

Chapter X UTILITIES

"We are standing at the threshold of a new century, a century that promises to be as revolutionary in the technology that affects our daily lives and the future of our community as the inventions that so profoundly shaped the past 100 years. In an unregulated utility environment, we must be aware of our options and prepared to make informed decisions."

- Loudon 2001 Utilities Subcommittee

INTRODUCTION

This chapter describes the public utilities within the Town of Loudon including electrical distribution, natural gas, telephone, cable, and wireless service. Loudon has no municipal water supply or public sewer system.

Community Survey findings indicate a concern for reliable electric service that has the capacity to expand anywhere in the community consistent with the Town's growth requirements. Reducing high electric rates is a priority of respondents to the survey and electric deregulation will present new challenges for residents and the community as a whole to favorably control this process. Additional Community Survey concerns deal with deployment of cable services or its equivalent throughout the Town.

OBJECTIVES OF THE CHAPTER

- To gauge the current and maximum capacity levels of utility service, including telephone, cable, telecommunications, gas, electricity, and internet in Town;
- To identify the locations and range of service for each service provider;
- To project the anticipated future need for services given population growth and new technology development; and
- To inform citizens of technology options and raise awareness of our deficiencies in public water and sewer systems.

COMMUNITY SURVEY RESULTS

Survey respondents were asked about researching the flexibility (suitability) of telephone, gas and cable facilities in Loudon. A majority said no or had no opinion regarding research into telephone and natural gas utilities; however, nearly a quarter of respondents felt that the Town should look into other options for telephone service and a third thought that the Town should look into extending the natural gas line. Fifty-one (51%) of respondents want to look at expanding cable services.

Are you in favor of Loudon looking into the feasibility of the following community services?

Table X-1

Phone service	Total	Percentage
Yes	188	24.0%
No	383	48.9%
No opinion	157	20.0%
No answer	56	7.1%
Grand Total	784	100.0%

Table X-2

Extending gas line	Total	Percentage
Yes	262	33.4%
No	218	27.8%
No opinion	238	30.4%
No answer	66	8.4%
Grand Total	784	100.0%

Table X-3

Cable for entire town	Total	Percentage
Yes	407	51.9%
No	132	16.8%
No opinion	189	24.1%
No answer	56	7.1%
Grand Total	784	100.0%

Results of these 2000 Community Surveys suggest satisfaction with current telephone services, however the majority of residents felt that the Town should look into increasing cable television service. Expanding cable television and the enhanced telecommunication services that it provides is important to a majority of respondents.

DISCUSSION OF POPULATION TRENDS

The capacity to expand Loudon's existing utility services is sufficient to meet the needs of its growing population. In the future, however, if high-density developments (cluster or open space concepts) become a popular means of residential development, the Town may have to re-examine public water and sewer requirements.

Table X-4
Historic Growth Trends

Town of Loudon		
Year	population	% increase
1960	1194	
1970	1707	43
1980	2454	44
1990	4114	68
1999*	4635	13
2010 **	5082	10
2020 **	5795	14

Source: 1960-1990 US Census

*NH Office of State Planning Population Estimates, update 1999

**NH Office of State Planning Municipal Population Projections, Oct. 1997

Table X-5

Current Population Growth Trends of Loudon and Abutting Communities

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	% Increase, 1990-99
Canterbury	1687	1708	1700	1717	1730	1748	1771	1800	1800	1847	9.5%
Chichester	1942	1955	1972	1992	2010	2021	2046	2072	2115	2159	11.2%
Concord	36006	36059	36364	36762	37010	37290	37850	37925	38180	38318	6.4%
Loudon	4114	4239	4246	4300	4340	4358	4437	4504	4553	4635	12.7%
Pembroke	6561	6533	6542	6600	6619	6636	6688	6724	6733	6777	3.3%
Pittsfield	3701	3712	3752	3812	3834	3856	3916	3930	3961	3996	8.0%

Source: 1990 US Census, NH Office of State Planning Population Estimates for NH Cities and Towns, 1991-1999

Over the past ten years, Loudon has grown at a faster rate than its abutting communities. Loudon's population grew by more than 500 persons during the past decade (12.7% growth) and the Office of State Planning projects that Loudon's population would reach 5795 by 2020.

ELECTRICAL SERVICE

Public Service Company of New Hampshire (PSNH) currently provides regulated electric service in Loudon. PSNH maintains a 34.5 kV electric transmission line which passes from Concord through Loudon near Hot Hole Pond and then down to the Loudon sub-station on Oak Hill Road near North Village Road. The service splits at this point into two branch circuits; one provides power to the southern portion of Town including the Village, Oak Hill, School Street, Route 129 to Pleasant Street, and south on Route 106. The other circuit goes up North Village Road, including Route 106, and serves the central portion of Town. A third circuit comes from a sub-station in Chichester, and serves Pleasant Street to Route 129 and the Loudon Ridge area.

Three-phase service, essential for business customers, is currently available on North and South Village Road, Route 106 to the NH International Speedway (NHIS), Mudgett Hill Road, Dump Road, Oak Hill, School Street, Route 129 and Shaker Road. Three-phase service will be provided south of Belmont along Route 106 to NHIS as needed. PSNH has the ability to tap their 34.5 kV line at several junctions to expand this service anywhere in Town.

PSNH also owns land and easements in the northern section of town wide enough for a 150-foot right-of-way. PSNH has plans to place a 115 kV transmission line there in the next five years, which will span from Pittsfield to Gilmanton. The locations of the transmission lines and right-of-way are shown on the *Utilities Map*.

New Hampshire electric rates are among the highest in the nation. Public Service Company of New Hampshire charges its customers in excess of \$400 million a year above the current marginal rate for electricity in the New England Power Pool. These rates represent an enormous economic burden that falls on residential, business, and local government consumers in Loudon and the State of New Hampshire.

The New Hampshire legislature enacted legislation in 1996 calling for the deregulation of electricity generation. Deregulation would create competition among electric suppliers and rate relief with an effective date of August 1, 1998. When implemented, consumers will be able to buy power from the supplier of their choice. There will be other unregulated choices such as meter and billing options. As part of this legislation, Public Service Company of NH (PSNH) must divest all interests in electric generation, including selling all of its power plants, which will open generation up to competition. After the divestiture of its interest in generation, PSNH's primary function will be electricity transmission. It will be responsible for movement of electricity from its source (the generator) to consumer areas on high voltage lines (transmission) and then to customer's homes (distribution). Competition and consumer choice in electric generation will bring significant innovation in product and service offerings to consumers and end the high rates charged for electricity due to PSNH's monopoly in the electricity market. A transition period of up to four years will allow consumers time to adapt to the new environment.

A deregulation settlement agreement between PSNH and the State is complete. This agreement settles litigation that has blocked the implementation of deregulation. Rate reductions are projected to be 4% to 6% greater than the State could achieve through regular rate case procedures and the total savings from this process are projected to be in excess of 18%. The initial 17.2% reduction in residential rates will be constant over the 12-year life of the agreement. At the end of 12 years, all the stranded costs for PSNH will be satisfied and 80% of New Hampshire (including Loudon) will finally have rates for electricity that will be less than or equal to the New England regional averages.

The settlement agreement also requires PSNH to relinquish all power producing facilities and only be responsible for the transmission of electric power (distribution) from its source to the consumer. The average residential consumer uses 450 kilowatt hours (kWh) of electricity per month. A breakdown of the components of this structure in kWh is as follows:

Table X-6
Total Consumer Electric Costs per Kilowatt Hour

Component	Cost per kWh
Energy	\$0.045
Distribution	\$0.028
Stranded costs charge	\$0.034
tax	\$0.010
Misc.	\$0.010
Total	\$0.127

Source: Silkman Associates (special counsel to NH House Committee) 5/9/00

In this example, the energy costs are only guaranteed for the two years of the agreement. In a competitive market this component will likely rise until new energy sources are built. There are some options to consider that may reduce the impact of these energy costs in the next decade.

Municipalities like Loudon have the option under RSA 38:2 to purchase or otherwise acquire electric supply sources (generators) and distribution networks and develop a cooperative municipal service. Communities within New Hampshire that have formed or are in the process of forming utility cooperatives to force down the price of electricity include Warner, Rye, New Castle, and Littleton. These community cooperatives are currently working with a New Hampshire non-profit organization, the Institute for Cooperative Community Development (ICCD) to develop the basic structure for a community level consumer utility cooperative. This collaboration work is being funded by a \$100,000 Ford Foundation Grant, which is underwriting the legal costs of developing structure and bylaws. The purpose of the Ford Foundation Grant is as follows: to refine a legal and organizational model for a consumer utility cooperative, develop a portfolio of green and other low cost power for distribution to community cooperatives, establish a framework to include energy efficiency and other energy services within the basic electric power services, and develop and implement a business, marketing and organizing plan to form cooperatives throughout New Hampshire.

In March of 1997, Loudon residents voted not to appropriate funds to study the possibility of forming a cooperative. In the future, ICCD's Ford Foundation Grant may be a good opportunity for Loudon residents to develop their own electrical cooperative and acquire competitive rates without financial investment.

Another option gaining momentum as a result of deregulation is aggregation. Energy suppliers (electricity generation companies) may not want to supply rural residential and small business customers. Loudon could form or join an aggregate with other electricity cooperatives and offer many benefits beyond potential electricity savings. By grouping, i.e., aggregating, cooperatives gain market power and make collective purchases for the benefit of members and their communities.

Consumer Utility Cooperatives not only save members millions of dollars on electric power purchases, they can also facilitate cooperative purchase of energy efficiency, green power, and other energy resources. Aggregation also allows bundling telecommunications and financial services with energy purchases. The most significant benefit of this process is the time and expertise that the aggregation can bring to the contract negotiations and administration. Belknap County communities are currently forming an aggregate to purchase electricity contracts.

Loudon must quickly look at the options in a de-regulated environment and establish a plan that will produce substantial reductions in the price of electricity and ensure that everyone in the community has reliable service.

The Loudon Planning Board can assist Loudon residents in deciding whether they want to form a community cooperative by hosting a public meeting to discuss community cooperatives. The contact person at ICCD is Roy Morrison, Project Director, Consumer Utility Cooperatives, Institute for Cooperative Community Development, PO Box 16193, Manchester, NH 03106, telephone (603) 456-3641. Kurt Ehrenberg at (603) 435-2499 is the community organizer.

GAS LINE

The availability and location of utilities have many implications for community growth and development. Ten years ago, the Keyspan natural gas pipeline in Loudon was viewed as promising to the future of Loudon Village and Shaker Road. The line was built originally to connect Keyspan's regional transmission system between Concord and Tilton, Northfield, and Laconia. It was built to the large population centers rather than to serve customers in the rural residential areas of Canterbury, Belmont, and Loudon. Therefore, service in these towns was granted on a customer-by-customer basis and not particularly well-developed.

Recent pressures on the gas line from existing customers in the major population centers of Concord and Laconia have made it unlikely that a major expansion of the gas line will occur in Loudon in the near future.

The Keyspan gas main is designed to serve distant locations and is maintained through Loudon in a six-inch, high pressure, 200-psi line that follows Josiah Bartlett Road from Concord, up Route 106 north, along Wales Bridge Road, Village Road, and Lesmerises Road through the wetlands north of Clough Pond Road, and up Shaker Road to Canterbury. Service to some local Loudon residents is maintained through a two-inch main at Church Street, School Street and Oak Hill Road. Lazy Pines Trailer Park is served through a one and a quarter-inch main on North Village Road. Keyspan has extended gas service to Loudon locations within easy range of the six-inch main, including Shaker Road. The location of the gas line is shown on the *Utilities Map*.

Because of lower customer demand north of Loudon for gas heat during the winter months, there appears to be little chance of service expansion in Loudon. Currently Keyspan is concentrating its expansion efforts in the southern part of the State. The six-inch gas main is identified on the ground by yellow pole markers. Up-to-date schematics of the location of the gas main and distribution system through Loudon are on file at the Town Office.

According to the Community Survey results, many residents are interested in having Keyspan expand the current gas line. The distribution of the State network is an issue that needs to be addressed, and the infrastructure is being studied by a legislative committee on a Statewide basis. Keyspan does have the capacity to increase service.

TELEPHONE SERVICE

Basic landline telephone service is an important part of everyday life. It has evolved over the past 60 years from mechanical switching centers and a fragmented network with party lines to digital switching systems and fiber optic networks. Universal service, once a distant vision, is now a reality. Telephone companies now offer wireless services, internet access, satellite television, and digital subscriber services (DSL) to many of their customers.

The 1996 Telecommunications Act has and will continue to have profound impact on telecommunications services. The long distance service market was the first to be affected by the Telecommunications Act. Competition has reduced the price of long distance calls from twenty cents per minute to less than seven cents per minute. The Federal Communications Commission has been reducing access charges on long distance calls by regional phone companies. Long distance charges have been used in the past to subsidize local telephone line charges. This means that local telephone rates could increase to reflect actual costs as competition drives long distance charges out of the rate base. Regional telephone companies will be allowed to enter both the long distance telephone and cable television markets in the near future. All of these changes seem positive on the surface but the underlying consequences may have an impact on our lives in the next decade.

Telephone number portability is a concept being developed that would allow a subscriber to keep the same phone number anywhere within the same area code. It could be feasible to move from Manchester to Loudon and keep your old number. This possibility makes addressing the problem of multiple telephone exchanges in Loudon difficult.

Landline telephone systems are limited in the extended services they are capable of providing. Both Verizon and TDS telephone companies have modern digital switching centers offering enhanced calling features. However, most of their networks are old and consist mainly of copper wires. Enhanced services such as video, high speed Internet access, and wireless antennas require broadband fiber optics to function at optimum levels. Unless or until the local telephone companies upgrade their facilities, wireless and cable companies will dominate the future's enhanced services market.

TDS Telephone Company (formerly Chichester Telephone Company)

TDS Telephone Company is a diversified company that provides quality telephone, cellular, Internet, and wireless services. TDS serves more than 900 rural and suburban communities in 28 states. They have upgraded the former Chichester Telephone Company facilities and substantially enhanced available services.

TDS Telephone Company has recently updated its service to Loudon residents and is in the process of installing new fiber optic cable, copper wire, and switching platforms throughout the Town. New ISDN integrated services and digitized network cable will soon be available to Loudon and Chichester customers. This service provides for a greater capacity in order to serve more customers as well as provide greater capacity to each current customer. For example, these new lines will make it possible for users to be connected to the internet via personal computers as well as using their telephone line for concurrent calling.

TDS Telephone Company serves the area of Loudon Village east of the Soucook River, Ricker Road, East Ricker Road, Chichester Road, Bear Hill Road, Staniels Road, parts of Route 129, Bee Hole Road, Honey Dew Donuts, and Fox Pond Plaza. The company maintains a utility building off Route 129 close to the end of its franchise area near Bear Hill Road. It has also installed an increased capacity platform in Loudon Village near the intersection of Route 106 and Route 129.

Verizon Telephone Company

Verizon is the newly-formed company as a result of the recent GTE and Bell Atlantic merger. This is the fourth name change for the local telephone company since the break up of AT&T in 1982. Resulting from the merger of GTE and Bell Atlantic is a more vigorous company, poised to compete with cable television, computer companies, and satellite networks, and to deliver increased and better service to New Hampshire and Loudon residents.

Verizon serves the balance of Loudon not served by the TDS. This includes the 267 exchange that also serves Belmont and Gilmanton, the 435 exchange that also serves Pittsfield, the 783 exchange that also serves Canterbury, and the 224, 225, 226 exchanges that also serve Concord. At the present time there are no plans to consolidate the exchanges and the number portability previously mentioned makes this an issue difficult to resolve. However, many residents would benefit from a consistent local calling area and consolidation of the telephone exchanges would certainly end some of the confusion that occurs. Less than one quarter of the respondents to the Community Survey indicated the desire for improved telephone service. This shows that the majority of Loudon residents are satisfied with their current level of telephone service.

Survey respondents expressed an interest in having one telephone exchange for Loudon. Although Loudon has an unusually high number of exchanges (six), almost every community in the State has multiple exchanges. The locations of telephone switching stations are such that they serve the geographical areas that are feasible according to distance. Relocating these central offices would be difficult and in most cases unwise. Technology will rectify this situation long before any community has its exclusive central office. Soon it will be possible to take one's telephone number anywhere in the state. Verizon is completing a process called number portability. With this concept, any telephone number can work from any central office anywhere in the State. Once this technology is introduced, everyone in Loudon could have the same nxx (first three digits). With cellular phones numbers, cable telephone numbers, and our existing regular telephone numbers, retaining our existing numbers will be more important than everyone having the same first three digits.

TELECOMMUNICATIONS

Loudon passed a cellular tower ordinance in 1999. The ordinance requires a Zoning Board Special Exception and extensive site plan supervision by the Planning Board for all towers. There currently is one tower on Oak Hill that serves the southern part of Town, and towers in Pittsfield and Chichester also serve the Loudon area. In addition, three proposals for additional towers have recently been approved. A 150' simulated pine tower will be constructed on Voted Road and will have the capacity to serve five commercial broadband carriers. A 105' tower and a 115' tower will both be located on one lot on Route 106. These towers will also be simulated pine and will have the capacity to serve a maximum of eight commercial carriers. These towers will be stealthed, aesthetically disguised as trees, or will be short towers hidden from view. Certain areas in town may still need shorter "area" antenna for adequate coverage. As shown on the *Utilities Map*, the wireless telecommunications towers are located close to the borders of the Town, meaning that wireless users in the center of Loudon may not be getting optimal reception.

Digital cellular service is an essential communications medium and will replace our landline telephone as the preferred telecommunications choice. It provides quality telephone service and enhanced multimedia applications including high-speed internet access. Locations without access to multimedia cable will have this option available to them.

INTERNET

There are several ways to connect to the internet, all of which vary in speed and cost, and are not necessarily available to all Loudon residents.

1. Dial-Up: A computer uses any existing telephone service and modem to dial an Internet Service Provider (ISP). Average cost: \$20.00 per month. Average speed: 56 kilobits per second.
2. DSL: Digital subscriber line (DSL) service is available to telephone customers; however, it can only be offered to customers who are less than three miles from the central office. This option is beyond operational limits for most business and residential customers in Loudon. It is also expensive for the marginal increase in performance. Average cost: \$60.00 per month. Average speed: 300-400 kilobits per second.
3. Cable Modem: AT&T Broadband offers high-speed internet access to its cable television customers. Average cost: \$40.00 per month. Average speed: 1.2 megabits per second.
4. Wireless Web Access: Allows users to access the internet via cellular phone for messages and email. It is also possible to connect via modem. Average cost: \$6.00 - \$30.00. Average speed 28-300 kilobits depending on modem speed. The future of this technology is referred to as third generation systems (3G Systems) which will provide access, by means of one or more radio links, to a wide range of telecommunication services supported by the fixed telecommunication networks and to other services that are specific to mobile users. A range of mobile terminal types will be encompassed, linking to terrestrial and/or satellite-based networks, and the terminals may be designed for mobile or fixed use.

Key features of 3G systems are a high degree of commonality of design worldwide, compatibility of services, use of small pocket terminals with worldwide roaming capability, Internet and other multimedia applications, and a wide range of services and terminals. The following Table X-7 describes some of the key service attributes and capabilities expected of 3G systems:

Table X-7
3G System Capabilities

<p>Capability to support circuit and packet data at high bit rates:</p> <ul style="list-style-type: none"> • 144 kilobits/second or higher in high mobility (vehicular) traffic • 384 kilobits/second for pedestrian traffic • 2 Megabits/second or higher for indoor traffic
<p>Interoperability and roaming</p>
<p>Common billing/user profiles:</p> <ul style="list-style-type: none"> • Sharing of usage/rate information between service providers • Standardized call detail recording • Standardized user profiles
<p>Capability to determine geographic position of mobiles and report it to both the network and the mobile terminal</p>
<p>Support of multimedia services/capabilities:</p> <ul style="list-style-type: none"> • Fixed and variable rate bit traffic • Bandwidth on demand • Asymmetric data rates in the forward and reverse links • Multimedia mail store and forward • Broadband access up to 2 Megabits/second

Source: Utilities Subcommittee

As for the future of the internet, most people admit it is uncertain, but everyone must agree that it will certainly be interesting and remain an important part of our future. In five years society will be making heavy use of wireless connections and many household appliances will be online. Half of the schools will be making significant use of online methods for teaching, research and home study. In 10 years, most schools will be online. Telephony, radio, and television will all be internet-enabled and all new homes will be built with internet access and be remotely controllable. In this digital age, the internet takes on a broader meaning than simply putting people in touch. The internet creates a new universal space for information sharing, collaboration, and commerce. Within a decade most people will regularly use personal computers at work and home, and will carry digital devices that hold their personal information. New personal devices will emerge that can handle almost every kind of data in digital form.

In the future, it will be possible for people to be constantly in touch with other systems and others users utilizing wireless handheld devices and the internet. Everyday domestic appliances will be connected and able to report on their usage and status. Mobile phone technology and digital television will make the internet even more accessible to people in the very near future.

CABLE TELEVISION

AT&T Broadband holds the current Loudon franchise for distribution of cable television to Loudon businesses and residents under a contract signed with Continental Cablevision and the Loudon Board of Selectmen in 1992. This contract will expire in 2012 and it would be in our best interests to explore modifying this agreement in the immediate future as explained later. Mediaone purchased Continental Cablevision in 1996 and AT&T purchased Mediaone in 2000. Under the terms of our original contract, Continental Cablevision was required to provide service to areas where there are a minimum of 20 homes per mile for above-ground service and 25 homes per mile for underground delivery. In both cases, distance is measured from the nearest feeder line.

Loudon cable subscribers now have increased services including high-speed internet access, telephone service, and greater channel selection delivered through a new hybrid fiber coaxial cable system completed in 1999. The new cable technology provides Loudon subscribers with digital picture quality, better system reliability, improved audio quality, and internet access speed 50 times faster than current dial-up modem capability.

Because the service is subscriber driven, cable television is available in Loudon in areas of high population density, including areas of Route 106, Loudon Ridge, Loudon Village, North Village Road, and Shaker Road. AT&T Broadband is extending cable service to residents in the Hemlock Hill area west of Route 106 and has agreed to extend service on the Ridge. Several newly developed areas in Loudon are approaching the density requirements but many other small developments will never reach the minimum density requirements due to their design and/or zoning regulations. The cable service area is shown on the *Utilities Map*. It shows that cable service is not available in the extreme northeastern and southeastern corners of town.

Many residents are denied access to these 'multi-media' services because of the original contract. Growth in the community in the years since 1992 merits renegotiation of this agreement with the new owner prior to the 2012 expiration date. Density requirements in the original contract signed by the Selectmen require more homes per mile than many other area agreements. We should ask for concessions from AT&T Broadband whenever an area approaches these density requirements as the Selectmen recently did with success on Loudon Ridge. Availability of all advanced communication services will be a critical factor for future business and residential growth. Current residents will be denied important options without the availability high-speed telecommunications.

More than half of the respondents to the Community Survey indicated that they would like to have cable service available to the entire town. This response makes this an important issue to explore in the future. The Utilities Subcommittee recommends that a committee be formed to research and recommend an update to this agreement and then negotiate the necessary relief with AT&T Broadband.

WATER SUPPLIES

All of Loudon’s households and businesses depend on groundwater that is stored in natural aquifers and accessed by private wells. The central portion of the Town is situated above one of the largest natural aquifers in the State. Between 1983 and 2000, the NH Department of Environmental Services (NH DES) issued approximately 225 well permits to residents of Loudon. Well clusters occur in more densely populated residential areas. Noticeable concentrations occur along Route 106, west of Oak Hill Road, and in the region defined roughly by Currier Road, Clough Hill Road, and Young Hill Road. These new well locations have been mapped by NH DES and appear on the *Water Resources Map*.

Sites with public water supplies that are monitored by NH DES are listed below. Their locations are also depicted on the *Water Resources Map*.

Table X-8
Public Water Supplies

Public Water Supply	Location
Loudon Ridge Family Church	Loudon Ridge Road
NH International Speedway	Route 106
Flintlock Apartments	Route 106
Scotch Pine Mobile Home Park	Route 106
Lazy Pines Mobile Home Park - Lower	North Village Road
Lazy Pine Mobile Home Park - Upper	North Village Road
Loudon Elementary School	School St
Cascade Park Campground - Reservoir	Route 106
Cascade Park Campground - Spring	Route 106
Cascade Park Campground	Route 106
Cascade Park Campground - Tenting Area	Route 106
Cascade Park Campground	Route 106
Pine Ridge Estates	Route 106

Source: NH Department of Environmental Services

A large coarse-grained stratified drift aquifer exists in Loudon underlying the Soucook River. Transmissivity is a measure of how quickly water travels, measured in feet squared per day. In Loudon, there are large areas of aquifer transmissivity between 2,000 and 4,000 feet squared per day, surrounded by areas of lower transmissivity. These areas are largely clustered on the east side of Route 106 and around the Soucook River corridor. The *Water Resources Map* shows the locations of the transmissivity of the aquifer and other water resources. The Soucook River aquifer could serve as a public water supply should the need arise in the future. There are currently no plans to explore a municipal water supply and if the need arises, a deep well(s) concept would be another suitable option.

SEWER (WASTEWATER TREATMENT)

Decentralized (on-site tank and leach area) wastewater treatment is a very common treatment option in the United States. About one-fourth of the total population in the US is served by onsite wastewater systems, and about 37 percent of new construction employs this type of treatment. Small, rural communities represent about 10 percent of the total wastewater need in the country, but decentralized systems are not limited to these areas, since more than half of onsite systems are found in metropolitan areas. The federal Environmental Protection Agency (EPA) estimates that anywhere from 10 to 30 percent of onsite systems are failing annually. Citizens of Loudon need to be vigilant and monitor improperly operating onsite wastewater systems and take appropriate action when necessary.

The State Department of Environmental Services (NH DES) provides both direct and indirect assistance in the area of municipal wastewater treatment technologies. Direct assistance includes one-on-one discussions about design, operation and maintenance of systems, and the identification and solution of problems. Indirect assistance includes support for the development of regulations; technical information; and guidance, assessments, evaluation, and cost estimates for the design, construction, and operation and maintenance of municipal wastewater treatment facilities.

A municipal sewer system is not necessary or feasible in the near term for Loudon. Owning and operating wastewater treatment facilities (WWTF) and collection systems represent a significant lifelong investment for any community. Loudon do not have nor can foresee a residential or business concentration that would trigger unacceptable decentralized treatment options.

SUMMARY

Utilities were regulated in the early part of the twentieth century to control corruption and monopolistic dominance. Regulation established universal service objectives with some components of service subsidizing non-profitable service such as rural expansion. Regulation by state and federal governments has been taken for granted by everyone for the past 50 years. It served us well with stable pricing and expansion of universal services. Deregulation of the telephone industry in 1996 and the electric companies in 2000 is changing the landscape dramatically. Add to this the never-regulated cable and wireless industries and there is the potential for a dilemma unless the community is prepared and both administrators and citizens understand their options. Unregulated service companies will be motivated by competition and profitability. Residents should not expect to move to a remote location and have access to every enhanced service available in urban areas. Loudon's local or State government will have influence but can not dictate to an unregulated company. The following recommendations are critical for Loudon citizens' economic and social future.

RECOMMENDATIONS**Objective**

To gauge the current and maximum capacity levels of utility service, including telephone, cable, telecommunications, gas, electricity, and internet in Town.

- ◆ Encourage the Selectmen to continue to push for expansion of cable services, perhaps meeting semi-annually with cable representatives to discuss recommendations.
- ◆ Encourage cellular coverage expansion within the guidelines of our ordinance.
- ◆ Encourage additional use of stealth antenna-type cellular towers to provide coverage for the entire Town.

Objective

To identify the locations and range of service for each service provider.

- ◆ Monitor Keyspan's ability to expand their gas infrastructure from its current level of service.
- ◆ Actively pursue expansion where required.

Objective

To project the anticipated future need for services given population growth and new technology development.

- ◆ Form a committee to explore a cooperative municipal electric purchasing service. By grouping, i.e., aggregating, cooperatives gain market power and make collective purchases for the benefit of members and their communities.
- ◆ Renegotiate the cable television contract with AT&T Broadband to permit more residents to access its advanced telecommunications capacities.
- ◆ Establish a Town website and include meeting minutes, contact information, property records, and other public information deemed appropriate.

Objective

To inform citizens of technology options and raise awareness of our deficiencies in public water and sewer systems.

- ◆ Monitor the Soucook River aquifer for signs of stress from groundwater levels and wastewater contamination.