



The Preservation of Rural Character, Spencer, Massachusetts

An Interactive Qualifying Project Report
submitted to the Faculty of the
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfillment of the requirements for the
Degree of Bachelor of Science

by

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Date: October 22, 2007

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Abstract

This project, prepared for the Town of Spencer, describes the steps taken and recommended by the group in order to preserve Spencer's rural character as growth occurs in central Massachusetts. It assessed the impact of affordable housing, cost of community services analysis, and a priority list of parcels which are the most important to protect against growth. Working from Spencer's Master Plan, literature, town meetings, and our own analysis of the Town of Spencer, the project group was able to lay out for the town administrators the steps needed in order to protect the town's rural image.

Acknowledgments

The group would like to acknowledge their advisors, Fabio Carrera and Kris Billiar, for their helpful work on the project as well as their ideas on how to conduct the project, presentation, and report. The group would also like to thank their on site liaison Karen Cullen for her valuable time, data, and helpful ideas in providing useful knowledge towards the completion of this project. Finally, the group is thankful to the Town of Spencer. Many different offices and people gave valuable data and time which greatly helped the group complete this project using true information which gave the report valuable criteria. Because of this help, the group feels that their project, report, and recommendations are valuable to the Town of Spencer and can be used as a credible source of information to future projects of this nature.

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1 Introduction

In June, 2003, Spencer Massachusetts developed a master plan for their local government. This master plan portrays the exclusive goals of the town. One of the main points that is tied into every goal in the master plan is the preservation of the rural image the town of Spencer displays.

According to the Farmland Information Center website, the total land that is used for farms in the United States is 923,790,766 acres. The amount that is converted to developed land is 6,088,800 acres. This shows that less than one percent of farm land is being developed. This is not the case in Massachusetts where there is 518,570 total acres of farm land and 27,200 acres of that is being developed. This is just under six percent of the land that is being developed and this was in 1997. With the growth in the last ten years this number has increased even more and will continue to do so for years to come.

Population growth is an increasing issue with any state and its towns and cities. Spencer is a town that is experiencing a 3.4 percent increase in population over the last five years. Even though low in percentage this still shows that the town of Spencer is growing and with any population increase, development is inevitable. (citytowninfo.com)

Subdividing parcels will go against the Master Plan in hopes to preserve rural character. When divided the parcels will become less useful to the town because there will not be enough land to make the town want to purchase and preserve it. Subdivision will eventually destroy all of Spencer's rural character and become the scene that has developed in their downtown.

The town has followed some of the Master Plan so far with their biggest achievement of implementing Karen Cullen as the town planner. Other smart things that the town is continuing to do to maintain its rural character is taking advantage of the rights of first refusal on as much land being sold as possible.

Spencer is having a difficult time even with the Master Plan to maintain the rural character. Outside help is needed to determine other ways to maintain and update the ways in which rural character can be saved for the future.

This projects goal is to preserve the rural character of Spencer. In order to do this, the group must prove to the community that with development does not mean that the

town will prosper because of an increased tax income. The group must also be sure to implement a program in order for Spencer to increase their affordable housing rates in a way that the state approves so that chapter 40B will no longer give developers the ability to build without approval, and finally must advise the town to protect at the highest level the areas that are the most important to their character.

This project will preserve a community's identity while making an example for others that are experiencing the same difficulties that Spencer is trying to fix. With problems that many places are starting to feel the pressures of overpopulation, lack of funding for COCS as well as affordable housing and law implications for each state. With the information at hand the steps that should be taken for all areas to preserve and maintain the rural view shed of the surrounding community.

The town of Spencer, Massachusetts, like many other rural areas, is facing the problem of trying to maintain a rural character while expanding the population of the town and creating the most logical and space friendly developments for the town. There are many farms and woodland areas that are not owned by the town and are in danger of being sold to outside developers that may obtain an ANR (approval not required). The town is looking for the most appropriate parcels of land to be preserved. Also, the town is looking to find any means possible for the owners to keep and secure the land as it is, by using tax breaks such as chapter 61, 61a and 61b.

The town of Spencer hasn't done any extensive research on the issues at hand. The research that has been done was given to us in our initial meeting with Spencer's Town Planner. We were shown maps of the town with detailed analysis of land parcels that were over fifty acres and also land parcels that are already registered under chapter 60/61/61a classification. We were also told about, but did not receive, information about affordable housing. Research done by MIT has extensive data showing an alternate method of determining what is actual affordable housing but not yet under the State's codes.

To successfully conduct this project, we as a team must distinguish ways to help the Town of Spencer identify methods to preserve their rural character. In order to do this, we must first identify rural characteristics. These include views from roads and

trails and include viewsheds and these are the areas that must be prioritized in accordance of which is the most important to maintaining a rural character.

The next step is to identify treats to this rural character we are seeking to preserve. Threats we have become aware of are such chapter laws as 40B, which give developers exclusive rights to develop as long as Spencer's affordable housing rate is below the state's 10% numbers. Subdivisions and large developments are also large threats and can harm the views of many beautiful scenic vistas in the town of Spencer. Another threat to the preservation of Spencer's rural character is construction or zoning. Although, the local government can help push developments to where they want them using potential chapter 40R areas which push for smart growth. With these threats occurring throughout the town, a rural image will soon disappear.

In order to combat with these threats, a cost/benefit of alternatives must be carried out. Otherwise known as COCS, Cost of Community Services, the COCS will show that development will either help or hurt the town's finances. It is largely believed that another residential development will bring in large tax numbers, but the town will end up losing money to pay for the extras these developments require.

Our last step in the project will be ways to protect the land. Detailed further in the background section, we must show the local town government the tools needed to stop development and to push forward with what they are looking to maintain and preserve in their rural town. Recommendations for protection of this land include ownership and operation. To do this the identified town owned land must be plotted and using tax laws, right of first refusal, and land trusts will be used to stop unwanted developments. Regulations for new zoning, subdivision, scenic roads, and scenic overlays will be used to stop unwanted developments. Incentives and disincentives for chapter 61 land will be used in combination with tax breaks and hikes and increased or decreased fees to help push what the town government is looking for. The last steps will be education and information for the local citizens. These are the people that voted to install this master play, if we can educate them using pamphlets and meetings carried out by the town government, it will benefit the cause.

In order to carry out these objectives, the master plan as well as the maps from previous work must be used. However, at this time, the master plan is not up to date with

new developments, cost of community services, chapter 61, and scenic vistas. There are gaps in their research and assumptions that make our project possible. There is a need to identify affordable housing, which will involve us developing a new way of considering what is and what is not affordable.

The next objective is to determine the Cost of Community Services (COCS), to organize the data Spencer has already gathered on how their funds are dispersed. We will calculate the percentages spent on the different areas of the town. These areas will include residential, commercial, and industrial.

The final gap that we see is the need to identify which land parcels are important to the view shed and thus keeping Spencer's rural character intact, we need to do map and GIS research to fine the rural character important to this aspect. To inventory land parcels that are important for the town to buy or be interested in buying in the future using Rights of First Refusal dictated by Chapter 61, 61A, 61B.

The aim of the research is to maintain the rural character of the town. It intends to assist the town in developing a better plan for open space management, avoiding development, and conducting cost of community services and affordable housing. We realize that this is in the best interest of the town as laid out in the master plan of 2003.

2 Background

Named for Lieutenant Governor Spencer Phipps and settled in 1717, Spencer, Massachusetts is a farming hamlet in located in central Worcester County and has always been a rural farming town. It was a district of Leicester until it was incorporated officially in 1753. The rolling hills of Spencer are dotted with farmhouses, especially those of dairy farms; which has long been a primary vocation amongst the citizenry. Industry is also a prominent facet of Spencer, specifically shoe-making and wire drawing. Wire drawing was once such a major force in Spencer during the early 20th century that there were once 11 wire-drawing factories in the town spread across twenty-six different buildings.

Citizens of Spencer have always taken great pride in their town, especially in it's rural character. Their voices rang out in union in 2003 when they produced the Spencer Master Plan, one of the major goals set forth to preserve the rural character of their town. To reach these goals, open-space management must be utilized, as well as exploring reform of M.G.L. Chapter 40b, The Comprehensive Permit Law. This legislation currently aids and abets developers as they encroach on open spaces of Spencer by erecting as many houses, apartments, and condos as they desire, with new roads to grant access to new buildings.

There are many determining factors that must be considered when dealing with the rural character of a town such as Spencer. We must think about what makes something rural or scenic. How do we determine what people deem beautiful and appealing to the eye? This is where the group's research and past experiences come in. Traveling the roadways in our own towns we experience what is and is not appealing. Things such as rolling hills, vast open fields, and crystal clear lakes make an impression on travelers and residents alike. These are all things that the residents of Spencer get to enjoy and what exactly we hope to preserve.

In order to preserve the rural character, the group must follow certain subjects that all affect the image equally. The visual landscape assessment, cost of community service, and fight against the developments chapter 40B rights all are areas of concern for the town.

To fulfill the steps stated above, the group will split the project into three objectives.

1. Identify threats to Spencer's rural character.
 - a. Perform a Cost/Benefit Analysis of development, otherwise known as COCS
 1. Propose measures to protect the land.
 - b. Identify all 40B Threats
 1. Propose measures to protect the land.
2. Identify parcels of land most important to protect, otherwise known as land preservation priorities.

Each of these steps will be detailed below with the results immediately following the specific steps in order; these steps will be the outline for this report as shown in the table of contents.

3 Cost of Community Services

With the Cost of Community Services (COCS) analysis becoming popular around the United States, more and more cities and towns are become aware of just what it costs for each type of land use to operate. Now that towns are facing the problem of unwanted development, or even wanted development but not sure what type is best for them, this analysis is growing increasingly important.

With many misconceptions about how land should be developed in towns, the project group felt that it was important to show exactly what the town of Spencer was looking at with respect to financial benefits or detriments when it decides to develop each type of land use. The cost of community services report shows exactly how much each land use type will cost Spencer with respect to how much it brings in monetarily. This results in a ratio that shows for every dollar brought in, how much is spent by each land use type.

This is needed in some cases to dispel the notion that adding more residential properties is the best thing for a community to do when wanting to better its financial situation. Once you see the findings from past reports and our report it will be easy to see how this is not always the case.

3.1 Background

The COCS approach compares different land use categories by comparing the annual revenues to annual expenses of public services. This is needed in some cases to dispel the notion that adding more residential properties is the best thing for a community to do when wanting to better its financial situation. Once you see the findings from past reports and our report it will be easily noticeable that this is not always the case. COCS is done by taking the local revenues and expenditures and dividing them up into different categories of land use, such as residential and commercial, and the result is a set of ratios showing the relationship of revenues and expenditures for each type of land. Table 1 below shows several examples of these tests. A ratio greater than one indicates that for every dollar of revenue collected for a type of land use, more than one dollar is spent to

serve that land use. For every dollar of revenue generated, a dollar is spent to provide services to the land use type.

The majority of our research was done on past cost of community service studies done around the United States. The report that the project group found most relevant to our project was conducted in Dane County, Wisconsin by the Community Development Society in 2001.

The Farmland Information Center (FIC) Fact Sheet for COCS was another good resource for the explanation of how to conduct a COCS study. It gives more examples of the predetermined thoughts of a number of town developers around the nation. The FIC gives the following as some of those preconceived notions:

1. Open lands, including productive farms and forests, are an interim land use that should be developed to their “highest and best use.”
2. Agricultural land gets an unfair tax break when it is assessed at its current use value for farming or ranching instead of at its potential use value for residential or commercial development.
3. Residential development will lower property taxes by increasing the tax base.

While on the surface these facts may seem to be true, the COCS studies show a very different story.

3.2 Methodology

The following section will explain our methods for completing the cost of community services analysis for the town of Spencer using data from the 2006 year. This analysis, as mentioned before, is being done so that the town of Spencer can see the financial benefit’s and disadvantages to developing the four different types of land uses.

This section will outline specifically what was done to achieve these objectives and fulfill the requirements set forth by the project group.

3.2.1 Organization of Data & Analysis

The first step in the cost of community services analysis is the gathering and organization of data. The data that is needed is all public knowledge and can be gathered from town officials and departments.

Once the data is collected, it is then distributed into two major categories, the first being town revenues and the second being town expenditures. This will allow for an easier time in calculating the COCS ratios later on in the analysis.

After they are separated into these two categories, the analysis on each section can be preformed. The process for each analysis is shown in the following sections.

3.2.1.1 Town Revenues

The town revenues were gathered by the project group to make sure that the most important monetary funds that were coming into the town were represented in the analysis. These funds were found in the Town of Spencer Annual Reports of the Town Officers booklet for the year of 2006. Such things that should be considered town revenues are taxes, both property and excise, state aid, and any town fees, permits and licenses.

3.2.1.2 Town Expenditures

The town's expenditures are where the main part of the COCS analysis takes place. This is where the project group separated each of the town's expenses into two different categories, the first being general services and the second being location specific services. The data that was used for this was found in the town budget section of the Spencer Town Meeting Booklet mentioned earlier.

3.2.1.2.1 General Services

The general services are the services in the town that are not specific to any land use type or can be attributed to all of the land use types equally. Examples of these services are such things as the library, the insurance and benefits for the town, and so on. These general services are broken down into the land use categories of Residential, Commercial, Industrial, and Agricultural & Forest land. This is done by using the percentage of property taxes levied from each land use category. These percentages are used because it is the closed percentage that can be attributed to the total amount of revenue supplied to the town by each land use type.

3.2.1.2.2 Location Specific Services

The location specific services are the services that are specific to one or more land uses. The reason for the separation from the other services is because they are unevenly

distributed expenses on the town's budget and they are the key contributor to the uneven land use costs.

3.2.1.2.3 School Expenditures

The school expenditures are usually the largest expenditures in the town's budget. The project group decided that the best way to distribute this large sum of money was into the Residential expenditures. This is because of the fact that the cost of the schools can be attributed to children and children live in the residential land use category. So as you can see, it's a reasonable assumption.

3.2.1.2.4 Fire Expenditures

The fire expenditures were a large focus of the analysis. The two main pieces of information that are needed to complete this section of the analysis are the budget for 2006 and the fire department call logs.

Using the call logs the project group was able to construct an excel spreadsheet that calculated the cost of each call. This was done by calculating an average hourly wage for the volunteer firefighters.

Another thing that was incorporated was an hourly wage for the chief and the deputy chief. These were calculated by taking the yearly salary for both and dividing it by 2080 hours (number of hours worked in 52 weeks of 40 hours).

The project group also incorporated a maintenance cost per call. This was calculated by using the sum of the budgeted amounts set for maintenance and gas and divided it by the number of incidents on the call log.

Once the cost per call was calculated for each call, the use of Microsoft Access and MapInfo came into use. The project group transferring over the data spreadsheet to access was able to form a table that would be linked by the matched address field with the town's cama data file. This would allow the project team to map the fire calls to the actual parcels that the call was located. This was made to be a thematic map so that the cost of each fire could be categorized by a color scheme. This allows the reader to see the call distribution in a more affective manor.

Once the team grouped the cost per call datasheet with the cama file, they were able to identify and consolidate the calls by land use type. This allowed them to then add

up the cost of fire per land use category. These totals will become useful when calculating the land use ratios at the end of the analysis.

3.2.1.2.5 Police Expenditures

The last section of the location specific services that was analyzed was the police data. The data that was needed for this was the police budget as well as the police call logs and town cama data. This was calculated in a very similar fashion to that of the fire expenditures. It would have been done exactly the same if it wasn't for the police logs being very difficult to organize.

The organization of the police logs was especially difficult because of the way the police entered their information. The main problem with it was that they logged each call without an address, just a street name. This made locating exactly which parcel the call came from impossible.

The first thing that was done was organize the text file for the call log into a workable document in Microsoft Word. Then the document was transferred to Microsoft Access where it was made into a table that was able to be linked with the towns cama file by street address.

The next step was done because of the fact that the police data did not have the address of each call, just the street name. The project team tallied up a total number of calls per street. Then, the team calculated a percentage for each land use along those streets. This was the only way for the project team to distribute the calls in a relatively acceptable manor without being bias toward one land use or another.

After calculating a cost per call value, which was done by finding the quotient from the total police budget for 2006 and the number of police calls in the police log, it was multiplied by the number of calls per street. This total was then multiplied by each land use percentage for each street. This gave the project team a total police call per land use type once the totals for each street was added together. These totals will become useful when calculating the land use ratios at the end of the analysis.

3.2.2 Formation of the COCS Ratios

The final step in the analysis was the formation of the COCS Ratios. This step combines all of the previous step's totals to form the ratios that depict the cost of each type of land use category in the town of Spencer.

With each land use having a calculated total cost, we can divide that number by the amount of revenue calculated for that land use area, giving you a ratio that show how much each land use value costs per dollar gained in revenue.

3.3 Results

The following section will explain our results after the completion of the cost of community services analysis for the town of Spencer using data from the 2006 year. This analysis, as mentioned before, is being done so that the town of Spencer can see the financial benefit's and disadvantages to developing the four different types of land uses.

This section will outline specifically what resulted from the methods that were previously talked about in the methodology section.

3.3.1 Organization of Data & Analysis

The first step in the cost of community services analysis was the gathering and organization of data. The data that was needed is all public knowledge and can be gathered from town officials and departments.

Once the data is collected, it is then distributed into two major categories, the first being town revenues and the second being town expenditures. This will allow for an easier time in calculating the COCS ratios later on in the analysis.

After they are separated into these two categories, the analysis on each section can be preformed. The process for each analysis is shown in the following sections.

3.3.1.1 Town Revenues

The town revenues were by the project group to make sure that the most important monetary funds that were coming into the town were represented in the analysis. Figure 1 shows the percentages of all the town's revenues. The sections of the graph that are labeled in red were the selected revenues that were included in the analysis.

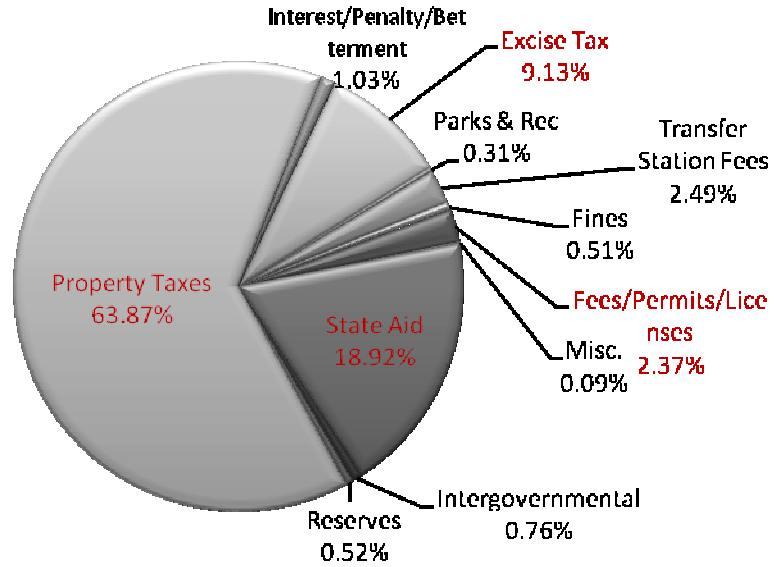


Figure 1: Town Revenues used in COCS Analysis in Red

These funds were found in the Town of Spencer Annual Reports of the Town Officers booklet for the year of 2006. As you can see, the town revenues used were taxes, both property and excise, state aid, and any town fees, permits and licenses. The calculated totals as scene in Table 1 were then distributed into the different land uses by multiplying the totals by the percent of property taxes collected for each type of land use. These totals can be scene in Table 2.

Taxes Levied	\$8,890,225.00
State Aid	\$2,410,167.00
Fees/Licenses/Permits	\$862,121.00
Total Budget= TL+SA	\$12,162,513.00

Table 1: Town Revenue Totals for COCS Analysis

	% of Property Taxes	Taxes & State Aid
RESIDENTIAL	89.00%	\$10,824,636.57
COMMERCIAL	6.14%	\$746,778.30
INDUSTRIAL	3.10%	\$377,037.90
AGRICULTURAL & FOREST	0.27%	\$32,352.28
TOTALS	98.51%	\$11,980,805.06

Table 2: Total Revenue Distributed by % of Property Taxes given by each Land Use Type

As you can see, the total budget is more than the actual total revenues used. This is because personal property taxes were not used in the analysis.

3.3.1.2 Town Expenditures

The town’s expenditures are where the main part of the COCS analysis takes place. This is where you have to separate each of the town’s expenses into two different categories, the first being general services and the second being location specific services. The data that was used for this was found in the town budget section of the Spencer Town Meeting Booklet mentioned earlier.

3.3.1.2.1 General Services

The general services are the services in the town that are not specific to any land use type or can be attributed to all of the land use types equally. Examples of these services are such things as the library, the insurance and benefits for the town, and so on. The list of general services can be found in Table 3 along with the total budget for each.

GENERAL SERVICE CATEGORIES	
Moderator	\$203
Select Board	\$21,350
Town Administrator	\$165,972
Finance Committee	\$8,595
Town Accountant	\$92,419
Assessors	\$101,705
Treasurer/Collector	\$130,974
Town Counsel	\$72,750
Personnel Board	\$250
Information Technology	\$66,325
Town Clerk	\$109,652
Elections & Registrations	\$20,626
Town Hall Maintenance	\$58,770
Other General Government	\$9,300
Office of Development & Inspectional Services (ODIS)	\$251,000
Traffic Lights	\$4,700
Street Lighting	\$70,000
Transfer Station	\$477,400
Old Cemetery	\$5,250
Tree Warden	\$21,875
Board of Health	\$64,530
Disability Commission	\$250
Council on Aging	\$13,650
Veteran's Agent	\$37,638
Richard Sugden Library	\$257,400
Parks & Recreation	\$53,000
Historical Commission	\$500
Celebrations	\$3,000
Debt Service	\$376,457
Insurance & Benefits	\$1,467,500
Water Department	\$646,568
Sewer Department	\$755,005
TOTAL	\$5,364,614

Table 3: General Service Categories with Budgets

These general services are broken down into the land use categories of Residential, Commercial, Industrial, and Agricultural & Forest land. This is done by using the percentage of property taxes levied from each land use category. This can be seen in Table 4.

	% of Property Taxes	General Services
RESIDENTIAL	89.00%	\$4,774,506.46
COMMERCIAL	6.14%	\$311,147.61
INDUSTRIAL	3.10%	\$80,469.21
AGRICULTURAL & FOREST	0.27%	\$8,583.38
TOTALS	98.51%	\$5,174,706.66

Table 4: General Services Distributed by % of Property Taxes for each Land Use

These percentages are used because it is the closest percentage that can be attributed to the total amount of revenue supplied to the town by each land use type. Once again the total for the actual general services and the total calculated are different because of the omission of personal property taxes.

3.3.1.2.2 Location Specific Services

The location specific services are the services that are specific to one or more land uses. The reason for the separation from the other services is because they are unevenly distributed expenses on the town’s budget and they are the key contributor to the uneven land use costs.

3.3.1.2.3 School Expenditures

The school expenditure is usually the largest expenditure in the town’s budget. The project group decided that the best way to distribute this large sum of money was into the Residential expenditures. This is because of the fact that the cost of the schools can be attributed to children and, as we all know, children live in the residential land use category. So as you can see, it’s a reasonable assumption.

The town of Spencer shares its school budget with the neighboring town of East Brookfield. Spencer pays exactly 84.11% of the needed school budget. The total supplied by Spencer is shown in Table 5. This table also shows the distribution into the Residential category.

Location Specific Services	Residential	Commercial	Industrial	Agricultural & Forest	TOTAL
School	\$6,067,963.17	\$0.00	\$0.00	\$0.00	\$6,067,963.17

Table 5: School Budget Distribution by Land Use Type

3.3.1.2.4 Fire Expenditures

The fire expenditures were a large focus of the analysis. The two main pieces of information that are needed to complete this section of the analysis are the budget for 2006 and the fire department call logs.

Using the call logs the project group was able to construct an excel spreadsheet that calculated the cost of each call. This was done by calculating an average hourly wage for the volunteer firefighters. This average hourly wage came out to be \$12.57. This hourly wage was calculated so that it could be multiplied by the number of responding firefighters and the number of hours those firefighters were on call. This total was added to the final total for each particular call.

Another thing that was incorporated was an hourly wage for the chief and the deputy chief. These were calculated by taking the yearly salary for both and dividing it by 2080 hours (number of hours worked in 52 weeks of 40 hours). This was only added to total cost of the call when the chief and/or the deputy chief were listed as responding personnel. The hourly wage for the chief was \$25.24 and the deputy chief was \$3.55.

The project group also incorporated a maintenance cost per call. This was calculated by using the sum of the budgeted amounts set for maintenance and gas and divided it by the number of incidents on the call log. This total came out to be \$45.25 per call.

Once the cost per call was calculated for each incident, the use of Microsoft Access and MapInfo came into use. The project group, by transferring over the spreadsheet to Access was able to form a table that would be linked by the matched address field with the town's cama data file. This would allow the project team to map the fire calls to the actual parcels that the calls were located. This was made to be a thematic map so that the cost of each fire could be categorized by a color scheme. In Figure 2 you can see the entire town and its fire distribution while in Figure 3 you can see

a close up view of the downtown Spencer area. The downtown Spencer area map shows a better depiction of how the calls were distributed.

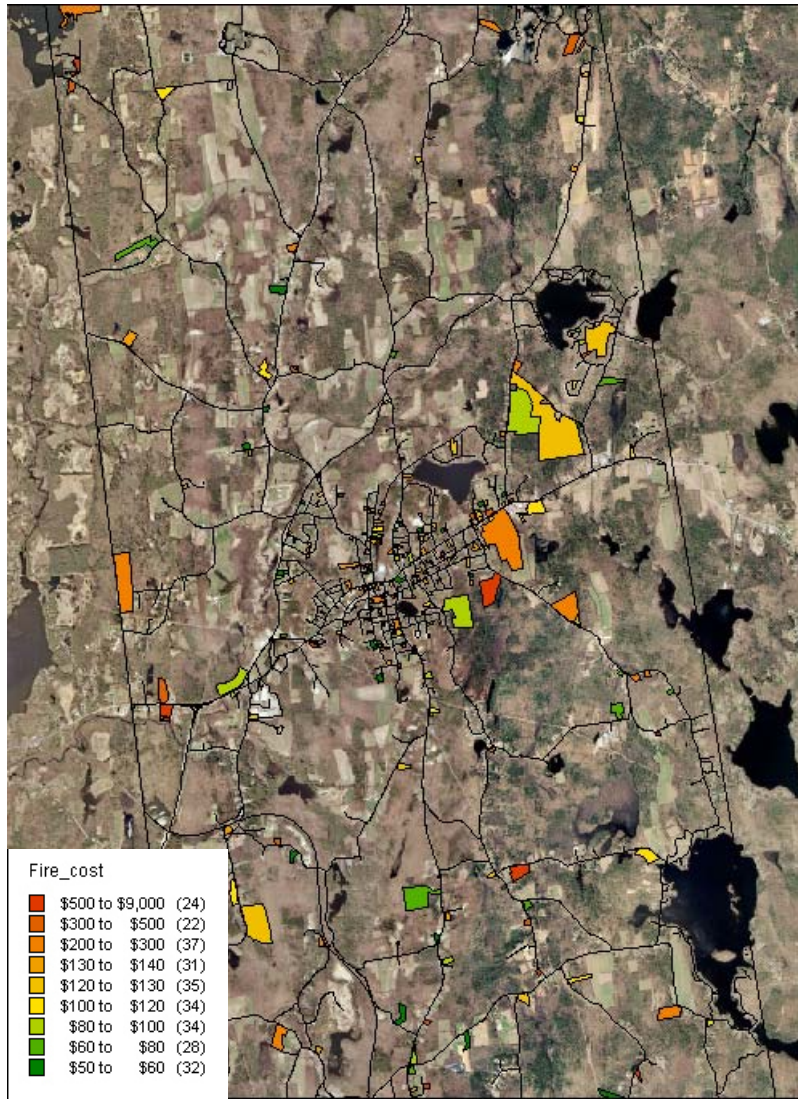


Figure 2: Fire Call Distribution by Cost of Call: Town of Spencer

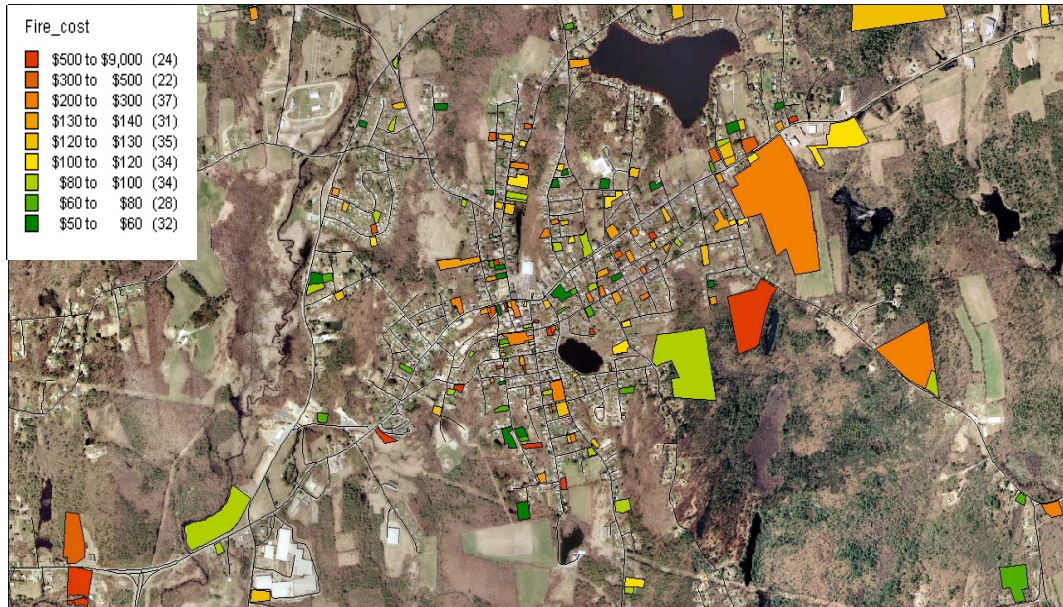


Figure 3: Fire Call Distribution by Cost of Call: Downtown Spencer

Once the team grouped the cost per call datasheet with the cama file, they were able to identify and consolidate the calls by land use type. This allowed them to then add up the cost of fire per land use category. These totals can be seen in Table 6.

Location Specific Services	Residential	Commercial	Industrial	Agricultural & Forest	TOTAL
School	\$6,067,963.17	\$0.00	\$0.00	\$0.00	\$6,067,963.17
Fire	\$81,375.16	\$9,869.54	\$108.20	\$3,656.47	\$95,009.37

Table 6: Fire Cost Distribution by Land Use Type

3.3.1.2.5 Police Expenditures

The last section of the location specific services that was analyzed was the police data. The data that was needed for this was the police budget as well as the police call logs and town cama data. The police expenditures were calculated in a very similar fashion to that of the fire expenditures. It would have been done exactly the same if it wasn't for the police logs being very difficult to organize.

The organization of the police logs was especially difficult because of the way the police entered their information. The original call logs that were given to the project group can be viewed in Appendix A. The main problem with it was that they logged each

call without an address, just a street name. This made locating exactly which parcel the call came from impossible.

The first thing that was done was organize the text file for the call log into a workable document in Microsoft Word. Then the document was transferred to Microsoft Access where it was made into a table that was able to be linked with the towns cama file by street address.

The next step was done because of the fact that the police data did not have the address of each call, just the street name. The project team tallied up a total number of calls per street. Then, the team calculated a percentage for each land use along those streets. This was the only way for the project team to distribute the calls in a relatively acceptable manor without being bias toward one land use or another.

After calculating a cost per call value, which was done by finding the quotient from the total police budget for 2006 and the number of police calls in the police log, it was multiplied by the number of calls per street. This total was then multiplied by each land use percentage for each street. This gave the project team a total police call per land use type once the totals for each street was added together. These totals can be scene in Table 7 below.

Location Specific Services	Residential	Commercial	Industrial	Agricultural & Forest	TOTAL
School	\$6,067,963.17	\$0.00	\$0.00	\$0.00	\$6,067,963.17
Fire	\$81,375.16	\$9,869.54	\$108.20	\$3,656.47	\$95,009.37
Police	\$1,306,293.68	\$44,085.27	\$22,113.97	\$12,579.48	\$1,385,072.40

Table 7: Police Cost Distribution by Land Use Type

3.3.2 Formation of the COCS Ratios

The final step in the analysis was the formation of the COCS Ratios. This step combines all of the previous step’s totals to form the ratios that depict the cost of each type of land use category in the town of Spencer.

With each land use having a calculated total for its revenues and expenditures, shown in Table 8, we can divide the two numbers for each land use area by each other.

	Town Revenues	Town Expenditures	
	TAXES & STATE AID	GENERAL	LOCATION SPECIFIC
RESIDENTIAL	\$10,824,636.57	\$4,774,506.46	\$7,455,632.01
COMMERCIAL	\$746,778.30	\$311,147.61	\$53,954.81
INDUSTRIAL	\$377,037.90	\$80,469.21	\$22,222.17
AGRICULTURAL & FOREST	\$32,352.28	\$8,583.38	\$16,235.95
TOTALS	\$11,980,805.06	\$5,174,706.66	\$7,548,044.94

Table 8: Town Revenues and Expenditures Distributed by Land Use Type

This gives you a ratio that shows how much each land use value costs per dollar gained in revenue. This can be seen in Table 9.

Land Use Ratios	
RESIDENTIAL	1:1.13
COMMERCIAL	1:0.49
INDUSTRIAL	1:0.27
AGRICULTURAL & FOREST	1:0.77

Table 9: Final COCS Land Use Ratios for Spencer, MA

3.4 Conclusions & Recommendations

The land use ratios of the COCS analysis performed by the project group have proven to be a success. Like past analyses, as explained in Section 3.1, the residential land use category proves to be the most expensive to the town.

A strong point that the project group wants to get across is that for the purposes of rural character preservation, no development is the best situation. But as we all know, that is not possible. So, with this analysis, you are able to get an idea of which land use type is more beneficial to the town financially. For example by putting in an industrial property, although not particularly pleasing to the eye, can make the town \$0.73 for every dollar that it spends. This is in contrast to a residential development that will cost the town \$0.13 for every dollar that it spends, making the town lose money. It also shows the developers that you can hypothetically develop two industrial parcels and make the same

as if you were to develop three commercial parcels. What this is saying is that the results of this Cost of Community Service analysis can be used for the identification and evaluation of how a proposed development to the town can result in significant impacts on the community. With this information now available, local officials, planners and community members alike can evaluate a proposed project in terms of the impact it may have on the community's financial wellbeing. Depending on the significance of this impact, community decision makers can decide to move ahead with approval of the project, reject the proposal altogether, or modify plans for development in such a way that these financial impacts can be decreased.

It is also important to realize that the studies do not account for amenity value or economic activity of land uses, nor the interaction of multiple land uses. It is also important to be aware of what conclusions can be drawn from these studies. Critics point to the fact that the studies are often interpreted incorrectly. A cost of community services study does not provide a community with a measure of the financial impact of a proposed development on an individual bases. For example, one residential development may result in a financial benefit to the town, while another might be a financial deficit. Such things as the location of the development and the design of the buildings were are not factored into the analysis. These are just a few of the things that could affect how a particular development impacts a community. What this analysis does provide however, is an average across each of the land uses and how they affect the town. Something else that it does not take in account for is the mixed use land use categories. These were put into the calculation as the dominate land use of the two.

Even with these factors affecting the analysis, the project group as well as many other people who have preformed these analyses, the belief that this analysis is very relevant and useful still is apparent.

4 Affordable Housing

Spencer is a town of around 12,000 inhabitants and it is located twenty minutes west of Worcester County. The rural character is in jeopardy, and it's not because of building affordable housing, but not having enough affordable housing. It is causing the town to be slowly built up and destroying areas that maintain the town's rural character. Spencer has been doing work to implement zoning regulations as well as applying for grants to allow residents to renovate or upgrade existing units for exchanges of deed restrictions. As time goes on and the longer that Spencer waits to reach the 10% threshold the harder it will be to sustain a living environment with the rural qualities the town and its people have expressed.

“The stress of Massachusetts' housing crisis does great harm to its economy, its families, and the fabric of its community life. Massachusetts has enjoyed unprecedented economic prosperity over the past few years. Unfortunately, many of the people who have helped achieve this prosperity can no longer afford to live in the communities in which they work. Many citizens - teachers, firefighters, nurses, police officers, small business owners, clerks, cleaners, and countless others find the price of housing beyond their reach.” [13] In the most populated areas of the state there is already a shortage of 7,400 affordable housing units. This number will continue to increase and most likely reach 10,000 units within the next decade. [14] Massachusetts designed Chapter 40B to force a 10 % threshold of affordable housing. At the time it was a great idea but like most regulations there are loop holes. It's causing more harm than good in some areas such as Spencer, Ma and forcing many to move and find alternate living areas. “[We] are consuming land seven times faster than our population growth rate. Low density, haphazard development of houses, office buildings, and stores is overwhelming our traditional Massachusetts landscape of historic cities, vibrant villages, and bucolic towns. Now, we face...staggering home prices, and loss of natural areas.” [21] Forty-seven communities like Spencer, Ma have exceeded the 10% mark. Thirty-six state wide cities and towns are between eight and nine percent. Eighty-two of these areas only need one hundred to two hundred more units to be above the threshold. [16] The state is pushing for affordability and many areas are adopting as many plans as possible so they can control these issues locally before the state forces unwanted regulations on them.

Affordable housing is a misconception for many people, and it is causing many cities and towns including the beautiful Spencer, Massachusetts to continue to lose and deteriorate their rural character in countless areas. A definition for affordable housing is a, “segment of the housing market where a proportion of housing is targeted at or reserved for people who are unable to compete effectively in the existing market housing in the area. The term covers a wide range of providers and tenures including public sector, housing allocations, joint ventures and owner occupation. Affordable housing is not necessarily low cost housing.”[15] The state level has rules and regulations that must be followed for Spencer to be able to restore and maintain the rural character. Affordable housing is a major contributor to gaining more power over developers and the overall decisions for future developments.

Increased housing prices have been a large factor in the increased focus from outside contractors to develop housing in Spencer. “Chapter 40B is a state statute, which enables local Zoning Boards of Appeals (ZBAs) to approve affordable housing developments under flexible rules, if at least 20-25% of the units have long-term affordability restrictions.”[20] After investigating we discovered that the “standard is for communities to provide a minimum of 10% of their housing inventory as affordable.” Places such as Spencer who do not have the 10% requirement allow the town to be more susceptible to 40B developments. The reason Spencer is trying to reach this threshold is for the simple fact that the town of Spencer will now be able to decide upon the 40B proposals at their own discretion. With the ability to decide upon 40B, Spencer will have a large part in maintaining its rural character by approving only proposals that will benefit itself and its people. [16]

4.1 Methodology & Results

The following section will explain our methods for completing the affordable housing deficit. Our projects success will be contingent upon the accomplishment of the following individual objectives in this section.

- Assessed the current levels of affordable housing in Spencer.
- Explored and identified the methods to grant the town of Spencer power over developments other than Chapter 40b.

4.1.1 Assessing Current Levels of Affordable Housing in Spencer

To understand the affordable housing issue, research was the key factor in developing methods specific to Spencer, Ma. The project group gathered data regarding the amount of housing within the town of Spencer that is deemed ‘affordable’ by the state. Also, the team gathered information that realistically assessed how much of Spencer’s housing fell under what should and could be affordable. This information was acquired through research and data collection which will be explained in more detail. When attacking the affordable housing problem, the project group decided to use a local town housing plan that seemed similar to Spencer. Using these plans as a template, the team created a list of the most logical selections that would benefit Spencer.

The project group worked closely with town officials to gather housing information that had been created since the previous census. Numbers for the town were then generated and updated to have more accurate statistics.

A survey was done for rental costs within the town. Estimates were also completed for housing prices. Calculations were generated to compare what constitutes as affordable. The income for those who make a percentage of the median was broken down and simulations were conducted to compare with that of the states thoughts of affordable housing.

After researching statutes, grants, and other sources for increasing affordable housing as well as producing data analysis’s, only a select few of the researched items were then chosen based on Spencer’s character and other town related issues.

4.1.2 Methods to Grant the Town of Spencer appeal power over 40B

Alternate methods will help increase the amount of affordable housing; these methods which are most appropriate to Spencer will provide results to protect them from future affordable housing issues.

Other statutes which would work for the town of Spencer, other than 40B, were explored. These consisted of the following:

- Inclusionary Zoning
- Smart Growth District, Chapter 40R
- Alternate Affordable Housing Financing
- Town Incentive Program

- Town owned land.

In the following sections, the project group will explain what was done with each of these sections and how they will help shape the town of Spencer if put into affect.

4.1.2.1 Inclusionary Zoning

Inclusionary zoning was researched extensively, it was noted that if inclusionary zoning is adopted it is part of the bylaw that there must be ten to thirty percent of affordable units within each development. To decide what percent Spencer should consider we looked at ten, twelve and fifteen percent and the affects these numbers would have on affordable housing. The numbers were gathered by using the developments over the last seven years. We decided on these numbers based on what seemed the most reasonable. If ten percent was chosen it would be useless to implement inclusionary zoning. You would never reach the ten percent threshold; you would merely maintain the existing affordable housing. If Spencer had adopted inclusionary zoning seven years ago they would have received seven affordable units over the years. Twelve percent was still to low because over the past seven years if the town implemented twelve percent they would only gain one affordable unit more than the ten percent. We settled on fifteen percent due to the fact that Spencer would receive three extra units per year on top of the ten percent. The number of affordable units per year for inclusionary zoning will be decided on the amount of development that takes place over the next several years. The recommended units are what the town should aim for every year if the future developments resemble the past ten years. Table 10 is a representation of the possible affordable units that Spencer could have had if they adopted inclusionary zoning.

Development	Date approved	Approved Units	10%	12%	15%
Rolling Ridge	4/18/2005	4	0.4	0.48	0.6
Laureldale ph1	11/4/2000	19	1.9	2.28	2.85
Laureldale ph2	12/5/2006	27	2.7	3.24	4.05
Deer Run ph 1	5/24/2002	21	2.1	2.52	3.15
Deer Run ph 2	5/15/2007	15	1.5	1.8	2.25
Fairview	10/27/2003	14	1.4	1.68	2.1
Sullivan Estates	5/10/2004	5	0.5	0.6	0.75
Sunset- Holmes	11/14/2005	24	2.4	2.88	3.6
Richland	10/1/2504	4	0.4	0.48	0.6
Sibley	11/14/2005	304	30.4	36.48	45.6
Candlewood ph 1	8/22/2005	8	0.8	0.96	1.2
Casey Estates	4/17/2007	4	0.4	0.48	0.6
Taylor Drive	7/13/2003	11	1.1	1.32	1.65
Total	-	460	46	55.2	69
Total affordable units per year	-	-	7	8	10

Table 10: Inclusionary Zoning: Shows how many Affordable Units Spencer would have Gained in the past seven years if they had adopted Inclusionary Zoning

4.1.2.2 Smart Growth District, Chapter 40R

Smart growth district or 40R was researched and based on the development of the town thus far we decided to pick the most appropriate area to extend developments. We chose to drive the housing towards main roads and railroads. This was done to control outward expansion as well as promoting public transportation. Incentives when using 40R are more appetizing and for this reason the town if they were to adopt 40R, must have a percent of affordable housing to be a greater percent than what inclusionary zoning is listed as. If it is not a greater percent than inclusionary zoning, the area should not accept the smart growth idea based on the facts that inclusionary zoning allow affordable housing with less incentives compared to 40R.

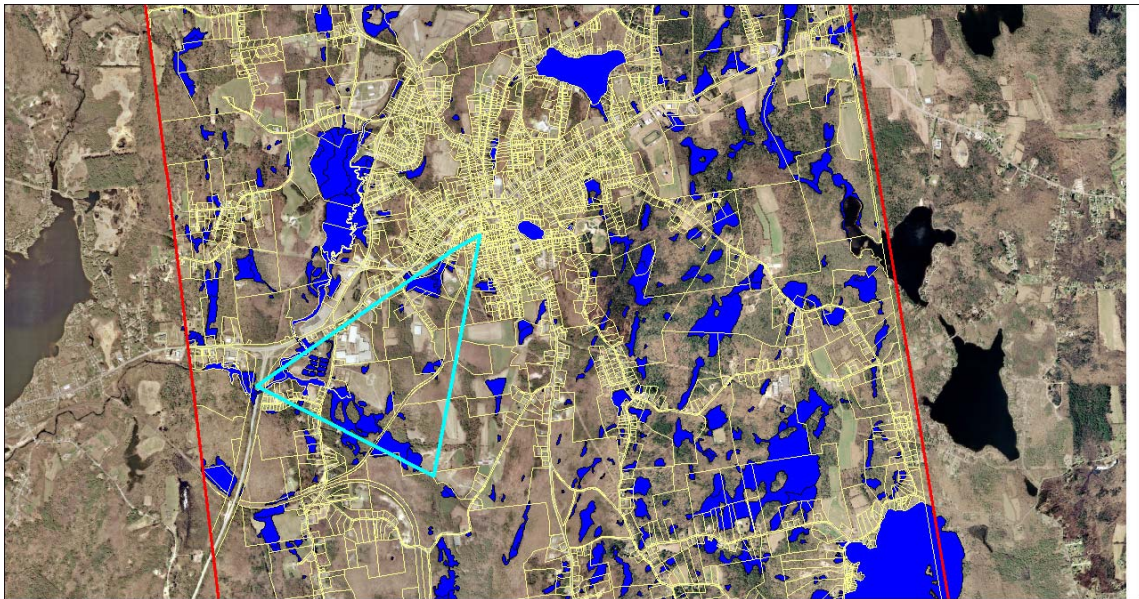


Figure 4: Recommended Direction for Smart Growth

4.1.2.3 Alternate Affordable Housing Financing

Other affordable housing financing will come from acts and grants. The Community Preservation Act was decided for many reasons; there are many cities and towns that have already adopted the CPA which are benefiting them greatly. To break down the CPA we used the town's total revenue and then calculated what the town could possibly receive when increasing taxes by varied percentages.

		1%	1.50%	2%
Revenue	\$8,849,034.19	\$16.77	\$25.16	\$33.54
Total gained	-	\$88,490.34	\$132,735.51	\$176,980.68
Housing units	5,276			

Figure 5: Gained Revenue Yearly Per Household and Total if Taxes are Increased

4.1.2.4 Town Incentive Program

Town incentive programs that are designed to entice residents for the exchange of deed restrictions were researched. Previous programs were examined to understand the possible incentives residents were most intrigued by. When the best and most reasonable incentives were calculated a program was formed to accommodate not only the residents but the town as well. A Spencer plan that was not implemented had fifty residents who were interested; this plan offered up to \$30,000 in exchange for deed restrictions. The project team came up with a plan to see how much revenue the town would lose in tax exemption over the ten year period. This number was formulated by taking the average taxes for the \$100,000-\$200,000 range and multiplying by the number of years the plan will be in affect for and then multiplying the number of participants involved in the program which will result in the total revenue lost by Spencer. $\$1,160 \times 10\text{yrs} \times 50 \text{ units} = \$580,000$. The town would spend on average \$58,000 a year for 50 units to sign a deed restriction in lieu of taxes for ten years.

Housing Prices	Tax rate	Taxes	Over 15 yr period	Over 30 yr period
\$100,000	\$7.73	\$773	\$11,595	\$23,190
\$150,000	\$7.73	\$1,160	\$17,393	\$34,785
\$200,000	\$7.73	\$1,546	\$23,190	\$46,380
\$250,000	\$7.73	\$1,933	\$28,988	\$57,975
\$300,000	\$7.73	\$2,319	\$34,785	\$69,570

Table 11: Taxes Received based on Housing Prices

4.1.2.5 Town Owned Land

Town owned land was gathered, from existing buildings, to property not yet developed. This land was viewed and decided which ones may allow Spencer to sell or give away with an agreement that the land would be used for affordable housing. We looked at land such as the Bixby road parcel which could be used solely for affordable housing units.

4.2 Conclusion (Affordable Housing)

When looking at the issue of affordable housing, research on the most up to date information regarding laws, grants, and town funding resources is the towns best bet for success. Every city and town is unique. The first objective when approaching affordable housing is distinguishing what the overall goal for reaching the ten percent threshold is. Spencer's overall goal is to maintain the rural character, so the affordable housing plan that was created was based on their overall goal. Once the goal is established, research on the most current and up to date affordable housing opportunities is next. Surveys, analyses and data collection must then be calculated. The final step would then be to decide what affordable housing opportunities will benefit the overall goal. All of this information is combined into an affordable housing plan. Without an affordable housing plan the area may never reach the goal they are aiming for.

Spencer now has the appropriate breakdown of recommended units for each category to achieve success. Spencer should follow the ten year plan that is broken down in the Affordable Housing Plan. After the ten year period Spencer will be above the ten percent threshold at which the town should then regulate developments based solely on inclusionary zoning. The amount of units in each area of the plan is a recommended number based on the analysis conducted during this project. If the town will be able to receive more affordable housing in certain areas of the plan, emphasis on the less sought after areas can be deviated from. The recommended amount of units to be built per year using chapter 40B should be less involved first. The sections that are then strayed from will be the discretion of the town. If each section in the Spencer affordable housing plan is followed and the town can have an average of twenty six units per year chapter 40B will no longer be a dilemma to the overall goal of maintaining the rural character.

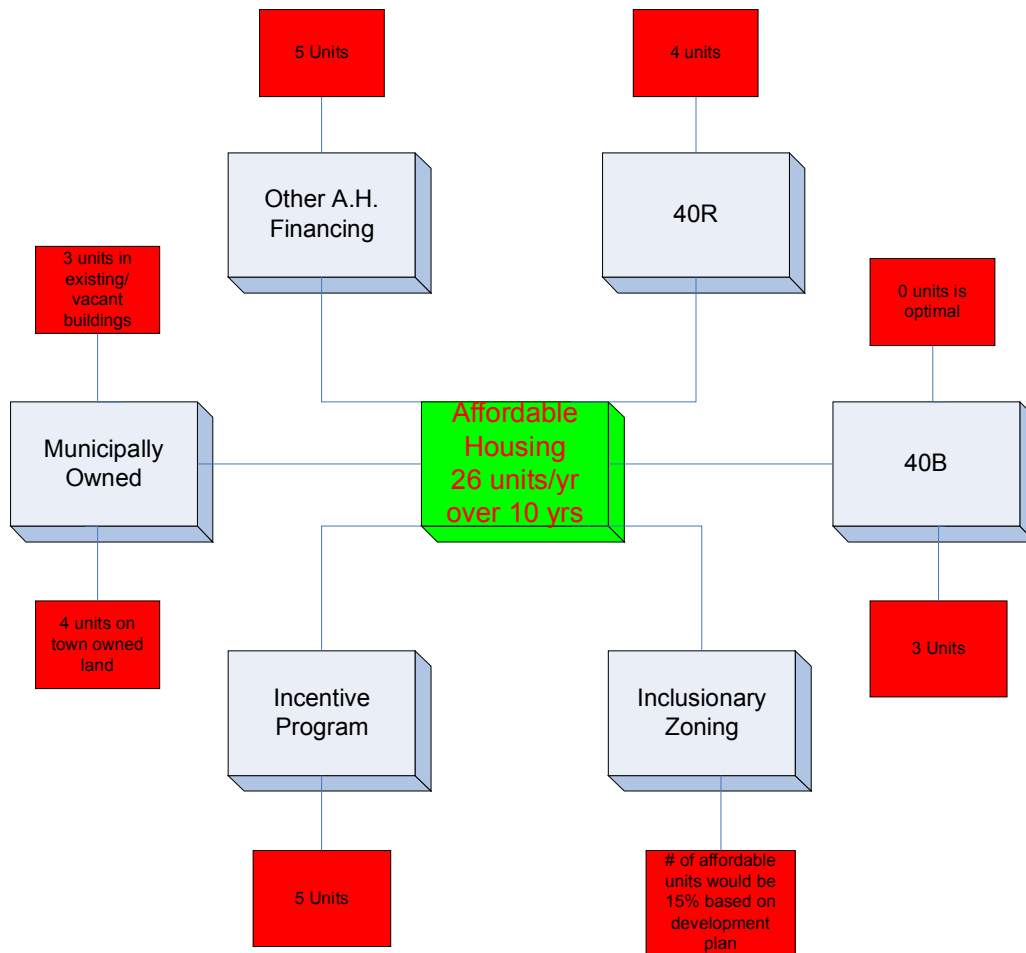


Figure 6: Organizational Breakdown of Affordable Housing Plan

5 Land Preservation Priorities

As the project grew, the group defined one of their objectives as a need to find the most important areas of land in relation with Spencer's Rural Character. This was at first done strictly through research. Throughout extensive projects done before about rural character, land viewsheds had been the most used method in identifying rural character. This method, however, would be extremely difficult to use when looking for protection in the case of development. Because of this difficulty, the group decided on a new method of identifying, protecting, and prioritizing land parcels in Spencer, MA.

5.1 Background

In 2003, Spencer developed its goal to preserve its rural character in their new master plan. Many developers want to move into Spencer, buy a large parcel of land and then build many houses on it. This has been happening in many of the surrounding townships; and when the citizens of Spencer saw what was becoming of these areas they realized something must be done. They did not want this to happen to their town.

The first step in order to fulfill the master plan is to identify what rural character is. Rural character a number of years ago is different from what it is now. Citizens of different ages look at rural character in different views; however, all these desired views have taken the name of a viewshed. A viewshed is simply a visual unit, which is defined as a portion of landscape enclosed and limited by topography, bounding an observer's field of view, according to R. J. Tetlow and S. R. J. Sheppard in their *Visual Unit Analysis*. Some think of rural as the days where a full town would be miles and miles of farming, while the younger generations think of a more developed area where there are a couple houses every mile and the sites are set back off the street or blocked by woods. Today's version of rural character has come to include mostly tree-lined streets which are quiet and dark at night, with low traffic during the day. A rural neighborhood is quiet with strict regulations for commercial developments – however, still a place where the land owner has the freedom to do what they please with their land.” (5) While rural character in this new day and age is noticeably less about farmland, with livestock and crops, you must also give way to people having the ability to do what they please with

their land. Landscape character can also be defined and managed in a more precise manor. Pastoral or rural settings, also known as agricultural settings have many cultural elements that make up this rural character. Elements such as split rail fences, stone walls, barns, orchards, hedgerows, and cabins all put an image into ones head of what is rural. These landscape characters give a “sense of place” to an area. This sense of place includes what was said above but also the all around scenic attractiveness, which measures the scenic importance based upon water characteristics, vegetation, and large visibility. (Page 30, Principles and Premises) These different characters that make up a rural environment make it very difficult to preserve the land as Spencer is very close to the large city of Worcester that is growing outward. The problem is allowing the rural characteristics while stopping the growth of new age character – the developments and homes that are all built from the same blueprint. These developments and “mini-mansions or mick mansions” are being built throughout towns like Spencer, and they destroy the once rural image that the town is fighting to keep. It is the combinations of attributes that define a landscape character. This character or concept of landscape character is personified in the image of an area or what one sees while passing through.

To keep this rural character but allow development at the same time while allowing land owners the freedom to use their land in anyway they feel fit is a hard dilemma. This freedom to allow landowners to do as they please has been one of the foundations of rural character – noted that it is these differences that give the rural image to these areas of land. These images, however, can also be protected in another way. If one is to identify rural character as the picture that one sees while passing through it – a new word that has come about – viewsheds pose an answer to these dilemmas the town board will face. Making appealing viewsheds as well as using laws such as chapter 61 and its affiliated chapters gives the town the ability to take control of land in the case of a large parcel development by way of a sale of the land. Using these two measures, a town such as Spencer can keep this rural image.

The preservation of rural Spencer must be done by keeping the viewsheds. The problem is that there are no specific rules for viewsheds. Views are an important aspect of our lives, which is why there’s something called a viewshed. It’s about what we look out and see. While driving or from your house, you want something you can look out and

see something appealing. The problem is that while we seem to have written laws about all kinds of things, we have no guidelines on viewsheds. You can't blame developers for wanting to develop there or residents wanting to live on the edge of a gorgeous panorama. Anyone would. It just is when this happens the viewshed is ruined by the house that was put in the way. This is acknowledged by a family that has lost their triumphant view when interviewed for a news story, "The sad part is that now we realize how significant that viewshed policy would have been." [10] As you can see, some communities have already lost their viewshed areas. Spencer still has a chance to maintain theirs. These scenic areas are part of what makes up the rural character and with this, freedom can be given to the citizens and land owners.

This is one solution to the problem, however more problems occur, as stated above, when developers move in and take over large parcels of land. In this situation the town must then use chapter 61 laws to stop these developers. These are their two greatest weapons to fight in order to keep their rural character – character that gives them the freedom to keep their large pastures, barns, and wooded areas – all of which give Spencer the ability to portray their rural lifestyle.

We need to find a way to use these different laws and give the town recommendations for the town to push for the right ways to go about saving their land. We need to stop cutting down trees but the question still persists, do we want large amount of trees in yards or in forests. Which will be best for the viewsheds? For the land? And for the citizens? Another question is how do deal with the old, broken down areas of town. In Spencer, there are well maintained beautiful areas of land, however, there are also barns that are being taken back by nature. The question is how the town is going to deal with these broken down areas when people come in and want to build "Mini Mansions."

There isn't much protection from stopping this from happening. Wetland organizations, endangered species, and historical sites need protection as well, but there is not much protection for this land in Spencer. The only way to block this from build up are restrictions for new developments that the town can use for its advantage – mostly for the view shed problem – and using the 61 laws and recommending which land parcels are the most valuable for the best protection of the character that Spencer wishes to maintain.

This can be done by utilizing land corridors for open space for animals and preserving the scenic view sheds to fulfill the requirements for a rural character of today's definitions. Today's definitions go back to scenic attractiveness, which has the ability to be measured. Measuring the scenic importance of a landscape based on human perceptions determine the natural scenic beauty of a landscape. (Principles and Premises P. 30) The scenic beauty of a landscape also doesn't mean that certain develop can not e obtained. What the town of Spencer is looking for is the image or character. According to Denis Wood in his assessment of unnatural illusions; because visual resource management is the way these works hide from public view, as long as development doesn't obstruct the viewsheds or take away from the rural character, it is okay for such occurrences to be passed. However, the rural image is a weak being. Nature cannot be managed. It is natural and if it is managed, an unnatural or artificial illusion would take away from the character.

Pushing to keep the character that the Town of Spencer is interested in keeping, as said above, the government has "five tools of government action" that they may use. Some of which already discussed, they are Ownership and Operation, regulation, Incentives or disincentives, Establishment, allocation, and enforcement of property rights, and information. (Preserving the built heritage Page 5)

Using these five tools, the government is able to push or pull something that is being put before them into a more controlled development, one that included everything they are looking for. In the United States, although it may seem different, the government is often left powerless to developments or new buildings, these five tools give the local government the power they need to maintain the goals of the common good. Sending a message with these tools is often needed. For example, if you use these procedures or build in this area or build around this viewshed, the government will do this for you. They can also provide information for better and more economical ways for a company to develop, thus making them more profitable, and take away other implementations using property rights, regulation, or ownership and operation rights. Deciding on which tools to use and what the right circumstances are is another large problem for governments. If they approach a situation in the wrong manor, disastrous implications may hit them. According to Hood, "the tool must be matched to the job, one

must have reason to expect that the tool or combination of tools will be effective in its proposed application, effectiveness is not enough in the current fiscal climate and the use of the tool must also lead to a minimal drain on public resources, the tool must satisfy the criteria of justice and fairness. And finally, the mix of tools should on be selected after an examination of alternative possibilities.” (Page 128) Hood also goes on to define how such examples should be used in practice, if one is wishing to find more information on this *Preserving the Build Heritage-Tools for Implementation* is a great resource. Using these tools as well as scenic vista protection bylaws that governments can implement, such as setback regulations, small-scale buildings, and a façade transparency along all pedestrian ways can establish a local government for the Town of Spencer that can fight and win the wars between developers and the rural character that the citizens wish to retain.

Once all the area that the town is defined, there must be a method of protection. The five tools give a definition, but protection types are a subcategory. Wetlands, Lakes, and Streams are unnecessary for the town to examine; developments can not build on these. The next level of protection is ownership. Operating farms are the strongest form of ownership. Many farmers not only are making profits on their land, but also need their land for a source of income. Many also wish not to sell the land to developers because they share the common goal. Parks, land owned by the State or Town are the next level of protection. If the common goal is designated by the local government, who are putting their resources into achieving the common result, it is assumed that they won't sell and let development occur. The third level is club owned land. The Audubon and 4H clubs own large parcels of land in Spencer and their goal is complete preservation. The Abbey owns a large parcel in North Spencer and, as of the summer 2007, will not sell. After ownership, land parcels are facing lesser forms of protection. Chapter 61A and B provides protection to land parcels. Chapter 61A is defines as

“Chapter 61a classification is for lands used primarily for agriculture or horticulture. To qualify for the program, a property owner must have at least 5 acres in farm use for at least two years prior to the application. The application is made directly to the Assessors each year.

To qualify, a farmer must demonstrate minimum yearly gross sales of farm products, based on the number of acres requested for classification. Once approved, the property is assessed at different rates for different agricultural uses. For example, an apple orchard is assessed different for different than hay fields. This procedure typically results in a reduction of 80% of the assessed value.

To remove a property classified under 61A to a nonconforming use requires the payment to the town of a conveyance tax or roll back tax, whichever is higher.”

While chapter 61B is defines as:

“The provisions of this statute are designated of "recreational lands" such as golf courses and hunting clubs, with the provision that they be open to the general public or to the members of a nonprofit organization.

Annual application to the local assessors is required. The assessed value of the property is reduced by 75%.

The removal procedure to a nonconforming use requires the payment to the town of either a conveyance tax or a roll back tax, whichever is higher”

The reason for designation of Chapter 61A or B:

“Many landowners classify their lands under Chapter 61 statutes to take advantage of reduced property taxes. Increases taxes may force landowners to sell their property, but today many parcels under Chapter 61 laws remain unsold and undeveloped directly as a result of reduced annual property taxes.”

As one can see, Chapter 61 laws will greatly help preserve land and are a moderate form of protection. Finally, parcels themselves can offer protection. Because of frontage laws, if a parcel is not in direct intersect with a road – meaning that a parcel is not in direct contact with a road – no construction can take place on that parcel. With no construction, there is direct preservation. However, roads can be built very easily and that is why this is a low form of protection.

The final, and lowest, form of protection is the Mid-state Trail. The mid-state trail runs through Spencer, however, offers almost no real protection for the parcels of land is intersections from some form of construction.

5.2 Methodology

Although there is an overwhelming amount of information on viewsheds in the world of information, it is actually extremely difficult to find ways to protect them. Because of this, the team developed a scheme of identification in order to be able to not only identify rural character, but also to be able to protect it. To do this, the group must first identify all parcels in the Town of Spencer. The identification has four classes, wooded areas, open field areas, wetland areas, or built-up areas. To do this, one must use aerial photographs as well as see the land in person. Depending on the town, the group must decide whether to call a mixed parcel wooded or field. For this project, the group decided to call such parcels field/open space because there of the abundance of wooded parcels in Spencer.

The next step from here is to be sure that your analysis is correct. This is done by taking land to building information from the town and comparing it to pervious results. If results are different, the group must find out why. If they are the same, you did your first step correctly. This step is done second to check, it can not be used for the full identification because sometimes statistics lie.

After all the identification is achieved, the group moves on to current protection polices. First the group must identify all protection available in the location. Then it must rank such protection from strongest to weakest. Then it must find which parcels in the project boundaries are associated with each protect policy. This is to tell the Town of Spencer what type of protection it has already and on which parcels so it can made movement towards protection for the whole town.

The next step can be objective. For this project, it was skewed towards farms. This next step is a prioritization of parcels for protection need. In order to do this, the group must find all environmental data from the state and award points for each level of environmental importance. Then, taking the identification from step one, the group must award points for the different levels of rural importance a parcel may or may not have. Then the final step is to award additional points for being next to a parcel of importance, for intersecting with a road, or for, and most important in this project, being an operating farm.

5.3 Results and Analysis

In order to identify the defined the rural character, the group must first identify the areas of concern. First, the group must identify the project limits; the boundary is Spencer's town limits.



Figure 7: Spencer Town Boundary

Next, the group must identify wetland areas, Figure 8. No construction is possible on this land and because of this the group can ignore this land.

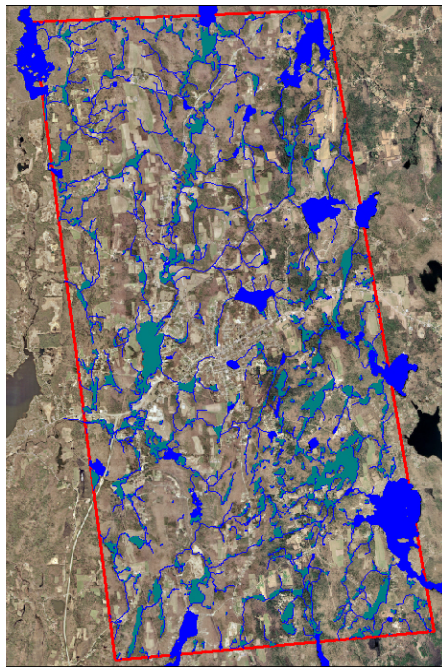


Figure 8: Spencer Wetlands

Next, because rural character depends greatly on views and forests, it was necessary to identify each parcel in Spencer. To do this, the group used the criteria: Wooded Area, Open Space/Field Area, Wetland, or Built up land. To achieve this data the group used aerial photos as well as real time views to identify the land parcels.

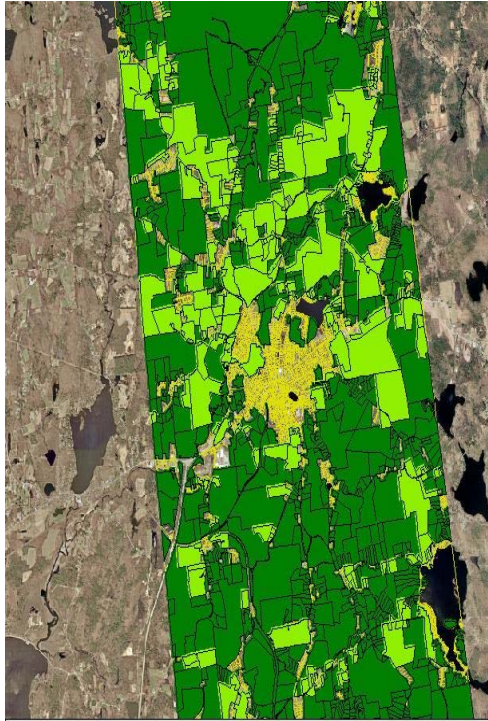


Figure 9: Spencer's Wooded Areas (Dark Green) and Fields (Light Green)

At this point operating farms are overlaid onto the map as well. Since, as said in the background, farms are an invaluable constituent of rural character, all the farm land must be identified.

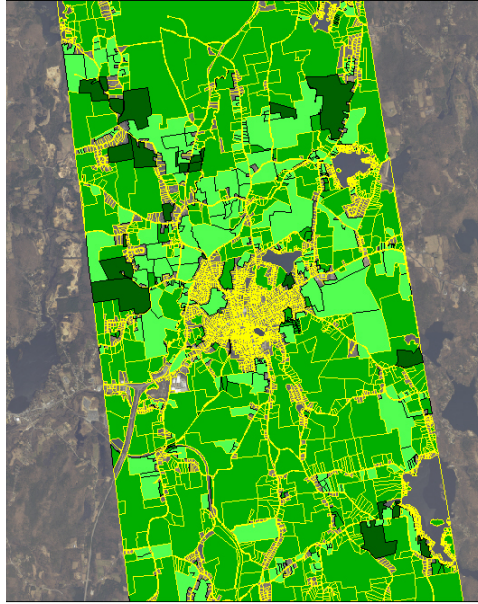


Figure 10: Spencer's Operational Farms (Dark Green)

At this point, all the farms, open space, fields, and wooded areas are identified. In order to be sure the data is correct, using a ratio supplied by the Town of Spencer, all the parcels that are of built up identification and compared with parcels with a high ratio of buildings to the parcel. This will force the map into 100% accuracy.

The next overlaid map to add to the identification section is the environmental values. According to the state and available on MassGIS, Prime Agriculture Soil, Aquifer, and Core Habitats are designated on parcels. This map shows you land that has one, two, or three layers of land identified as environmentally protected – with the darker the color the higher the value.

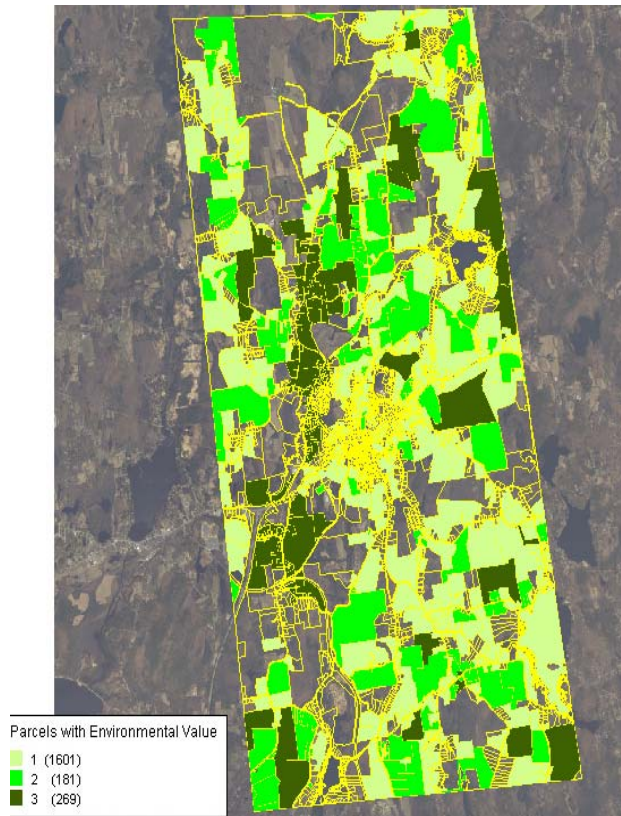


Figure 11: Environmental Importance Rank of Parcel

Now that all the environmentally and rural valued land is identified. The next step in this process is to determine which land is already protected. This is done by information found in the background and the maps of this can be found in the appendix. This information includes but is not limited to land protected by wetlands, ownership, operating farms, club land, chapter 61a and b land, and land not touching a road, and the mid-state trail. However, Figure 12 shows a map that designates all of the land that is not covered by previous protection. Land in black has no form of protection:

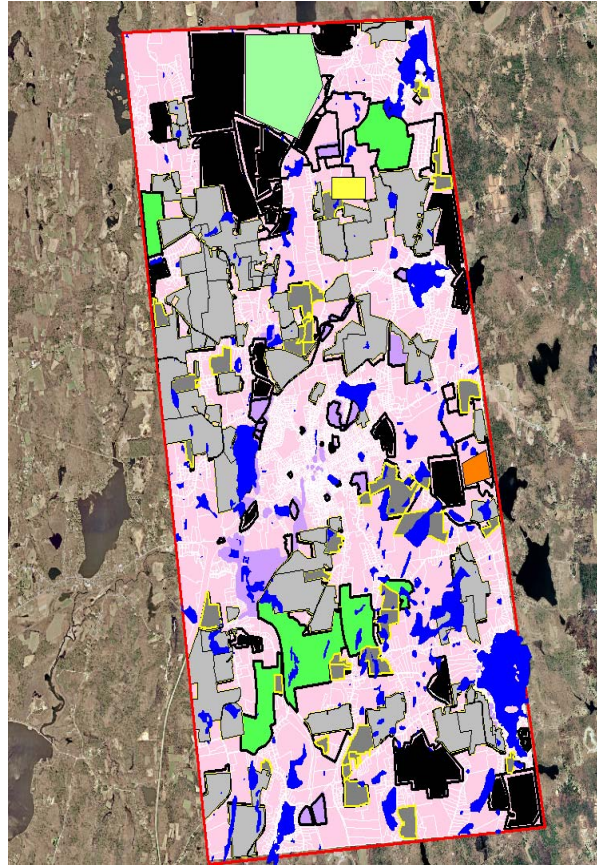


Figure 12: Spencer Parcels by Level of Protection

Once all the land in Spencer is identified for rural characteristic land, environmentally important land, and protected or not protected land; the parcels in Spencer can finally be organized by priority. To achieve this, a ranking system will be implemented where each parcel receives a score for each of the important rural, environmental, and protection standards it contains. This is the most objective part of the project. It may change per project or town as well as in the future because of changes to the town. As of September 2007, farms are the most important parcels of land in Spencer. Because of this, the ranking system will be skewed to make sure farms achieve the highest value. Any parcel is contains an active farm will be given an additional two points. Open space/field areas will be given five points, which means that every farm will start with a total of seven points. Wooded area, according to traditional rural character value is of equal importance. However, because in Spencer wooded areas dominates the landscape and there are very few areas of open space or fields, four points

will be allotted to wooded area. Making sure all large parcels identified are given a ranking, one point will be given for small parcels or built up parcels. This is important because if a parcel includes environmental land or is contained in a wooded area, it is important that the ranking system does not leave out these parcels if they are indeed important in enough different criteria to be of importance. Included in the MapInfo program is an option to give intersecting points a value. Since we already determined that wetland areas are of rural importance, parcels touching wetlands will be awarded an additional one point. All environmental criteria will award parcels an additional one point per value given in the above map. Finally, any parcel that also intersects with a road will be given an additional point. This is to be sure the town pays attention to land restrictions and is aware that land touching a road is easier for a development company to build upon.

Using the designated ranking system, Figure 13 was formed for all of the parcels in Spencer.

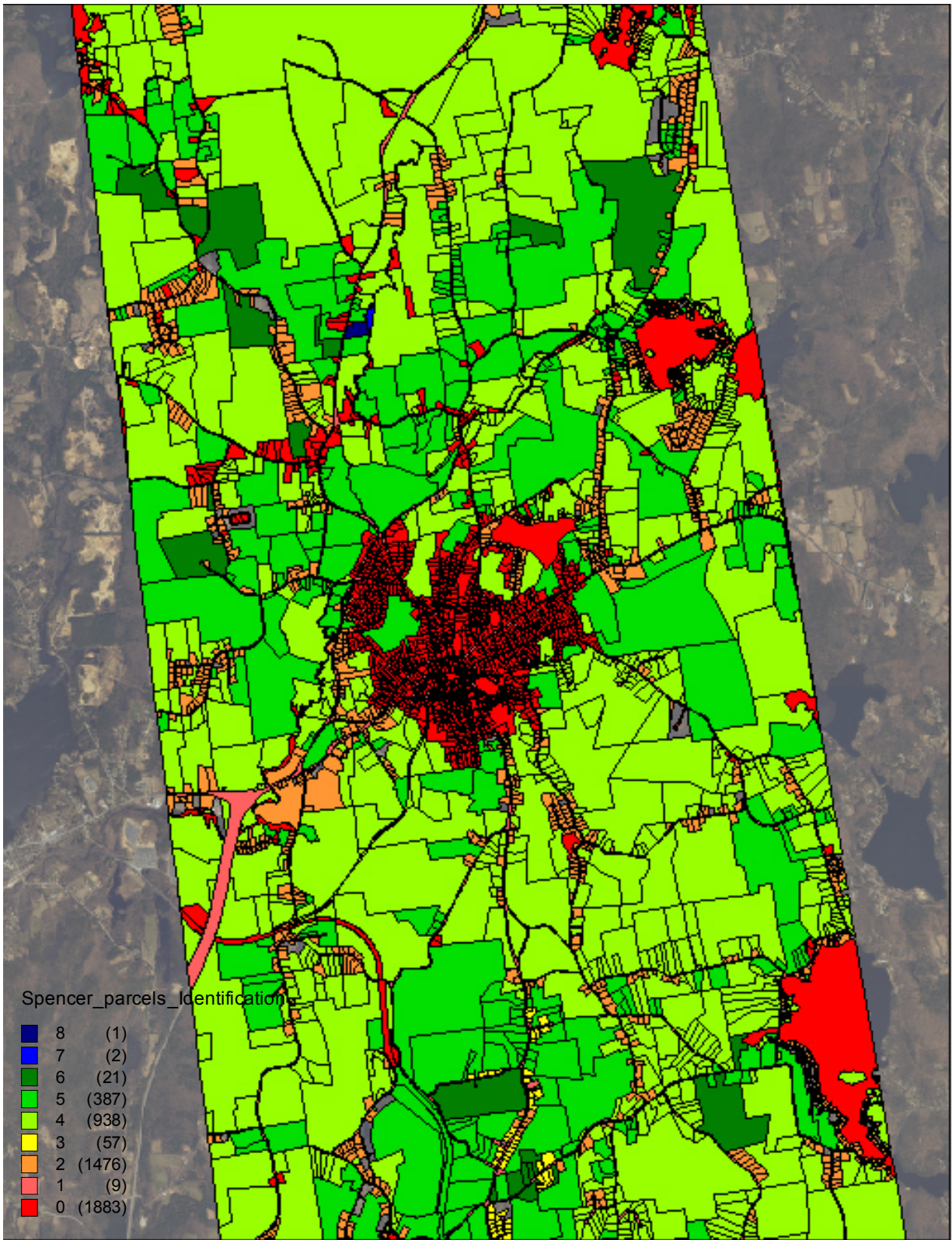


Figure 13: Spencer Parcels with Overall Rank

With this map, the group can make recommendations to the Town. The first step that the town needs to carry out is to establish protection policies for unprotected land and to take protection policies already given and, if possible, raise their protection power. The second recommendation is to use the priority of each parcel to determine which land the town or land trust should grant absolute protection to by Ownership if it should go for sale.

Using these protection policies and results from the prioritization analysis, the town of Spencer can quickly determine parcels in which to protect and how they should protect it.

6 Conclusion

The combination of these three analyses allows the town to have exactly what it needs to combat development and use its resources to preserve what was said to be most important to them in their Master Plan, Spencer's rural character.

With the cost of community service analysis, the town now has the knowledge as to how much each type of land use costs the town to develop. The results of this COCS analysis can be used for the identification and evaluation of how a proposed development to the town can result in significant impacts on the community. With this information now available, local officials, planners and community members alike can evaluate a proposed project in terms of the impact it may have on the community's financial wellbeing. Depending on the significance of this impact, community decision makers can decide to move ahead with approval of the project, reject the proposal altogether, or modify plans for development in such a way that these financial impacts can be decreased.

Spencer now has the appropriate breakdown of recommended units for each suggested category to achieve the appropriate number of affordable housing units for the town to fight such things as Chapter 40B loop-hole developments. Spencer should follow the ten year plan that is broken down in the Affordable Housing Plan. After the ten year period Spencer will be above the ten percent threshold at which the town should then regulate developments based solely on inclusionary zoning. The amount of units in each area of the plan is a recommended number based on the analysis conducted during this project. If the town will be able to receive more affordable housing in certain areas of the plan, emphasis on the less sought after areas can be deviated from. The recommended amount of units to be built per year using chapter 40B should be less involved first. The sections that are then strayed from will be at the discretion of the town. If each section in the Spencer affordable housing plan is followed and the town can have an average of twenty six units per year chapter 40B will no longer be a dilemma to the overall goal of maintaining the rural character.

Because the Worcester area is now one of the fastest growing areas in the state, Spencer is prone to development that will ruin its rural image. The only way to hold this

off is to protect parcels that mean the most to this rural character. Now, after what has been done by the project group, the town of Spencer has what is necessary to know which parcels are the most important to the town and which are the least. This will allow the town to know if a proposed development is on land that they want to make sure doesn't get developed. With the priorities set forth by the group the town now has this unique knowledge of its land that most towns do not.

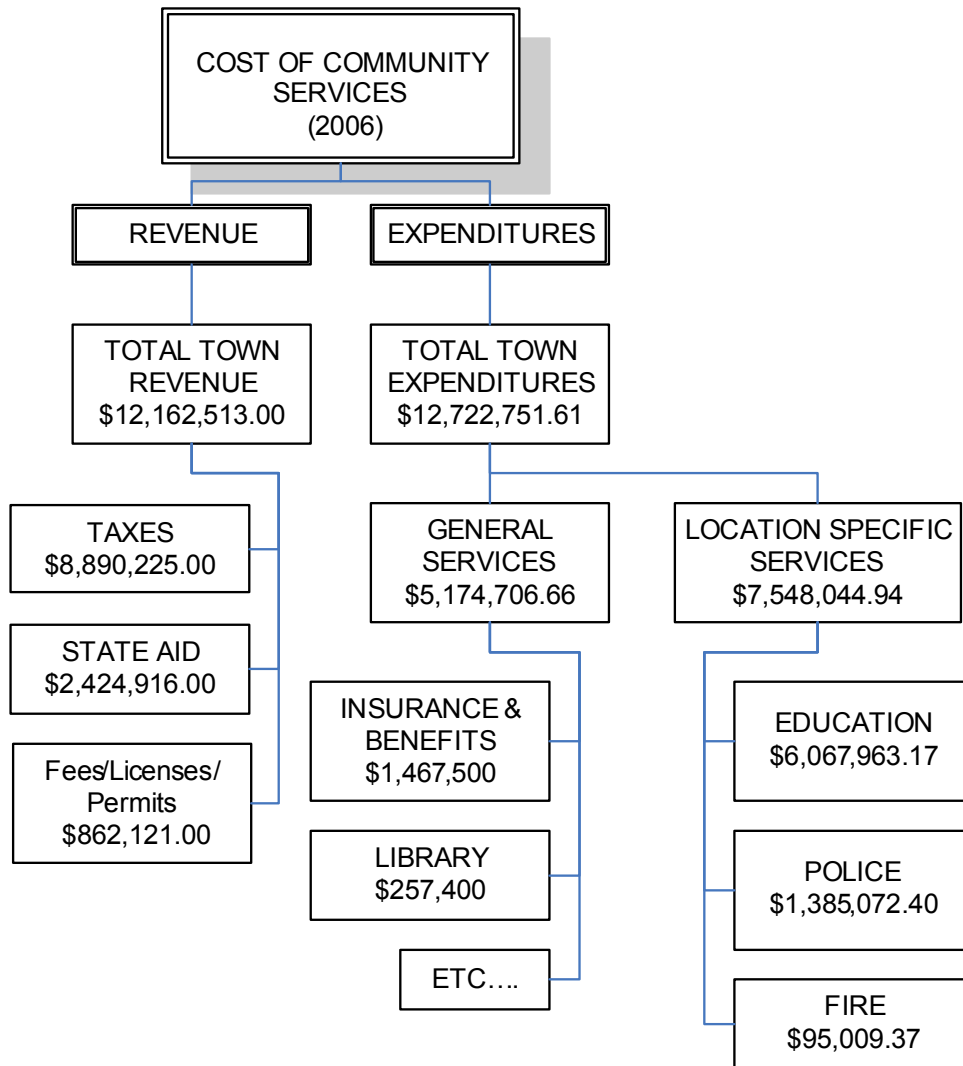
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Appendix A: Cost of Community Services Analysis

A.1 Cost of Community Services Analysis Flow Chart



A.2 Sample of Original Fire Call Log

Spencer Fire Department

Department Journal

01/01/2005 to 12/31/2005
00:00 to 24:00
NFIRS Incidents

Type	Record Id	Description/Location	Staff Hrs
Jun 23, 2005			
Staff			
		Hours Code	Unit
		-----	-----
		Flannery, Ryan	24.00 OD
		Fritze Jr., Robert	24.00 OD
		Kirouac, Ralph	24.00 OD
		MacMillan, Paul	24.00 ST
		Nussey, Alan	24.00 ST
		Willard, Robert L	24.00 ST
		Woodis, Adam	24.00 OD
Total Staff:	7		
Code			
		Hours	Count
		-----	-----
		96.00	4
		72.00	3
Total of All Codes:			7
7	FIRE	05-0000199-000	Electrical wiring/equipment problem, Other
Station 11	Shift 3	Unit 002	1 Vista LA
Units:	002, 013		

Type	Record Id	Description/Location	Staff Hrs
Jun 25, 2005			
Staff			
		Hours Code	Unit
		-----	-----
		Baker, Lee, C	24.00 OD
		Martin, Joel T	24.00 OD
		Mathon, Brian W	24.00 OD
		Nussey, Alan	24.00 OD
Total Staff:	4		
Code			
		Hours	Count
		-----	-----
		96.00	4
Total of All Codes:			4
1	FIRE	05-0000200-000	Smoke detector activation, no fire - unintentional
Station 11	Shift 3	Unit 013	300 Charlton RD
Units:	013, 003		

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Spencer Fire Department

Department Journal

01/01/2005 to 12/31/2005
00:00 to 24:00
NFIRS Incidents

Time	Type	Record Id	Description/Location	Staff
Sat Jun 25, 2005				
Staff				
			Hours Code	Unit
			-----	-----
			78	Ferreira, Jason 0.53 IV 003
			39	Lacaire, Corey 0.53 IV 013
			82	Lapierre, James 0.53 IV 003
			94	Mathon, Brian W 0.53 IV 003
Total Staff:		4		
Code				
			Hours	Count
			-----	-----
			IV	2.12 4
Total of All Codes:				4

Time	Type	Record Id	Description/Location	Staff
Sun Jun 26, 2005				
01:38	FIRE	05-0000201-000	Vehicle accident, general cleanup	
Station 11	Shift 1	Unit 002	Lyford RD	
Units:	002, 005, 014, 013			
Staff				
			Hours Code	Unit
			-----	-----
			13	Churchey, Robert 24.00 OD
			54	Donohue, Patrick 24.00 OD
			39	Lacaire, Corey 24.00 OD
			93	Martin, Joel T 24.00 OD
			94	Mathon, Brian W 24.00 OD
			45	Phoenix, Charles 24.00 OD
			79	Woodis, Adam 24.00 OD
Total Staff:		7		
Code				
			Hours	Count
			-----	-----
			OD	168.00 7
Total of All Codes:				7

Time	Type	Record Id	Description/Location	Staff
15:43	FIRE	05-0000202-000	Dispatched & cancelled en route	
Station 11	Shift 2	Unit 005	Quabog	
Staff				
			Hours Code	Unit
			-----	-----

03/30/2007 09:03 Page 114

Spencer Fire Department

Department Journal

01/01/2005 to 12/31/2005
00:00 to 24:00
NFIRS Incidents

Type	Record Id	Description/Location	Staff Hrs
Jun 26, 2005			
Staff			
		Hours Code	Unit
		-----	-----
		Baker, Lee, C	0.10 RS
		Collette, G. Kenneth	0.10 RS
		Donohue, Patrick	0.10 RS
		Fritze Jr., Robert	0.10 RS
		Gaucher, Joshua	0.10 RS
		Lacaire, Corey	0.10 RS
		Lapierre, Peter	0.10 RS
		Martin, Joel T	0.10 RS
		Mathon, Brian W	0.10 RS
		Olson, Michael	0.10 RS
		Woodis, Adam	0.10 RS
Total Staff:	11		
Code			
		Hours	Count
		-----	-----
		1.10	11
Total of All Codes:			11
1	FIRE	05-0000202-000	Dispatched & cancelled en route
Station 11	Shift 2	Unit 002	11 Dewey ST

Type	Record Id	Description/Location	Staff Hrs
Jun 28, 2005			
Staff			
		Hours Code	Unit
		-----	-----
		Baker, Lee, C	0.05 ST
		Bowles, William	0.05 ST
		Martin, Joel T	0.05 ST
		Mathon, Brian W	0.05 ST
		Nussey, Alan	0.05 ST
		Olson, Michael	0.05 ST
Total Staff:	6		
Code			
		Hours	Count
		-----	-----
		0.30	6
Total of All Codes:			6

Type	Record Id	Description/Location	Staff Hrs
1	FIRE	05-0000204-000	Gasoline or other flammable liquid spill
Station 11	Shift 2	Unit 002	20 Chestnut ST
Units:	002, 013, 014		

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Spencer Fire Department

Department Journal

01/01/2005 to 12/31/2005
00:00 to 24:00
NFIRS Incidents

Time	Type	Record Id	Description/Location	Staff
Tue Jun 28, 2005				
Staff				
			Hours Code	Unit
			-----	-----
			92	Gregoire, Daniel R 24.00 OD
			32	MacMillan, Paul 24.00 ST
			91	Messenger, Jason 24.00 OD
			25	Nussey, Alan 24.00 OD
			17	Parker, Thomas 24.00 OD
Total Staff:		5		
Code				
			Hours	Count
			-----	-----
			OD	96.00 4
			ST	24.00 1
Total of All Codes:				5

Time	Type	Record Id	Description/Location	Staff
Wed Jun 29, 2005				
11:18	FIRE	05-0000205-000	Gas leak (natural gas or LPG)	
Station 11	Shift 2	Unit 004	89 Maple ST	
Units:	004, 014			
Staff				
			Hours Code	Unit
			-----	-----
			80	Flannery, Ryan 24.00 OD
			14	Fritze Jr., Robert 24.00 OD
			92	Gregoire, Daniel R 24.00 OD
			32	MacMillan, Paul 24.00 ST
			75	McQuire, Jim 24.00 OD
			17	Parker, Thomas 24.00 OD
Total Staff:		6		
Code				
			Hours	Count
			-----	-----
			OD	120.00 5
			ST	24.00 1
Total of All Codes:				6

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A.3 Sample of Final Fire Call Log w/ Costs

Address	Total Number of Hours	Average Wages	Equipment Costs	Chief Present	Chief Hourly Wage	Total Number of Hours for Chief	Deputy Chief Present	Deputy Chief Hourly Wage	Total Number of Hours for Deputy Chief	Cost
0 Browning Pond RD	20	\$12.57	\$45.25	0	\$25.24	0	0	\$7.10	0	
1 Bay Path RD	5	\$12.57	\$45.25	1	\$25.24	1	0	\$7.10	0	\$133.34
1 Chestnut ST	10	\$12.57	\$45.25	1	\$25.24	1	0	\$7.10	0	\$196.19
1 Dustin ST	12	\$12.57	\$45.25	1	\$25.24	1	0	\$7.10	0	\$221.33
1 Parent ST	1	\$12.57	\$45.25	0	\$25.24	0	0	\$7.10	0	\$57.82
1 Parent ST	5	\$12.57	\$45.25	0	\$25.24	0	0	\$7.10	0	\$108.10
1 R Jones RD	6	\$12.57	\$45.25	0	\$25.24	0	0	\$7.10	0	\$120.67
1 S Spencer RD	4	\$12.57	\$45.25	1	\$25.24	1	0	\$7.10	0	\$120.77
1 S Spencer RD	5	\$12.57	\$45.25	0	\$25.24	0	0	\$7.10	0	\$108.10
1 S Spencer RD	6	\$12.57	\$45.25	0	\$25.24	0	0	\$7.10	0	\$120.67

A.4 Sample of Original Police Data

SPENCER POLICE DEPARTMENT DAILY LOG

*** SUN 01/01/2006 ROSTER-SHIFT/PORTABLE ASSIGN *****
00:00 * DEWEY ST SPE
300465 * OIC OFFICER JAMES BENNETT

*** SUN 01/01/2006 DISTURBANCE-NEIGHBORS *****
00:09 * HASTINGS RD SPE
300466 * LOUD PARTY
*** UNIT(S) ***
41 SPE PTLM. LAPORTE
43 SPE PTLM. ALLEN

*** SUN 01/01/2006 POLICE INFORMATION *****
00:27 * GROVE ST SPE
300467 * STATUS 75ER54
*** UNIT(S) ***
43 SPE PTLM. ALLEN
DSPP SPE P DSP ZUKOWSKI

*** SUN 01/01/2006 DISTURBANCE-FIGHT *****
00:31 * MAPLE ST SPE
300469 * LOT OF YELLING & BANGING GOING ON
*** UNIT(S) ***
38 SPE P PTLM.BENNETT
41 SPE PTLM. LAPORTE
43 SPE PTLM. ALLEN
DSPP SPE P DSP ZUKOWSKI

A.5 Town of Spencer List of Revenue and Expenditures

**TOWN OF SPENCER, MASSACHUSETTS
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES -
ALL GOVERNMENTAL FUND TYPES AND EXPENDABLE TRUST FUNDS
FOR THE YEAR ENDED JUNE 30, 2006**

	Governmental Fund Types				Fiduciary Fund Types		Totals (Memorandum Only)
	General Fund	Special Revenue	Capital Projects	Trusts	Trusts		
Revenues:							
Taxes	\$ 8,889,691	\$ -	\$ -	\$ 534	\$ -	\$ 8,890,225	
State Receipts	2,410,167	-	-	-	-	2,410,167	
Excise and Other Taxes	1,364,259	3,481	-	-	-	1,367,740	
Licenses, Permits, Fees	862,121	-	-	-	-	862,121	
Interest and Penalties on Delinquent Taxes	109,606	-	-	-	-	109,606	
Investment Income:							
Interest on Investments	124,972	5,505	-	30,882	-	161,359	
Grants and Fees	-	964,252	46,000	10,794	-	1,021,046	
Total Revenues	13,760,816	973,238	46,000	42,210	-	14,822,264	
Expenditures:							
Current:							
General Government	792,127	118,680	469,059	-	-	1,379,866	
Protection of Persons and Property	1,893,747	308,442	210,596	5,673	-	2,518,458	
Public Works	1,248,562	773,978	194,700	460	-	2,217,700	
Education	7,044,206	-	5,518	500	-	7,050,224	
Health and Human Services	125,350	11,400	-	-	-	136,750	
Culture and Recreation	328,854	20,839	-	7,317	-	357,010	
Insurance and Employee Benefits	1,288,529	-	-	-	-	1,288,529	
State Assessments	110,309	-	-	-	-	110,309	
Debt Service:							
Principal	249,400	-	-	-	-	249,400	
Interest and Fiscal Charges	38,380	-	-	-	-	38,380	
Total Expenditures	13,219,464	1,233,339	879,873	13,950	-	15,346,626	
Excess of Revenues Over (Under) Expenditures	541,352	(260,101)	(833,873)	28,260	-	(524,362)	
Other Financing Sources (Uses):							
Operating Transfers In	168,740	-	106,559	382,436	-	657,735	
Operating Transfers Out	(540,285)	(56,260)	-	(2,000)	-	(598,545)	
Total Other Financing Sources (Uses)	(371,545)	(56,260)	106,559	380,436	-	59,190	
Excess of Revenues and Other Financing Sources Over (Under) Expenditures and Other Financing Uses	169,807	(316,361)	(727,314)	408,696	-	(465,172)	
Fund Balances, Beginning of Year	2,219,410	589,815	307,754	757,707	-	3,874,686	
Fund Balances, End of Year	\$ 2,389,217	\$ 273,454	\$ (419,560)	\$ 1,166,403	\$ -	\$ 3,409,514	

Appendix B Visual Landscape Assessment

B.1 Old Method for Visual Landscape Assessment

1. The first step in the methodology is to overlay the ortho maps and the chapter 61 land with the parcels. We do this in order to get a view of the area and be able to determine the most dominate parcels which are the most valuable to the viewsheds. Once the maps are completed, a visit to Spencer is needed. The team must become familiar with the land areas and take pictures, in order to refresh their minds and use for appendixes, in order to properly assess the land.
 - a. After overlaying the maps and developing a view for the land under review, all the 61 land must be identified. This land can be ignored in the next few steps for identification because it is already under the protection of the town. We will work off of this area to determine other possible outcomes to maintain the rural character.
 - b. Already designated scenic roads will also be plotted out onto the maps.
 - c. Mid State Trail lines will be designated onto the maps.
 - d. Already designated easement areas will be designated onto the maps.
2. Once all the previous map information has been plotted onto the maps, our group analysis can begin. Using the following criteria from *Visual Unit Analysis: A Descriptive Approach to Landscape Assessment* we will have designated areas by their viewshed visual vulnerability. This criterion will also make it possible to designate certain areas to the point where their visual unit boundaries stop the view from a specific road or viewpoint.

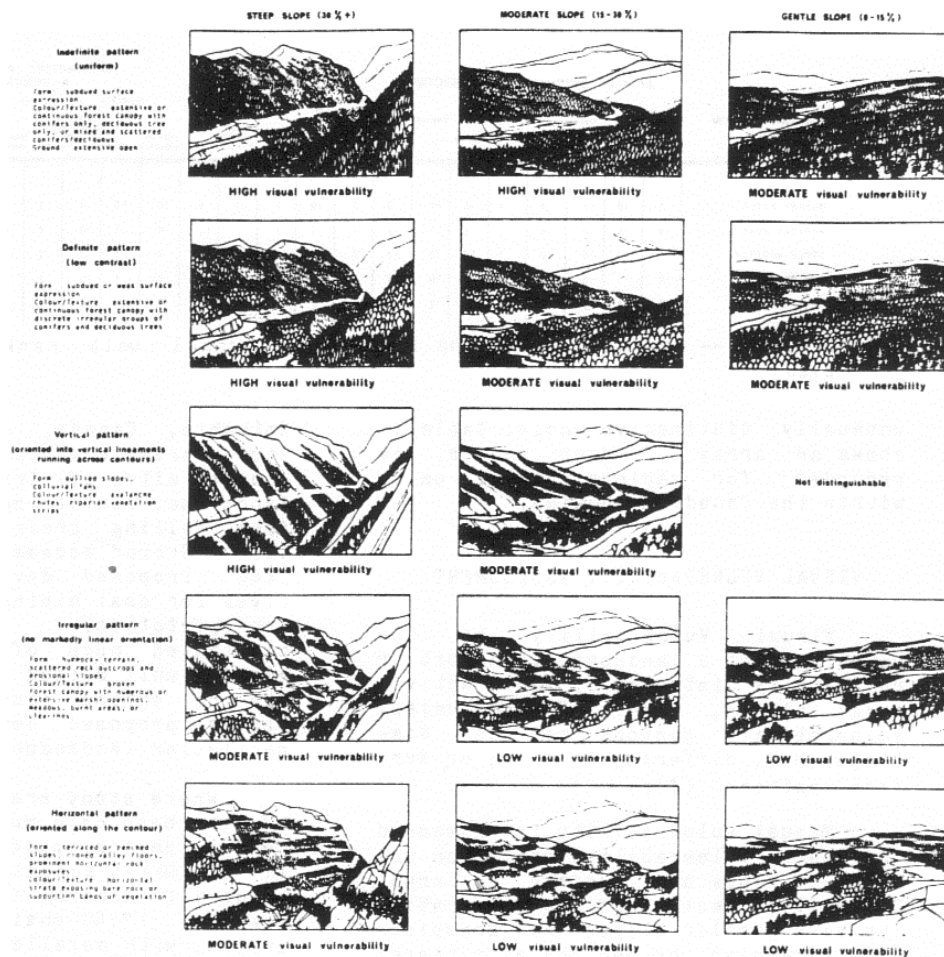


Figure 14: Criteria for Visual Vulnerability Assessment

3. Using the criteria stated in Figure 14. We must proceed by the following.
 - a. Find lands where there are wetlands
 - i. Animals will always follow water as a corridor and wetlands can not be built upon.
 - b. Identify where there are appealing viewsheds that have yet to be labeled.
 - i. Areas that appear to have aesthetically pleasing viewsheds will be highlighted by red stars at each end with a line with the road boundaries in between. At each end of the viewshed a dotted red line will be made at the view shed's boundaries.

- ii. Areas where it may be possible to develop a nice viewshed will be labeled in blue stars in order for the town of Spencer to take especially good care of.
 - 1. Possible new viewsheds are areas that have one side of the road that appear to have a nice view of rolling hills or scenic area while the other side of the road has been developed or has no specifically important view.
 - 2. Possible viewsheds are also views from the road that comply with our previous definition of a rural environment (as such a farm)
- c. Identify the land most valuable for the viewshed to remain.
 - i. Visits may be necessary for this step. In order to determine a viewshed the sight will need to be seen – it is too difficult to accurately determine a view from a map on GIS.
 - ii. Pictures will be added for visuals
 - 1. Mark this land that we designate a high priority with a large yellow star. At each end of the viewshed a dotted yellow line will be made at the viewshed's boundaries, as shown below in Figure 16. The boundaries should go around the portal and never across one. A portal is shown in the diagram below in Figure 15 but my definition is the access or view outward.

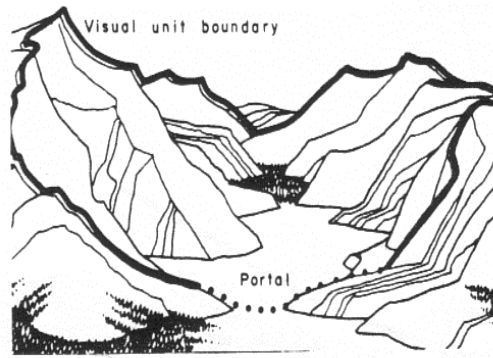


Figure 1 -- A Typical Visual Unit

Figure 15: A Typical Visual Unit

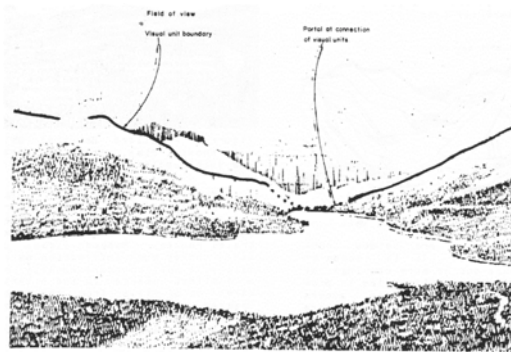


Figure 2 -- 4apiti Lake: Stereo-pair and oblique view showing visual unit boundaries.

Figure 16: Typical Viewshed Boundary

- d. After the most important areas have been identified, mark other parcels that may be important, although less important in the grand scheme, to the preservation of the rural character and the viewshed.
 - i. Mark areas that include possible spots for 40R land to be developed for smart growth. Smart growth land is typically land near a rundown area that can be used to be developed into an appealing structure.

- 1. Mark this land with a large R on the map

- ii. Also identify land parcels that are smaller and will be impossible for a developer to split up for a large scale development, however, it is still possible to build a cookie cutter complex that will impair the view of the character that is wanted.
 - 1. Mark this land with a white star. Some of this land may be important because it is the only rural character left along this road or in this area of town.
- e. Identify all other parcels that are unneeded for the preservation of rural character or that has already been built on.
 - i. Mark this land with a small black dot so the group knows that someone has already reviewed this parcel but has deemed it unworthy of protection.
- f. After all this land is identified, take a printed map of all assigned areas and visit Spencer again. Developing our own scaling to identify land, on a 1-5 scale for 40R, scenic areas, and possible 40B threats mark the most important to the least important land to protect.
 - i. Large 40B threats are the most valuable at 4 points,
 - 1. If near or part of a large scenic area add another point, within view sight.
 - ii. Large scenic areas are 4 points.
 - 1. first we will make the land overall, than on the higher scored land areas, we will define the land parcel by parcel.

- iii. Other Scenic areas surrounded by non-scenic areas will be marked. This marking is to make sure that we visit such places to take pictures of and of the surrounding. If said area is worth saving, for it is the only rural character left then it will be awarded 3 points.
- iv. For all other scenic area, a point between 1-3 will be given. At the end of the project, a survey will be given for this land to determine the true value by what people value of the scenic landscapes shown.
- v. For 40R, there is a different table, and points awarded as the areas of town and ease to develop and if they are occupied or abandoned.
- vi. Forestry will be ranked in a two, three, or four value. These are based upon the judgment of the team. Longer areas of forest land on both sides of a road are given a higher value. Land in which is interrupted will be given a large value. Land in which the houses appear to be older and of rural character will be given a higher value. Area's in which houses are new, clear cut, or of development design, this land will be given a lower ranking. Rural keys, such as stone walls or bars, will be given a higher ranking.