIRELESS

be required

to change over to this new system in the coming months if they want to have alarms directly reported to the Fire Department.

The **Fitchburg Police Department** has communication antennas at the following locations in the city:

- The Bell Atlantic Mobile antenna off Franklin Road on Oak Hill, provided at no charge by BANM, who leased land from the City of Fitchburg to construct a lattice tower.
- A repeater antenna on a Nynex tower off Alpine Road
- A repeater on a telephone pole across from 52 Mt. Vernon Street.
- A repeater on a telephone pole at 795 High Rock Road.

PRIVATE TELECOMMUNICATION PROVIDERS

WIRELESS SERVICES

The following types of wireless services have transmission/reception facilities located within Fitchburg: Cellular, MRS (Mobil Radio Service), and soon, PCS (Personal Communication Service).

Wireless service requires antennas, such as these on Oak Hill.

The 175 foot lattice tower off Franklin Road on Oak Hill provides tower space for several wireless telecommunication

providers. This antenna is on land owned by the City of Fitchburg, and leased to Bell-Atlantic Mobile Inc. Space on the tower is currently leased by Bell Atlantic to Sprint PCS. A permit from the Fitchburg Planning Board for Nextel for specialized mobile radio (SMR) service was recently approved at this location, conditional on Bell Atlantic making required improvements to the tower.

Additionally, there are several Bell Atlantic antennas located west of Alpine Road.

According to Sprint PCS engineers, PCS antennas at the Nynex tower off Franklin Road will service only the southern portion of Fitchburg. AT&T and Sprint PCS, the two PCS providers for this market area, will be looking for additional antenna locations in Fitchburg to service the rest of the city.

Cablevision has two towers on Oak Hill 250 and 150 near the Bell Atlantic Nynex tower. These towers are both lattice-type towers. One of the two towers is currently unused, and is scheduled for removal according to Joseph Neal of Cablevision. Pagenet mobile radio service has an antenna on Cablevision's tower.

The Department of Public Works relies exclusively on the antenna at Overlook Reservoir for their radio communication.

CABLE ANTENNA TELEVISION

The franchisee for the area for Cable Antenna Television (CATV) is officially AR Cable Services of Hudson, MA, known by their parent company name of Cablevision. The city has provided AR Cable Services a franchise for the provision of cable services to residents of the City of Fitchburg. This franchise stipulates certain performance standards that are required for adequate cable reception and transmission by Cablevision. The performance under the franchise is monitored by the Cable Oversight Committee appointed by the Mayor.

Under the terms of the existing franchise, every residential area of the city is required to have cable service available to it. Certain provisions apply for cost reimbursement if the length from the street to the structure exceeds a certain distance. There are some areas of the city in which cable is currently not available, such as the Montachusett Industrial Park and certain sections of Main Street.

One of the provisions of the existing franchise allows the city to utilize channel space on the cable system for the distribution of computer data. The city is currently using a channel for this purpose (see Municipal Network Overview section).

The existing franchise agreement was signed in April of 1988, and will expire in April of 1998. A new franchise agreement is currently under negotiation by the city.

TELEPHONE SERVICE

Local Telephone Service is currently provided in Fitchburg by Bell Atlantic. The Telecommunications Act of 1996 has not resulted in any competitive local access providers (CAP) in the area at this writing.

The area switching office for Bell Atlantic is located in Fitchburg. In 1994, Nynex (which recently merged with Bell Atlantic) spent $5.5 million upgrading the local switching equipment, enabling all digital services in Fitchburg. As the pricing of T1 and T3 lines (for high speed computer connections) are calculated by the distance from the central office, this puts Fitchburg at a competitive advantage for those companies who require high-speed telecommunications access.

According to a representative at Bell Atlantic, additional improvements will be required before XDSL high speed telephone data access will be available in the Fitchburg area. XDSL will allow extremely high speed digital access over existing copper telephone wires.

COMMERCIAL RADIO PROVIDERS

- WEIM Radio, 1280 AM, is the only live AM radio station in the area. Their office is located at 762 Water Street, and their antennas are located on Alpine Road. They have three 200 foot antennas. No other telecommunication services are using their antennas.
- WFGL Radio, 960 AM. This station is an all-religious format, and just recently went on the air after having been closed for several years.
- WXLO Radio, 104.5 FM is currently licensed as "Fitchburg-Worcester", but has neither office nor antennas in Fitchburg.

INFORMATION AND TECHNOLOGY GOALS AND OBJECTIVES

- Provide employees of city government access to the Internet.
- Ensure public access to the Internet.
- Provide convenient public access to city government information. .
- Ensure the existence of technologically advanced telecommunication links to enhance the city's business climate.
- Encourage lower cost telecommunications services.
- Provide expanded cable television services to residents of the city.
- Ensure high quality cellular and other personal communication services throughout the city.
- Protect the city's landscapes to the extent feasible when deploying telecommunications services.
- Ensure adequate Internet access for Fitchburg's school children.

INFORMATION TECHNOLOGY RECOMMENDATIONS

CITY GOVERNMENT AND EDUCATION

- Create a LAN Administrator position to support and coordinate computer functions between and among municipal and educational departments, leading to the creation of a full MIS support department for the city.
- Implement a modern computer network to service city government's administrative needs, supporting network authentication, file and print services. Provide for security and regular centralized backup of files, and assist city personnel in desktop applications.
- Ensure that Fitchburg schools have sufficient computers to meet the modern educational needs of the students, and that sufficient numbers are connected to the Internet through a high-speed connection.
- Encourage City Departments to provide front counter access to their computer information systems to allow increased accessibility. Develop Internet access for the public to obtain municipal information and services remotely.
- Implement a funding mechanism to ensure that computer hardware is replaced on a scheduled interval to prevent obsolescence in schools and government offices. Ensure that replaced hardware is offered to non-profit organizations and community groups prior to disposal.

TELECOMMUNICATIONS

- Identify appropriate sites for telecommunications equipment. Establish appropriate aesthetic standards. Recover cost of this initiative through the permitting process.
- Develop a telecommunications amendment to the city's zoning ordinance that prohibits lattice towers and allows only monopoles, to ensure that the aesthetics of the city are protected. Prohibit erection of telecommunication facilities on Rollstone Hill
- Lease city-owned sites for telecommunication facilities to the extent possible, to return revenue to the city.
- Encourage the adoption of emerging telecommunication services throughout Fitchburg, including rural areas, by aggressively marketing the city, so that all Fitchburg residents have quality access to the latest technologies.

- Enhance and formalize the oversight of all parties represented in the city's cable franchise agreement, including Cablevision and Fitchburg Access Television, to ensure proper compliance with the terms of the city's cable franchise and related agreements.

- Improve the quality of the sound and video of City Council's televised meetings, and have more government meetings broadcast live.

- Strongly recommend and encourage the cable company, the telephone company or other provider to offer high-speed Internet access through state-of-the-art technology (currently broadband and ADSL) so that Fitchburg residents and businesses have access to low cost, high speed Internet connections.

COMMUNITY COMPUTING

- Support and encourage the availability of computers and access to the Internet for the general public, particularly for the disadvantaged, to promote a "level playing field".

- Integrate elderly housing complexes, community groups, schools, and the government in a high-speed metropolitan area network with appropriate security and operational protocols. Support the development of community computing centers, and of volunteers to provide training to the community.

PUBLIC FACILITIES

- Investigate the priority corridors for replacing overhead wire with underground cable as aesthetic and economic improvement project.

- Investigate the advisability of the City requiring that any utility company excavating in a public right-of-way for the installation of conduit for wires, cables, optical fiber or similar installations install at least two additional unoccupied surplus conduits beyond those needed by the permittee, including pull boxes and other similar facilities for access.