8 Services and Facilities

A. Introduction

This chapter will outline some of the services currently provided to Bernardston residents and make some recommendations for the future. Through community meetings, interviews, and town-wide surveys, the residents of Bernardston have noted that they are proud of many of the services (fire, police, library, education) available in the community. The service residents were most concerned about was wastewater treatment. How to deal with wastewater is an issue that faces many towns throughout Massachusetts, leading the state to produce a report in 2012 entitled “Massachusetts Water Infrastructure: Toward Financial Sustainability.” Some of the recommendations from this report, as they are applicable to Bernardston, will be discussed later in this chapter.

Considering Sustainability

Sustainability refers to the ability of a service and facility to persist into the future. For such services as the library to be sustained, there needs to be community engagement and interest. For services such as wastewater management, there needs to be maintenance and knowledge around the interworkings of the system. Money invested in these resources is lost if the community does not sustain them into the future. Sustainability also addresses the way in which services and facilities interact with that natural environment. The ecosystem services that the natural environment provides for Bernardston are outlined in the Economic Development section. The natural beauty and access to open space has also been highlighted by residents as an important characteristic of Bernardston that they would like to preserve. When choosing a wastewater management system consideration should be given to the potential for the system to harm the natural environment and all that it provides for the residents of Bernardston. The same thought should be given to any future decisions about how to light, heat, or operate facilities such as the Senior Center and Library.
B. Wastewater

1. Existing Conditions

Bernardston, like most rural communities in New England, almost exclusively uses septic systems as the main wastewater treatment method. According to the chairman of the Bernardston Board of Health, Dave Powers, there is one residential system that uses sand pit filtration for treatment because there was not room for a traditional leach field.

Powers states that more than twenty-five septic systems have been replaced over the past ten years, although this number needs to be verified with the Board of Health clerk. Powers reports that half of the systems replaced were because of a failed system due to a rising water table (highlighted on the next page in the Failed Septic Systems in Center Village Due to a Rising Water Table map), while the rest were voluntary replacements based on age of system or from failure due to improper maintenance. Of the failures due to rising water table, eight of them were located along South and Depot Streets. The rising water table has also been reported by other residents in community meetings and interviews. The Master Plan Steering Committee reports a growing concern from residents in the Center Village district that their system will fail because of the rising water table and will need to be replaced, a costly endeavor.

Over 65 percent of the houses in Bernardston were built before 1970 and did not have to go through any sort of approval to be built (Best Places). These systems were not built, nor sited, to deal with a rising water table. Even current systems that use a leach field are not equipped to deal with a rising water table as a rise in water level impedes proper wastewater percolation through the leach fields, resulting in wastewater backing up into the septic tank and house (Tom Scherer).

One of the ways that the state of Massachusetts tries to protect public and environmental health from failed septic systems is through Title V. Title V 310 CMR regulations were passed in 1975. These regulations were meant to “provide sufficient information to make a determination as to whether or not the on-site disposal system is adequate to protect public health and the environment” and subsequent revisions also maintain regulations for the “siting, construction, upgrade, and maintenance of on-site sewage disposal systems” (Department of Environmental Protection, 310 CMR). Any new building site that will be using septic in Massachusetts must pass a Title V inspection, as well as any site where a system fails. One of the siting requirements for septic systems within the state of Massachusetts is a soil percolation test. The Web Soil Survey provided by the USDA Natural Resource Conservation Service evaluates soil suitability for septic. The soil suitability map for Bernardston is shown in the Custom Soil Resource Map to the right.

The Darwin Scott Memorial Wetland

Located in the middle of Center Village many houses, some of which can be seen in the background and to the right, are located in close proximity to the wetland. This increases the risk of flood damage and failed septic due to a rising water table.
**Custom Soil Resource Report Map - Septic Tank Absorption Fields, Bernardston, Massachusetts**

The brown on the map above represents very limited soil for septic and yellow represents somewhat limited. As can be seen in the map, most of the soil for the town of Bernardston would not pass Title V inspection without “major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected” (Soil Survey Staff). Currently, as new housing is built on these soils, expensive interventions are needed to bring the systems into compliance with Title V. Similar actions are needed for older systems that fail. Unless these measures are taken, the existing soil conditions of Bernardston put the ground and surface water at risk of contamination.

**Failed Septic Systems in Center Village Due to a Rising Water Table**

Most of the failed systems are directly adjacent to the Darwin Scott Memorial Wetland.
According to many health and environmental agencies, and as noted on the Massachusetts Energy and Environmental Affairs website, septic systems have the potential to pollute ground and surface water when not regulated properly, which in turn can lead to polluted drinking water that is drawn from ground water sources. The relationship of a rising water table and the threat of contamination can be seen in the Conventional Septic System Diagram. Similar contamination is found when a system is sited on soil that cannot properly filtrate the wastewater (Web Soil Survey). The percolation test required for Title V compliance states that water must percolate faster than one inch per hour in order to properly filtrate pollutants, and there must be at least four feet of such soil below the location of the Soil Absorption System in order to adequately filtrate the waste. If neither of these things are found on site, then the site will not be able to pass Title V without modification.

Because many of the failed septic systems in Bernardston have been reported as occurring due to a rising water table, and very little of the soil in town is suitable for septic systems, Bernardston is running the risk of polluting its surface and ground water. This potential pollution runs the risk of also contaminating the community’s drinking water because there are two well recharge areas in Bernardston. This risk, along with the expense that is incurred by owners when a system does fail (anywhere from $10,000 to $20,000 to fix or replace according to current residents), highlights the need for an alternative system for wastewater disposal in Bernardston.

Conventional Septic System

Wastewater that is released from the home first settles into a septic tank. It is here that particulates separate from the water itself. The water then flows out of the tank to the drain field through tubing. It is important to have a certain amount of soil below the tubing so that water will have the appropriate amount of space to filter out contaminants before it reaches the ground water. According to Title V regulations in Massachusetts, the amount of space between the drain field tubing and ground water should be four feet.

When the top of the groundwater table begins to rise, it cuts down the amount of soil that the wastewater has to filtrate out contaminates. The closer the water table gets to the tubes, the greater the risk of contamination.

Risk of contamination is also high when appropriate soil does not exist. There are certain soils that allow water to run through them too quickly, not allowing enough time for the contaminates to filter out. In Massachusetts, according to Title V regulations, it needs to take an hour for water to filter one inch.
2. Recommendations

Municipal wastewater treatment often takes on the form of a sewer system that connects buildings to a centralized treatment facility. Bernardston hired the engineering firm of Tighe and Bond to explore this option in 2009. Its report projected a cost for such a system that the community decided was prohibitively high. In addition, the proposed system did not cover all of the Center Village zoned district, nor did it extend east of I-91. The following recommendations explore alternatives to a conventional system options that may be more cost effective, and might provide treatment options for structures throughout town. Some of the systems proposed here may be better suited for certain sites than others; specific site conditions will determine the suitability of each site for the specific systems discussed and a professional wastewater engineer should be consulted on the design and construction of each system.

Issues
- There is no municipal wastewater system.
- Current septic systems are failing for reasons that include a rising water table around the Darwin Scott Memorial Wetland and a lack of maintenance.
- There is little money for investing in a large-scale centralized municipal sewer system.
- Most soils within Bernardston are not up to standards required by Title V for conventional septic systems.

Existing Systems

As noted earlier, the chairman of Bernardston’s Board of Health has reported some septic systems have been failing because of improper maintenance. Education for homeowners about proper maintenance of existing septic systems should be offered to assist owners in protecting the longevity and effectiveness of their system. Once alternative systems are built, education should expand to include these new systems, and to educating residents about the benefits of transitioning to alternative systems.

Bernardston Board of Health should explore the creation of a management program that would oversee the implementation and regulation of a Community Septic Management Program which would also include oversight and regulation of alternative wastewater treatment systems. Massachusetts DEP outlines the criteria and benefits of a CSMP on their website. Granby and Barnstable are Massachusetts towns that have successfully implemented CSMPs for their wastewater systems.

Mounded Septic System

A conventional septic system that has been converted to a mounded system that provides the right amount and type of soil for proper filtration of wastewater according to the regulations of Title V.
Alternative Systems

There are many different alternative systems. The following are some examples of alternative systems used elsewhere in New England and throughout the country in situations that may be similar to Bernardston’s.

Composting Toilets

Composting toilets in Massachusetts are an approved alternative system as of 2005, but for buildings still producing greywater a Title V approved system is still needed. When a traditional septic system is combined with composting toilets, the Soil Absorption System is only releasing greywater. Because of this, the Commonwealth of Massachusetts only requires the septic system to be 50% of the size normally required. The system is required to be buried a minimum of nine inches down instead of one to two feet. The septic tank for such a system can also be reduced by three-quarters to one-half the normal size (for commercial and residential respectively). This option would help cut down the cost of installation and materials for homeowners. It also means that sites unable to pass Title V inspection could construct “mounded” systems for a fraction of the cost because mounds would not have to be as big nor as deep.

Composting toilets are currently permitted for commercial and business use without having to pass a Title V inspection and should be considered for all existing commercial structures and new development.

Composting toilets could include a liquid diverter unit, and a partnership could be developed with the Rich Earth Institute in Brattleboro to use the urine. The Rich Earth Institute is doing world-renowned research with urine as a fertilizer and is searching to expand their systems.

A committee would need to be established to investigate ways to help local septic businesses transition their collection system to one that can support the collection of waste from composting toilets. The Rich Earth Institute has done work with local septic businesses to help them adapt their trucks to this purpose.

Compost from toilets can be used to grow vegetation in accordance with USDA and DEP approved guidelines. The Board of Health or Agricultural Commission should evaluate the potential for local farms to use this resource. Bernardston could potentially establish itself as an example for towns looking to make similar transitions into a closed-loop nutrient cycling system.

There is an upfront cost of $1,500 to $8,000 for composting toilets depending on the system, but there is relatively low excavation and no additional materials to needed. The only additional cost associated would be the disposal of waste in the system, which would be similar in cost to getting a septic tank pumped if local septic businesses can make that transition. This does not address greywater treatment, which would have to be combined with another alternative system, particularly if there is no leach field on site. The decreased stress on the system allows for smaller leach fields and storage tanks, which would allow for denser development.
Decentralized Shared Systems

Decentralized shared systems are recommended for clustered development, larger commercial buildings, and restaurants. These systems use septic tanks to pretreat waste and then move it to a decentralized site for treatment in a small-scale system, such as a buried synthetic system, or a small-scale treatment plant. The shared use of such spaces cuts down on costs, allows for denser development, and provides a safe way to dispose of waste in areas that may not be conducive to septic. There are multiple ways that decentralized systems treat wastewater. A designer/engineer should be consulted on a site-by-site basis to study the best possible solutions for each site.

Living Machines

A living machine, also known as an Eco-Machine, is similar to a constructed wetland in that it uses natural systems to clean water. These can be built in large storage containers with water flowing from one to the other, filtering pollutants at a finer and finer level from one container to the next (toddecological.com). These systems are usually constructed at a large scale and would be recommended for larger commercial or industrial buildings. They can be constructed on a smaller scale such as at the rest stop in Vermont on I-91, but are more often used at larger scales like the one used at Ethel M. Chocolates factory in Nevada (both examples described on page 134). They could also be used as the main sanitizing component for a decentralized shared system, which is discussed later in this section.

Decentralized Shared System

Lombardo Associates is a Massachusetts-based company that has designed many alternative wastewater systems across the country. Their projects can all be viewed on their website lombardoassociates.com.

La Paz Development, Malibu Village Plaza, California – Decentralized treatment and reuse system. Lombardo Associates have created a new Development in Malibu with a system that services eleven commercial buildings with two restaurants, each with 175 seats, and a proposed new City Hall. The system has the capacity to treat 28,000 gallons of wastewater per day. This system is also a reuse system that uses the treated water for in-building services (other than potable water needs) and for irrigation within the development (Lombardo Associates).

Mashpee, Massachusetts

A small community septic system was designed in 2006 for 24 dwellings plus a commercial space. The maximum flow capacity is 5,226 gallons per day. “The system employs a septic tank, recirculating media biofilter, and a denitrifying filter to reduce nitrogen levels before discharge to a drainfield” (Arendt, 2015).

Decentralized septic systems can use the conventional buried leaching technology of a traditional septic system, but they can also use other treatment systems highlighted in this section as the treatment method. The picture to the left illustrates a decentralized shared system which uses a small-scale living machine as for the treatment of the collected wastewater. Other systems may use constructed wetlands, larger living machines, or other developing technology (Arendt, 2015).
Living Machines

The Living Machine System at Ethel M Chocolate factory in Henderson, Nevada treats up to 32,000 gallons per day of high-strength confectionery production wastewater. The factory outlines the process as follows: "Living organisms, from the simplest single cell bacteria to complex lifeforms like fish, make up the Living Machine System. The influent consists of water that has been used to wash the process area and equipment, along with water from the boilers and cooling towers. Following the Living Machine treatment process, the final product is near drinking water quality and can be reused for a variety of applications. Wastewater is pumped from a grease trap into sealed aerobic reactors where microbial communities begin digesting the waste. A biofilter scrubs odors from exhaust gases at this stage of treatment. In the planted aerobic tanks, vegetation hosts organisms that further digest the waste while minimizing sludge generation. Final Polishing Filters further polish the water and remove suspended solids. Final effluent is stored in an attractive pond/wetland and, after ultraviolet treatment is used to irrigate one of the world’s leading cactus gardens. Sludge is composted on-site by a reed bed and removed every five to ten years as a beneficial soil amendment.” (Ethel M. Chocolates, 2003).

The Sharon, Vermont rest stop Eco-Machine is designed to treat 6,000 gallons per day of domestic sewage. Wastewater from the public restrooms at the rest stop "flows first through a series of underground septic storage tanks which provide primary treatment and removal of settle-able solids. From the septic storage tanks effluent is dosed into closed aerobic reactors where waste-eating bacteria degrade organic compounds and odors are removed. From there, wastewater is pumped to three open aerobic cells. In these cells nutrient rich water forms the basis of a food web that includes an abundance of organisms from all five kingdoms of life. Microscopic algae, fungi, bacteria, protozoa, snails, fishes and zooplankton all thrive in the diverse aerobic environment of suspended plant roots and contribute to the consumption of remaining nutrients and the conversion of contaminants, cleaning products and pharmaceuticals into benign biomass and clean water. Final polishing is accomplished in a clarifier and any remaining solids are returned to the septic tank. The Eco-Machine at the Sharon rest area not only successfully accomplishes onsite wastewater treatment, it serves as a model of ecological approach to municipal infrastructure, creating a beautiful public space and educational destination for travelers” (Selected Projects, toddeological.com).
**Constructed Wetlands**

Constructed wetlands can be a solution for large-scale municipal wastewater treatment where infrastructure for a sewer system is already in place, which would take it out of consideration for Bernardston. Wetlands as an alternative are often used in place of a centralized sewer facility, which is why the infrastructure for transportation of sewage is needed. There is ongoing research into the applicability of constructed wetlands at smaller, residential scales, but more needs to be known before this is a viable option.

When selecting which alternative systems to pursue for different developments, Bernardston should consult “A Creative Combination: Merging Alternative Wastewater Treatment with Smart Growth,” by the local design firm Dodson and Flinker. This guide for development in rural areas addresses many of the issues Bernardston faces and presents many detailed case studies.

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**Constructed Wetland**

A hybrid constructed wetland system that uses moving water and a treatment pond for a homestead in Norway. This system mimics the cleaning process of a natural wetland.
3. Funding:

The funding sources that follow are not an exhaustive list and it is recommended that a committee is formed or a professional hired to investigate further funding options for wastewater treatment.

Community Septic Management Program, MassDEP
This program provides funding of up to $200,000 in the form of low cost loans to allow communities to devise a Community Inspection Plan or a Local Septic Management Plan in a designated management zone. Both plans must include provisions for financial assistance to homeowners using betterment agreements. Local inspection plans are created to protect environmentally sensitive areas from contamination, while septic management plans help identify areas that need monitoring and maintenance.

Management districts are a legal, geographic area that is established in order to carry out environmental work such as funding and building infrastructure improvements, managing infrastructure or programs, or providing other environmental protection services.

Betterment Loans to Homeowners
After a community has adopted an inspection or management plan of its own, and has been awarded the loan amount, it is able to provide financial assistance to homeowners within the community. A Betterment Agreement between the community and a homeowner may be used for all costs necessary to repair or replace a failed septic system including:
a. renovating the existing system;
b. hooking-up to existing sewer lines;
c. or replacing traditional septic systems with an approved Title 5 alternative system.
For more info visit www.mass.gov/eea/agencies/massdep/water/wastewater/community-septic-mgt-program-project-manual-and-guidance.html

Community Development Block Grants
The Massachusetts Community Development Block Grant Program is a federally funded, competitive grant program designed to help small cities and towns meet a broad range of community development needs. Assistance is provided to qualifying cities and towns for housing, community, and economic development projects that assist low and moderate-income residents. Bernardston has been awarded CDBG funds for housing rehabilitation projects in past years ($415,000 in 2008; $991,906 in 2013 with Conway, Shutesbury and Sunderland). CDBG funds can be explored for septic system repairs and upgrades to income qualified homeowners.
For more info visit the Massachusetts Executive Office of Housing and Economic Development at http://www.mass.gov/hed/community/funding/community-development-block-grant-cdbg.html

USDA Rural Development Loans and Grants
USDA’s Office of Rural Development has several programs that assist very small, financially distressed rural communities to extend and improve water and waste treatment facilities that serve local households and businesses. One of these programs is the Massachusetts Water and Waste Disposal Loan and Grant Program.
For more information visit: www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program
Clean Water State Revolving Fund (SRF) Projects

These funds are used for public sewer projects. If the alternative systems are determined to be cost prohibitive, the town should look into such funding as this to help support the construction of a public, centralized, sewer system. Although Bernardston found a public sewer system cost prohibitive before funds such as these may help reduce the price and make this option more appealing.

The Massachusetts Clean Water Trust (the Trust), in partnership with the Massachusetts Department of Environmental Protection (MassDEP) provides cities and towns of the Commonwealth with low interest rate loans for water infrastructure projects. The Federal Water Quality Act of 1987 established a program of capitalization grants to the states to create Clean Water State Revolving Fund (CWSRF) loan programs. These programs provide state-administered below market rate financing for the construction of publicly owned water pollution abatement facilities (e.g., a public sewer) and implementation of non-point source management projects. Projects to be financed are selected using a priority ranking system based upon the public health and environmental protection benefits of the proposed projects.

Projects receiving financial assistance from the CWSRF will be eligible for loans at 2% interest. Certain projects, whose primary purpose is nutrient reduction, may be eligible for 0% interest rate loans.

Dracut - Sewer Extensions

The Clean Water Trust is providing $4.7 million in project financing the Town of Dracut to construct new sewers that will mitigate the migration of leachate from failing septic systems into tributaries of the Merrimack River. In addition, the project will eliminate several direct sewage connections to the local stormwater system and mitigate impacts to natural resources, town conservation land and private drinking water supplies. The project will install approximately 11,000 linear feet of 8-inch diameter gravity sewer, approximately 1,000 linear feet of small diameter pressure sewers, approximately 2,100 linear feet of force mains, and two submersible pumping stations within town roads and cross country areas.

Hardship Grants Program for Rural Communities

Designed to complement the Clean Water State Revolving Fund, the EPA Hardship Grants Program for Rural Communities helps towns of fewer than 3,000 people plan, design, and construct publicly owned treatment works or alternative wastewater services such as on-site treatment systems. These funds can also be used to provide training, technical assistance, and educational programs on the operation and maintenance of wastewater treatment systems.

Betterment Assessments

If Bernardston constructs a public sewer system, it could be partially funded by creating a Sewer District, which would collect a special assessment tax based on the “betterment” of the site since it will have access to public sewer. Betterment assessments are a form of taxation, and, until paid, constitute a lien upon the land assessed. Service by a public sewer is an improvement over on-site wastewater disposal (e.g. septic systems).

The Town of Shirley first assessed Sewer Betterments in FY2003. The cost appears on the tax bills under the section marked “Special Assessments.” The Town of Shirley approved the “uniform unit” method, which defines each property as a number of sewer units and divided the assessment costs by the total number of sewer units included in the project. A sewer unit is defined as a single-family residence. The sewer betterment assessment is a one-time special tax that can be paid in one lump sum or apportioned up to a maximum of twenty years. Those property owners who did not pay in full at the time the betterment is assessed have the remainder of their assessments amortized over twenty years at a rate of 2% interest added annually to the unpaid balance.
C. Fire Department

Existing Conditions

The residents of Bernardston have often expressed their appreciation and admiration for their local fire department. Many residents responded to the survey question that asked if there was something they would like to see changed in Bernardston by stating that they would like to see a new Fire Department building. The current 2,800-square-foot building is located on Route 10, next to the library and Senior Center. The current stock of three engines, one chief car, and a squad pick-up truck cannot all fit in the station. The Fire Chief, Peter Shedd, has recounted that other stations in the area have struggled to add on space to their stations to accommodate new engines, especially as they grow in size. The small town boasts 24 paid firefighters, who are paid by the minute for each call. Shedd reports that in 2015, 88 percent of calls to respond to were within Bernardston, with 12 percent of calls being out of town issues. He also states that it is sometimes easier for Bernardston Fire to get to crashes on Interstate-91 that are closer to Greenfield than it is for Greenfield’s fire department, because of how highway ramps in Greenfield are constructed. There is also a mutual aid agreement with surrounding towns declaring help will be provided for large fires. The station is also part of the Tristate Fire Mutual Aid system. Participation in this group has allowed the fire department and its firefighters to participate in state-of-the-art trainings and conferences that has kept them up to date on current safety techniques and medical training as it applies to their craft. While all firefighters are trained first responders, the town relies on Greenfield for ambulance and medical services. Because of the large number of firefighters, and the increasing amount of paper work required to document all activities, the Fire Chief believes a full or part-time office staff member will be needed in the near future.

The Bernardston Fire Station
Recommendations

The Fire Department should apply for grant funding that would help pay for an additional staff member for the department. There does not seem to be imminent need for an increase in the number of firefighters at the station, but help with the organizational aspects of the station and paperwork components is of increasing importance. While there are no specific funding sources for additional office staff members, by applying to U.S. Fire Administration and FEMA Assistance to Firefighters Grant, which provides aid in the acquisition of necessary equipment, gear, vehicles and training, funds may be freed up that could be devoted to paying for an office manager position.

The Fire Chief should continue to monitor any increase in calls as an indicator that more staff may be needed in the future. The current staffing of the Bernardston Fire Department is able to adequately respond to the amount of calls received each year, but if Bernardston’s population begins to increase in future years, it may place a larger burden on the Fire Department and more staff may be necessary. The U.S. Fire Administration and FEMA Staffing for Adequate Fire and Emergency Response Grants (SAFER) are grants for stations that need help in maintaining the appropriate amount of firefighters to guarantee maximum safety for the public of the served area, and could be explored if needed in the future.

The Department should investigate grants to help in the construction of a new station, or expansion of the current station. Any construction or expansion should fit with the town’s rural character. One funding source can be found through the USDA’s Rural Development Community Facilities Direct Loan and Grant Program. Fire stations are listed as one of the essential community facilities that grants and loans of this program cover. The grants in this program are given proportionately depending on size of town and level of the Area Median Income compared to the state’s non-metropolitan median area income.

D. Police Department

Existing Conditions

The police station is located on South Street, near the border of Bernardston and Greenfield. The station currently has ten officers who all live either in Bernardston, or within fifteen miles. According to the Police Chief, on average they have been receiving 300 calls a year over the past four to five years, with 60% of those being medical calls. The station is able to provide officers for safety and crowd control for events throughout the year, and usually has one to two officers on duty throughout the week. The current capacity of the station serves the town well, and the Chief does not feel any pressure or see need to add to the staff.

Recommendations

Many residents of Bernardston have expressed appreciation for the police department and feel safe and well served. The Police Chief should continue to monitor the number of calls to the station and report any need that arises for increased staff or budget. There is no mandate as to the number of police officers per population size, and currently the department feels well within its operational capacity, but Bernardston’s population may increase over the years.
F. Education

Existing Conditions

Bernardston has Bernardston Elementary School (BES) and Full Circle Kindergarten and Elementary school. Full Circle is a private elementary school that employs five staff members and offers afternoon kindergarten classes four days a week in addition to their first through sixth grade program. They currently have 23 students enrolled, one of which lives in Bernardston. BES is part of the Pioneer Valley Regional School District (PVRSD), which includes the towns of Bernardston, Northfield, Leyden, and Warwick, 111 square miles. There is one high school in Northfield that all four towns feed into, while BES is one of four elementary schools in the district. The population of Bernardston Elementary hovers around 170 students for preschool through sixth grade, according to the principal Bob Clancy. BES is also a school of choice, which means that students from other communities can attend BES even though there may be other options in their own community. Currently there are 17 students attending BES through this program. There are 9 classroom teachers and 35 support staff, 13 of which live in Bernardston. Bernardston Elementary is funded by the town itself, the state, school choice, and federal, state, and other grants. Each town in the district pays for the capital costs of running the school (salaries, supplies, etc.) while the PVRSD pays for maintenance. Capital costs for the regional school such as the high school are split between the towns proportionate to the amount of students they are sending.

There are many before and after school programs offered to students at BES, including CODE club, Mad Science, Nature Club, and more, while sports are offered through the Town of Bernardston Recreation Department. A cafeteria offers lunch every day, with food that is sourced locally on occasion, but not often (Clancy, 2016). As reported through surveys and town meetings, and confirmed by the principal of BES, there is a large commitment by the parents and residents in town to the continued success of the school. Engaged parents organize movie nights, a Luau dance party, game nights, Spirit Week activities, Teacher Appreciation Week, and much more. The “Friends of BES,” a Parent Teacher Organization for the school, built a gazebo in 2015 that is currently used as an outdoor classroom. In prior years it has fund-raised for additional playground equipment. Parents also volunteer to assist in the classroom and to go on field trips.

Recommendations

The education system in Bernardston appears to serve the population well, and also serves some from bordering communities.

Exploring a “farm to school” program for lunches at BES would help the school further connect with the community and provide a reliable market for local farms.

There is currently not a full time foreign language program at BES. The American Council on the Teaching of Foreign Language has compiled a host of studies outlining the benefits of learning a foreign language, from increased cognitive abilities to better test scores (American Council on the Teaching of Foreign Languages). **Bernardston Elementary School should pursue funding through the U.S Department of Education Foreign Language Assistance Program** which “provides grants to establish, improve, or expand innovative foreign language programs for elementary and secondary school students.”

If the PVRSD has not explored a Regional Transportation Reimbursement Fund, which allows the district to carry forward any funds that are left at the end of the fiscal year in which they are received into the next fiscal year, **then it should explore this option as a way of alleviating some of the monetary stress that transportation over the 111 square-miles puts on the district.**
Bernardston Elementary School
H. Library

Existing Conditions

The Bernardston Library is located at the intersection of Library Street and Route 10 and is open three days a week. It is located in a historic building in the middle of Center Village, across from Cushman Park. The library is a two-story building where residents can check out books, magazines, movies, and audio books. Three working computers are available for public use, along with 24/7 access to wifi. The library hosts many events throughout the week including knitting club, lego club, reading hours, coloring hours, and more. It is also part of the Central and Western Massachusetts Automated Resource Sharing network and the Massachusetts Library System. It is through these organizations that patrons are granted access to resources in libraries across the state and nationally. The library receives all of its books from the state, and must maintain a certain amount of open hours to continue to be recognized as a state library. Funds for the library come from the state, a donations jar, and fundraisers put on with the help of the Kiwanis Club. The money raised in conjunction with state funding allows for the three days of operation and one full-time staff member, but not much else.

Recommendations

The library serves as a community hub. Beyond the space for clubs to meet, it also provides spaces for children to use computers, listen to stories, read, and on occasion spend the night during library-sanctioned events. The library is also located in the heart of Center Village as it is currently zoned. Finding funds so that the library can be open more than three days a week will help the library play a larger role as a meeting space throughout the week, helping residents connect to the downtown and increasing the sense of vibrancy in the downtown.

G. Senior Center

Existing Conditions

The Senior Center is located on Library Street in a historic building that has been retrofitted for its use. The Senior Center is also the home for the Council on Aging, and in conjunction the two entities provide support for the senior population of Bernardston. According to a 2015 report by the COA and Senior Center Director Dianne Cornwell, the Center provides services that include “application assistance, advocacy for problem resolution for housing, health, financial and other issues; information and referral for services, meaningful caregiver support; transportation services, health benefits counseling, therapeutic support groups; nutrition education, exercise programs, and socialization activities.” According to the report, in 2014 alone almost 1,000 “unduplicated individuals” were served. The Senior Center also provides meals five days a week, and served over 4,500 congregate meals in 2014. There is also the option of home delivery. The Senior Center does not provide in-house care on the levels of hospice, nursing homes or assisted living communities and seniors who might need such in-house care must move out of Bernardston to find it, or sign up for care through private entities.

Cornwell projects that the population most in need of support are those between the ages of 50 and 60 who are still trying to provide for their children, while also taking care of their parents. She states that the Senior Center is increasingly looked to for support for these aging parents, or as caregivers for grandchildren and sometimes for both. According to the report submitted by Cornwell and the Council on Aging, the 35 percent of Bernardston’s population that is above the age of 60 as of 2015 will increase to 52 percent in the next ten years, putting an even larger strain on the Senior Center.
Recommendations

According to the Director of the Senior Center, many seniors who participate in Senior Center activities do not live in Bernardston. These are often people who have a connection to Bernardston, who used to live here or have family in town, but were unable to find affordable and accessible housing in town. Changing zoning to allow auxiliary homes/in-law units to be built on already developed lots would allow seniors to live closer to their families and alleviate some of the pressure on the Senior Center to provide support around meals and transportation.

As the population of Bernardston increases in the coming years, the Senior Center will increasingly become a hub for social interaction and activity within the town. To help promote vibrancy in the Center Village area and connection between residents of the town, Bernardston’s Board of Selectmen and Finance Committee should consider increasing funds for the Senior Center. The ability of the Senior Center to host events that attract a large number of people from one of the largest population groups in Bernardston helps contribute to the goal of creating a vibrant center village.

Future planning for housing development should include the exploration of an assisted living community. Not only would this community help alleviate some of the demands on the Senior Center in the coming years, it could provide jobs for local residents.
E. Communication & Internet

Existing Conditions
According to the results of a community survey at the end of 2015 and beginning of 2016, conducted by the Master Plan Steering Committee and also through statements at community meetings, many residents of Bernardston do not currently have access to the internet. The current options for internet access include dial-up, satellite, and DSL which is also run through telephone lines. Many homes are unable to access or afford internet. The town librarian reports that many people will park outside of the library even when it is closed in order to access the building’s 24/7 wifi connection. Internet access has become an essential part of running a business, reading the news, communication, education, and engaging with the wider world. If Bernardston is to keep up with a world that is becoming more and more reliant on technology, and wishes to attract business, it will have to investigate ways of providing internet access for its residents and businesses.

Issues
• There are many residents in Bernardston who are not able to access wireless internet.
• The Broadband system that is in place, only extends along Route 5 and 10.
• There is very little money to invest in expanding the existing system, or building a new one.

Recommendations
The Massachusetts Broadband Institute (MBI) is an organization that aims to bring broadband internet to communities across western Massachusetts. The organization defines broadband as an “always on, high speed internet access” network that “connects homes, businesses and government offices to each other and around the world.” The aim of the organization is to “increase both the availability and the adoption of broadband across the Commonwealth of Massachusetts.” It reports on its website that it is working with the Franklin Regional Council of Governments and a coalition of other regional and local organizations to bring broadband to the 32 western Massachusetts communities that do not have high-speed internet service. It reports that $40 million in state money has been set aside to be channeled through MBI toward this effort (Broadband.masstech.org). Details about how to provide a regional fiber optic network are still being worked out. Bernardston should join this regional effort in order to participate in the cost-sharing of the construction of internet service in the future. MBI currently has broadband infrastructure set up throughout western Massachusetts along major roads. That infrastructure runs along I-91 and follows Route 10 through Bernardston. The grant program that MBI has set up to connect communities to this infrastructure is called the “Last Mile” Grant Program. Leverett, Massachusetts (under 1,900 people) utilized the “Last Mile” grant program to connect to MBI’s broadband infrastructure and bring internet access to the town. According to a March 2, 2016 news report from the Greenfield Recorder, since completion of the “build out” of internet access earlier in 2016, 81% of Leverett residences have signed on for internet access. At the start of 2017 the cost of combined phone and internet access will be dropping to below $40 a month. Leverett used $800,000 in grant money from MBI to implement the program, and cost for the service is already falling in its first year of use (Merzbach, 2016).
I. Waste, Recycling, Compost

Existing Conditions
Currently all waste and recycling in Bernardston is collected at the transfer station on Nelson Road, which is open to residents of Bernardston and Leyden with a permit card (for purchase for Leyden residents). The station is open two days a week and accepts all traditional waste as long as it is in town-approved bags, which can be purchased for $2 at the transfer station or at select corner stores. The transfer station website (www.townofbernardston.org/index.php/town-government-main/70-transfer-station) provides a list of materials that can be disposed of for a fee, including air conditioners, sofas, and box springs. The station also accepts recyclable material except for tires, pallets, and wood brush. Currently there is no municipal composting system.

Recommendations
According to a 2016 community survey, people would like to see street-side waste and recycle pickup. The Board of Selectmen should investigate the feasibility of joining Greenfield’s curbside waste and recycling pickup service. The pickup service runs Tuesday through Saturday in the middle of the day and is run through Greenfield’s Department of Public Works. The curbside service would require residents to buy a permit to offset the cost of participating in Greenfield’s service, but access to the transfer station could still be a part of the permit. No case studies of this possibility have been found, and it may be that Greenfield’s DPW cannot cross town lines, but the possibility would be a cheap way to provide this service without investing in fleet of trucks themselves.

The Board of Selectmen should investigate the rental of a dumpster for composting ($80 a month) through the Franklin Solid Waste Management District. Having a dumpster for composting at the transfer station would give residents the opportunity to compost their food and reduce the amount of trash they produce each week, cutting back on the amount of bags they need to purchase as well. According to the FCWD (fcwd.com, 22 March 2016) the compost is picked up from the station and transported to Martin’s Farm Composting and Mulch in Greenfield where they create compost to sell to local garden and farmers.

The Agriculture Commission should investigate setting up a closed system of municipal composting at a local farm that would then use the compost to grow and sell local food. The farm could also sell extra compost. This closed loop system can be seen in Hardwick, Vermont, highlighted in the Economic Development chapter. A dumpster at the transfer station could serve this purpose, or a curbside pick-up program could be investigated.
Bernardston Farmer’s Supply is one of many small businesses in town.