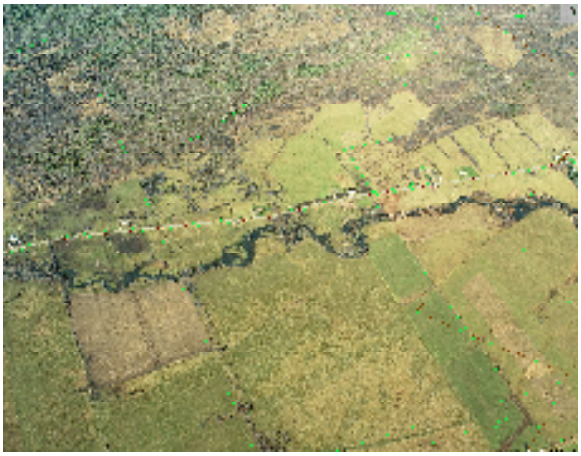
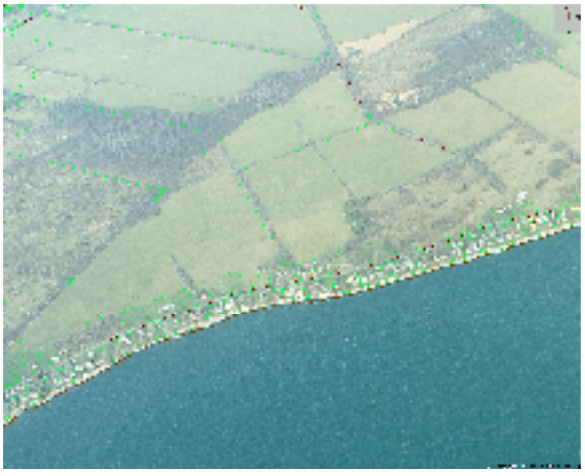
Appendix 3-1

Town of Lyme
Comprehensive Land Use Plan (2010)

Comprehensive Land Use Plan for the Town of Lyme





Town of Lyme Planning Board – 2010

with 2011 Wind Survey related amendments

Comprehensive Land Use Plan 2010
with 2011Wind Survey Amendments

Presented within is a Plan for the Town of Lyme including inventory sections for the Village and Town.

The project, nearly 2 years in the making, describes the potential of our community as it grows and develops into the future. It is merely a vision of possibilities of what our Town could become. It describes the public input received; historic and recent trends; transportation and community facilities; environment and natural resources; structures, land use and character; and includes future land use recommendations and considerations. It includes a vision, current land use patterns, and future recommendations.

This was developed to serve as a guide to consider steps we might take in shaping the community in terms of its institutions, homes, businesses, community areas and parks and its overall quality of life.

After Lyme completed its 2011 Wind Survey of all residents and property owners in the Town, the results of that survey were incorporated into the Comprehensive Land Use Plan Chapter I Public Input, Chapter II Historic and Recent Trends, and Chapter VI Future Land Use Recommendations as well as the Appendix, some map edits, and a new map reflecting survey response setback parameters.

2010 Plan Developed By:

Village Planning Board	Town Planning Board
Mark Ahlheim, Chairman	Paul Norton, Chairman
Christian Bourquin	Bert Bowers
Kathy Revelle	Tim Mason
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Lyme Comprehensive Land Use Plan
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INTRODUCTION – PUBLIC INPUT

Introduction

The Village of Chaumont, during several site plan and subdivision review applications in 2007 and 2008, became aware of the need for an updated community vision. While the Village has an adopted Land Development Code, it did not have an overall Vision or current Plan in place to determine whether proposed projects in the Village were consistent with the direction desired by the community. Currently, the Village's Land Development Code regulates using a site plan review process for certain commercial and multi-family projects, and when development lots are proposed, a subdivision process.

During Planning Board discussions about planning for Chaumont's future in the fall of 2008, Town Planning Board members also voiced a desire for the Town of Lyme to update its Vision and Comprehensive Plan, adopted in 1999. Thereafter, the process has evolved into a parallel planning process to examine public opinion and support for the Town and Village to update their respective Comprehensive Land Use Plans which could lead to recommendations on future development proposals and related issues through implementation steps identified by a joint planning process.

Parallel Process

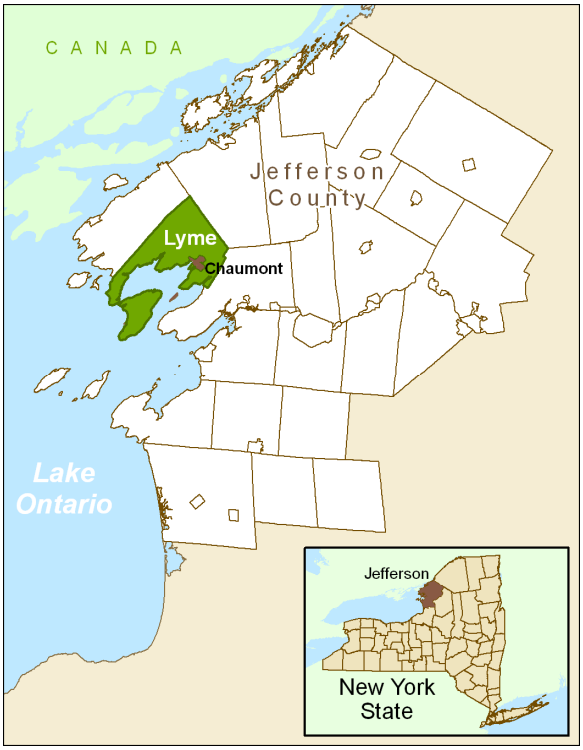
Chaumont and Lyme began the process of completing a respective Comprehensive Plan Update by holding combined meetings with the Town and Village Planning Board members. At times, other officials and citizens attend such meetings, along with staff from the Jefferson County Planning Office, who were requested to provide technical assistance throughout the process. Initial meetings were held to review what a typical Comprehensive Plan contains, its purpose and usefulness to a community. Agreement was reached that a Village and Town Plan with respective Visions and recommendations should be completed by a Joint Planning Board Committee with assistance from County staff. Thereafter, the Village Board authorized the Village Planning Board, to represent the community. This Committee has held monthly meetings, gathered information about the Village and Town; conducted citizen input surveys, a brainstorming issue session as well as two public input drop-in events working toward completing a plan and respective recommendations for the Village and Town.

Chaumont and Lyme Plan Purpose

The Comprehensive Plan sets forth the communities' visions, goals and recommended actions in order to continue to make our communities desirable places to work, live and visit. It describes Chaumont and Lyme's brief historical context, outlines various trends that have shaped its recent past, current environmental and development conditions, as well as recommendations and policies regarding the community's future. Thus, it provides guidance to Village and Town leaders and staff as to where the communities have been, where they are, where they would like to go and generally, how they propose to get there. By illustrating this desired Village and Town direction, potential development projects and priority environmental issues/areas can be identified, supported, and promoted or preserved.

Location

The Town of Lyme is located in the "North Country" portion of upstate New York. It lies approximately 75 miles north of the City of Syracuse on Lake Ontario in northwestern Jefferson County. It also lies approximately 12 miles northwest of the City of Watertown, Jefferson County's county seat. The Village of Chaumont lies within the Town of Lyme at the mouth of the Chaumont River.



Citizen Community Input

Early on during the planning process, planning board members placed a priority on gaining public input not only from year-round residents and business owners, but also from seasonal residents and visitors where applicable. Increasing awareness about the planning process was another intention. Through the citizen input surveys, various public input drop-in sessions, and a refined issue list of Strengths, Weaknesses, Opportunities, and Threats generated through a brainstorming session, community insights were gained that could not have been gained otherwise. Many of those involved were encouraged that the Village and Town were undertaking a planning process and could possibly enhance the communities with such a focused effort.

Community Survey Input\Results

The design and use of Community Surveys were a priority for the Planning Boards in order to learn about Village and Town opinion, and potentially help build consensus on a variety of planning issues in both municipalities. A survey was used also because it could generate input from perhaps hundreds of citizens, while generating objective results that could be summarized graphically for any audience.

The Community Surveys were disseminated during the spring and early summer of 2009 to gain input from year-round residents and business owners as well as seasonal residents and visitors. The survey was administered to the community by distribution throughout the Town in public places such as: the post office, public library, both banks, Village & Town Offices, and Lyme Central School. It was also mailed to all 2,285 taxable property addresses in the Village and Town, while removing duplicate addresses. A total of 613 surveys were completed and returned to the Village and Town Clerks. This level of response represents a nearly 27 percent return rate. Many polls and surveys use a fraction of that percentage to represent local, state or even national opinion.

Figure 1 summarizes the Village and Town survey responses indicating the relative importance of various aspects of the community that people consider when land use planning is initiated. Respondents indicated the relative importance of natural resources, other area qualities, such as access to goods & services were to their quality life. The scale ranged from 1 to 3, with 1 = Not Important, to 2 = Important, to 3 = Essential. On average, the most essential element to the respondent's quality of life was the Natural beauty of the area – rated 2.63 on a scale of 1 to 3. Your own neighborhood rated second at 2.52 on the same scale. Small town/rural atmosphere ranked third at 2.39, on average, with Public Access to the lake/river a close fourth at 2.28.

Figure 1. Quality of Life Issue Importance

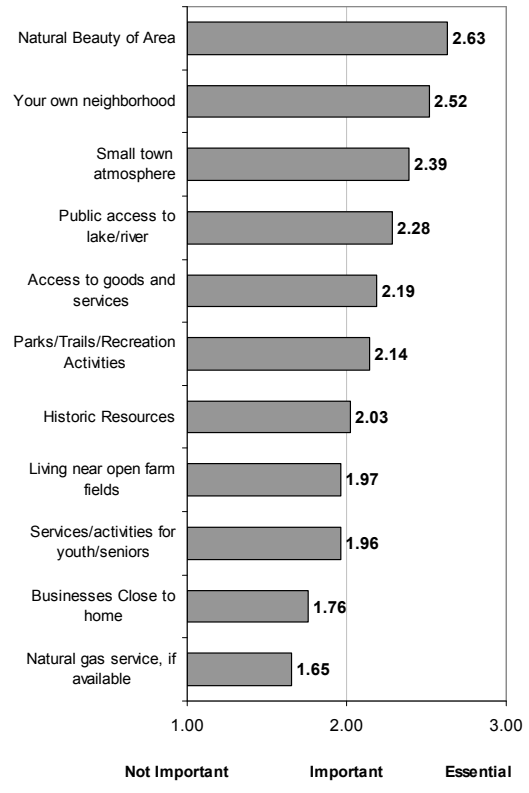


Figure 2. Recreational Opportunity Satisfaction

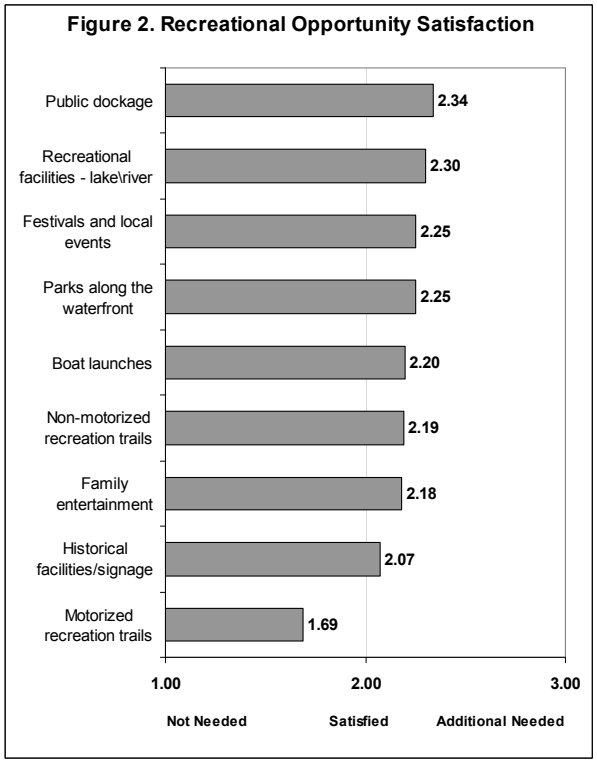
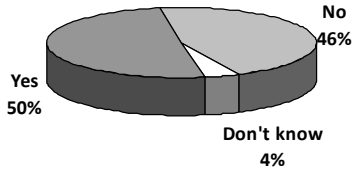


Figure 2 summarizes the Village and Town responses indicating the recreational opportunity satisfaction throughout the community. Public dockage ranked highest among all respondents, rating a 2.34, which is between satisfied and additional needed. Also, based upon the open ended responses, while some private and public docking may exist now, that it would appear that in certain strategic locations, additional public dockage is needed to address seasonal boat access to the communities, but also to increase access to community assets located on or near the water. A close second, was recreational facilities on the lake \ river. This could mean many things, however, it is clear that the desire exists for more access and recreational facilities on or near Lake Ontario.

Of the Village and Town respondents, Figure 3 illustrates 50 percent were satisfied with the businesses offered in Chaumont at the time of the survey. However, 46 percent indicated no, they were not satisfied with the businesses in Chaumont. It should be noted, however, that Dicks Grocery store was still closed at the time, and had not been re-opened by the new owner yet.

Figure 3. Businesses Satisfaction: Chaumont



Perhaps unexpectedly, Townwide business satisfaction had a higher percentage of respondents indicating yes, or 56 percent, as Figure 4 indicates.

Figure 4. Businesses Satisfaction: Lyme

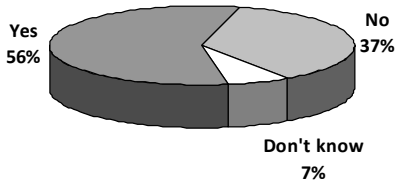
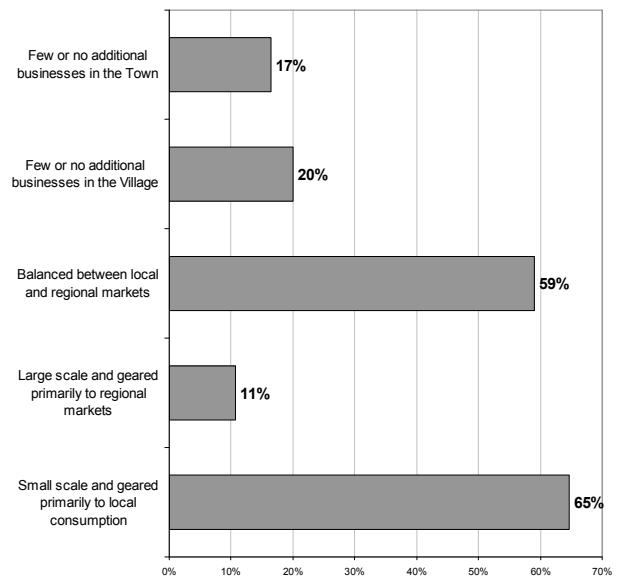


Figure 5, illustrates the Village and Town respondents' preferred scale of commercial development (two were chosen per respondent). For those respondents in both Chaumont and Lyme, 65 percent indicated small scale and geared primarily to local consumption and 59 percent chose balanced between local and regional markets.

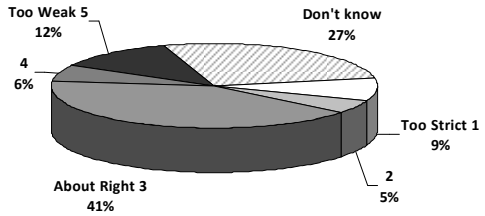
Figure 5. Scale of Commercial Development



Percent of the respondents - indicating each Scale of Development (two were chosen per response)

Figure 6 illustrates the opinion that Village and Town respondents voiced regarding the land use controls within Chaumont. On a scale of 1 to 5, 1 was rated Too Strict, while 5 was Too Weak.

Figure 6. Land Use Controls in the Village



The largest segment rated Land Use Controls in the Village to be About Right by 41 percent of the Village and Town respondents. The second largest group indicated that they Didn't Know indicated by 27 percent of respondents.

Similarly, Figure 7 illustrates opinion that Village and Town respondents voiced regarding the land use controls within Lyme. On a scale of 1 to 5, 1 as Too Strict, and 5 was Too Weak. Similarly, 39 percent of the respondents felt that the Land Use Controls in the Town were About Right. However, 15 percent they were Too Strict, while another 15 percent felt they were Too Weak, and 16 percent Didn't Know. Another 8 percent felt they were between About Right and Too Weak, while 7 percent rated them between About Right and Too Strict.

Figure 7. Land Use Controls in the Town

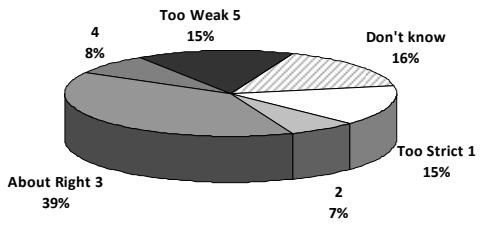


Figure 8 illustrates the preferred Level of Growth\Development in Chaumont by the Village and Town respondents. Moderate to slow growth with tighter development restrictions was indicated by 50 percent of respondents. By contrast, Moderate to rapid growth was indicated by 31 percent of the respondents.

Figure 8. Level of Growth / Development: Chaumont

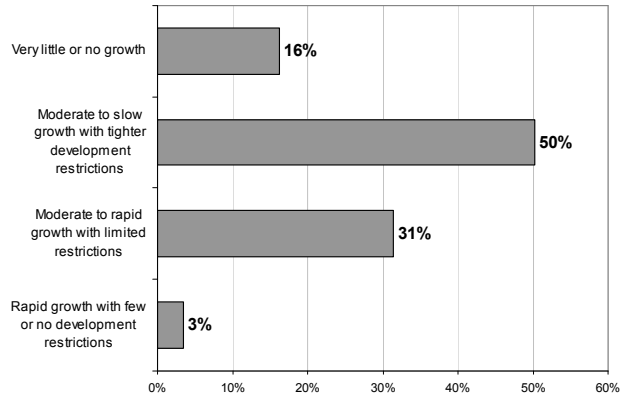


Figure 9 illustrates the Village and Town respondents' desire for Level of Growth\ Development in the Town of Lyme. Similarly, 48 percent of respondents indicated Moderate to slow growth with tighter development restrictions. Also in contrast with that group were those 32 percent of the respondents that indicated Moderate to rapid growth with limited development restrictions.

Figure 9. Level of Growth / Development: Lyme

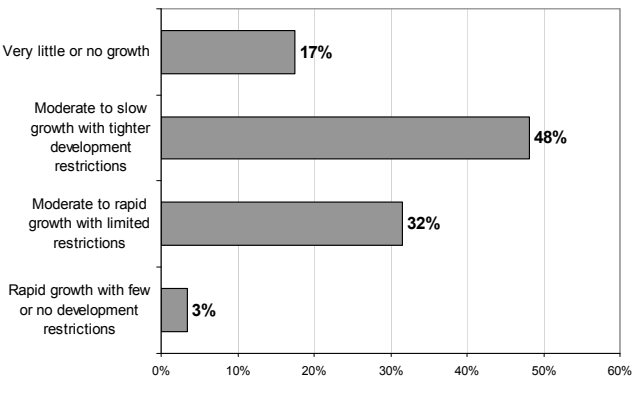


Figure 10 dealt with Important Transportation Issues facing the Village and Town. Each respondent was to select 3 of their most important issues. The most highly indicated issue was pedestrian/bicycle safety at 52 percent of respondents. Second was additional public docks at 50 percent of Village and Town respondents.

Figure 10. Important Transportation Issues

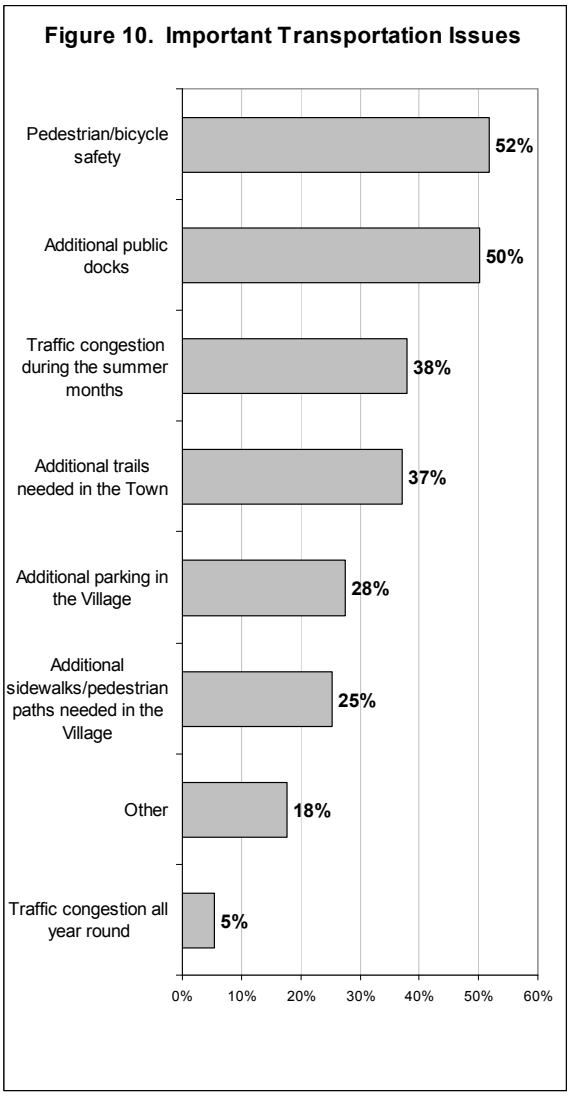
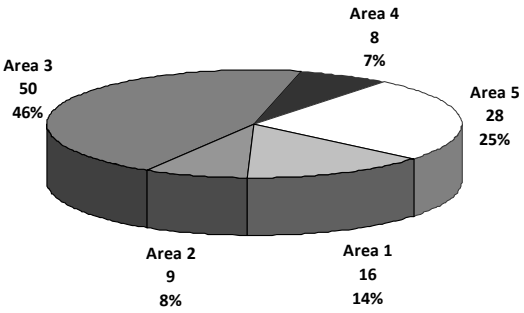


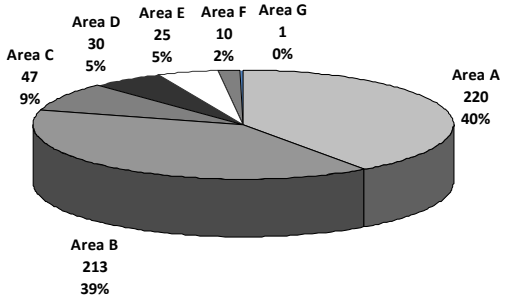
Figure 11 illustrates the area distribution of the respondents within the Village as far as property ownership or residency (refer to the Community Survey Areas Map). Of those who completed the survey and indicated Village Area Ownership or Residency, 46 percent were from Area 3. Area 5 had the second most of the Village Areas with 25 percent.

Figure 11. Village Areas: Respondent Ownership or Residency



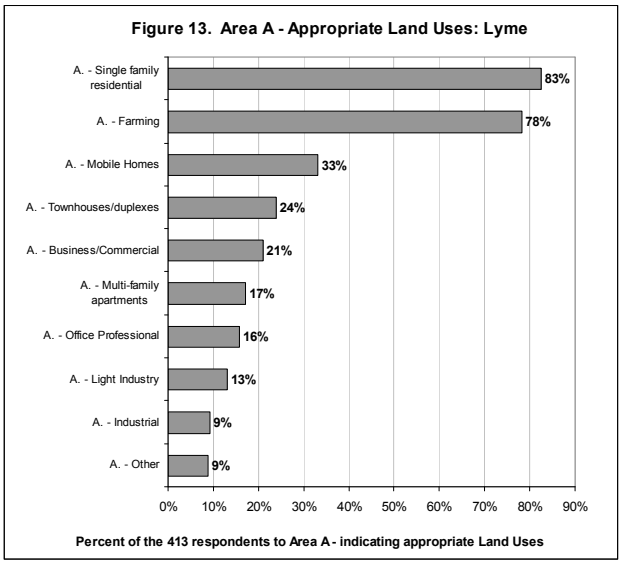
Similarly, Figure 12 illustrates the area distribution of the respondents within the Town as far as property ownership or residency. Areas A and B had the most respondents, with 40 percent and 39 percent respectively.

Figure 12. Town Areas: Respondent Ownership or Residency



The next question and series of answers dealt with the areas in the Town and Village and the respondents' rating the appropriate

land use types within each area. To simplify the summary, each graph will show the average ranking of each land use per area below.



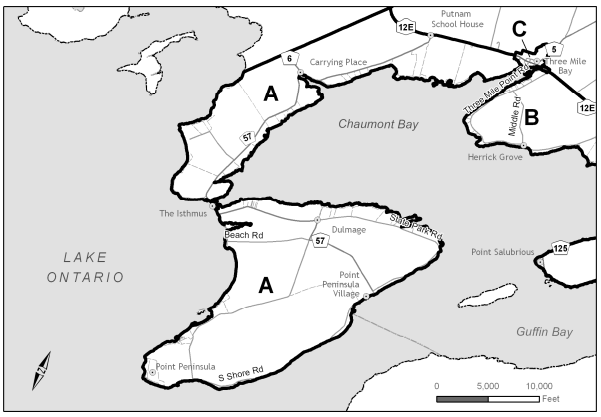
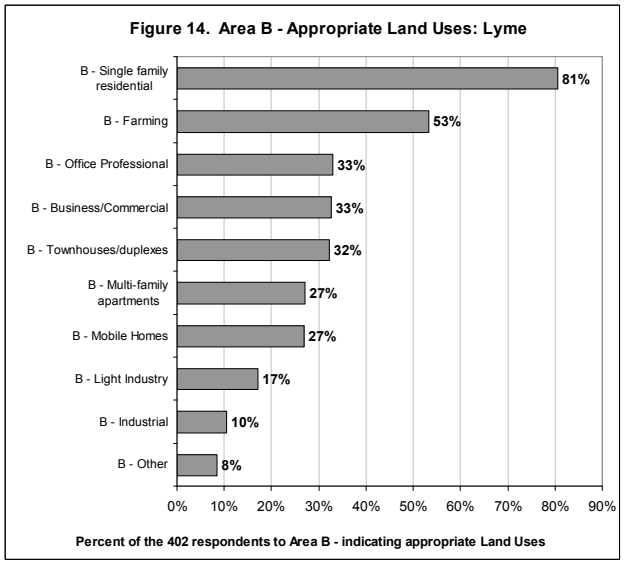


Figure 13 illustrates those 413 respondents who answered the question regarding appropriate land uses within Area A of the Town. It would appear that single family residential and farming were preferred land uses for Area A, ranking 83 percent and 78 percent respectively. Conversely, industrial, light industry, offices, apartments, business\ commercial and townhouses all were rated appropriate in less than 25 percent of the responses.



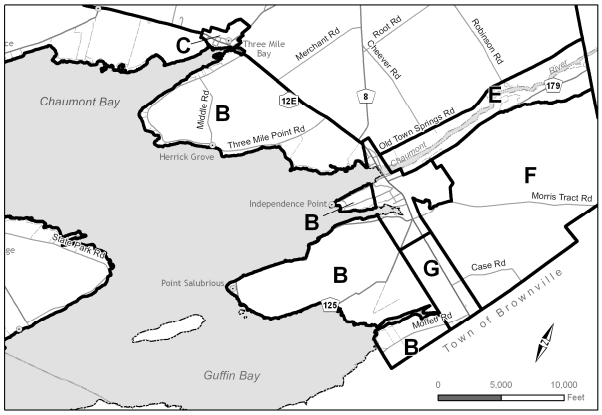
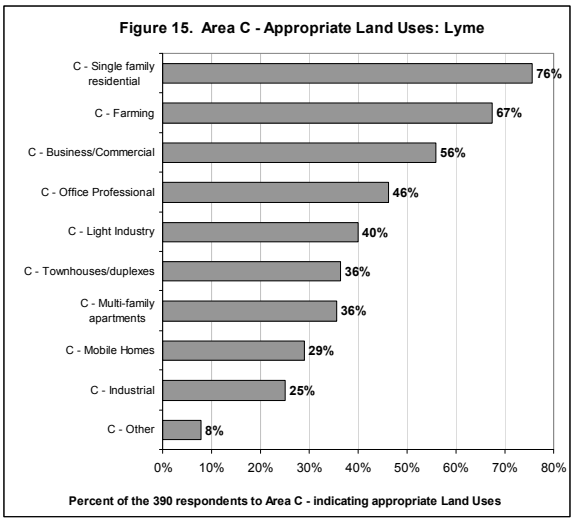


Figure 14 illustrates the input from 402 respondents that answered the question regarding appropriate land uses within Area B of the Town. Again, it would appear that single family residential and farming are preferred land uses for Area B among respondents, albeit at 81 percent and 53 percent respectively. While farming was chosen less frequently than in Area A, offices, businesses, townhouses, and multi-family apartments were indicated at slightly higher rates for appropriateness in Area B vs Area A.



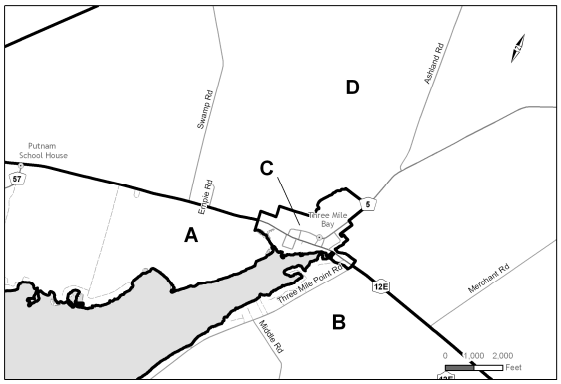
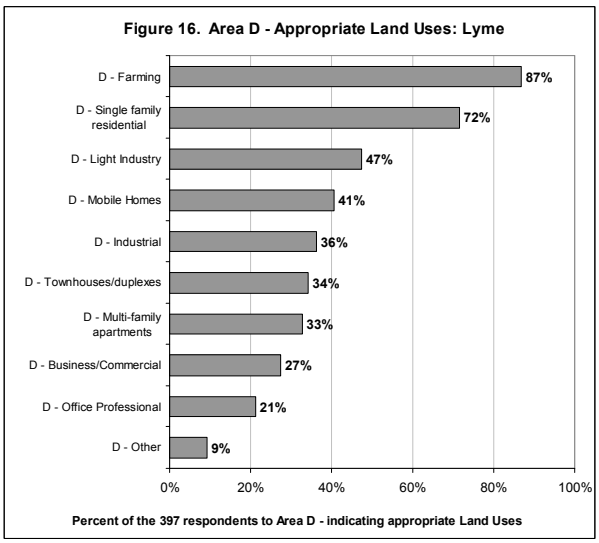


Figure 15 illustrates the input from 390 respondents who answered the question regarding Area C in the Town, which covers Three Mile Bay (the lighting district). Similar to Areas A & B, it would appear that single family residential and farming are preferred land uses for Area C among respondents, at 76 percent and 67 percent respectively. Also of note was the higher rate of appropriateness indicated for business/commercial, and office professional at a rate of 56 percent and 46 percent respectively. Also, light industry was chosen by 40 percent, and townhouses, and multi-family apartments were indicated by 36 percent indicating appropriate.



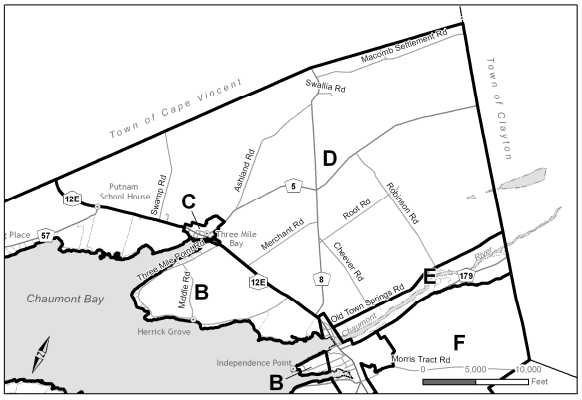
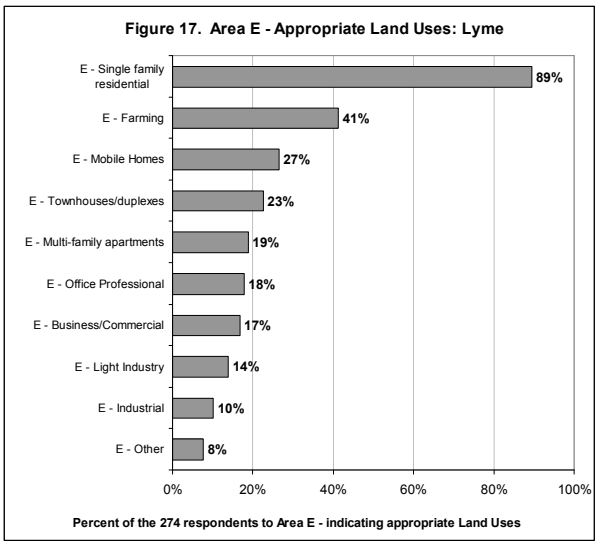


Figure 16 illustrates the input from 397 respondents who answered the question regarding Area D in the Town. Again, residential and farming rated highly for appropriateness, however, farming was chosen by 87 percent of respondents, while 72 percent indicated single family residential. The next highest chosen land use was light industry, at rate of 47 percent. Also rating higher than in other areas were mobile homes, at 41 percent.



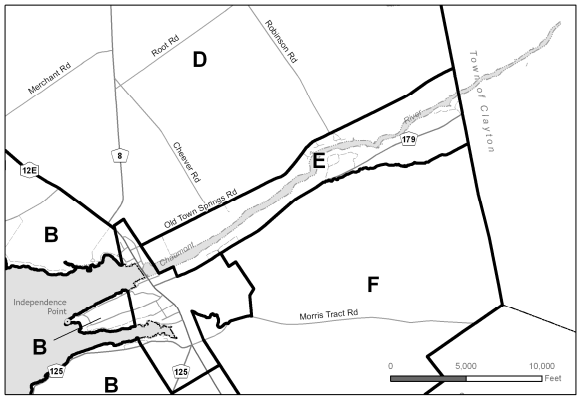
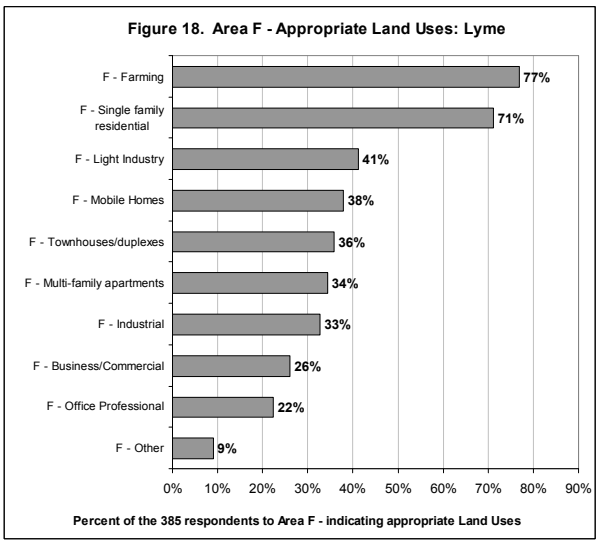


Figure 17 illustrates input from 274 respondents regarding Area E in the Town. Again, single family residential rated highest by respondents, at 89 percent. Other than farming, rated at 41 percent, and mobile homes, at 27 percent, all other uses were rated less than 25 percent of respondents as appropriate.



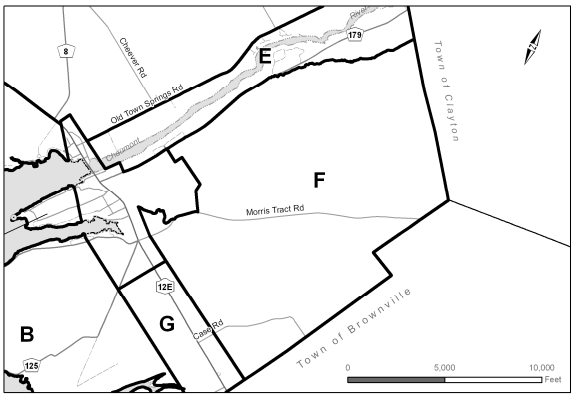
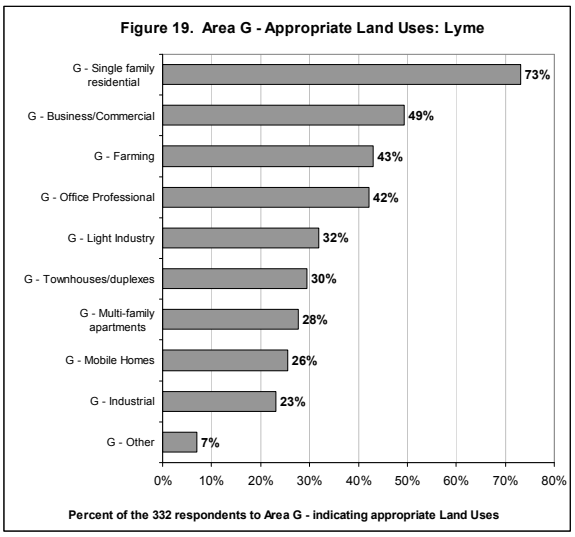


Figure 18 illustrates input from 385 respondents regarding Area F in the Town. Similar to Area D, farming rated highest, albeit at 77 percent, and single family residential was second at 71 percent indicating appropriate. Also similar to Area D, is light industry third highest rank of 41 percent of respondents indicated for Area F. Again, mobile homes, town houses and multi family apartments also ranked higher within Area F, similar to Area D.



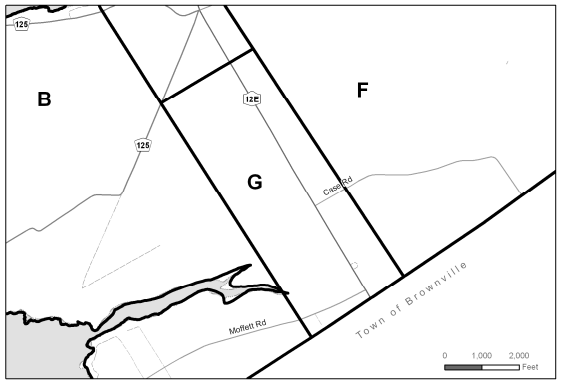


Figure 19 illustrates input from 332 respondents regarding Area G in the Town. Again, single family residential rated highest appropriate by respondents, at 73 percent. However, business\commercial rated next highest at 49 percent, while farming and office professional ranked next at 43 and 42 percent respectively.

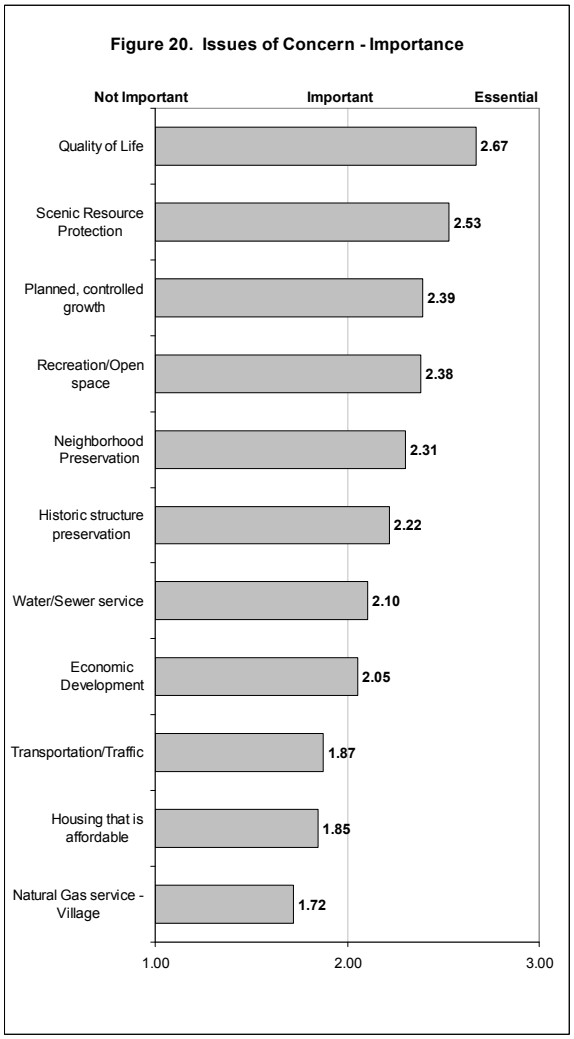


Figure 20 illustrates the Village and Town respondents rating of each issue's importance. The responses were averaged and ranked by average response.

Figure 21 illustrates the property ownership status of the Village respondents. As shown, 94 percent of the respondents own their property.

Figure 21. Village Respondents: Property Ownership / Rent Status

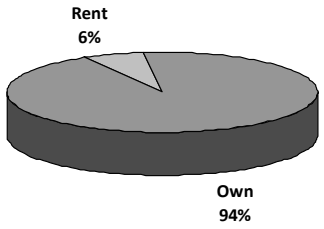


Figure 22 illustrates the year-round / seasonal status of Village respondents. As shown, 58 percent indicated they were year-round, 24 percent were seasonal, and 18 percent did not indicate their status.

Figure 22. Village Respondents: Year-round / Seasonal Status

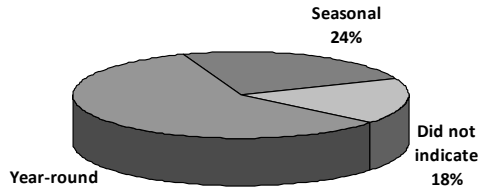


Figure 23 illustrates the property status of Town respondents. Similar to the Village respondents, Town respondents with property in the Town were mostly property owners, at a rate of 97 percent.

Figure 23. Town Respondents: Property Ownership / Rent Status

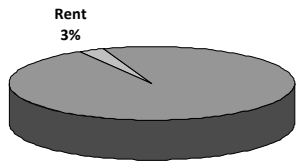


Figure 24 illustrates the year-round / seasonal status of Town respondents. As shown, 51 percent indicated they were seasonal, 34 percent indicated they were year-round, and 15 percent did not indicate their ownership status.

Figure 24. Town Respondents: Year-round / Seasonal Status

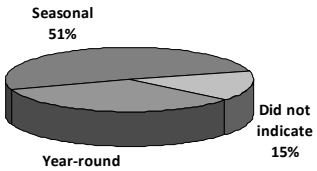
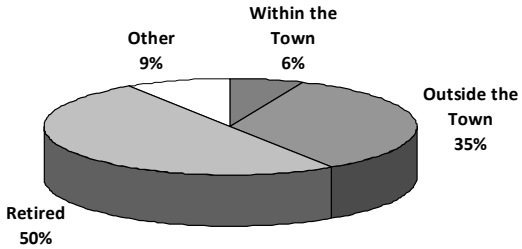
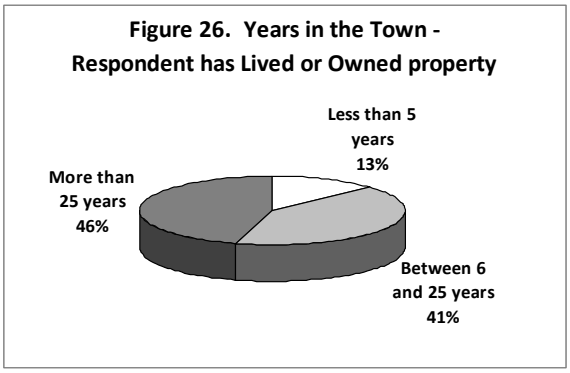


Figure 25 illustrates the work status indicated by Town respondents. While 50 percent were retired, and 35 percent worked outside the Town, only 6 percent work within the Town.

Figure 25. Work Status



Lastly, Figure 26 illustrates how many years the respondents have lived or owned property in the Village. Not surprisingly, 46 percent of the respondents indicated more than 25 years. Another 41 percent indicated between 6 and 25 years. Clearly, most of the respondents to the survey were long-term residents or owners.



Open-ended Survey Results

The Community Survey provided three questions with space for respondents to enter open-ended comments. Question #5, included comments on how strict or weak people rated the Village and Town land use controls. Question #11, asked respondents to describe the area's greatest assets worth preserving in the Village and Town. The last area of the survey designated for open-ended comments was after Question #15. This space allowed respondents to add comments if they had additional thoughts after completing the survey.

Of the 613 Village and Town respondents who completed the survey, 552 entered open-ended comments. The open-ended responses were summarized and entered into a Microsoft Access/Excel data worksheet. A series of Access queries were used to categorize the comments into the following groups: Water Resources; Business Development; Natural Beauty; Recreation; Small Town Atmosphere; Wind; Road Traffic; Peace and Quiet; and Historic Structures as described below.

Water & Waterfront Resources
(353 respondents identified waterfront and water resources as great assets; 57.6% of all survey respondents)

Nearly 58 percent of the respondents felt the water and waterfront\shoreline areas are one of the top assets worthy of preservation in the Town and Village. The following key words were used to identify comments regarding the Water & Waterfront Resources category: Water; river; lake; shoreline; bay; and front.

Small Town \ Village Atmosphere
(213 respondents; 34.7% of all respondents)

Many of the survey respondents (nearly 35 percent) indicated the small town and small village atmosphere as one of the area's top three greatest assets, worthy of preserving\enhancing. The following key words were used to identify the Small Town category: Small; atmosphere, quaint; friendly; life; people; walk; size; calm; and neighbor.

Business Development
(179 respondents; 29.2% of all respondents)

Nearly a third of survey respondents or 29.2 percent indicated new business development as a priority. Similarly, there were 150 survey respondents or 24% who placed the need for a grocery store as a priority. It should be noted, however, that Dicks Grocery store (now the IGA) was still closed at the time, and had not been re-opened by

the new owner yet (2009). The following key words were used to identify comments regarding the Business Development category: grocery; restaurant; fitness; pharmacy; drug store; car wash; laundromat; food; and market.

Natural Beauty – Scenic Quality
(175 respondents; 28.5% of all respondents)

In general, responses within this category felt natural beauty and scenic quality was one of the top greatest assets and placed a high priority on preserving the natural, scenic beauty of the local area. The following key words were used to identify comments regarding the Natural Beauty category: natural; resource; scenic; trees; quality; wood; landscape; point; and flowers.

Recreation
(147 respondents; 24% of all respondents)

Recreation assets and needs were reiterated with specific examples listed, most of which were the following key words used to identify the Recreation category: Recreation; beach; launch; dock; entertainment; hunt, fish; access; and golf.

Historic Structures - District
(103 respondents; 16.8% of all respondents)

The respondents indicating historic structures felt they were one of the great assets of the community worthy of preserving. The following key words were used to identify the Historic Structures category: Historic, heritage, history, district, old, and preservation.

Road Traffic
(103 respondents; 16.8% of all respondents)

Respondents expressed concern about issues related to parking, road safety, enforcement of traffic laws, and maintenance of sidewalks and roads. The following key words were used to identify the Road Traffic category: Road; street; traffic; maintenance; ice; parking; and speed.

Peace and Quiet
(42 respondents; 6.9% of all respondents)

Respondents felt the area's peace and quiet is key to living in and continued enjoyment of the area. The following key words were used to identify the Peace and Quiet category: Peace; quiet; no noise; and pristine.

SWOT Exercise

After the Community Survey, the next input phase conducted during the spring of 2009 identified issues and examined potential Strengths, Weaknesses, Opportunities and Threats (SWOT) in the Village and Town. The session consisted of members of the Village Planning Board, Town Planning Board and other citizens who attended from the area. It consisted of a brainstorming session to identify issues and opportunities that the Village and Town face and may face in the future. It also consisted of a follow-up meeting to clarify several points as a group. Please refer to the entire SWOT results on the following page.

Essentially all of the strengths identified by the group involved either the character of Chaumont and Lyme's environment, ideal location or the strength of its people and local organizations. Its beauty, ranging from the lake and river, the shoreline areas, harbors and bays, and other areas in the town with post-card qualities, to Lyme's tireless people, from the abundance of agricultural working landscapes, historical areas\landmarks, to the small town atmosphere and annual cultural and recreational events and activities. Lyme's beauty, people and local offerings keep seasonal residents and visitors coming back for decades. These qualities are what Lyme and Chaumont should take advantage of and build upon to continue to sustain the community and shape it in ways its residents and property owners desire.

Weaknesses identified during the session also involved the Town's environment and other local characteristics. While there is some limit to the extent of volunteerism, there are volunteers who work tirelessly in the community. At times, a resistance to regulations can be present. Retiree limited income was sited, however, their incomes typically are more stable during ups and downs. Limited infrastructure capacity was sited as a weakness, however, if slow growth is desired, that could be considered appropriate. Some weaknesses addressed a short summer season, and a lack of plentiful lodging. However, many of the weaknesses listed, present either areas for growth or development, or opportunities of some kind that could be focused on if desired.

Many Opportunities were identified which involve the environment and Townspeople, a winter festival was identified, which could extend the tourism season. Expanding the size of local events was another idea identified, which could mean more volunteers and local motels rooms may be needed. Other opportunities were discussed which involved capitalizing on local weaknesses or building on its strengths. The weakness that many local soils have for supporting individual septic systems was discussed, which would present an opportunity for a local septic pumping business where such systems have failed.

The few threats identified were the long winter season, failing individual septic systems, water quality contamination, and possible noise from wind turbines.

Please refer to the following page for a complete list of the strengths, weaknesses opportunities, and threats identified.

SWOT COMMUNITY ISSUE LIST
Chaumont – Lyme

STRENGTHS	WEAKNESSES
Peace, quiet	Variable weather
Natural Beauty Flora and Fauna	Lack of plentiful lodging
Small Town Atmosphere	Limited Infrastructure capacity
Small School	Short summer season
Lake & River Waterfront	Lack of funding
Recreational opportunities	Assessment structure
Location, proximity to Canada	Zoning enforcement
Affordable land	Resistant to regulations
Garden Club	Somewhat limited volunteerism
Historic Structures	Retiree fixed incomes
Yacht Clubs	Lack of direction
Beach	Individual septic systems
Library resources	
Level of retirees	
Change in seasons	
Organizations	
Multi-use trails Snowmobiles, etc.	
Easy commute to jobs on Fort Drum	
Fishery	
Wind resources	
Nature conservancy area	
NYS park & wildlife areas	
Seaway Trail Scenic Byway	
Chamber of Commerce	

OPPORUNITIES	THREATS
Cultural events	Long winter season
Capture drive thru traffic	Recent downturn in economy
Expand infrastructure capacity to enable growth in Village	Noise and viewshed impacts from Industrial Wind turbines
Potential winter festivals	Seasonal fluctuations
Build awareness of sporting and rec. events:	Water quality contamination
- Lyme Triathlon - Tour de Chaumont	Failing individual septic systems
- Willie Putnam Tournament - Host girls tournament - Le Race de Chaumont	
- Sailing races	
-Advertise with Signage, flyers, maps, website links	
Lymelight – get word out	
Help Lymelight and distribute flyers	
Use a tour to view X-Mas Decorations	
Webcam and link to Google	
Income from Wind Turbines	
Septic pumping business	
Snowmobile trails	
Parking for Ice fishing	
Historic structure preservation	
Seasonal fluctuations	
Map of Town/Village locations	
Community Bulletin Board	
Septic testing	

Public Drop-in Events

Two public drop-in sessions were conducted during the summer of 2009 at the Copley House. The purpose of the sessions was to involve the Village and Town communities early-on in the planning process, similar to conducting the Community Surveys early. However, the advantage to conducting the open sessions was that they were informal, totally open sessions where people could provide input in detail or learn about the planning process in great detail. Vocal and written comments were gathered during the sessions. The first was held on Wednesday, August 26th from 7 to 9 pm. The second was held from 10 am to noon on Saturday, August 29th.

The sessions included displays regarding Comprehensive Planning, Community Input to Date, Past and Present Village and Town Trends and Existing Conditions, Existing Regulations in the Town and Village, and Potential Planning Issues for discussion.

Attendance was light, however, those who attended were able to spend more time looking at the displays and providing input to the Village and Town Planning Board members and County Planning Staff in attendance. Aside from the two Planning Board members from the Village, and two from the Town, and a Village Trustee, eight members of the public attended during the two hours session held on Wednesday evening. During the Saturday morning session, twelve members of the public attended, in addition to the two members of Village Planning Board, three members of the Town Planning Board, and the County Planning Staff attended.

Written input consisted of completed Drop-in Comment and Public Input Sheets, and hand written notes by members in attendance as vocal input was being provided.

Public Drop-in Stations and Materials Presented

1. **Summary of Comprehensive Planning**
   - Comprehensive Planning defined, list of benefits, typical process
   - Potential draft outline of local plan
   - Village and Town Planning and Zoning Tool Use - Statewide

2. **Community Input to date**
   - Village of Chaumont\Town of Lyme Community Survey Results
   - Community Survey Areas Map
   - Community Brainstorming Strengths, Weaknesses, Opportunities, and Threats

3. **Past and Present: Village and Town Trends and Existing Conditions**
   - Brief History & Historic Map
   - Population and Housing Trends 1980 to 2007, US Census Bureau,
   - Agricultural Districts Map
   - Prime Ag Soils Map
   - Land use Maps - Village and Town
   - Waterbodies and Shaded Relief Map
   - Aerial Imagery 2006

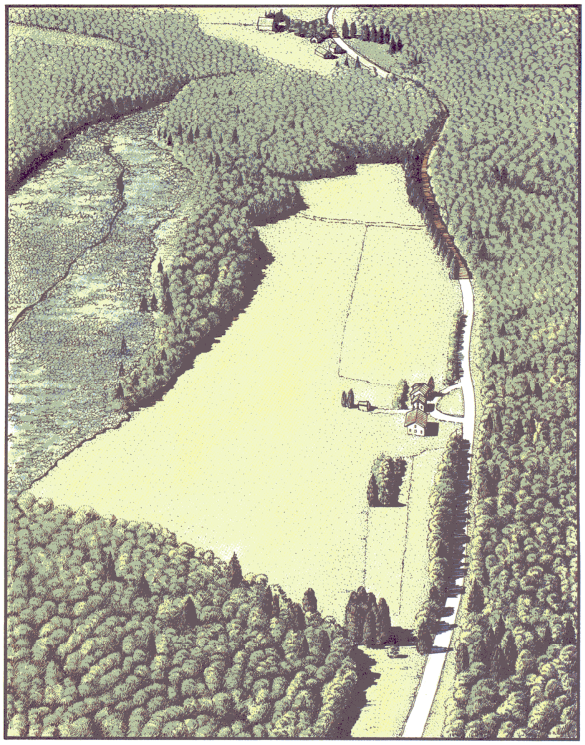
4. **Existing Regulations: Village and Town**
   - Town Comprehensive Plan
   - Land Development Code - Village
   - Zoning Law – Town
   - Zoning Map – Town

5. **Potential Planning Issues for Discussion**
   - Development Forms: Conventional and Creative
   - Development access and transportation impacts
   - Draft\Proposed Village Land use and Zoning Maps for Discussion
   - Public Drop-in Comment and Public Input Sheet
     - Top three issues or topics for both the Village and Town
     - Special Places in Chaumont and Lyme

Development Forms: Conventional and Creative

During the Drop-in Sessions, posters that illustrated development scenarios were presented for discussion. They illustrate a site before development, then the same site with conventional development, and that site with a creative form of development. A board with a residential scenario, and another board with a residential/commercial scenario were examined by visitors. Refer to the residential scenario below from: *Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development - 1988*.

Aerial view of site before development



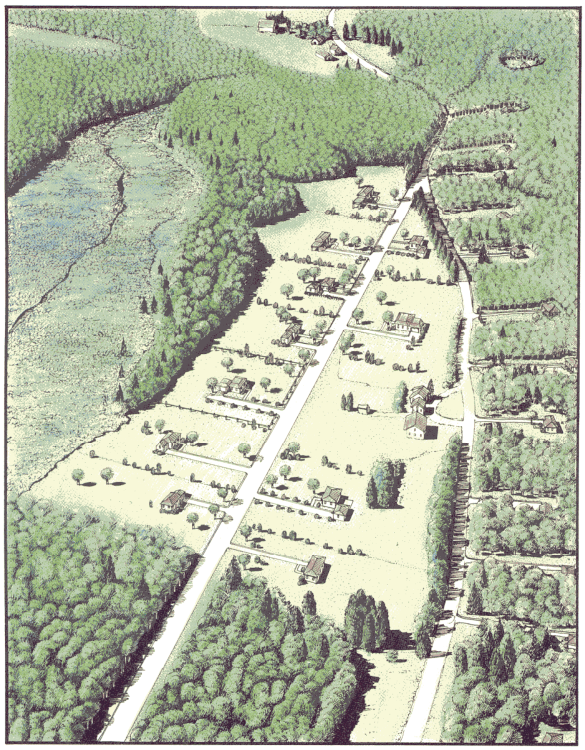
Aerial View of Site C Before Development

SITE DATA

Landuse: Dairy farm on a town road
Landcover: Field, wetland and forest
Utilities: No Town water or sewer
Zoning: 1 acre minimum, 150 ft. frontage

- Farmstead located adjacent to scenic town road
- 60 acres of hayfield leased to neighbor farmer
- 40 acres of wetland and wildlife habitat

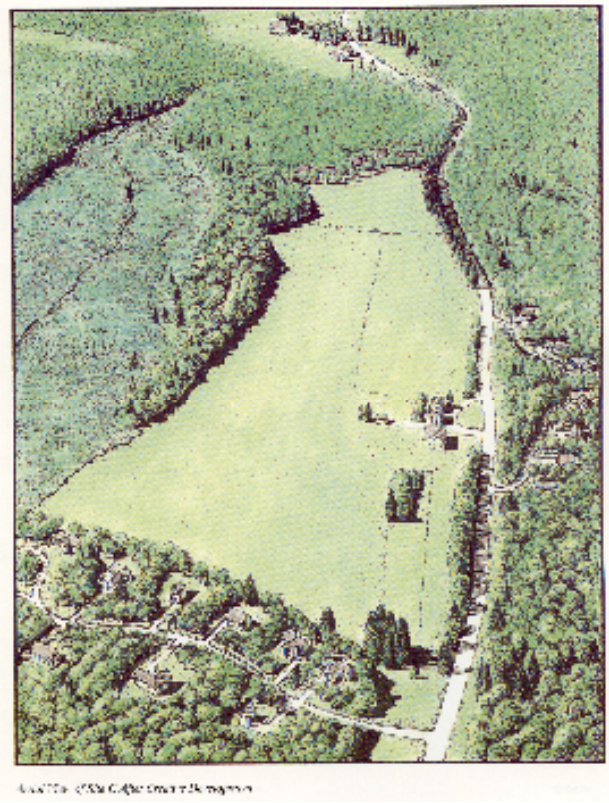
Aerial view of site after potential Conventional Residential Development



Aerial View of Site C After Conventional Development

The above example of Conventional Development results in the town road being widened and straightened, impacting farmland value and scenery. The developer locates 26 lots on entire acreage affecting most of the farmland and forest. Wetlands and wildlife habitat are then subdivided, thereafter become vulnerable to additional future development. Any future timber management is then precluded by large lot development.

Aerial view of site after potential Creative Residential Development

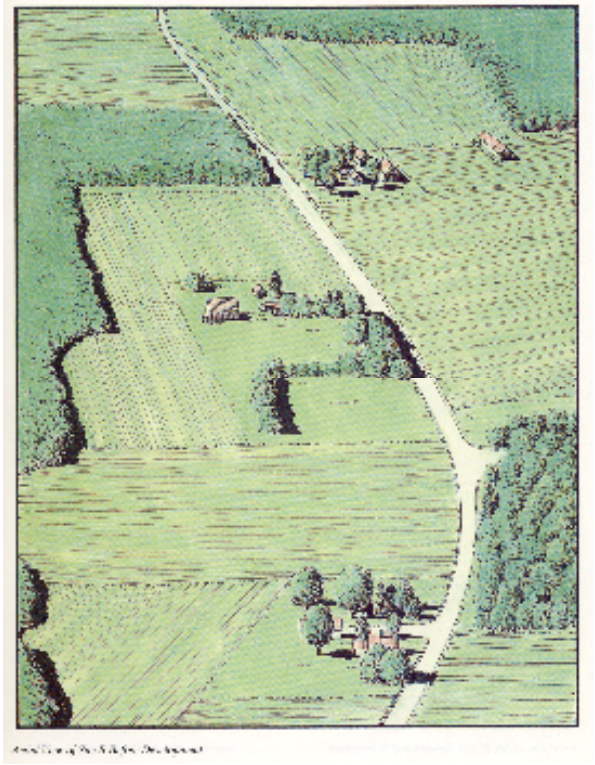


This alternate example of Creative Development of the same site results in the town road designated as scenic road and moderate improvements within existing right-of-way. The Town then enacts mandatory open space development provision for farmland. The developer locates 28 lots on 24 acres, saving over 100 acres of farmland and forest. Thereafter, the farmlands, wetlands, wildlife habitat, forest, ridgelines and scenery are preserved. This allows the farmland to continue to be leased by a neighboring farmer.

The same amount of development (number of lots) while using less than ¼ the acreage, with the leftover acreage permitting significant future farm use.

The next example presented at the Drop-in illustrated a Commercial & Residential Development Scenario from the same publication: *Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development - 1988*.

Aerial view of a 2nd site pre-development

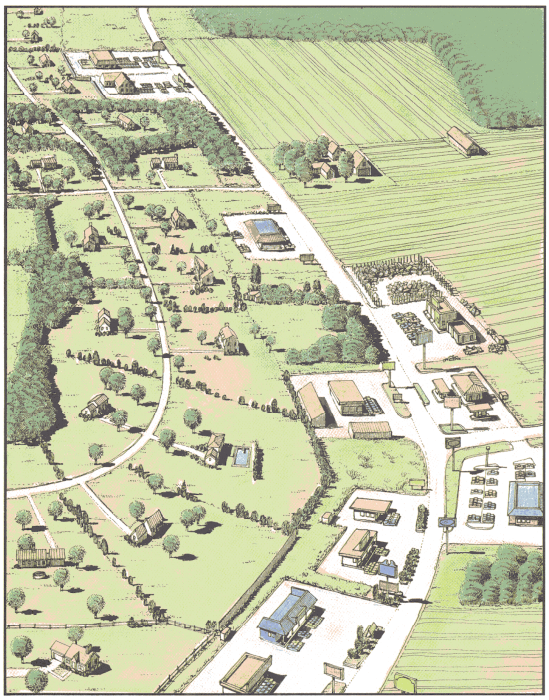


SITE DATA

Landuse:	Cropland & farmhouses on a Scenic State Highway
Landcover:	Fields, woodlands and forest
Utilities:	Town sewer & water available
Zoning:	Highway Commercial, large lot residential

.

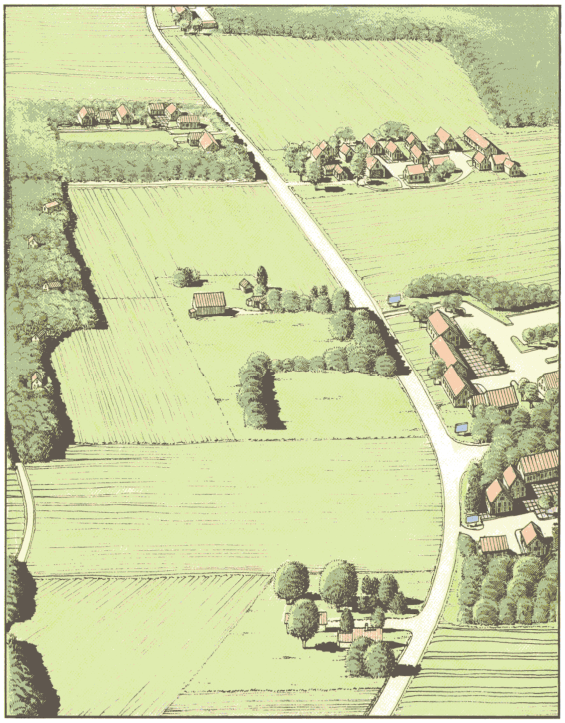
Aerial view of 2nd site after potential Conventional Commercial & Residential Development



Aerial View of Site B After Conventional Development

Consistent with existing zoning, highway frontage developed with residential & strip commercial lots. Large illuminated signage and parking lots dominate roadside creating visual clutter along highway. This scenario results in a total loss of farmland use, including the loss of rural character and visual quality. It includes a large lot residential subdivision of farmland behind the commercial strip on new subdivision roads.

Aerial view of 2nd site after potential Creative Commercial & Residential Development



Aerial View of Site B After Creative Development

Creative commercial development would be clustered in the wooded areas and at major intersections. Signage and lighting controls, would also include underground utilities. Parking and storage would be behind buildings. New commercial structures would reflect traditional architectural character of the area. Residential development located within clusters also within wooded areas, and at the edges of farmland. Roads would avoid farmland, which would fit along topographic features.

Other Possible Planning Issues for Discussion

Overall Planning Project Considerations

- √ Future growth potential
- √ Attracting growth
- √ Promoting current businesses
- √ Curb cut\access management
- √ Drainage \ erosion control
- √ Water quality
- √ Historic character street layout
- √ Historic building styles – design issues

Residential Project Considerations

- √ Building setbacks vs build-to lines
- √ Lot sizes, larger vs smaller
- √ Pedestrian scale or walkable to\from
- √ Highway frontage development, vs new roads\streets
- √ Soil Conditions influencing development patterns
- √ Dead-end streets vs loop streets
- √ Clustering
- √ Cost effective services
- √ Future infrastructure needs
- √ Connections between developments

Commercial Project Considerations

- √ Shared access drives
- √ Building setbacks vs build-to lines
- √ Lighting – excess glare, safety
- √ Landscaping - buffering, screening
- √ Yard front & parking lot buffering
- √ Parking to the side or rear
- √ Signage, size, total allowable
- √ Buffers \ screening between land use types
- √ Mixed use development
- √ Pedestrian scale or walkable to\from
- √ Area pedestrian access and flow
- √ Business hours of operation
- √ Maximum building heights
- √ Connections between parking areas\developments

Post Comprehensive Plan Process Survey Input

In the spring and summer of 2011, a second wind survey of residents and property owners was developed by the Town Board. This was completed roughly four years after the first wind survey was initiated in 2007. The 2011 survey was sent to about 5,000 addresses, using several databases. There were 1,621 surveys returned, a very good response rate considering there are 2,317 housing units in the Town per the 2010 Census. A report summarizing the results was prepared and is included in its entirety in Appendix A.

The 2011 survey results and findings, generated one year after this Plan's planning process concluded in 2010, are meant to be incorporated as part of this plan. Several edits within this plan were completed after the 2011 survey report was published (upon request by the Town Board); however, a majority of the plan was not amended as it is still timely.

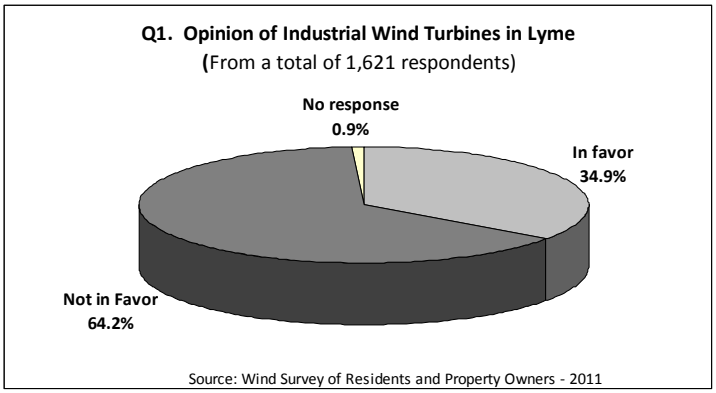
Lyme Wind Survey Summary - 2011

The most recent wind survey conducted by the Town provides valuable input regarding Industrial Wind Turbines from significant portions of the community. A brief graphic summary is included on the following two pages, while the full Survey Report is located in Appendix A.

Pursuant to this most recent survey, edits to the plan include: the portion here in Chapter I, Public Input; and Chapter II, Historic and Recent Trends which included an Alternative Energy Source section describing several types of renewable energy sources with minor edits. Chapter VI. Future Land Use Recommendations now includes a section on Alternative Energy Project Considerations when faced with any potential solor energy or wind turbine projects that could impact the community. Specifically, adjacent Industrial Wind Turbine projects that could result in transmission line placement within Lyme are addressed.

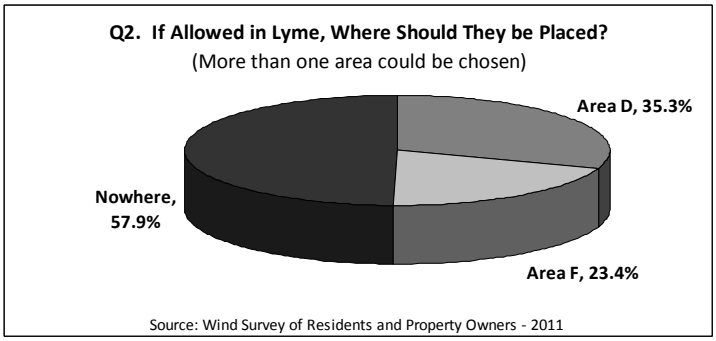
Question 1: What is your opinion of Industrial Wind Turbines in the Town of Lyme?

Question 1 indicated the number of respondents as a percentage of the total regarding their preference for Wind Turbine placement within the Town of Lyme. Slightly less than two-thirds (64.2%) responded they were not in favor of Industrial Wind Turbines. Slightly over one third (34.9%) reported being in favor of Wind Turbine placement. Just less than one percent (0.9%) did not respond to the question.



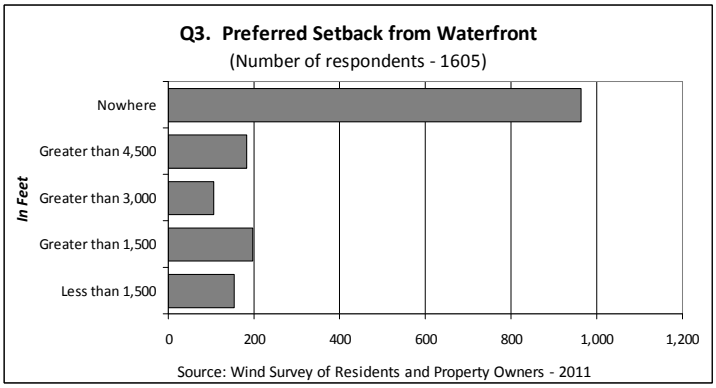
Question 2: If wind turbines were to be allowed in the Town, where should they be placed?

Question 2 dealt with specific placement of wind turbines within one of two areas (or both), and the other choice was nowhere in the Town. More than one choice was possible to select as some people probably feel that one or both of the areas may indeed be appropriate. However, the largest number of respondents indicated Nowhere, at rate of 57.9%. While Area D received 35.3% of responses, and Area F, trailed with 23.4%.



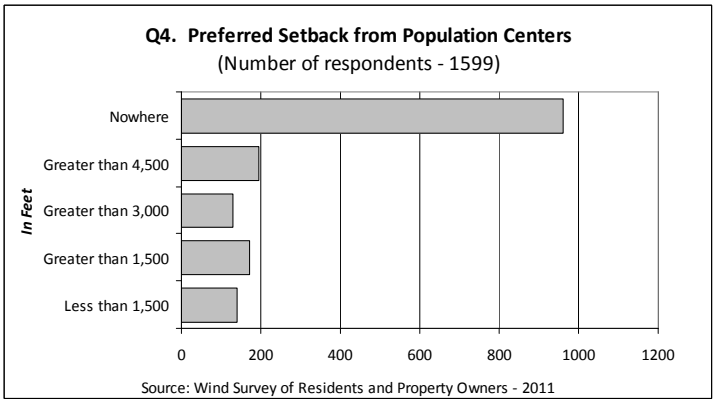
Question 3: What is your preference for turbine setbacks from the waterfront?

Question 3 was specifically geared toward a potential desire for input regarding a setback from waterfront areas selected by respondents. Many respondents (60.0%) indicated nowhere within the Town would represent an adequate setback distance. Similarly, over eleven percent (11.4%) felt that a setback greater than 4,500 feet would be an adequate distance.



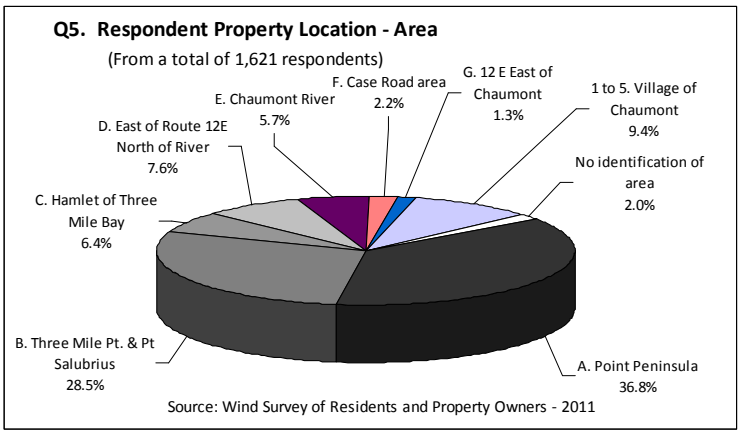
Question 4: What is your preference for turbine setbacks from population centers?

Similarly, Question 4 gauged the preference for a setback from population centers. Similarly, the largest number of respondents (60.1%) indicated nowhere within the Town, while (20.4%) indicated greater than 4,500 feet.



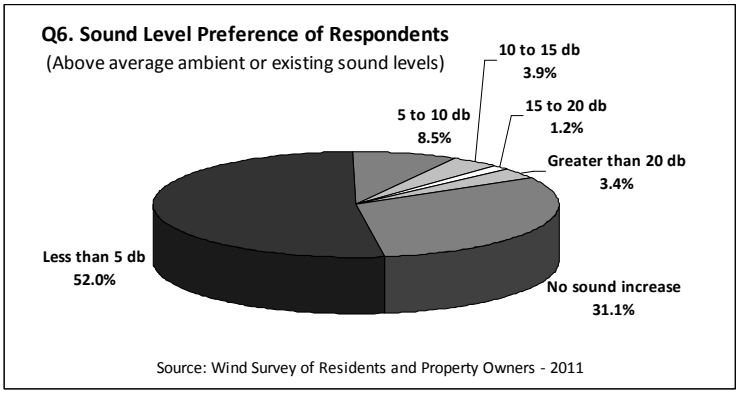
Question 5: From which survey area are you responding?

Question 5 sought feedback regarding where respondents either lived or owned property. As expected, the largest number of respondents resided or owned property in Area A with 36.8% (Point Peninsula) and Area B at 28.5% (Three Mile Pt. and Pt. Salubrious) of the total respondents. The other areas may have had fewer responses, however, their total population and\or number of property owners are significantly less in most cases.



Question 6: What noise increase would you be willing to accept from an Industrial Wind Project?

Question 6 sought input regarding respondents acceptance for noise levels generated from a potential wind project. Over half of the respondents preferred an increase above ambient of less than 5 decibels (52.0%). Similarly, nearly a third (31.1%) preferred no sound increase. As mentioned previously, with this preference for a minimal level to no noise increase, the community appears united on protection from such noise impacts from Industrial Wind Turbine placement.



Brief Conclusion

For the full set of conclusions, please refer to the Report - Town of Lyme Wind Survey of Residents and Property Owners located in the appendix. Town-wide, the number of respondents that indicated they were "Not in Favor" of industrial wind turbines in the Town was 64.2%, nearly a two-thirds majority. Similarly, when asked where they should be placed if permitted, 57.9% of the respondents indicated "Nowhere." Two sets of setback preferences were also bypassed by 60% of respondents who again indicated "Nowhere" in the Town, as opposed to indicating a setback distance that could allow them somewhere within the Town.

Brief Conclusion - continued

Lastly, noise acceptance indicated by survey respondents largely chose "Less than 5 decibels" above ambient sound resulting from industrial wind projects at a rate of 52.0%, while "no sound increase" was selected at a rate of 31.1%. Therefore, a combined 81.1% percent of respondents would not accept appreciable noise impacts from industrial wind turbines within Lyme.

When considering the public input, the widespread potential visibility impacts, potential noise and wildlife impacts, and lack of support it would appear that industrial wind turbine placement anywhere within the Town has been deemed not appropriate by the overwhelming majority of respondents.

CHAPTER II HISTORIC & RECENT TRENDS

Brief History

Chaumont is named after the estate in France owned by James LeRay De Chaumont. James LeRay acquired some 350,000 acres of land in Northern New York as payment for assisting the fledgling United States during the American Revolution. Lyme's name was suggested by a former resident of Lyme, Connecticut.

Prior to European settlement, much of the area consisted of frontier wilderness, being primarily uninhabited, except during Native American fishing, hunting and trapping expeditions. Natives of the Onondaga Nation are believed to have first frequented the area to fish. Later, the Iroquois and Algonquins claimed the territory. Still later, the Algonquins were driven off by the Oneidas. Oneida use consisted mainly of occasional hunting and trapping due to frequent raids from hostile tribes across the St. Lawrence River. It is written, however, that a 5 acre native settlement was located on Point Peninsula near Three Mile Bay.

After the Revolutionary War, New York State acquired title from the Oneidas and in 1791 sold this section (whole of Jefferson, Lewis, St. Lawrence and part of Oswego Counties) to Alexander Macomb who headed a group of land speculators. The region forming the Town of Lyme, except Point Peninsula (which was part of the Chassanis tract), was part of historic lot number four of the Macomb Purchase. Initially taken from lands once part of Brownville, Lyme (formed in 1818) included areas that eventually would become the Towns of Clayton (1833) and Cape Vincent (1849) as well.

Under James LeRay's direction in 1801, two of his agents and a group of companions came from Ulster County by waterway through Oswego and entered Chaumont Bay to establish a settlement. They then sailed up the Chaumont River about two and one half miles and settled on the north side of the stream. At this original settlement, now known as Old Town Springs, they built a large double log house to be used as a store and dwelling, and a frame building. From this original location, a well marked trail led to French Creek, only twelve miles away. After heading east for the winter, their spring return proved it to be an unhealthy location when stagnant water from flooding led to rampant malaria. The mouth of the Chaumont River was later chosen for settlement in 1803.

Later in 1803, the Village was surveyed into a town plat. A saw mill was constructed; a tavern in a log house opened; and a warehouse were erected. Several families for the first time located there for permanent settlement, mostly from Ulster County. They flourished for a year or two. However, in 1806, the saw mill failed, lake fevers were prevalent, several deaths took place, and village growth halted. In 1805, construction of a vessel was begun by a New Yorker, who died before it was finished. The first school opened that year.

At this time, land was cleared on Point Salubrious, named that by James LeRay because of its freedom from Malaria. This 'healthful' place and its shoreline fisheries promoted its settlement. Also in 1805 others settled on Point Salubrious who opened a store of goods at Chaumont. Other early settlers on Point Salubrious included Silas Taft.

When the War of 1812 began, there were less than a dozen families settled. There was an inn north of the bay, but with few exceptions the area was an unbroken wilderness. At the advice of General Brown, the inhabitants began building a block house, on the north shore of the bay, in front of the stone house of F. Coffeen, which had been commenced in 1806, but was unfinished. A detachment of British soldiers assured the residents that if they would tear down their block-house their properties would be respected. Pieces of the bock-house were then used to erect a school on Point Salubrious, a store, and a cooper shop.

Point Peninsula's first settlers arrived in 1812 and 1814. Among the early settlers were the Wilcox brothers from Stonington, Connecticut who established the settlement of Wilcoxville. Additional settlers arrived in 1817, and still more families arrived about 1822 and 1825.

To settle the area's densely forested lands, the earliest settlers had to create clearings first for constructing living spaces, and then for formation of cropland. A need for raw materials and to dispose of unneeded timber brought about the construction of saw mills, along with asheries to create potash. Potash was then sold to manufacturers of glass, soap, gunpowder, and fertilizer. Potash production provided many early settlers with a way to obtain badly needed cash and credit as they cleared their wooded land for crops.

In 1803, a State road was laid out through the village from Brownville to Port Putnam (Millens Bay) on the St. Lawrence River. In 1814, a road was constructed along the length of Point Salubrious. In 1815, James LeRay was to build a turnpike from Cape Vincent to Perch River. During the next year, this turnpike was to be extended to Brownville. The crossing at Chaumont was by Ferry until 1823, when funding for a wooden toll bridge was secured. By 1849, funding borrowed on credit from the Town, was secured to build a substantial stone bridge across the Chaumont River. With poor road conditions at various times, most travel, communication and commerce were still primarily conducted over waterways until better methods were developed.

As mentioned, early travel was by way of Lake Ontario and the St. Lawrence River. As steamboat use became prevalent on the system, waterway travel became more dependable. The completion of the Erie Canal in 1825, brought the port of Sackets Harbor into great importance. Much of the County's commerce then turned toward that port by water to Oswego and to the Erie Canal via the Oswego Canal.

According to the Lyme Heritage Center, during the 1830's, sheep farmers were prevalent in Lyme. Woolen factories were also important until the 1860's and 1870's. However, after the railroad connected the area to far away markets, dairy farms increased in popularity as more became established during the 1870's and 1880's.

In 1848, a cheese factory was established on Point Peninsula. At that time, prior to electricity being available and home refrigeration, milk that was not used on the homestead was primarily used to make cheese. During the height of business, 32 patrons supplied milk. A 2nd cheese factory was later established. A 3rd cheese factory was also established in Chaumont. Cheese making at Pt Peninsula ceased in 1926 when

milk was trucked to Limerick, which had a larger cheese factory.

In 1851, the Chaumont branch of the railroad that connected Watertown to Rome was completed. By April of 1852, it had been completed to Cape Vincent, including a bridge over the Chaumont River. The rail line spur from Watertown to Cape Vincent existed for a century, from 1852 to 1952.

By 1853, the Village of Chaumont had fifty dwellings, five stores, several shops and warehouses, four saw mills (two driven by steam), a grist mill, rail road depot, and two school houses, and at least one church. It should be noted, however, that the former business location near the north side of the bay at the landing, had decreased, while the area near the depot grew since the completion of the railroad.

Three Mile Bay, situated at the old turnpike, three miles west of Chaumont, began to increase about 1836. From 1835 to 1853, Three Mile Bay became a station of ship building (at least 32 during the time), especially schooners, as well as several club boats for local regattas. Ship tonnage constructed in Three Mile Bay amounted to 6,410 tons by 1852.

Other area ship and vessel building efforts occurred on Point Peninsula (4 were constructed) and Chaumont where nearly 3,000 tons worth of vessels were constructed. By 1895, the shipbuilding industry had declined in Lyme.

By 1854, Three Mile Bay had about seventy dwellings, five stores, two taverns, three warehouses, wharves, two churches, and the usual variety of mechanics. Three Mile Bay was situated about a mile south of the railroad line, which helped business and industry diminish in prosperity over the next hundred years, by not being closer to easy transport to markets.

Also by 1854, Chaumont also became well-known for its important stone quarries, where in 1825-26, in 1837-40, and in 1851-53, vast quantities were taken to Oswego, for canal locks and piers, as well as for building construction. The stone was often loaded upon vessels at wharves, adjacent to the quarries. These operations employed 100 to 200 people at a time.

Farming by 1864 had affected much of the Lyme's acreage, with 20,803 acres being improved, according to the Jefferson County Atlas, leaving only 8,109 acres unimproved. Also according to the Atlas, the Town's population had reached 2,738 residents, there were 416 dwellings and 580 families. There were 17 school districts, teaching the 987 children. There were 857 horses, 1,370 working oxen and calves, 1,716 cows, 2,379 sheep, and 982 swine. Dairy products included 91,716 pounds of cheese, and 120,497 pounds of butter. Other products included 4,475 bushels of apples, 6,870 bushels of potatoes, 4,731 tons of hay, and 120,380 bushels of spring grain.

Fishing was another important early industry in the area, which at one time was considered to be superior to any other Town. By 1808, fishing with scoop nets became prevalent. Seines were soon after introduced. The seine fisheries were mostly conducted around Point Salubrious, but a few other places were also conducive to the practice. The main season for taking lake herring and whitefish was November, when the fish spawned along the shorelines. Around 1816 and for many years thereafter,

not less than 10,000 barrels were caught yearly. The principal catch was lake herring (locally known as ciscos), as well as whitefish, pike, pickerel muskellunge, and bass. By 1895, however, the use of gill nets and other various causes, the fishing industry had dwindled to almost nothing in the area.

By 1895, Chaumont had two hotels, the Peck House and the National. Chaumont also had several seed dealers and a hay dealer for farming needs. Other businesses at the time were: the Copley Brothers - manufacturers of lime & limestone products, and merchants of lumber, butter, cheese, hay, and grain. The brothers were farmers and dealers of produce as well. A village grocer, druggist, and undertaker existed. Two livery stables, two blacksmiths, a builder and owner of vessels, and a saw mill, a wagon maker, an architect and builder, three physicians\ surgeons, several seed growers, coal and hay dealers, as well as a dealer in coal, farming implements, wagons and sleighs were based in Chaumont. They also had a grocer\baker, a merchant who sold drugs, clothing, boots, hats and furnishings dealer, who was also a postmaster. The Village had a hardware store, that also sold stoves and agricultural implements. Also present was another grocer, a coal dealer, house painters, and a meat market.

Also by 1895, Three Mile Bay had two general stores, a grocer who also sold furnishings, a furniture store, two harness dealers, a blacksmith, a planning-mill that sold sashes, doors and blinds, a saw-mill, wagon shop and millinery.

It should be noted that all of the early settlements in Lyme had direct access to the best and most reliable source of transportation, the waterways of Lake Ontario and the surrounding rivers and streams. The close proximity to the water would prove to be one of the greatest economic motivators for settlement and expansion. Not only would new settlers come to the area via the water, but transportation worked equally well in the reverse to export the goods produced to outside markets. One early large market was Boston.

Later, the railroad provided easy access to far away markets such as New York City for cheese, fish, and hay for horses. As roads and their maintenance improved, rail service became less important, especially after the interstate highway system was established in the 1950s.

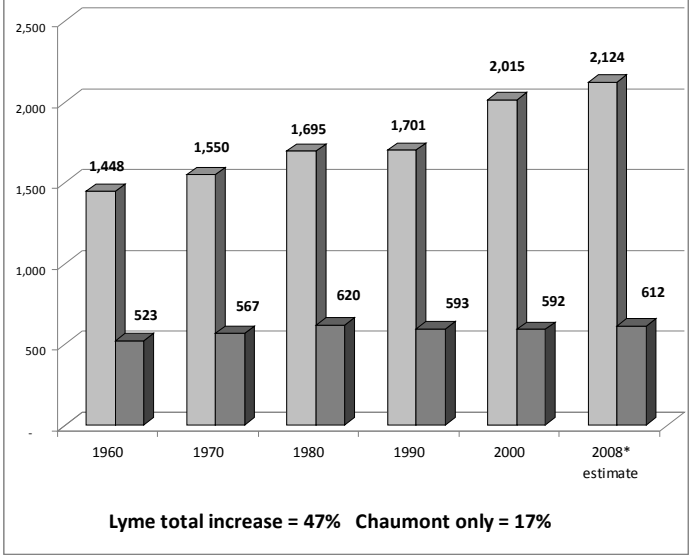
Recent Demographic Trends

According to the Census Bureau, recent population trends and an estimate show the Town increasing from 1960 to 2008 by 47 percent, shown by Figure 27. However, it would appear that the Town increased slowly from 1960 to 1990, and then by 2000 it had experienced a greater level of settlement. Chaumont during the same time period experienced one steady and one slight increase, separated by a decrease between 1980 and 1990. The village, however, is estimated to have increased by 17 percent overall since 1960.

County population also experienced relatively level population growth from 1960 to 1980, until the activation of the 10th Mountain Division at Fort Drum in 1985, leading to a 25 percent increase by 1990. The estimated increase after 2000 has been largely the result of another Fort Drum expansion, as Figure 28 illustrates. Overall, the County increase from 1960 to 2008 is estimated to be 34 percent.

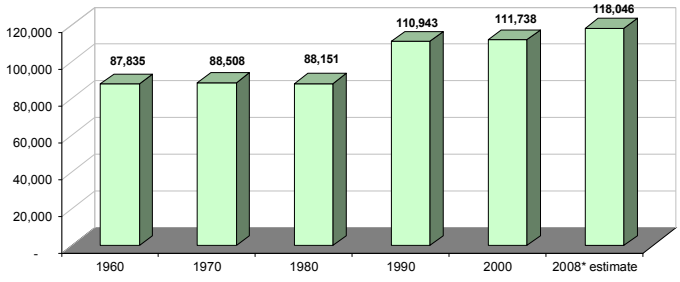
From 1980 to 2000, Lyme's age groups (including the Village population) have followed the national trend of an aging population, or increasing numbers of individuals in the upper age groups, as Figure 29 illustrates. More retirement aged persons also reflect people "coming back" or "settling permanently" in Lyme after years away or years of seasonal visits. While those 35 and over have increased dramatically, Lyme meanwhile felt a decline in people aged 20 to 34, which could be due to a lack of local and regional employment opportunities for that segment. Similarly, most age groups under 35 declined in the time period except in the 5 to 14 age group.

Figure 27. Recent Population Trends: Total Town & Village 1960 - 2007



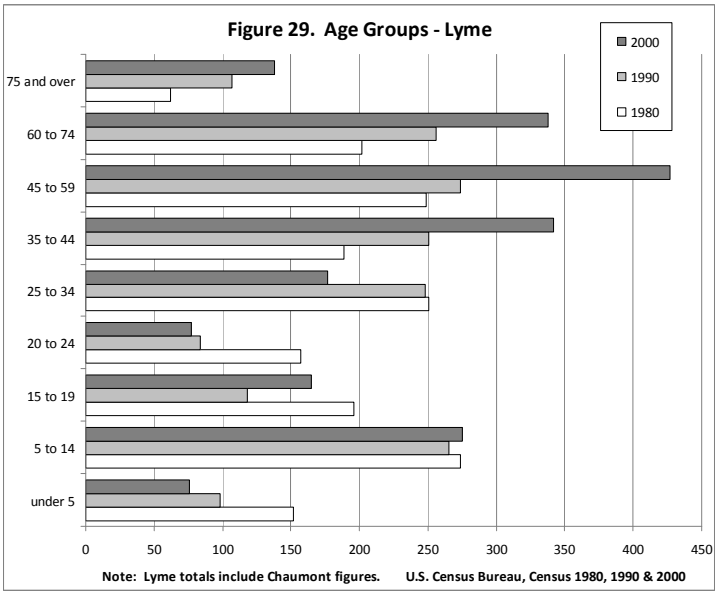
Lyme total increase = 47% Chaumont only = 17%

Figure 28. Recent Population Trends: Jefferson County 1960 - 2008



Jefferson County total increase = 34%

Figure 29. Age Groups - Lyme



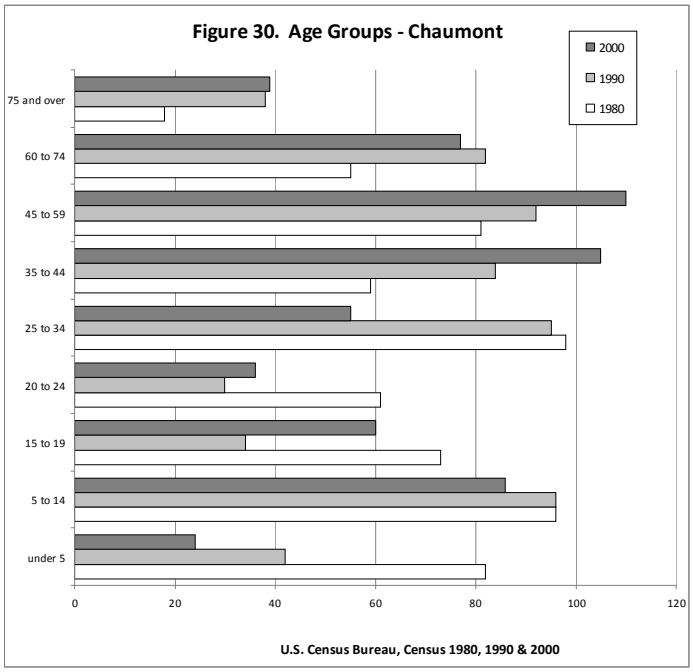
Note: Lyme totals include Chaumont figures. U.S. Census Bureau, Census 1980, 1990 & 2000

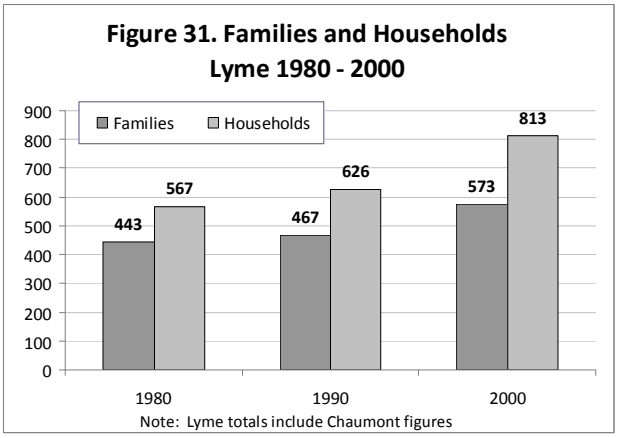
As Figure 30 illustrates, Chaumont's age groups for the same time period also reflect the national trend of an aging population with increasing numbers of people above age 35 and a decrease of those under 35.

Similarly, families and households in Lyme have also experienced change, as Figure 31 illustrates. It shows increasing numbers of households from 1980 to 2000, with households increasing by 43.3 percent (including the Village population). This occurred while the number of families increased at a slightly slower rate, by 29.3 percent during the time period.

A family is a group of two or more related by birth, marriage, or adoption and residing together. A household consists of all people who occupy a housing unit (related or unrelated).

Chaumont's household numbers increased as well, albeit at a slower pace, as shown in Figure 32. However, the Village's families decreased during the time period. Households increased by 15.3 percent, while the total number of families decreased by 7 percent from 1980 to 2000. This trend of modest household increases with a decline in the number of families could be from the departure of some the 20 to 34 aged residents from households, leaving fewer families in the Village for the time period.





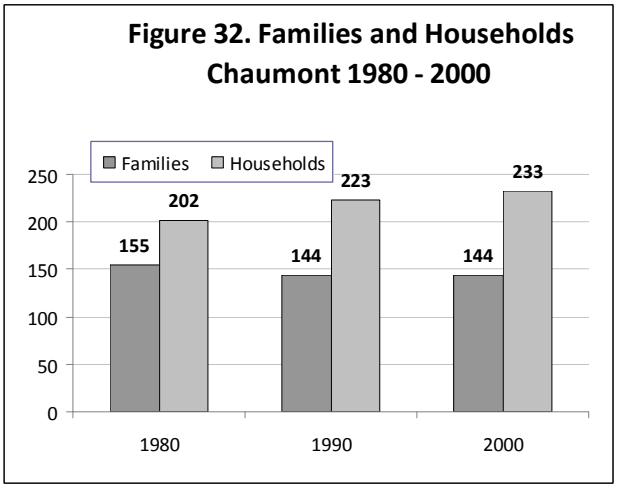


Figure 33 illustrates the percentage of year-round to seasonal housing units in Lyme. In 2000, year-round units consisted of 39 percent of the Town total, while seasonal comprised the remaining 61 percent. These figures include the units in Chaumont.

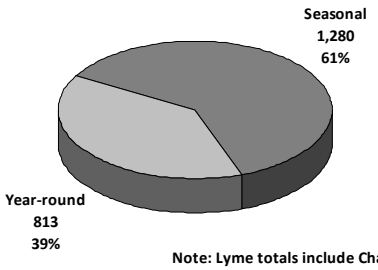
Figure 34 illustrates the percentage of housing units that were year-round and seasonal in the Village. The pie chart reflects 94 percent of the units in Chaumont were year-round, with 6 percent seasonal in 2000.

Figure 35 breaks down the total housing units, illustrating Housing Unit Status or the number of seasonal, year-round, owner occupied, and renter occupied housing units throughout the Town from 1980 to 2000. It shows a decline in the number of seasonal units with a 28.4 percent increase in year-round occupied units. Also, owner occupied units increased by 42.9 percent, while renter occupied units increased at a more rapid pace of 51.9 percent. Such changes reflect a pattern of conversion of seasonal units to year round (as some long term seasonal residents retire and convert their seasonal home to year-round), as well as additional year round unit construction.

Figure 36 reflects the Housing Unit Status in the Village from 1980 to 2000. It illustrates a decrease in seasonal units of 23.8 percent, an increase in year-round of 3.6 percent, and a significant increase in renter occupied units of 100 percent for the time period.

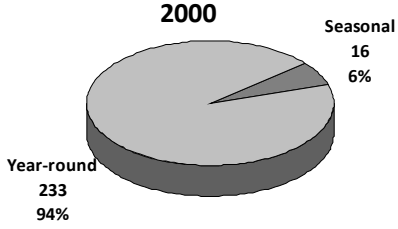
The next few figures on the following pages address the number of housing units by type, resident employment by occupation, and resident employment by industry in Lyme and Chaumont respectively.

Figure 33. Housing Units - Lyme 2000



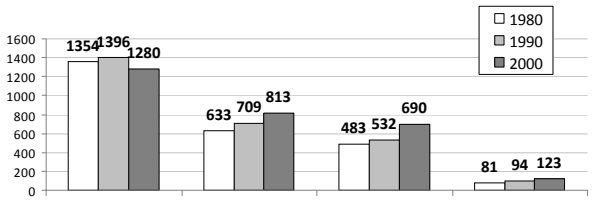
Note: Lyme totals include Chaumont figures
U.S. Census Bureau - 2000

Figure 34. Housing Units - Chaumont 2000



U.S. Census Bureau - 2000

Figure 35. Housing Unit Status - Lyme



Note: Lyme totals include Chaumont figures

Figure 36. Housing Unit Status - Chaumont

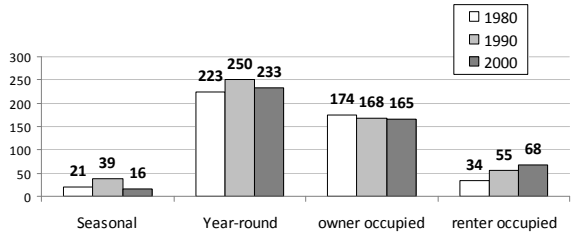
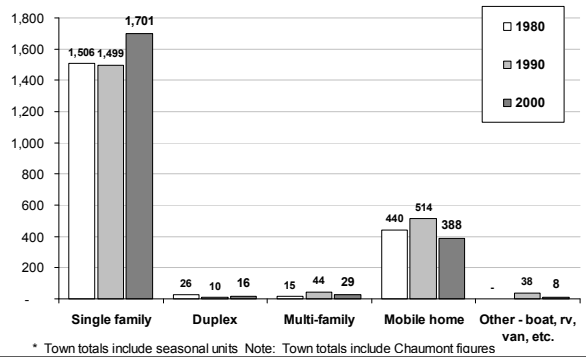


Figure 37 illustrates Lyme's housing unit types Town-wide from 1980 to 2000. The totals include Chaumont units, and include seasonal and year-round figures. Single family housing units reflect an increase of nearly two hundred units for the time period, with decreases in duplexes, mobile homes, and other units (most likely rv use).

Figure 38 illustrates Chaumont's housing unit types for the same time period. Similar to the Town totals, single family detached units increased in the Village by 15 percent from 1980 to 2000, while the number of duplexes decreased. Also, multi-family units increased by 22 units.

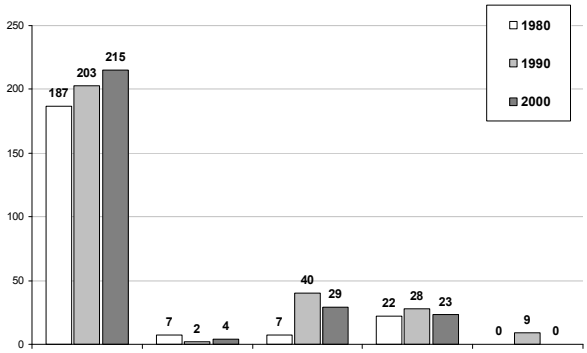
Figure 39 illustrates the Town of Lyme's recently issued Certificates of Occupancy for single-family & modular homes, mobile homes, seasonal homes, and multi-family units. Where applicable, the County Code Office, and individual Town & Villages, report on a quarterly basis, respective certificates of occupancy issued. Generally in Lyme since 2005, the number of single family homes constructed has been fairly steady, while mobile homes placed within the Town has decreased since 2005.

Figure 37. Housing Unit Type * - Lyme



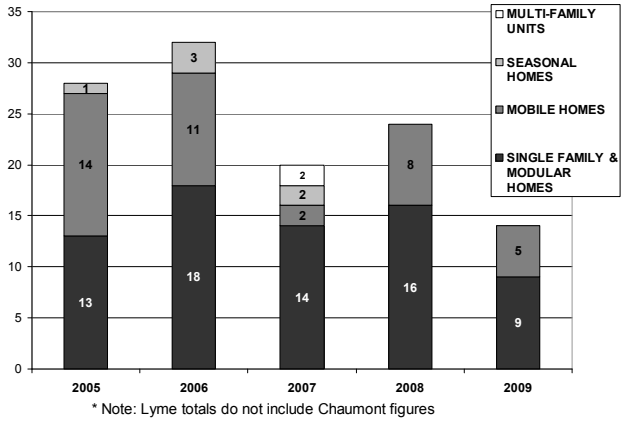
* Town totals include seasonal units Note: Town totals include Chaumont figures

Figure 38. Housing Unit Type ** - Chaumont



** Village totals do not include seasonal units

Figure 39. Certificates of Occupancy Issued - Lyme *



* Note: Lyme totals do not include Chaumont figures

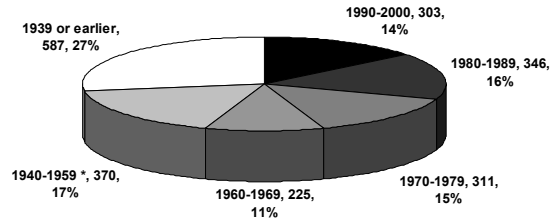
Source: Town of Lyme, Compiled by Jefferson County Department of Planning

Examining the relative age of structures within a Town or Village provides a snapshot of the age of portions of the Town and Village's housing stock. New housing may not need as much maintenance and normally has a significant amount of its life expectancy remaining. According to the 2000 census, nearly one third of Lyme's structures were constructed prior to 1939, as illustrated by Figure 40.

Chaumont, however, as of the year 2000, had two-thirds, or 66 percent of its structures that were built prior to 1940 as shown by Figure 41. This reflects the presence of many of Chaumont's historic structures and that a visible legacy may still be present today, at least in terms of the ratio of older structures. This also can reflect that much of the community's growth may have occurred in previous decades. Similarly, Chaumont's lack of recently built structures with only 7 percent constructed from 1990-2000, reflects the relatively slow population growth and small number of new households.

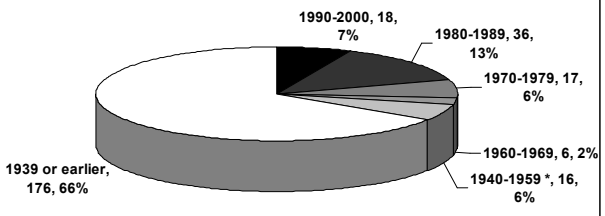
Figure 42 illustrates Town-wide household income for the year 2000 (which includes Chaumont residents). It shows that 49 percent of Lyme's households earned between $35,000 and $99,000 in income for that year. In Chaumont, 53 percent of the Village households earned between $35,000 and $99,000 in the same year, as Figure 43 illustrates. Collectively, the two figures also illustrate that 13 percent of the entire Town households, and 18 percent of the Village households earned less than $15,000 dollars in 2000, which meant that housing affordability and overall cost of living were and probably are important factors of life.

Figure 40. Year Structure Built - Lyme



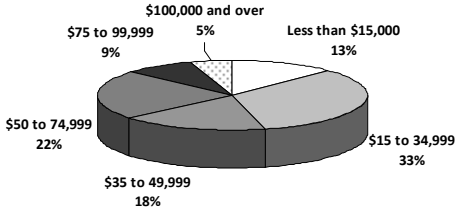
Note: Lyme totals include Chaumont figures, * 1940 to 1959 = two decades

Figure 41. Year Structure Built - Chaumont



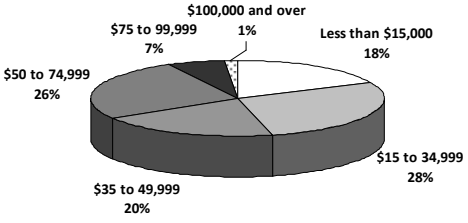
Note: * 1940 to 1959 = two decades

Figure 42. Household Income 2000 - Lyme



Note: Lyme totals include Chaumont figures

Figure 43. Household Income 2000 - Chaumont

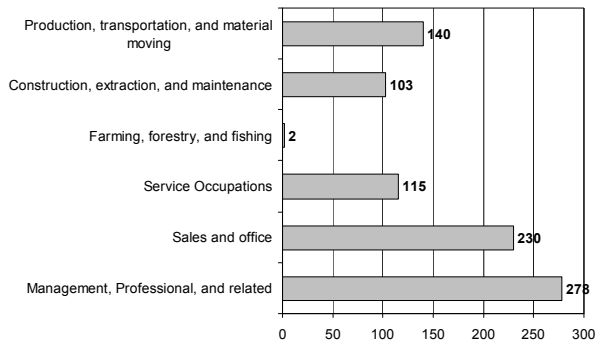


According to the Census Bureau, resident occupations are the type or category of jobs that residents have, which may or may not be within the Town. Figure 44 illustrates the occupations that residents of Lyme held in the latest census available which was in 2000. As expected, management, professional, and related positions comprised the highest number of occupations of Town and Village residents with 278 residents in that occupational group (for a total of 32 percent of the resident occupations). Second on the list, were sales and office occupations, with 230 residents making up 26.5 percent of occupations.

Figure 45 illustrates the occupations that residents of Chaumont held in 2000. Similar to Lyme, the Village's largest occupational group was in the Management, Professional and related category, with 85 Village residents, which comprised 32.2 percent of the total. Also second in the Village was the Sales and Office category, with 80 residents, who comprised 30.3 percent of the total Village resident occupations.

Resident employment by industry is considered the type or sector of employment that residents work within. Again, the business could be located anywhere in the region, so the only measure is of the type of industry or employment sector only. Figure 46 illustrates the resident employment by industry category in Lyme. Educational, health and social services comprised the largest sector of employment for Lyme residents, with 205 residents, at 23.6 percent of resident employment. Second by industry was Retail Trade, with 125 residents, or 14.4 percent of the total.

Figure 44. Resident Occupations - 2000
Lyme



Note: Lyme totals include Chaumont figures

Figure 45. Resident Occupation - 2000
Chaumont

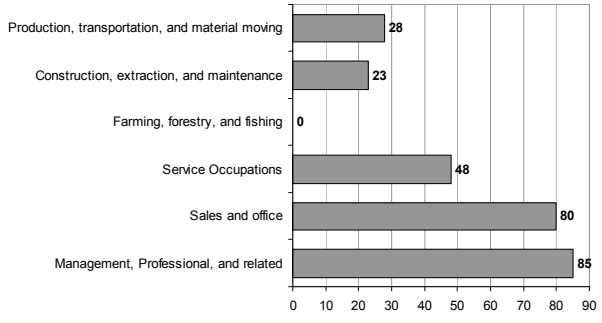
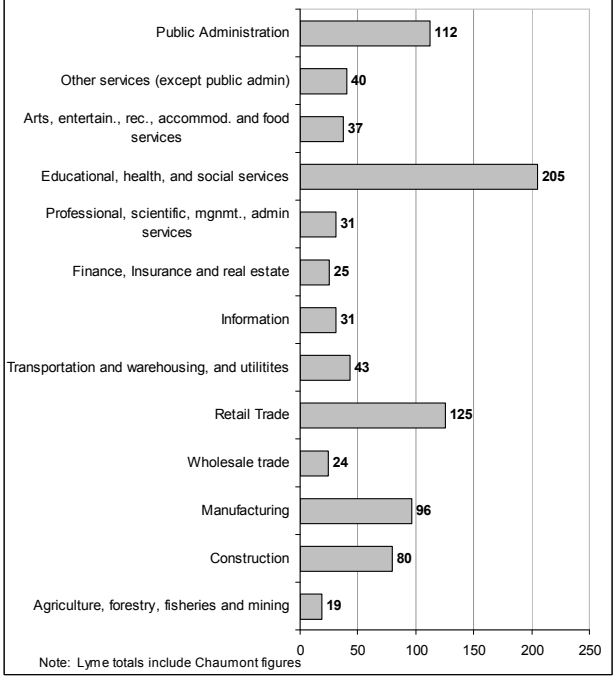


Figure 46. Resident Employment Industries - 2000
Lyme



Note: Lyme totals include Chaumont figures

Figure 47 illustrates the resident employment by industry category in Chaumont. As in the Townwide total, Educational, health and social services comprised the largest sector of employment for Chaumont residents, with 53 residents at 20.1 percent of resident employment. Second by industry was Retail Trade, with 42 residents, or 14.4 percent of the total.

Figure 48 illustrates Lyme resident's average commuting time to work from 1980 to 2000. As one can expect with the recent Townwide growth in Lyme noted in the population discussion, with a finite number of local jobs, commuting times increase as more people commute further to stay involved in the workforce. While most commutes are still less than 30 minutes, the 20 to 29 minute segment contained the highest number of commuters Townwide in 2000. Also of note, was the significant increase in commuters in the under 10 minute segment, from 1990 to 2000, more than half of which was due to a similar change in Village commuter times.

As mentioned above, Chaumont's residents experienced the highest increase in those commuting for less than 10 minutes to work, as Figure 49 shows. Of note, the Village also felt a decrease in those commuting between 20 and 29 minutes, and felt a significant drop in the 30 to 44 minutes segment.

Figure 47. Resident Employment by Industry - 2000 Chaumont

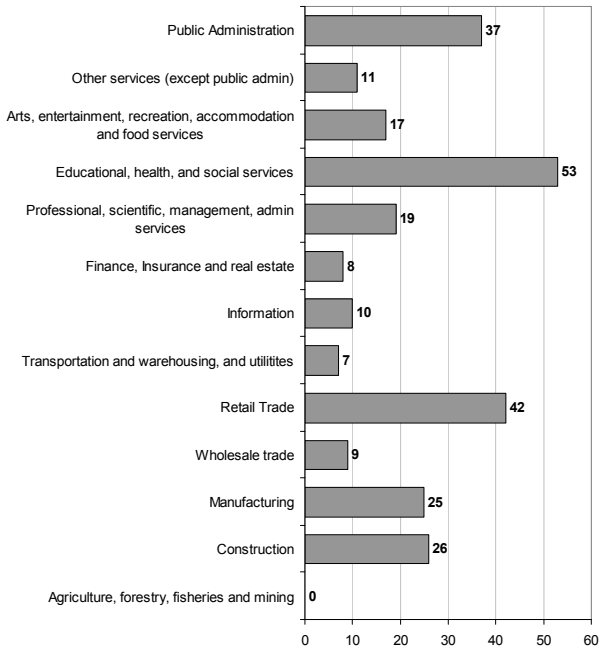
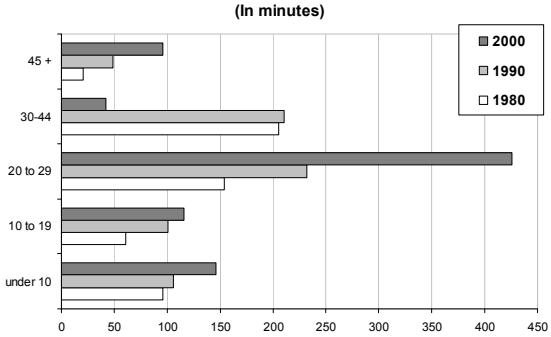
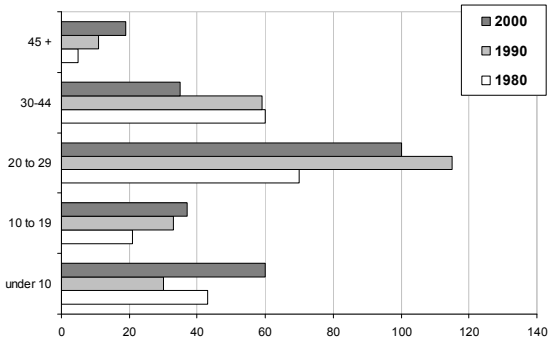


Figure 48. Travel Time to Work - Lyme
(In minutes)



Note: Lyme totals include Chaumont figures

Figure 49. Travel Time to Work - Chaumont
(In minutes)



While Figures 44 through 47 on previous pages described occupations and industry categories in 2000, of additional interest are the number of local businesses that offered such employment opportunities. According to the County Business Pattern data published by the Census Bureau, there were 26 registered business locations within the Chaumont area (13622 zip code) in 2007. Such business establishments (NAICS industries) include those with paid employees. However, crop and animal production; rail transportation, National Postal Service; pension; administration; and most government employees are not included. Figure 50 shows that from 1998 to 2007, registered businesses in the Chaumont Zip Code area increased from 17 to a total of 26, and in the Three Mile Bay Zip Code the total was 6 in 1998 and 2007.

Figure 51 illustrates total employee levels for Businesses within the Lyme Zip Codes. As the figure shows, 1999 was a recent high in local employment at 181 workers in Chaumont area, while Three Mile Bay's recent peak was in 2000 with 20. More recently, 2006 had the lowest total in the Chaumont area during the period with 94 employees, a little over half of 1999's total.

Figure 52 illustrates the payroll trend for the same local businesses described in Figures 50 and 51, also from the County Business Patterns information. It shows payroll increasing from 1998 to 1999, decreasing between 1999 and 2000, and then increasing slightly from 2001 to 2004 in the Chaumont area. Therefore while the local number of businesses increased from 1998 to 2007, payroll experienced an early significant increase, a decline and some fluctuations, and lately felt slight increases in the Chaumont area.

Figure 50. Lyme Number of Businesses - 1998 to 2007

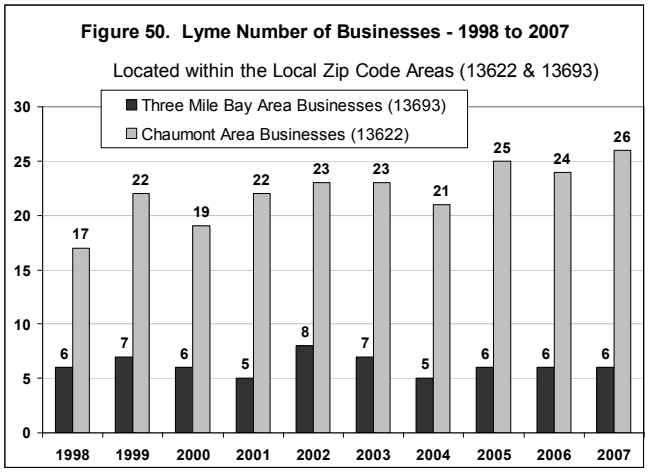


Figure 51. Local Business Employee Levels - 1998 to 2006

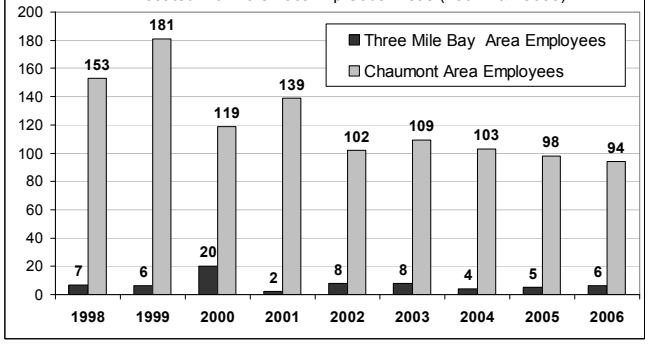


Figure 52. Lyme Local Business Payroll - 1998 to 2007

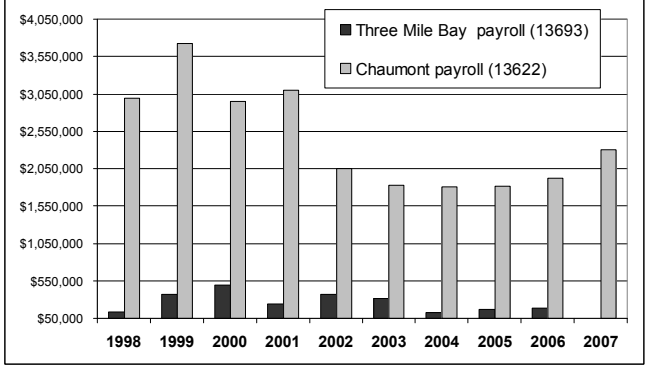


Figure 53 illustrates that of those local businesses in the Chaumont and Three Mile Bay zip code areas (13622 & 13693) in 2007, 23 of the 32 (72 percent) employed between 1 to 4 employees. It also shows that 4 other businesses employed 10 to 19 employees that year. This data illustrates that many of the current businesses in Lyme are indeed small businesses, at least in terms of total employees.

Figure 54 shows the same number of businesses per size class for the businesses in the Chaumont and Three Mile Bay zip code areas (13622 & 13693) in 1999. Comparing the business numbers from 1999 to 2007, it would appear that two of the construction companies increased in size (two were added), and two had more than 4 employees by 2007. Similarly, the number of and size of the accommodation and food service businesses increased in number and size as well during the time period.

Figure 53. Number Businesses Per Size Class - Lyme

Based on the Number of employees - 2007

Located within the Chaumont Area (13622) & Three Mile Bay Area (13693)

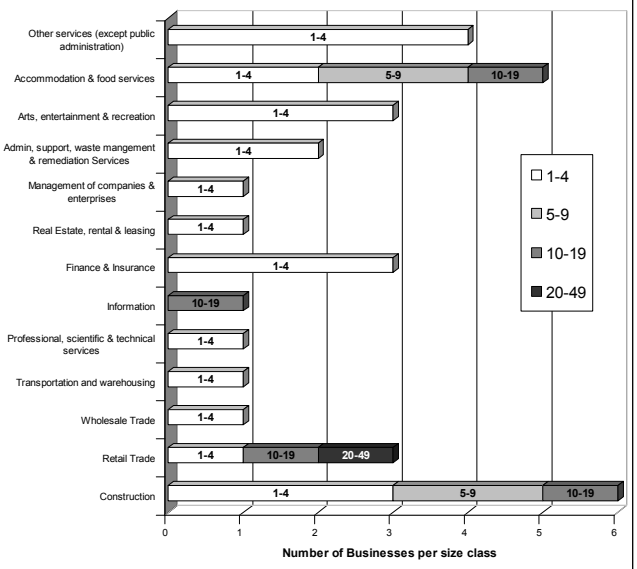
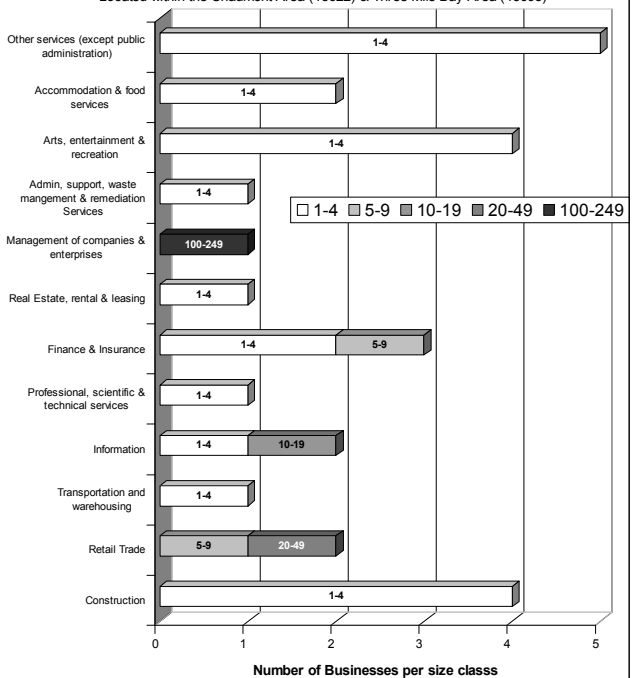


Figure 54. Number Businesses Per Size Class - Lyme

Based on the Number of employees - 1999

Located within the Chaumont Area (13622) & Three Mile Bay Area (13693)



Recent Development\Landuse Patterns

As noted in the Brief History section, Lyme over the years has experienced a distinct pattern of more dense community settlement in the Village of Chaumont and in Three Mile Bay, with spread-out homes in the more open agricultural and former farmed areas of the Town. The abundance and variety of waterfront property along Point Salubrious, Independence Point, Three Mile Point and Point Peninsula in Lake Ontario and along the Chaumont River originally led to settlement patterns, and during the last century have fostered seasonal homes and a steady increase in year-round homes along shoreline areas. Arguably, the views and scenic qualities along the waterfront have attracted settlement for decades and continue to do so.

The following map illustrates 2009 land use by parcel assessment according to the Jefferson County Real Property Tax Services Office, shown by Survey Area.

Alternative Energy Sources

Renewable energy sources such as solar, geothermal, and particularly wind have gained in prominence in the area. Because such energy systems, while producing energy locally, can have regional, community and neighborhood impacts, local governments need to review their land use planning tools to regulate proposed renewable energy in a way that is reflective of community values and planning.

Recent National, State and local (PILOT) incentives for alternative energy production have resulted in several potential solar and wind turbine projects proposed and reviewed in Jefferson County. Specifically, several solar grant projects are being pursued in the Towns of Clayton and Alexandria. Also, several wind projects have been proposed in the region. Completed in the summer of 2009, Wolfe Island wind facility, in Ontario, Canada included 86 turbines just across the St. Lawrence River from Cape Vincent. Two wind projects have been proposed in Cape Vincent including one with turbines in Lyme; a project in Clayton with some turbines proposed in Orleans; as well as a wind project on Galloo Island that has been approved in Hounsfield.

While grid capacity, project economics, community and wildlife impacts and other matters may affect project feasibility and ultimate construction, the solar and wind resources present in some areas in Jefferson County provide an environment that could encourage small and large scale solar and wind energy projects. The community and regional cumulative impacts of several potential project sites eventually operating within the area should be considered.

Any solar, wind, geothermal, or other local energy proposals should be viewed in the context of their economic impact, visual effect on the scenic quality and visual character of the community; as well as their potential noise and other environmental impacts.

Although additional large scale solar and wind projects may be proposed, the Town should consider projects in appropriate areas only, if any, to eliminate or at least minimize impacts within scenic priority areas, sensitive habitat, and concentrated residential areas. Furthermore, the potential visual, noise, and other impacts solar or wind turbines could have on residential areas and communities should be addressed as part of the review process and setback determination.

Wind projects have visual, noise, and other impacts on nearby land uses, historic and scenic landscapes as well as bird and bat populations. The location of any inventoried scenic views or historic sites\districts within or adjacent to identified wind sites should also be a factor for consideration. The location of any inventoried wetland or water areas that are home to birds or any rare or endangered species within or adjacent to proposed wind sites should be a factor for consideration in evaluating the potential appropriateness for these sites, as in many cases conflicts arise among between these uses. The location of prime bird habitat, scenic vistas or historic sites within identified wind resource areas may persuade local planners to avoid, prohibit or set back such uses.

Standards and considerations for solar water heaters, photovoltaic panels, and other solar appurtenances, geothermal energy devices

such as geo-exchange heating and cooling and ground source geothermal systems should be developed. Similarly, community standards for private, municipal, commercial wind energy systems and associated transmission facilities should be established. Thereafter, if alternative energy systems are proposed, community priorities would be addressed.

Please refer to Chapter VI, Future Land Use Recommendations for a list of Alternative Energy Source Considerations when regulating such uses.

CHAPTER III. TRANSPORTATION

Introduction

A direct correlation exists between the transportation network and the physical development of communities. The land use and travel generation relationship is constant because changes in one ultimately affect changes in the other. Transportation and land use must be coordinated to ensure a rational use of land, and a viable transportation network that continues to serve the community and region.

A major key to economic growth for many communities is to have a convenient link to the outside markets. Such access provides a way for goods to be available, as well as needed goods, services and employment levels that may not be found within the community. The most prevalent modes of transportation within Lyme and Chaumont are through roads and highways, waterways, and sidewalks where available. The remainder of this section will give an overview of the transportation system in the Village and Town, with the greatest concentration given to the existing road network.

Road or Highway Types

Roads offer the primary means of transport into and out of a given area or neighborhood. They also provide access to properties of all types. As noted in the brief history section, their quality affects growth patterns, access to commercial markets, and commuting patterns. Roads serve various functions throughout a given community. Arterials, major and minor collectors, and local streets and roads have different capacities and serve in different ways.

Arterial streets or highways are designed to carry major traffic loads through and within a given area or region. Arterials carry the highest volume of traffic and much of the traffic consists of longer trips. In rural areas, they serve as major thoroughfares. For planning purposes, arterial road service to abutting land should be subordinate to the movement of traffic loads. NYS Route 12E is considered an arterial highway through Lyme, Three Mile Bay and Chaumont.

Major collectors are streets that carry moderate traffic loads, gathering traffic from local streets and then emptying it into arterials. Similarly, **minor collectors** gather traffic from local streets, but also run through residential, commercial or industrial areas providing property access and traffic movement functionality. County Routes 5, 6, 8, 57, 125, and 179 serve as Collector Roads within Lyme and Chaumont. There are other local collector streets within Chaumont as well.

Primarily, **local roads** provide land access and have lower traffic volumes. Local roads typically make up the largest volume of mileage, but carry only a small portion of total vehicle miles of travel. Local streets offer the lowest level of traffic mobility and thru-traffic is often discouraged. Where on-street parking is permitted, they serve to store vehicles as well.

Road Design Capacities

In order to gauge the adequacy of the road system and measure proposals that could affect levels of service, generally recognized capacities should be examined. The numbers of expected vehicles per hour and average daily traffic levels are generally

accepted guides to weighing project impact on road capacity. Example design capacity standards are shown in Table 1 and can be used for general planning purposes. They are flexible, however, and will be affected by other factors which must be taken into account during the design or approval of new streets and\or projects. The need for a developer sponsored traffic study should be considered when appropriate.

Table 1. General Street Design Capacities

street \ road type	Practical Capacity - vehicles per hour	Design Capacity - average daily traffic
2-lane city street, 2-way	600-750	6,500-8,500
2-lane city street, 1-way	900-1,100	10,000-12,000
3-lane city street, 1-way	1,300-1,800	12,000-14,000
4-lane city street, 2-way	1,100-1,600	12,000-18,000

Note: The capacities are based on typical traffic flow characteristics; 10% of total daily flow in peak hour; 60 to 65% of peak hour traffic in predominant direction of flow; 20% turning movement; 10% trucks; 50% green signal time.

Source: International City Management Association, 1979

Road Mileage

Vehicle traffic within the Town and Village travels along various state, county, town, and private roads and highways. Table 2 shows Town Roads comprise the greatest amount of mileage in Lyme, with about 43 miles of roads consisting of 52.3 percent of the automotive road system. County Roads comprise the second most amount of mileage, with about 32.5 miles consisting of almost forty percent of the system. State Roads include about 6.95 miles, consisting of about 8.4 percent of roads in the Town.

Table 2. Town of Lyme Road Mileage

Ownership/ Maintenance	Mileage	Percent
Town of Lyme	43.18	52.3%
Jefferson County	32.49	39.3%
New York State	6.95	8.4%
Total	82.62	

Chaumont & Lyme Traffic Levels

Automobiles, trucks and other vehicles use the road system in their round-trip daily commute to work, recreate, purchase goods at retailers and for many other purposes. Also, deliveries are made, tourists travel, and some traffic goes through Town on its way to other destinations. Such traffic is measured periodically as well as estimated by the New York State Department of Transportation and by the Jefferson County Highway Department on their respective roadways. This is performed to measure traffic levels to help insure the roadways are operating within their design capacity levels or to identify areas of concern. Please refer to the Average Daily Traffic Level Map or Table 3. Traffic Levels to the right.

Table 3. Traffic Levels - State\County Rds

	Average for any 24 hour period
Roadway	***Number of Vehicles***
NYS Route 12E	
segment 1	2,485
segment 2	4,002
segment 3	5,239
segment 4	4,662

Table 3. Traffic Levels - State\County Rds

	Average for any 24 hour period
Roadway	***Number of Vehicles***
County Rte 5	
segment 1	119
segment 2	60
segment 3	65
County Rte 6	
	149
County Rte 8	
segment 1	480
segment 2	427
County Rte 57	
segment 1	50
segment 2	109
segment 3	186
segment 4	361
segment 5	476
County Rte 125	
segment 1	169
segment 2	283
County Rte 179	
	142

Sources: County counts compiled by Jefferson County Highway staff May thru August (2007-08)
NYS Dept. of Transportation, Region 7 (2007)

This information can also be useful to planners when examining a proposed project along a certain road, highway or intersection to help identify its potential traffic impact to the existing system. For example, a given business or group of homes will generate a typical number of vehicular trips per day based on the size of business, number of homes, etc.

Such expected trips can be weighed or compared to existing traffic levels. For example, roads or intersections are designed for a given number of vehicles. If a proposed project is reviewed that could generate a greater number of vehicles than the design capacity of the road or intersection, then improvements to the roadway in terms of turning lanes, or intersection improvements should be considered. For reference purposes, a sample of expected trips generated by a few common land uses can be found in Table 4.

Table 4. Sample Trip-Generation Rates by Land Use

Type of Development	Average Weekday Trip-Ends
Single-family, detached	9-10 per dwelling unit
Townhouse \ Apartment	6 per dwelling unit
Fast food restaurant with drive-thru	500 per 1,000 sq. ft. of floor area
Supermarket	111 per 1,000 sq. ft. of floor area
Shopping Center	50 per 1,000 sq. ft. of floor area
Office Building	3 per employee
Light industrial	3 per employee

Source: Institute of Transportation Engineers "Trip Generation." 6th Ed, 1997

Arterial\Major Collector Road Protection

New York State invests significant amounts of resources in its arterial road system. Such highways are vital links between communities and serve as essential corridors for commerce, trade, tourism, and recreational travel. However, in a familiar pattern, residential and commercial growth has occurred along many arterials serving

the state's communities. This growth over time can create a need for costly highway improvements including additional travel lanes, bypasses, turning lanes, and intersection signalization. Unfortunately, few communities have enacted controls to address the rate and quality of this arterial roadside development, and taxpayers must bear the costs associated with strip development, traffic congestion, safety problems, and the resulting expensive remedial highway improvements.

Strip development occurs so slowly that it is seldom viewed as a crisis until traffic problems become severe. Development therefore is often allowed to continue in a haphazard manner until significant problems occur.

Arterials that carry large volumes of traffic are attractive locations for strip development. Residential and commercial developments locate along the arterial over time until strip development becomes the predominant land use pattern. The ability of the arterial to move traffic then becomes seriously compromised, resulting in increased traffic congestion and reduced safety. Ironically, it is often the small and medium-scale businesses that cumulatively create the worst problems.

Inefficient zoning, access points and street layout force businesses to connect access driveways to the arterial. If shared drives and\or side streets had been developed correctly, driveway access could have been rerouted to these streets. While NYS DOT has the right to restrict access on state roads to a point, they must allow access to properties adjacent to their roads, unless it is along a limited access roadway. Every parcel of land is required by law to have reasonable access to it, and it is not always possible to limit driveways to a set spacing throughout the length of an arterial. In many cases, municipalities zone and allow subdivision of properties in a section of land in such a way that many small parcels must be granted access onto the arterial or else they would have no access at all. Additionally, such growth occurs not only on state roads, but also along county roads.

Local governments have the potential to better control land development along arterials and collectors. If it is a state controlled roadway, the local municipalities and the state jointly control the roadway and access to it. Reasonable access does not mean that access has to be provided directly off a main street or highway. In some cases, reasonable access may be provided off side streets or roads. Local governments therefore can prepare and adopt comprehensive planning and zoning ordinances to guide the overall development patterns and even prohibit strip development. Regardless of the existence of a comprehensive plan, municipalities can also enact access management controls to regulate the placement and design of driveways.

Pedestrian Considerations

Prior to the advent of the automobile, many communities flourished as pedestrian oriented, compact hamlets or villages. Chaumont and Three Mile Bay reflect this pattern in their historic downtowns and nearby walkable neighborhoods with churches and other destinations in close proximity. This development pattern precluded the need for many parking spaces at business locations.

More recently, automobile dependent development that is more spread out with larger parking areas, results in building placement further from the street and residential areas. This pattern reinforces automobile dependency, which affects traffic levels and limits pedestrian options. Options for more mixed-use, more compact development should be examined to reverse this trend. Similarly, parking should be located to the rear and\or side yard, with bicycle and pedestrian pathways included to provide better pedestrian access. Maintaining suitable pedestrian scale and convenient access benefits storefronts by increasing the variety and likelihood of customer traffic from drop-in and destination shoppers. Ongoing sidewalk maintenance from residential areas as well as along Main Street affects the level of pedestrian access now and into the future. Chaumont has sidewalks within downtown and several neighborhoods nearby that connect to downtown. Three Mile Bay has newly constructed sidewalks along 12E.

Seaway Trail National \ State Scenic Byway

NYS Route 12E comprises the Seaway Trail Scenic Byway within the Town of Lyme. The entire Seaway Trail is a 518-mile multi-state Scenic Byway that coincides with the scenic shoreline of Lake Ontario and the St. Lawrence River within Jefferson County (NYS Routes 3, 180, and 12E). It encompasses the military history, agricultural ingenuity, shipping heritage, and recreational resourcefulness that shape the distinct setting. It also serves as the main road through the Town and Village, providing a direct link to Cape Vincent, Clayton and Alexandria Bay and many other State Parks on the St. Lawrence River. The Seaway Trail is a preferred route for large numbers of bicyclists during warm weather. While it serves as the only official bike route, Point Peninsula and Point Salubrious see a fair amount of bike traffic as well.

Two Seaway Trail informational kiosks serve Chaumont, one near the Fire Dept. Park, and one near the telephone company.

St. Lawrence Seaway

The waters of Lake Ontario are traversed by a variety of boats and ships including pleasure craft of all sizes as well as freighters transiting this portion of the St. Lawrence Seaway. Smaller vessels and recreational boats are common to the area. Recreational and charter fishing vessels are more common during the winter months. Lake Ontario is part of the 2,342-mile long St. Lawrence Seaway, the only commercial shipping route between the Great Lakes and the Atlantic Ocean. The locks of the Seaway accept vessels 740 feet long, 78 feet wide and up to 166.5 feet in height above the waterline. The Seaway handles 3,000 to 4,000 ship transits and 30,000,000 to 40,000,000 tons of cargo during a typical navigation season. Large freighters are commonly visible along the shorelines of Lake Ontario and the St. Lawrence River.

Marinas and Other Boating Facilities

Lyme's lakeshore, including Chaumont Bay, contains several marinas of various sizes, two yacht clubs, and a few waterfront restaurants and motels, as well as several marinas that include campgrounds. Such businesses rely to a large extent on the summer lake boating season, including: recreational boating, sailing, kayaking, charter fishing, and sport fishing. Power boats of many sizes flourish during the

summer. Year-round and seasonal residents, as well as visitors recreate on the unique bays and harbors in and around Chaumont, Three Mile Bay, Point Salubrious, Independence Point, Three Mile Point, and Point Peninsula. Boat launch facilities are described in the following chapter.

COMMUNITY FACILITIES

Introduction

Lyme and Chaumont's community facilities offer year-round and seasonal residents, as well as visitors with a diversity of services and opportunities that may otherwise not be provided. Community facilities are buildings, lands, and services or other public improvements which serve the community. Public roads, discussed above, parks, water districts, the library and school are a few examples of community facilities.

The Town of Lyme and Village of Chaumont have a wealth of public or community facilities and have worked to increase such services while minimizing public expenditures in doing so. Other community facilities include Long Point State Park, boat launches, the public library, fire stations, Town\Village Hall, and the Village Beach. Additional public recreation areas include the Chaumont Barrens Nature Preserve and the Ashland Flats and Point Peninsula Wildlife Management Areas.

Recreational Facilities\Opportunities

Lyme offers many opportunities for warm weather recreational endeavors such as swimming, fishing, biking, walking trails, boating and camping. The Bay Breeze 9-hole golf course near Chaumont provides convenient golf opportunities within the area. Annual events include fishing derbies, a little league tournament, the Le Race De Chaumont (5k & 12k runs), the Tour De Chaumont Bay bike ride (25, 50, & 100 mile), and the Lyme Triathlon (600m swim or 3.5 mile kayak/canoe, 17.6 mile road bike, 4 mile run).

Winter recreational opportunities include ice fishing, cross country skiing and snowmobiling. The NYS Corridor Snowmobile Trail (maintained by the TI Snowmobile Club) connects Chaumont and Lyme to Cape Vincent, Clayton and Alexandria Bay via the Towns of Cape Vincent or Clayton.

Many public facilities in the community contribute to support these activities and other various events. Lyme Central School owns a total of 18.33 acres, including two soccer fields, one baseball diamond, one softball diamond, one outdoor basketball court, an outdoor playground, and a gym in the school.

The Village of Chaumont operates 1.5 acres of tennis courts and basketball court, a 2.4 acre park beach and ten acres of ball fields. The Nature Conservancy maintains an interpretive hiking trail at the Chaumont Barrens. The State of New York operates the Chaumont Boat Launch area adjacent to the west end of the Village on Boat Launch Road and another at Long Point State Park on Point Peninsula. Long Point SP encompasses 20 acres and includes facilities for camping, docking, shoreline fishing, picnicking, and a boat ramp. Facilities can accommodate a daily capacity of 1,000 persons. Annual attendance is approximately 14,000 persons. The State also manages Ashland Flats Wildlife Management Area, and the Point Peninsula Wildlife Management Area.

In and near the Village of Chaumont the Adams Chaumont Bay Marina and Campsites, the Chaumont Yacht Club, Crescent Yacht Club, Guffin Bay Resort & Marina, and the Sportsmans Hideaway Campground & Marina all offer seasonal

dockage, various boat marina services, and in some cases campground facilities. Near Three Mile Bay, the Hidden Harbor Campground & Marina offer such services, as does the Shangri-La Campground & Marina.

Boat Launches

For those who may not use the marinas, own waterfront property or do not have deep enough water at their property, there are several public boat launch facilities within the Town. New York State maintains a boat launch just outside the Village on Boat Launch Road off NYS Route 12E. Another boat launch exists on the Isthmus to Point Peninsula, and Long Point State Park maintains a public launch as well, also on Point Peninsula. A new NYS DEC public fishing site with boat launch is being developed in Three Mile Bay with picnic facilities.

Recreational Needs

A cursory assessment of the immediate need for additional recreational facilities in the Town of Lyme and Village of Chaumont is based on the analysis of existing supply and population characteristics matched to park and recreation standards. Future needs can be assessed by utilizing the same methodology, but population projections and recreational preference and trends information must also be considered.

According to National Recreation and Parks Association (NRPA) standards, 10 acres of park and recreation related open space should be provided for each 1,000 people. When this standard is applied to the Town and Village, with a total 2008 estimated year round population of 2,124 residents, the minimal amount of park and recreation open space that should be provided area is 21.24 acres.

Developed park and recreational facility acreage in the Village and Town total about 34 acres. While most of the formal acreage may be located within the Village and the State Park on Point Peninsula, Chaumont also serves as the hub of school activities for the school district, and provides a central location for many cultural and historic activities in the community. However, a brief discussion of standards for various types of recreational facilities is listed below.

Certain types of recreational facilities rely on population density for their need level. The population density of the town of Lyme outside the Village was 27.5 people per square mile in 2008. The Village of Chaumont, however, had a population density of 505.8 people per square mile in 2008. This higher density warrants several levels of parks and facilities, which exist in the Village.

Play Lots

Play lots should be provided for preschool children up to 6 years of age primarily in conjunction with multifamily developments and where desirable, in single-family neighborhoods remote from elementary schools. Although Town-wide population density may not indicate the need for such a facility in Lyme, the Village density, especially as further development may be proposed, could warrant the development and maintenance of the new play lot centrally located.

Playgrounds

The playground is the chief center of outdoor play for children from 5 to 12 years of age. They also offer some opportunities for recreation for young people and adults. They should be of sufficient size and design and be properly maintained to serve both the elementary educational program and the recreational needs of all age groups in the immediate surrounding area. Lyme Central School has a playground currently. It is desirable to provide 3 acres for every 250 families (110 elementary school children).

According to the 2000 Census, there were approximately 270 youth within this user group in the entire town of Lyme (about 80 of which were in Chaumont) indicating that the present playground could be considered adequate. Therefore, the demand for this type of facility in the village is accommodated primarily at the existing school, especially as most town school-aged residents attend the Lyme Central School system. Access to the playground for town residents living further away, however, could be an issue when school is not in session. Three Mile Bay could warrant another similar facility.

Pocket Park

Pocket parks are small landscaped areas that are provided for the general public as a place for rest and relaxation. They typically are less than an acre and provided in more urban settings. Both the Village Beach and Memorial Park serve Chaumont in this capacity.

The 2008 population estimate of the town of Lyme would require 1 acre of this park type to meet NRPA's standards. Areas that serve this function in Chaumont include: Village Beach (5 acres), and the Memorial Park open space area within Memorial Drive (0.36 acres) that includes marble picnic tables and walkway.

Playfields

Playfields are multipurpose recreation areas, primarily for the use of adolescents and young adults. They often include athletic fields for such organized sports as baseball, football, soccer, and track; playgrounds for the use of smaller children are also often included on the same site. Three acres of playfield space should be provided for each 1,000 persons served.

According to this standard, 6.37 acres should be provided town-wide (as of the 2008 estimate of population). Similarly, the 2000 population of the town between 5 and 24 years of age (430 people) at a minimum justifies the current playfields in Chaumont. While current demand is met at the school facilities, which include a playground, an outdoor basketball court, soccer fields, and baseball\softball diamonds. The fire department in Chaumont offers two tennis courts and a basketball court (0.86 acres). However, local practice schedules and tournaments do require additional fields at various times. Therefore, the Town of Lyme anticipates the refurbishing its two soccer fields and adding two new baseball fields just outside the Village, as well as one new softball field to expand practice capacity and allow local leagues and the number of teams in tournaments to be expanded as needed.

Neighborhood Parks

Neighborhood parks are designed for passive recreation such as sitting, as well as active areas for court and field sports and free play. They should be located within walking distance of neighborhoods. They can be either alongside playgrounds or playfields or as separate facilities. At least 1 acre of such space should be provided for each 1,000 persons served.

Community Parks

Community parks are usually larger than the other recreation areas within a community and can contain a variety of active and passive recreation facilities. At least 2.0 acres of community park land should exist for each 1,000 persons served. Therefore, this standard calls for over 4 acres of community parks. However, during the summer, the number of seasonal residents Townwide could heighten this need.

Residents in Chaumont recognize the need for a neighborhood or community park located along its waterfront. Most recently, the community survey indicated a desire for larger public neighborhood or community park that provided dockage or water access and areas to view the shoreline. This need is strong especially among those who may not own waterfront property, and could also be a destination for visitors.

Large Regional Parks

Major recreation facilities to serve large areas for day outings should be found in regional parks. A regional park would provide large picnic areas and such facilities as boating, swimming, golf, natural areas, and ski/ areas, where appropriate, as well as large playfields including football and baseball fields.

A large regional park, which is usually the responsibility of a regional agency, county, or state authority, should be at least 100 acres and be within a half hour to an hour's drive for its users. Here, again such standards and guidelines vary with the characteristics of the area in question. The present town of Lyme population is served by several large regional parks within a half hour to an hour's drive.

Other Recreational Areas

Ashland Flats Wildlife Management Area is a 2,040 acre area managed by New York State comprised of two areas located two miles northeast of the village of Three Mile Bay, along the Depot and Ashland roads. Much of the land borders Burnt Rock Road and County Route 8. Ashland WMA is primarily an area of open meadows, second growth and young forests typical of the Lake Ontario plains. A snowmobile trail crosses through the WMA providing an important connection with adjoining trails. A walking trail was created when a water line was buried in an old railroad bed that crossed the WMA. There is parking for one or two cars on Burnt Rock Road. It is not a through trail. It is open to hunting and trapping during open statewide seasons and hunting hours. This WMA is one of the stocking sites for pheasant hunting in Jefferson County. Deer hunting is also popular on the area.

Point Peninsula Wildlife Management Area is a 1,045-acre area managed by New York State located on Lake Ontario on the western edge of Point Peninsula, 8.5 miles southwest of the village of Three Mile Bay. It is divided by Beach, South Shore and Pine

Woods roads. The Point Peninsula WMA is a natural wetland complex consisting of sand beach, dune, emergent marsh, grassland and wooded shrub swamp. The WMA is predominantly wetlands, with mix of grasslands and wetlands on the property's eastern edge. Public use of the Point Peninsula WMA includes hunting, trapping, wildlife observation and bird watching. Hunting and trapping occurs during open statewide seasons and hunting hours. The area is popular for Deer hunting.

Chaumont Barrens is a 2,100 acre nature preserve managed by the Nature Conservancy. It is one of the few remaining alvar grassland landscapes and offers a self-guided, 1.7-mile hiking trail. The area consists of flat rocky terrain of grasslands, limestone woodlands, cedar forests, pavement barrens and rare plant communities. Alvar communities are adapted to survive extreme conditions: shallow soils, regular spring flooding, and summer drought.

Statewide Trends in Recreation and Tourism

According to the most recent Statewide Comprehensive Outdoor Recreation Plan (SCORP 2009-2013), several other trends are expected to impact Recreation Needs in the future. Statewide, the population is expected to increase at a small rate over the next 20 years. However, large numbers of immigrants are expected to settle here from abroad; there will be a net out migration of younger New Yorkers, an increase in racial diversity is expected, and an increase in the proportion of elderly population resulting from both the aging of the baby boomers and the continuing increase in life expectancy. As the population ages and more of the baby boom generation enters retirement, recreation providers may see demands for activities such as golf, relaxing in the park, historic site visitation, walking, and other passive activities increase. Similarly, with increasing numbers of elderly and retirees, leisure time patterns will change, with traditionally slow periods such as week-days for recreation and related visitation becoming more and more frequent during off-peak periods. This could require changes to the recreation infrastructure in some cases.

Another trend cited in the SCORP 2009-2013, was that today's youth are spending less time participating in outdoor recreational activities. Many factors contribute to this pattern, such as increases in electronic media use, costs of activities, lack of time, transportation to and from, competition with structured sports, a lack of awareness of available facilities, as well as safety concerns. A related trend regarding leisure time is that while the number of adult hours devoted to work over the past generation has decreased, passive indoor activities such as watching television has increased at an even greater rate. This alternate use of leisure time has decreased the availability of leisure time for outdoor activities for individuals and families.

One possible cause could be that while more leisure time has become available, it may be available in smaller pieces rather than large, contiguous blocks favorable to family outings and the like. It has been noted that the time devoted to outdoor recreation has increasingly been occurring during peak hours, which can put pressure on limited resources.

The future of travel, tourism and recreational activities dependent upon gasoline is more uncertain due to fuel cost

and availability. This could impact such recreational activities as snowmobiling, ATV usage, boating and camping. As a result, if fuel costs rise again, there could be a decrease in motorized recreation, and a resulting increase in non-fuel related activities. However, in 2007 and 2008, when fuel costs were relatively high, state campgrounds around the North Country had high occupancy rates. This could be due to the high cost of travel that led to shorter trips for recreation and increasing numbers of close to home vacations.

More specific trends for outdoor activities, participation rates and the number of activity days per year are shown in Table 5. It illustrates the percentage of the population participating in various activities, and the average number of activity days per activity in 2005.

Table 5 - Recreation Participation and Activity Days - New York State 2005

Activity	% Population Participating	Activity Days Per Participant
Relaxing in the Park	*78.0*	*8.3*
Walking \ jogging	*64.1*	*33.9*
Swimming	*44.9*	*8.5*
Biking	*32.2*	*10.0*
Historic Sites\Museums	*57.9*	*5.9*
Boating	*26.8*	*5.7*
Fishing	18.2	*5.8*
Hiking	19.3	*6.8*
Field Sports	18.8	*11.2*
Court Games	*24.7*	*9.3*
Tennis	10.8	*4.7*
Golfing	12.7	*10.9*
Camping	*26.9*	*5.6*
Hunting	6.3	*7.7*
ATV	6.4	*6.4*
Local Winter	*31.0*	*3.9*
Downhill Skiing	7.8	*5.1*
X-Country Skiing	6.8	*4.1*
Snowmobiling	4.8	*2.77*

Source: Statewide Comprehensive Outdoor Recreation Plan - 2009-2013

Italics notes the Top 8 Recreation Activities in terms of Percentage of the Population Participating

Tourism Recreation Benefits

Lyme, Chaumont and Three Mile Bay's local economies offer residents, seasonal residents and visitors services and support facilities to expand their recreation potential throughout the area discussed above and in sections below. Capturing additional tourists that live and travel through the area is a constant challenge. Effective signage plays a role, but also building awareness via the internet has proven to be another critical tool for many communities throughout Jefferson County. Awareness of local resources, facilities and support businesses can be a crucial link to additional tourism trips within the community. More tourism visitors and their business demand could increase not only the number of local businesses, but also the level of services area businesses can offer.

Tourism Potential

It is recognized that while tourists do visit and recreate in Town and Village areas, there may be considerable tourism traffic that simply drives through the area on their way to other regional destinations. Capturing some of this pass through tourism traffic by expanding awareness through simplified or improved signage, brochures,

advertising as well as possibly additional local destination development could be a potential goal for the communities. A visitor's center of some kind could address this need by serving of as a convenient destination to coordinate and house such information, as could many other activities to coordinate related steps and efforts in this direction.

Municipal Water Districts

Municipal Water is provided by the Village of Chaumont, through the Development Authority of the North Country's (DANC) western regional water line. The line generally parallels NYS Route 12E from Glen Park to Cape Vincent (along the former railroad right-of-way). Municipal Water is generally available throughout much of the Village.

Activity began in 1990 toward the formation of the Town's first water district, at the northwestern end of the Village of Chaumont. Town of Lyme Water District #1 was approved by the Town Board in 1993. By 1995, the water supply from Chaumont was secured. Extension of WD #1 on Independence Point was approved in 1997. It now totals about 43 users or hookups. Three Mile Bay's Water District #2 provides water to its residents with about 154 users or hookups.

Water District #3 provides water to the Bay Breeze Golf Course. Water District #4 serves about 40 users or hookups along Millens Bay Road and Cheever Road. Water District #5 serves about 50 users or hookups along Old Town Springs Road for another mile and a half beyond WD #1. Properties using private water sources in the Village included 31, within the Town included 919 according to the 2009 real property parcel data.

Municipal Sewer Service

Municipal sewer service is available in the Village of Chaumont. The plant was funded through a grant\loan from USDA Rural Development and the NYS Revolving Loan Fund. Design capacity was 100,000 gallons per day, as of 2004. Treated effluent is discharged in Chaumont River Bay.

Lyme Free Library

The Town and Village library is located in the Village of Chaumont, on NYS Route 12E. The library is open on Monday and Saturday from 10 to 4pm, Tuesday and Friday from 10 to 8 pm, and Wednesday from 10 to 6pm. The library's holdings include over 16,000 volumes. They also have audio books and about 30 periodicals. The library currently has 5 computers with internet access for public use. The library has a children's room and hosts a weekly children's story time.

Post Offices

Currently, the US Postal Service has a Post Office located in the hamlet of Three Mile Bay and another in the Village of Chaumont, both on New York State Route 12E.

Educational Facilities

Lyme Central School, located in Chaumont, was originally built in 1941, and serves all grade levels. Several improvements have been made to the facility, including a heating system upgrade in 1978, a new gym in 1984, and in 1997 the addition of three classrooms and a library renovation. As of

the fall of 2008, pre K-6 grade enrollment was 178 students, while grade 7-12 enrollment totaled 166.

Community Groups

The Chaumont – Three Mile Bay Chamber of Commerce actively promotes activities, events and businesses within the Town and Village. Events include the Lyme Community Field Days, fishing derbies, bazaars and craft fairs, the little league tournament (with about 48 teams), the Tour De Chaumont Bay bike ride, and the Lyme Triathlon.

The Lyme Garden Club actively undertakes projects that address the overall beautification of the Town and Village. Some of the beautification efforts include Christmas projects, flower planters situated at strategic locations, large garden maintenance, and garden and home tours.

The Lyme Community Foundation formed to provide community education and enrichment. They are based in the Copely House.

The community takes great pride in the Youth Commission activities. Its purpose is to establish, promote, supervise, and maintain sports, fitness, recreational, educational and cultural programs. Aimed at youth between 5 and 20, year-round and seasonal residents are welcome. The Youth Commission seeks to provide a diversity of programming to promote a safe environment for youth to develop both physically and mentally. The Commission provides many services and functions: organizing sports leagues and camps; coordinating summer recreation programs, supporting the Outdoor Club; sponsoring trips and operating the teen center.

Historical Resources

The Lyme Heritage Center maintains information on local history and genealogy and offers a wealth of knowledge of the local past.

The Town of Lyme Multiple Resource Area was listed on the State and National Register of Historic Places in 1991. It encompasses twenty four components throughout the corporate limits of the Town of Lyme. Dating from approximately 1806 to 1831, the components reflect several major periods during the Town's history, including; initial settlement; economic and industrial development throughout the nineteenth century; the evolution of agriculture; and architectural history. The components include: homes; cemeteries; the Chaumont, Point Salubrious, and Three Mile Bay Historic Districts; churches and schools; and agricultural structures (NYS Office of Parks, Recreation, and Historic Preservation – Town of Lyme Multiple Resource Area Nomination Form).

Multiple Resource Area is a designation given to groups of properties within relatively close proximity to each other that are deemed worthy of preservation. Listing on the State and National Registers recognizes the importance of properties to the history of the country and provides them with a measure of protection. In addition, owners of income producing properties may qualify for federal income-tax benefits. Properties owned by municipalities and not-for-profit organizations are eligible to apply for state historic preservation matching grants. (NYSOPRHP, 1991)

CHAPTER IV ENVIRONMENT & NATURAL RESOURCES

Introduction

The physical attributes and natural resources of an area typically have a direct effect upon the types of development that occurs. The weather, water bodies, soil types, landscape or slopes and major features as well as the presence of resources encourage or discourage various development patterns.

The Town of Lyme has long been influenced by its environment. As witnessed by its history, the lake and its harbors, creeks and productive soils have been constant contributors to its development pattern. Along Lake Ontario, seasonal homes and increasing numbers of year-round homes have taken advantage of its harbors and varied waterfront views. Horse Creek's power was harnessed during the Chaumont's early settlement for mills, helping establish early industry within the Village. The Town's productive soils allowed subsistence farming, and later, larger farms to be established, numbers of which still raise dairy, livestock, and produce hay and vegetables today.

Sometimes, the same soils that support pasture and crops have limitations for development such as high water table, shallow depth to bedrock in some areas, or other conditions such as clay soils that may limit septic system operation. The same landscapes that provide spectacular views of the lake and its harbors can often limit potential development patterns.

When studying past, present, and any potential future development, a careful examination of an area's physical characteristics must take place. This chapter describes the primary features of Lyme and Chaumont for general planning purposes. However, smaller site level variation and change should also be considered when debating specific development needs.

Local Climate

Although the relationship can be overlooked, local weather affects development patterns and resulting uses. Favorable summers have long influenced Lyme's history as they continue to affect waterfront seasonal and year-round home demand. In contrast, the relatively cold, snowy winters also affect the local area by limiting outdoor activity levels, resulting in some residents who spend their winters in warmer states.

The area's climate is characterized as humid-continental. Winters are long and sometimes severe, spring is cool and short, summers are warm and moderate, autumn is also warm, but usually short. The climate is influenced by the proximity to Lake Ontario. During the colder months of the year, the 'North Country' is known as 'snow country.' In late fall and winter months, the relatively warm lake provides moisture to air masses moving in from the west. These air masses then move over the area's colder land surfaces and encounter higher ground in a short distance. This combination of low temperatures and intervening high ground condenses the moisture and often causes heavy snowfall. Average annual snowfall in Lyme is closer to 80 inches (Watertown averages about 110 inches), but occasionally 200-300 inches can fall in any given part of the region (usually in the higher elevations).

While the lake helps provide a source of snow during the winter, the large body of water also moderates the extreme cold in winter and the heat during summer.

Winds typically come from the west, often northwesterly during winter months and southwesterly during summer months. Such winds are influenced by the large open water found in Lake Ontario. Therefore, the presence of wind is relatively consistent throughout the year. More southerly winds sometimes occur, bringing warm spells at times, typically during summer or fall.

Important Open Views and Viewsheds

The Town of Lyme and Village of Chaumont, have over 40 miles of shoreline (the most of any Town in the county) and 57.3 square miles (36,672 acres) of land in total, comprising many scenic landscape views. The Town's various landscapes are made up of a variety of elements, including the lake and its bays, river corridor, historic homes and businesses, agricultural operations, and other unique natural areas. The natural landscapes and historically relevant buildings form scenic views (in some case panoramic views) that are integral to the quality of life for residents and offer much of the appeal for those visiting the area as well. Promotion materials for the area often include any number of views touting the area's unique scenic quality and historic charm.

Throughout many areas in Lyme, sweeping views of the Lake, harbors, farm fields, and forest edges comprise many spectacular viewsheds. Along New York State Route 12E, also known as the Seaway Trail Scenic Byway as it transects the Town, there are several examples of such views visible from the roadway. The Seaway Trail Corridor in the Town contains agricultural operations, wooded areas, scattered residential areas and a few businesses.

The sense of place for many residents and strong appeal to visit, settle, and remain here comes from such open spaces, scenic views and quality of life elements only found in Lyme and Chaumont. Further evidence was demonstrated in the Community Input Survey responses, where the natural beauty of the area received the highest rating in terms of its essential importance to quality of life among 11 aspects of the community.

Water Resources

Lake Ontario

The Town of Lyme and Village of Chaumont share their western boundaries with Lake Ontario as mentioned previously. Lake Ontario is the last of the chain of Great Lakes that straddle the Canada/United States border. While it's the smallest of the Great Lakes, its surface area is 7,340 square miles. It is relatively deep, with an average depth of 283 feet and a maximum depth of 802 feet, second only to Lake Superior. It is the 14th largest lake in the world and has a shoreline 712 miles long.

Lyme's shoreline, along Lake Ontario, has several bays that provide shelter from the lake's intense wave action. Chaumont Bay is the large bay area providing shelter along a significant portion of Lyme's western shore, with other smaller bays also serving

recreational boaters and seasonal residents: Guffin Bay, Sawmill Bay, and Three Mile Bay.

Chaumont Bay

Chaumont Bay is about seven miles long and three miles wide. Its area covers about 15,320 acres and averages 15 feet in depth. The bay is sheltered from heavy winds largely by Point Peninsula and Pillar Point in Brownville and to a lesser extent, Cherry Island. Chaumont Bay is bounded by Guffin Bay at its east and contains two smaller embayments: Sawmill Bay, and Three Mile Bay.

Chaumont Bay is popular with boaters and hosts a series of sailing regattas annually. It also serves as the setting for the swim portion of the annual Lyme Triathlon. It also hosts a series of fishing derbies annually.

After this season, three State boat launches will be present in Lyme. One is at Long Point State Park on Point Peninsula (on Chaumont Bay). The second is located in Chaumont near the west side of the Village as described in the preceding chapter. The third will be completed in Three Mile Bay in 2010.

Wetlands

Wetlands are shallow areas commonly called swamps, marshes, bogs, wet meadows, estuaries, potholes, etc. As mentioned previously, these shallow areas are essential aquatic ecosystems that support the production of many types of vegetation, mammals, reptiles, waterfowl, fish and rare plants. Typically, wetlands are very productive, contributing greatly to biological diversity. Wetlands are very dynamic in nature and can be vulnerable to human encroachment and damage.

Wetlands also provide flood and storm water control by absorbing and storing rain and snowmelt waters, thus minimizing flood damage. They also act as surface and groundwater recharge areas and help maintain important water sources. Wetlands buffer shorelines from erosion and help cleanse waters of pollutants through natural filtration and other processes. Please refer to the Wetlands Map for their NYS DEC classification and locations within the Town of Lyme.

Even more valuable is that wetlands provide habitat for fish, waterfowl and other wildlife. They are among the most productive ecosystems providing a forage base for all levels of the food chain including spawning fish, nesting birds and many rare and endangered species. Another value of wetlands is that they provide natural beauty and valuable open space that can often be used for education and recreation.

Floodplains

Floodplains are federally designated areas that have a higher risk to flooding. Such areas were mapped by the Federal Emergency Management Agency (FEMA) throughout much of Jefferson County. The program and mapping was designed to limit development in flood prone areas and to offer participating communities an insurance mechanism for protecting properties at risk of flooding.

FEMA's Flood Insurance Rate Maps (FIRM) show areas at risk based upon

historic, meteorological, hydrologic, and hydraulic data, as well as open-space conditions, flood control measures, and development. Such flood prone areas have a 1 percent or greater chance of being flooded during any given year. Such areas have a 26 percent chance of flooding during a 30-year period.

If development is proposed in or near flood prone areas, the FIRM maps should be consulted. Community officials then use the maps to administer floodplain management regulations and therefore mitigate flood damage. Lending institutions and Federal agencies use the Flood Maps to locate properties and buildings to determine whether flood insurance is required when making loans or providing grants for the purchase or construction of buildings. Development should be monitored and avoided within such areas to protect the function of the floodplains as well as the health, safety, and property of the community's residents.

Coastal Barriers

In addition to areas designated as special flood hazards, two by the Department of the Interior as part of the Great Lakes Coastal Barrier Resource System. The two locations are identified as "The isthmus Unit NY- 64," and "Point Peninsula Unit NY– 65." In general, these areas lie at the isthmus and at the location of the previously discussed wetland area on Point Peninsula, respectively.

The Coastal Barrier Resources Act of 1982 established a system of 186 undeveloped coastal barrier units from Maine to Texas. The Act prohibits new federal expenditures and financial assistance within designated units, with limited exceptions. The Great Lakes Coastal Barrier Act of 1988 directs that undeveloped coastal barriers along the shore areas of the Great Lakes be identified and included in the Coastal Barrier Resource System. In summary, the two Acts are designed to discourage development of coastal barriers that are unstable and susceptible to flood and storm damage.

St. Lawrence Seaway

With regard to floodplains and coastal barriers adjacent to open water bodies in Lyme, there is one important factor to consider. The level of Lake Ontario, and therefore Chaumont Bay and the smaller bays in Lyme and Chaumont, is not fully determined by natural inputs of precipitation and flow from the Lake Ontario watershed and the other Great Lakes. The international St. Lawrence River Board of Control was established in 1952 when construction of the St. Lawrence Seaway was concluded. The main function of the Board of Control is to ensure that outflows from Lake Ontario (via the St. Lawrence Seaway) meet the requirements of the International Joint Commission (an entity created to resolve disputes over the use of waters along the U.S./Canadian Border). Many factors are considered by the Board of Control in their decision making processes, including the needs of shoreline property owners from Niagara County, New York to Quebec, and the needs of Montreal Harbor. In summary, decisions and actions regarding water levels that are not made locally have the potential for significant local impact.

Topography - Landform

The way the landscape is shaped, otherwise known as its landform, typically gives an

area its unique identity or its 'sense of place.' As mentioned previously, landform or topography also determines or influences the direction which development will expand, the potential for certain types of development, the costs of providing services and ultimately, the value of land. Flat land, for example, can ease some development costs affording greater accessibility; however, it may contain drainage difficulties. Rolling land offers views of the surrounding landscape, while development costs may begin to increase. Similarly, steeply sloping land can increase private and public development costs in terms of site leveling, services, and road construction dramatically.

The topography in Lyme varies, ranging from relatively flat to rolling lowlands and a few upland areas. The rolling lowlands are generally characterized by relatively flat to rolling land which slopes gently toward the creeks and the Chaumont River that drain into Lake Ontario as shown by the Water Features and Shaded Relief Map. Portions of this area have a high water table, as evidenced by numerous wetlands. Some areas also contain rock outcrops, with shallow depth to bedrock, and some areas of loamy soils (fertile soils containing clay and sand with other humus). There are several wetland areas along the western edge of the Town, as shown by the Water Features and Shaded Relief Map.

Geology

Much of central and western Jefferson County, including Lyme, was covered by a sea 450 million years ago that eventually left a belt of limestone across much of the area. Since that time, the glaciers and erosion left extensive flat areas and ledges of almost bare limestone in several areas in and around the Town, as described in Chapter II, History section.

Bedrock Geology

The area along Lake Ontario, including Lyme and Chaumont is located in the Ontario Lowlands physiographic region which includes sedimentary rocks of the Lower Paleozoic age. Much of the underlying bedrock is comprised of the Trenton group (Trenton Limestone) and Black River Group (Lowville Limestone and Watertown Limestone).

General Soil Conditions

According to the General Soil Map in the Soil Survey of Jefferson County, New York, published in 1989, much of Lyme is dominated by very deep to very shallow soils that formed in marine and glacial lake deposits, glacial till, as well as rock outcrops. The Town encompasses over 30,000 acres of mostly clay soils, with blue and Black River limestone underlying the surface at a depth of between 2" to 15" in random outcroppings throughout the Town. The topography of Lyme is generally level with some areas of relief. Northern Lyme consists of flat cropland while the Town's three major peninsulas (Point Peninsula, Point Salubrious, and Three Mile Point) are characterized by gently rolling open grasslands.

Prime Farmland

Prime farmland is defined by the USDA as the land that is best suited to producing food, feed, forage, fiber and oilseed crops. It has the soil quality, growing season, and moisture supply needed to produce a

sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and requires less energy and resources on average, and farming it results in the least damage to the environment.

Prime farmland soils identified in Lyme are shown on the Prime Agricultural Soils Map. The general criteria for prime farmland are as follows: a generally adequate and dependable supply of moisture from precipitation or irrigation, favorable temperature and growing-season length, acceptable levels of acidity or alkalinity, few or no rocks, and permeability to air and water. Prime farmland is typically not excessively erodible, is not saturated with water for long periods, and is normally not flooded during the growing season.

Septic System Suitability

Soils in Lyme, generally described above, continue to influence development levels throughout the Town and Village. Generally, certain soils or soil conditions present have limitations for buildings and private septic system placement.

Soils in the County have been classified according to their ability to support on-site septic systems by the Soil Survey. Such septic systems consist of septic tank absorption fields in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. The following ratings are based on soil properties, site features, and observed performance of the soils. Permeability, high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan also interfere with installation of individual septic systems.

Suitability is considered *'not limited'* if soil properties and site features are very favorable for the indicated use. Good performance and very low maintenance can be expected.

Suitability is considered '*somewhat limited'* if soil properties and site features are moderately favorable for the indicated use. The limitations can be overcome by special planning, design or installation. Fair performance and moderate maintenance can be expected.

Suitability is considered "*very limited'* if soil properties or site features have one or more features that are unfavorable for the specific use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to effectively filter the effluent.

On-site testing or investigations must be performed to be certain whether the present soils or soil conditions will support an individual septic system on a given site or project area.

Impaired Water Quality

According to the New York State Dept. of Environmental Conservation (NYS DEC) the Lake Ontario shoreline from Tibbets Point to Point Peninsula to Bull Rock Point; Chaumont Bay; and Guffin Bay are listed as impaired segment waterbodies for fish consumption due to elevated levels of priority organics (PCBs, dioxin) and pesticides (mirex) present in contaminated sediments. Such chemicals bioaccumulate up the food chain, ultimately becoming more concentrated within predatory fish species. Causes are past historic industrial discharges into the lake, the Niagara River and the Upper Great Lakes. For an updated list of impairments and fish consumption advisories, please consult the most recent fishing guide or NYS license information.

Chaumont Bay and Guffin Bay are also listed as impaired segment waterbodies for algal\weed growth due to elevated levels of nutrients. Known causes of such elevated nutrients are from the remaining failing or inadequate on-site septic systems along the Bays that were not included in the Chaumont sewage treatment plant project in 2002. Guffin Bay sanitary surveys confirmed household discharges, which contribute pathogens as well as nutrients that result in excessive aquatic weed and algal growth, increased oxygen demand and a general decrease in water quality and aesthetics.

Similarly, the Chaumont River was listed as having minor impacts due to nutrient loading and lower dissolved oxygen in the water from agricultural runoff and on-site septic systems including the hamlet of Depauville. Thus aquatic life and recreation uses were considered stressed at the time. However, since then, Depauville completed construction of its sewage treatment plant (1989), and the Jefferson County Water Quality Coordinating Committee coordinated activities with an area farmer to address such water quality concerns. Inadequate on-site septic systems that were not part of the sewage treatment plant may still be contributing nutrients to the river, as a more recent macro invertebrate assessment near Depauville was completed in 2002, which documented moderately impacted water quality.

Over the years, local experience in Sawmill Bay (an area within Chaumont Bay) appeared to indicate improved water quality after a local laundromat closed operations. However, local encounters with the lake in Three Mile Bay (another area within of Chaumont Bay) witness weed prevalence and growth during the summer months.

Lake Ontario

Lakewide impairments to fish consumption include Trout, Salmon, Channel catfish, American eel, Carp, White sucker, Walleye, and Smallmouth Bass. Actual impairments can fluctuate annually based on testing and recommendations from NYS DEC. For an updated list of impairments and fish consumption advisories, please consult the most recent fishing guide or NYS license information.

Significant Habitat

Several areas in Lyme consist of significant or rare habitats for various birds, deer, fish and other wildlife. They've been identified and listed in the New York State Natural

Heritage Program because of their unique characteristics.

Point Peninsula Marsh, on Point Peninsula is a New York State Wildlife Management Area serving as a rare ecosystem. It remains as one of the largest, undisturbed, scrub-shrub and forested wetlands on Lake Ontario, which is rare in the eastern Ontario Plain ecological subzone. It provides valuable area for Black Terns (SC) to nest. It is categorized by the Coastal Fish and Wildlife Habitat rating program as irreplaceable.

Point Peninsula itself is also listed as a Significant Habitat comprising of a large mosaic of active farmland and fallow olds fields, with occasional woodlots and conifer plantations. It supports wintering northern harriers (T) and short-eared owl (SC) and has been known to support the most significant concentration of wintering raptors documented in New York State. It is also categorized by the Coastal Fish and Wildlife Habitat rating program as irreplaceable. It may be one of the most critical wintering areas in the Northeastern U.S. for arctic-breeding raptors, including the short-eared owl, rough-legged hawk, snowy owl, northern shrike and the northern harrier.

The Point Peninsula WMA is a natural wetland complex consisting of sand beach, dune, emergent marsh, grassland and wooded shrub swamp. The WMA is predominantly wetlands, with a mix of grasslands and wetlands on the property's eastern edge.

Late summer mowing is conducted each or every other year to prevent grassland succession to brushland or young forest. Shallow soils afford the grass species relatively slow growth. Mowing is conducted by cooperative agreements with the DEC and private landowners to prevent grassland succession to brushland or young forest. The upland area is predominantly old farm fields and hay fields. The DEC, in partnership with Ducks Unlimited, is constructing two new wetland complexes on the WMA. It is also home to many species of small game, white-tailed deer and multiple species of grassland nesting birds. Point Peninsula is located in a bird migration corridor and provides important stopover and feeding habitats for a wide diversity of migratory bird species. The marsh and western shoreline of the WMA supports a breeding population of black terns, as well as substantial populations of breeding and migrating waterfowl.

Ashland Flats is the other New York State Wildlife Management Area in Lyme. It is primarily an area of open meadows, second growth and young forests typical of the Lake Ontario plains. Current management practices at Ashland WMA are aimed at restoring and creating grassland habitat for various bird and wildlife species. In addition to the grassland habitat restoration projects, management techniques such as the construction of small dikes and ditch plugging will help increase the amount of waterfowl nesting and feeding cover on the area.

Small game, deer and grassland nesting birds are found on the area. Late summer mowing of the grasslands is done on a yearly basis to sustain the grasslands, preventing them from becoming young forest or brushland. Shaver Creek and a number of "potholes" also provide wetland habitat used by waterfowl and several species of furbearing mammals.

Chaumont Barrens is another rare landscape in Lyme. It is a unique alvar landscape owned by the Nature Conservancy. North American alvar sites are characterized by a mosaic of austere, windswept vegetation, and occur in an arc along north western Jefferson County, through Ontario, to northern Michigan. Alvar communities are supported by a rare combination of extreme conditions: shallow soil, flooding, and drought, which provide habitat for a unique mixture of plants, including many rare in New York State. The landscape at the Barrens includes exposed outcrops, deep fissures, and rubble moss gardens as well as patches of woods, shrub savannas, and open grasslands serving as important habitat to a number of bird species.

Chaumont Barrens is a significant attraction in the Town. Historically, the area is publicized quite well in Nature Conservancy literature, and many groups and individuals take advantage of the marked trail.

CHAPTER V. STRUCTURES, LAND USE, AND CHARACTER

Introduction

The Town and Village have experienced various development influences during their history. The proximity of Lake Ontario and its associated rivers and creeks allowed access and transportation during initial settlement, provided food (along with sustenance farming), fresh water and power supporting various mills and their resource extraction activities. Ship building and large sailing vessel related activities were also fostered by the lake. The abundant forests provided wood combined with nearby local labor cultivated boat construction, and early captains and guides. Since the advent of the automobile, personal sailboat, power boat, cottage and charter development, seasonal visitation and tourism have flourished. Likewise, technology influenced farming activities, as refrigeration, long distance delivery along with farm machinery and farming methods improved; productivity increased allowing people the freedom to pursue other work forms. During this century, many of these activities continue to shape Chaumont and Lyme.

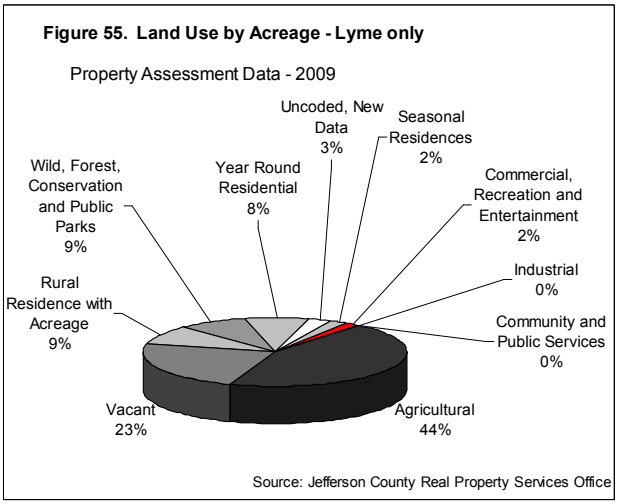
How the area's landscape and buildings were used in the past, how they are currently and most importantly how they will be developed in the future is critical in shaping the Village and Town's quality of life for its residents and visitors. As previously mentioned, community character, in large part, motivates people to settle, and visit, thus it promotes growth and investment.

The following sections provide a discussion and illustrate Chaumont and Lyme's developed structures, land uses and character throughout the Town and its associated communities. Farms and agricultural resources, seasonal and year-round residences, businesses, historic structures and overall character areas are discussed below and shown on several maps. The purpose of such information is to provide the foundation for discussing future development throughout the Village and Town.

Agricultural Resources

Although Lyme has significant lakefront resources and water related development, 44 percent of the Town's acreage is still assessed as farmland, as Figure 55 indicates. Based upon the scattered NYS Agricultural Districts around the Town and the farm fields evident in many areas, farming still affects the highest proportion of property town-wide. Such farm fields allow for open views of much of the surrounding countryside, water features, and natural areas. The Land Use by Assessment Map illustrates the location of agriculturally assessed parcels.

Figure 55. Land Use by Acreage - Lyme only



Seasonal Residential

The lake and its shoreline areas have attracted settlers and visitors for over two hundred years. During that time, many have established their homes in the area. Even more numerous along Lake Ontario, seasonal homes are prevalent along the shorelines where generations have come to visit and recreate each summer. Although in 1980 there were twice as many seasonal homes as year-round, as Chapter 2 illustrates, the number of seasonal homes declined slightly from 1990 to 2000. However, many of these seasonal homes have been converted for year-round use. The Land Use by Assessment Map shows the distribution of such seasonal homes that primarily follow the Lake Ontario shoreline and its various bays. Several can also be found along the Chaumont River's shorelines. The Map also shows the location of year-round residences and other land use categories.

Year-Round Residential

Year-round single-family homes comprised 31 percent of the housing units in the Town of Lyme in the year 2000, as discussed in Chapter 2. However, in Chaumont, they comprised 94 percent of the housing units that year. Therefore, year-round residential homes are most dense within the Village of Chaumont, followed by the Three Mile Bay area with scattered single-family homes along roads and intermingled among the seasonal homes along many waterfront areas as the Land Use by Assessment Map illustrates. As additional seasonal homes are converted for year-round use as they have been since 1980, their numbers continue to increase, along with the demand for year-round services.

The Land Use by Assessment Map also illustrates mobile home locations. They are located primarily along the lake and river shoreline areas, with some in the Village of Chaumont, as well as spread along State, County, and Town Roads.

Businesses

Commercial businesses are also shown on the Land Use by Assessment Map. Many of the businesses are either in Chaumont or Three Mile Bay, with several along the shoreline, and a few distributed along New York State Route 12E, the National and State Scenic Byway.

As indicated by their locations, a portion of the businesses are either directly or indirectly tied to the waterfront, marina or other water related uses. The marinas, motels, several of the restaurants, hardware store, and banks can be found in Chaumont, Three Mile Bay or other waterfront areas. As noted above, there are also businesses found along the primary New York State highway, either capitalizing on scenic views, or the relative high amount of traffic.

Therefore, many businesses in Chaumont, Three Mile Bay and Lyme either directly or indirectly depend on Lyme's waterfront, being on or near Lake Ontario, with the lakeshore's rolling hills allowing views of the lake and surrounding farm fields and wooded areas. Such character and scenic quality are critical to Chaumont and Lyme's economic survival and quality of life.

Character Areas/Landforms

The above described agricultural, residential, commercial and recreational land uses, when recognized in their associated landscape/landform type described below, comprise the various character areas throughout the Town. A character area is a portion of the community with distinct features or characteristics that differ from neighboring areas. The character areas were generalized and mapped using aerial photography and land use parcels, and generalized into five general Character Areas identified throughout Lyme. The Character Areas Map shows their locations and general areas of extent. The specific Character Areas are described below:

Open Agricultural & Rural Residential

The more open farmed areas with scattered homes in the Town are considered the Open Agricultural & Rural Residential Character Area. They are also shown on the Character Area Map. The openness is associated with farm fields and otherwise undeveloped land and forests, as well as homes that are less densely developed with generally larger lots than in the community areas. Many of the farms and related rural homes occur on gently rolling areas or lowlands and therefore allow open scenic views of the countryside. This character area is also historically significant as it relates to Lyme's heritage of farming. The Open Agricultural & Rural Residential areas comprise roughly half of Lyme's acreage.

Open Forest\Scrub & Rural Residential

The areas in Town with open undeveloped brush and wooded areas, with scattered homes are considered the Open Forested & Rural Residential Character Area. It is characterized by undeveloped brush and forested areas, with infrequent and scattered homes on generally larger lots. Such areas comprise roughly a third of Lyme's acreage.

Waterfront Residential

The Waterfront Seasonal Residential Character Area consists of the lake and river shorelines and bay areas where seasonal residences predominate. Year-round homes are also scattered throughout the area. The Lake Ontario, Chaumont Bay, including Three Mile Bay, and Guffin Bay as well as Chaumont River shorelines reflect many areas throughout the Town and Village. A few ridges and outcrops as well as gently rolling topography also influence the character and views from such areas. Such areas comprise less than ten percent of Lyme's acreage.

Open Recreation

The Open Recreation Character Area consists of parks, boat launches, as well as NYS Wildlife Management Areas and other natural resource lands. Such public lands, being permanent public open space intended to maintain wildlife habitat as well as for recreation purposes, will provide such opportunities well into the future. They also provide views of the surrounding landscape from rolling uplands, and shoreline\beach areas.

Community Residential and Business Centers

The Community Residential and Business Center Character Area consists of the more densely populated Village of Chaumont and Hamlet of Three Mile Bay, with year-round residential and scattered seasonal homes, as well as associated small businesses and institutional uses along Main Street and waterfront marina areas.

Priority Character Areas

Certain Character Areas within the above described sections are of particular importance to the Town of Lyme. They represent areas with particularly spectacular scenic views and vistas, and collectively give Lyme its identity, or those which make it a unique, desirable place to live, work and visit. Such areas should not be overdeveloped, or developed with inappropriate uses and\or intensities. Further direction for such areas is found in the Town Vision Statement and its Goals, Strategies and Actions in the following section. The Priority Character Areas Map illustrates their location throughout the Town.

Historic Structures & Landmarks

As described in Chapter II, Historic and Recent Trends, Lyme, Chaumont and Three Mile Bay boast of a rich and varied history with many famous figures and landmarks. Fortunately, a good percentage of the original home structures and\or landmarks exist today. Although some major structures have been lost such as the blockhouse fort, the original hotels, many examples of the Town's history are still standing. The Historic Structures and Landmarks Map illustrates many such locations throughout the Town.

Such historic structures should be recognized and/or protected when development actions are proposed. Their location relative to any proposals should be taken into account and any mitigation should be required or incompatibility solutions discussed prior to approval.

For those structures on the National or State Register of Historic Places, or for those that have been nominated, even "unlisted actions" according to the State Environmental Quality Review Act (SEQRA) could then be considered "Type 1 actions" if they are within or are substantially contiguous to the historic property (please refer to the brief SEQRA summary below).

The Town may want to consider studying its historic resources in a separate more detailed effort to further prioritize and identify those sites, landmarks or areas it wishes to officially protect. Such historic preservation methods through zoning amendments, a Design Review Board and/or a Landmark Preservation Law could provide additional protection measures for the Town's historic resources.

SEQR Summary

The State Environmental Quality Review Act's (SEQRA) purpose is to incorporate the consideration of environmental factors (including historic resources) into an agency's decision making process at the earliest possible time. Local agencies in

Lyme are the Planning Board, Zoning Board of Appeals, and Town Board. An involved agency is a public body which has jurisdiction by law to fund, approve, or directly undertake an action. Actions are undertakings, funding or approving projects or physical activities (Discretionary Actions). Other examples of actions would be planning and policy making activities, and\or adopting rules, regulations and procedures.

SEQRA distinguishes Actions in three categories: Type 1, Type 2, and Unlisted Actions. Type 1 Actions carry the presumption that they may have a significant adverse impact on the environment (example of a Type 1 Action: site plan approval of an 11 acre shopping center). Type 2 Actions have been categorically determined to not have a significant adverse impact on the environment (example of a Type 2 Action: issuance of a building permit). Unlisted Actions are not on the Type 1 or Type 2 lists, and fall below the Type 1 thresholds (example of an Unlisted Action: approval of a zoning change affecting 20 acres within a district).

For the complete explanation of SEQRA requirements, please refer to the New York State Dept. of Environmental Conservation.

Inventory Purpose

All the preceding chapters and sections examine Lyme's past, as well as catalogue many of the Town's current characteristics. Lyme's developed future will depend not only on pending demographics and the economy, but also upon steps taken now and beyond toward shaping the desired future image and condition of the Town. The inventory sections are intended to be used as the foundation for discussing the potential plan vision, goals and strategies. The following alternatives should be considered and discussed for the general direction that later implementation steps may take. Recommendations, action plan steps and implementation tools should be developed using the basis provided within this document in conjunction with a pending examination of the current zoning and subdivision laws.

Introduction to Alternatives

The following section describes several general planning and zoning alternatives facing all communities. They illustrate various levels of regulation and the potential implications such policies could have on the community. As noted throughout the plan, the Town has applied for and secured grant funds to develop a municipal water district in several areas of the Town. Such steps, if successful, could improve development potential in the area. The Town, in preparing this Comprehensive Plan, is preparing for these potential development opportunities. In addition, several issues must be addressed by the Town as they affect and sometimes hinder community quality of life.

Therefore, the Town is also facing a crossroads in terms of maintaining its character and environment while continuing to offer growth and development potential. In order to balance development and scenic character with employment opportunities and environmental needs, the Town must consider several alternatives relating to future planning and zoning in the Town.

The following section illustrates four alternatives or courses of action that Town could take relating to planning and zoning. The alternatives are considered with their potential implications to allow discussion as well as to compare community survey preferences regarding future growth direction described in Chapter I, Public Input.

Town Planning & Zoning Alternatives

Alternative 1: Status quo - Continue to deal with development without any changes in policies or administration. This could continue to result in unplanned haphazard growth - where the municipality has to deal with development and any issues as it comes - and later retrofit solutions to problems after development occurs. An example of this is the difficulty with locating outside funding for a municipal sewer system to alleviate existing business and residential septic system failures in waterfront areas that impact water quality. Other issues facing the area include traffic and parking congestion and pedestrian needs during the summer. As adequate width streets, sidewalks and sufficient vehicular parking may not have been provided historically, therefore the Town is faced with attempting to find and retrofit solutions to such problems. Another example of this is the ice fishing parking needs on Point Salubrious.

Potential Implications:

It is extremely difficult and costly to address adequate road access, municipal services and other development requirements after the fact, especially as growth occurs sporadically, on substandard lots and in different areas. Cumulative effects of growth cannot be dealt with adequately or efficiently after the fact.

Alternative 2: Loosen requirements or restrictions - could result in higher levels of growth in some areas depending upon market demand, with a greater need for

services, and increased effects on the environment. This scenario could then increase demand for retrofitted solutions to development related problems due to a potential lack of infrastructure, and an increasingly haphazard development pattern, (including spread out development in some areas ie. roadside sprawl). Such widespread unplanned development could erode Lyme's character, identity, and its special qualities, for example: its waterfront scenic views, scenic farm views and agricultural character could be eroded over time or even eliminated.

Potential Implications:

It is very difficult and costly to address or improve road access, municipal services and other development requirements after the fact, especially as significant growth often occurs sporadically and in spread out areas. Cumulative effects of growth often cannot be dealt with adequately. The character and qualities that make Lyme desirable for residents, businesses and tourists could erode and ultimately be significantly affected or altered.

Alternative 3: Tighten regulations or increase requirements - This could possibly result in less growth or development at least on the waterfront and in areas with substandard lots, as theoretically fewer areas could meet development requirements. This could result in a decrease in development related effects on the environment, with less of an increase in demand for municipal services and solutions to development related problems. Other areas capable of meeting the requirements could see and increase in growth as market forces respond to managed growth in appropriate areas with sufficient access, services, and facilities.

Potential Implications:

Less demand for incompatible development and redevelopment could result in decreased environmental impacts in some areas, however, the vitality of the communities and character could change if growth lessens or shifts away from some areas. The quality of life could be impacted in some areas if the incentive for expanding services or addressing community needs were to decrease and potential residents otherwise leave the community. However, quality of life could improve as such areas that meet the access and service needs of the new development take advantage of such appropriate growth opportunities. Community character could be affected as maintenance and reinvestment declines or increases accordingly in some areas.

Alternative 4: Planned and managed Growth - Encourage growth consistent with a plan with an improved regulatory process by loosening some requirements and tightening others. This would also include a plan for services where growth is desired, fostering infill development, by bringing community assets to areas the community deems appropriate, such as municipal water and sewer or other facilities, trails, parks, public open space, etc. Amend regulations to foster development character, buffers, etc. Reasonable and consistent growth management (with necessary services and public facilities) typically gives developers and residents the confidence that their investments will be protected and increase in value over time.

Potential Implications:

Growth, redevelopment and new development in appropriate areas and areas with adequate road access - municipal services, trails, open space and parks, would result in areas and communities building upon their strengths, services and character thereby increasing the quality of life and vitality of the area. Development proposals would address services and other needs from the onset, expansion of the tax base would occur without the burden of providing additional roads and services in under-served areas later.

Community character would be enhanced in some areas, and preserved in others while appropriate development occurs and include character related provisions with minimal impact on neighbors. A balance between preservation and land use development would be established. Economic development opportunities would increase as scenic quality and character continued to enhance demand and build upon positive view elements in the area. Thereby project investments would be maintained and protected which typically encourage additional investment over time as the community builds upon its strengths.

CHAPTER VI. FUTURE LAND USE RECOMMENDATIONS

Lyme Vision Introduction

The following Town-wide vision and goals serve as broad mission statements and directions that Lyme residents feel are important to aim for and attain. They are primarily related to the quality of life, land use development and planning. Strategies are somewhat more specific and address various components of each goal. The following vision, goals, strategies and their associated actions were developed by the Planning Board based upon public survey input, several public input meetings, the inventory information and guidance provided by the community generated through the entire planning process. They were developed to be included in the Town's Comprehensive Land Use Plan to provide direction and guide community enhancement into the future.

In conclusion, the following vision and goals served as the foundation from which the subsequent strategies and actions of the Plan were devised. All elements of the strategies and actions in the Plan should be developed, worked upon and finally implemented in order to achieve the vision or one or more of the associated goals.

OVERALL TOWN PLANNING VISION

"Encourage development types and services in suitable areas that enhance town, hamlet and community character while preserving or enhancing priority areas and maintaining the natural, historic, and scenic qualities of the Town. Appropriate growth and development should occur while protecting priority character areas: open agricultural and open forest rural residential, open recreation, waterfront residential, community residential and business centers while retaining or enhancing scenic views."

Economic Goal **Preserve existing jobs and encourage small scale and large scale economic development where suitable\appropriate and feasible to foster a diverse local economy.**

Strategy 1 - *Encourage the prosperity and expansion of small businesses and farm operations to preserve the area's unique character and heritage, to promote agriculture, recreation, and tourism for their related quality of life and economic benefits, and to preserve the integrity of the town's visual landscape and scenic qualities.*

Strategy 2 - *Encourage economic development in appropriate areas to encourage employment opportunities for current and future residents.*

Community Facility Goal **Expand municipal services, recreation and/or park opportunities where needed to address town and community needs.**

Strategy 3 - *Prioritize municipal services, recreation areas and parks areas to identify where additional resources or facilities are needed.*

Transportation Goal **Enhance traffic flow in congested areas and address parking needs.**

Strategy 4 - *Determine parking solutions in business areas and congested areas\time periods to alleviate congestion, to be used to improve traffic flow.*

Strategy 5 - *Identify existing and potential recreation areas, trails and pathways to locate needed recreation and support facilities.*

Strategy 6 - *Examine the need for buoys establishing no wake zones, additional boat launches, and public docks to identify potential marine related needs.*

Strategy 7 - *Address town highway design and shoulder construction, regarding recent trends in farm equipment toward heavier and wider machinery.*

Physical Conditions Goal **Enhance and protect lake, creek and wetland water quality.**

Strategy 8 - *Foster compliance with NYS Health guidelines and pursue funding sources for municipal sewer services for waterfront businesses & dwellings that discharge effluent into the river or lake.*

Strategy 9 - *Weigh the density of development along the waterfront and other areas that lack municipal sewer service.*

Strategy 10 - *Use on-site soil types and their individual septic system placement limitations to help ensure residential structures have adequately sized lots.*

Scenic Resources Goal **Enhance and protect the priority character and scenic resource areas throughout the town.**

Strategy 11 - *Foster compatible development and mitigate potential visual impacts within priority character and scenic resource areas.*

Land Use and Buildings Goal **Foster development in suitable\appropriate areas that enhances town and community character, quality of life and preserves property values.**

Strategy 12 - *Encourage residential and business development in appropriate areas that is harmonious with or adds to community character while promoting compatibility between mixed uses.*

Strategy 13 - *Prioritize community areas and seek funding sources for municipal services to foster appropriate development levels.*

Strategy 14 - *Protect and promote waterfront businesses, agricultural areas and farms to ensure the character and scenic qualities of the waterfront, scenic highways, and community corridor areas are preserved.*

Strategy 15 - *Encourage the restoration and protection of historically significant sites, facilities and areas.*

Strategy 16 - *Ensure any necessary placement of tall structures occurs with as little visual impact on the community as possible within the priority corridor areas.*

Strategy 17 - *Consider and weigh the cumulative impact and safety implications of converting seasonal homes to year-round use on the environment and the demand for year-round services on private roads.*

Strategy 18 - *Protect agricultural areas, land and uses from incompatible uses such as dense residential and other types that offer potential conflicts with farms.*

Character Area Goal **Preserve and enhance the priority character areas throughout the Town by encouraging appropriate and compatible development in scale and type.**

RECOMMENDED ACTIONS - IMPLEMENTATION STEPS

ACTION a: Update the zoning law and zoning district map to protect existing land uses and encourage compatible development types to enhance the Town.

ACTION b: Catalogue and prioritize additional water and\or sewer projects, as well as recreation and\or park needs to capture additional funding sources.

ACTION c: Examine commercial and any congested areas, determine their parking needs and locate potential parking areas or other techniques for adding parking capacity.

ACTION d: Examine existing and potential recreation areas and trails throughout the Town, to attempt to identify potential future projects and related needs in the community.

ACTION e: Discuss farm equipment issue with Town Highway Superintendent for upcoming Town road and shoulder projects.

ACTION f: Consider issuing only the area variances that meet all the required tests, especially where small lots have poor soils, unless sufficient lot area exists for adequate well and on-site septic system treatment.

ACTION g: Draft suitable rural\historic character compatibility techniques including land use, landscaping, lighting, signage, lot coverage and building placement, for possible inclusion in the Zoning Law.

ACTION h: Update the zoning district map and zoning law to protect existing land uses and encourage compatible development in scale, type and character to enhance the community.

ACTION i: Identify historic structures and landmarks to be incorporated in the SEQRA and site plan review processes.

ACTION j: Create a wind facilities law to address the visual, noise, and associated impacts of industrial wind turbines and associated transmission facilities. The majority of respondents to the 2011 Town of Lyme Wind Survey indicated they are opposed to industrial wind development anywhere within the Town. (However, should industrial wind development be considered in the future, the following restrictions shall apply. (See the appendix for further details.))

ACTION k: Examine the trend of seasonal to year-round conversions along the waterfront to try to quantify the impact on the residences and the Town.

ACTION l: Weigh seasonal residence to year-round conversions in areas that have poor

soils unless sufficient lot sizes are present for adequate on-site septic system treatment, and where structures are located on private substandard roads that may not provide adequate year-round access for emergency vehicles.

ACTION m: Incorporate appropriate zoning law amendments to include the Priority Character Areas Overlay District within the zoning law.

ACTION n: Protect agricultural areas, land and uses from incompatible uses such as suburban residential and other types that offer potential conflicts.

ACTION o: Incorporate appropriate zoning law amendments to include the Priority Character Areas Overlay District within the zoning law.

ACTION p: Develop hamlet zoning district and zoning law amendments to address community hamlet land use character and residential density.

ACTION q: Examine options for publicity regarding waterfront resources in the Town.

Planning Project Considerations Introduction

The following Planning Project Considerations should be considered for use when reviewing development or redevelopment projects, updating the zoning regulation review criteria used to review projects, and establishing subdivision requirements which establish minimum standards for lot creation, road design, and ultimately, the pattern of development for generations. They are the product of extensive, open discussion and thought about how development can respect the area and be shaped to complement the character of the Town, its neighborhoods and hamlets and Village, and ultimately improve the quality of life for current and future residents.

Overall Town Planning Project Considerations

√ **Future growth potential** - explore funding opportunities to expand sewer and water districts including local capacity. Identify appropriate areas within the Town and Hamlets for suitable population and employment growth.

For example, appropriate areas for residential, commercial, or mixed use zoning districts should be identified and established in order to enhance development opportunities, coordination and allow services to be provided to reinforce such areas to locate additional growth. The area to the east of Chaumont where several businesses are concentrated could be considered a business district. Similarly, certain areas where housing is concentrated and appropriate should be considered for establishment of residential zones, thus reinforcing and protecting such uses. This would also allow appropriate services to be examined for feasibility. Also, areas with services could be targeted for residential growth in suitable densities.

√ **Attracting growth** - foster appropriate development and infill opportunities that interconnect with existing neighborhoods and business areas that improve the overall desirability and destination quality of the Town.

√ **Curb cut\access management** - shared driveway accesses and internal access connections among adjacent businesses are favored over excessive numbers of individual curb cuts with no connections.

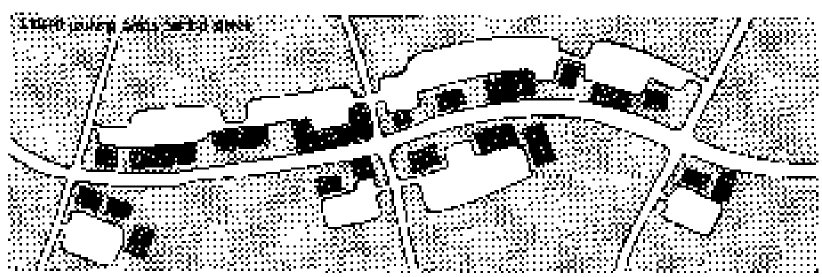
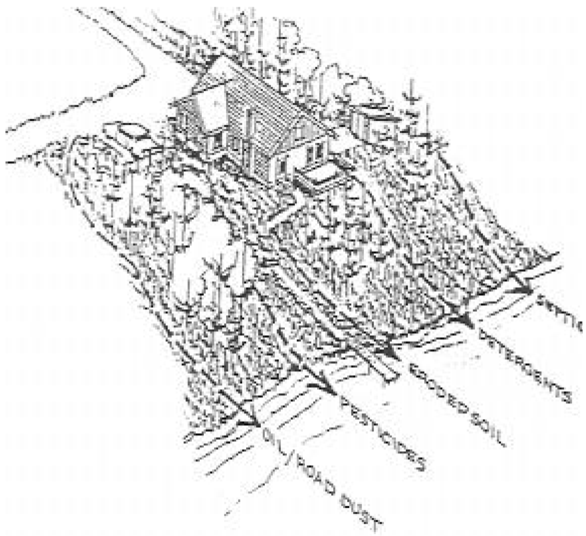


Figure 9-27. Connecting rear parking lots allows customers to drive [illegible] the [illegible] and [illegible] the highway and [illegible] traffic flow. Such arrangements can be required for new development, expansion of existing buildings, and redevelopment.

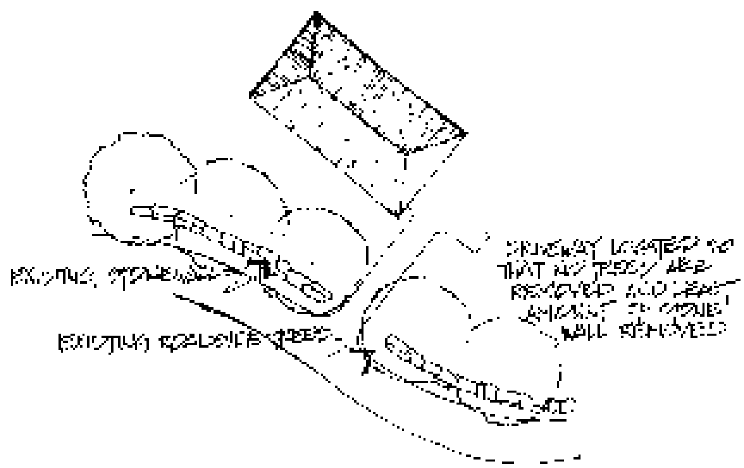
√ **Promoting current businesses** - as new projects occur, foster traffic and pedestrian connections to existing business and residential areas and allow improvements that will improve existing business competitiveness and enhance aesthetics.

√ **Drainage affects water quality -** drainage facilities should be incorporated onsite and existing drainage systems should be improved\upgraded or maintained to limit storm water impacts downstream or on neighboring properties. Such drainage facilities should include detention and retention, bank stabilization, and safe practices for snow removal and lawn care to keep particulates and contaminants from draining into local water bodies.



For example, any substance within the watershed which can be transported by water (e.g. detergents, eroded soil, septic effluent, pesticides, & oil/road dust) can eventually reach the lake and affect water quality. It is not only shorelines uses, but activities anywhere within a lake or stream's watershed which affect water quality.

√ **Existing features –** where existing character features occur such as roadside trees, stone walls, tree lines, fencerows (which often have trees and fences of some kind), they should preserved (or at least disturbed as little as possible). Such features serve to retain the rural character of roads.

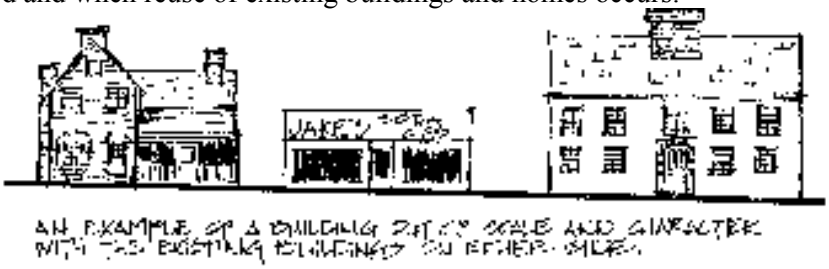


√ **Historic character street layout -** consider requiring new development areas to extend the grid pattern with blocks and multiple connections to maintain traffic flow and access.

For example, a lack of a grid pattern can funnel too much traffic from a side road onto the main traffic artery which often creates a congestion point. However, extending the grid pattern allows flow from several side roads at once, which typically softens the overall traffic impact.

Figure 11– [illegible]

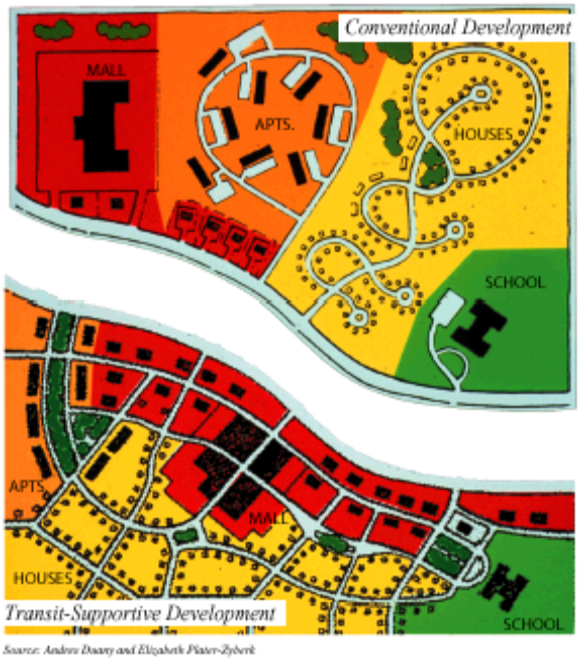
√ **Historic building form & styles -** Where appropriate, consider guidelines for historic compatibility when new developments are proposed and when reuse of existing buildings and homes occurs.



For example, within historic districts or areas with a predominant style, form or scale, new structures should be required that echo the scale, style, form, rhythm and character of the neighborhood. Don't put a one story building in a three story block or a concrete-sided building on a street of wooden sided buildings. Consider consistency with size and materials whenever a new building is proposed, or when renovations that could affect the appearance of an existing structure are proposed.

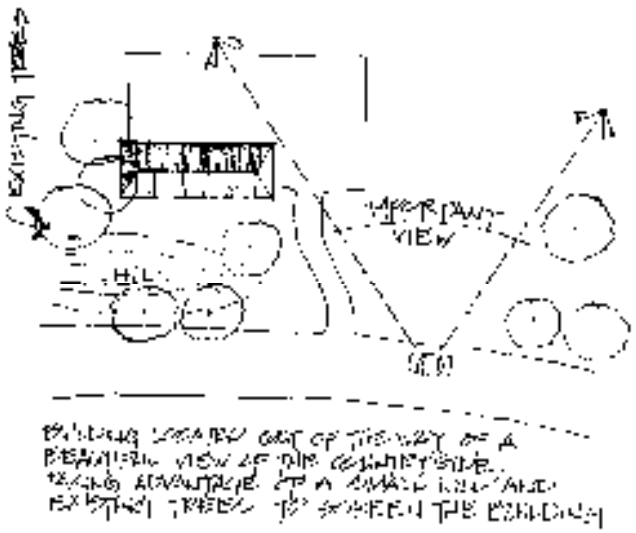
√ **Mixed use buildings and projects -** Compatibility could include mixed use developments where feasible to include the historic pattern of services\employment centers with residences above or nearby, to allow enhanced pedestrian opportunities and decreased traffic congestion.

For example, interconnected mixed-use projects allow pedestrians to live and walk to nearby work and entertainment opportunities or to needed goods and services without having to drive distances to do so. This limits traffic congestion and parking demand.



Source: Andres Duany and Elizabeth Plater-Zyberk

√ **Building placement –** Buildings should be sited so that obstruction of important or priority views from roadways, sidewalks, and parks will be minimized. This can be achieved by taking advantage of topographic changes or existing vegetation.



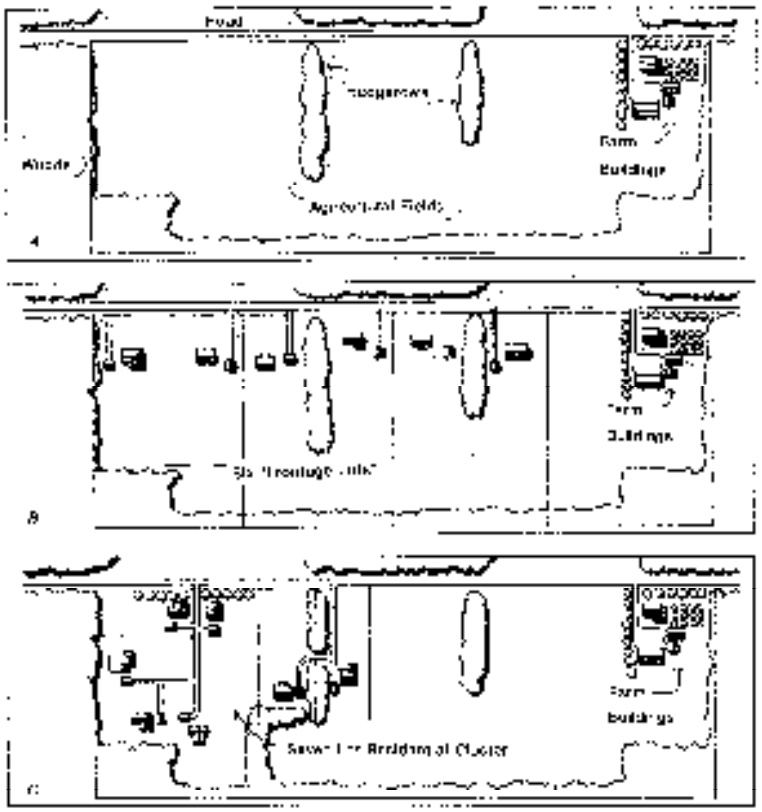
Residential Project Considerations

√ **Building setbacks vs build-to lines** - within the Town, rural setbacks should be set depending on the prevalent pattern in the area, in some cases shallower build-to lines that maintain the small historic front yard pattern with larger rear yards should be required to maintain historic residential and business patterns close to the street. In less dense areas where primary buildings are further from the road, larger setbacks could be maintained.

√ **Highway frontage development, vs new roads\streets** - strip development should be discouraged where possible, to maintain traffic carrying capacity of arterial and collector streets. Therefore, new streets or local streets should be used for new development where feasible.

For example, lots that are created one at a time along a main highway can slowly alter the function of the arterial road. As each fronting lot creates a subsequent driveway access, it allows another potential conflict point and reason that traffic must slow down or face either an oncoming automobile or exiting vehicle that may be decelerating or accelerating which ultimately affects traffic flow.

√ **Clustering** – clustering of businesses or homes should be encouraged where feasible to limit strip development and allow open space character to be preserved.



√ **Pedestrian scale or walkable to\from – where feasible,** foster walkable projects that include sidewalks and pedestrian paths, within walking distance from other destinations, and are in scale with village businesses and residential areas.

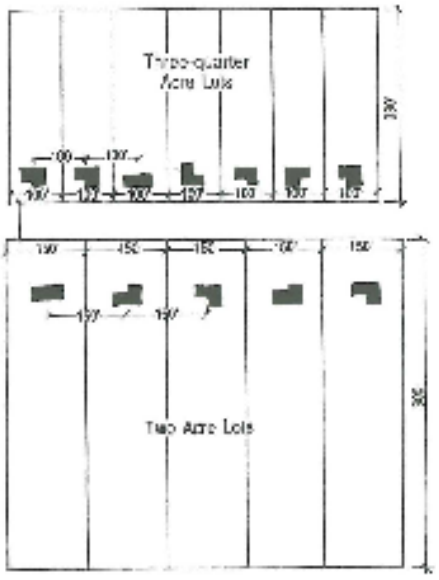
For example, pedestrian scale typically balances pedestrian and vehicular needs while providing comfortable environments for people to assemble and associate with others. Community design should be human-scale with services within reasonable distance from one another. The following standards are recommended: homes within ¼ to ½ mile of most services; elementary schools within ¼ to ½ mile of homes; parks within an eighth to ¼ mile of homes; downtown should provide a balance of retail and commercial stores and services, e.g., hair salon, hardware store, pharmacy, grocery/deli, restaurants, clothing, post office, library, town\village offices within ¼ to ½ mile of the community center. Areas not being used by pedestrians should be assessed to determine possible reasons for lack of use.

√ **Soil Conditions influencing development patterns** - based on existing soils, ensure projects address individual septic and drainage issues to limit contamination and off-site impacts.

√ **Dead-end streets vs loop streets** - dead end streets should only be used to access a limited number of homes (less than twenty), after which a second connection should be provided to an arterial or collector road.

For example, if the single access became blocked by an accident or incident and an emergency occurred in a subsequent house further up the single access road, getting to the 2nd emergency could be delayed or even blocked off entirely for a period of time.

√ **Hamlet and Village lot sizes, smaller vs larger** - where feasible, smaller lots should be required to maintain the historic residential and business density with housing and business patterns close to the street to maintain pedestrian scale development.

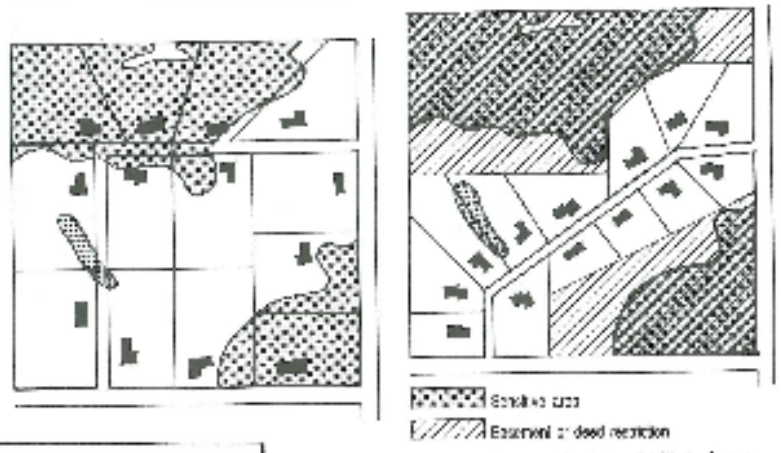


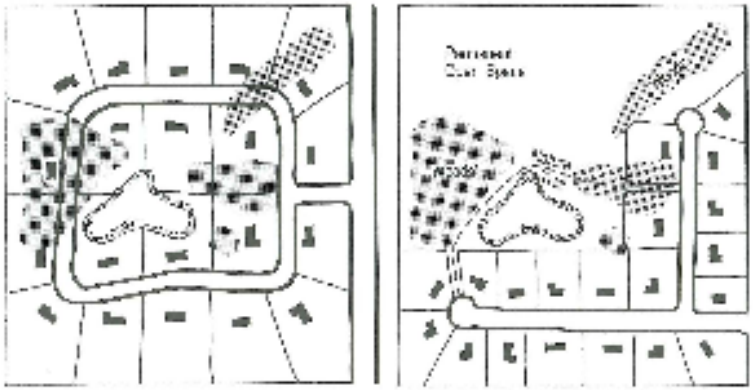
√ **Cost effective services –** Infill projects should be encouraged where services exist, or where possible, municipal services should be laid out in a compact manner to limit future maintenance costs.

√ **Future infrastructure needs –** Future infrastructure projects should be encouraged to maximize the number of users and should be located within desired growth areas.

√ **Connections between developments** – residential developments should be connected by internal road to limit trips onto the main traffic artery, also shared driveway accesses are favored over an excessive number of curb cuts. Refer to the curb cut/access management image.

√ **Preserve open space\sensitive lands -** Open space and sensitive lands can be preserved by requiring the project to identify and set aside such areas and allowing smaller house lots in those cases. This improved layout often leads to a more marketable project, with open space areas and trails often that can be shared by the residents.





Commercial Project Considerations

√ **Connections between parking areas\developments & shared access**, - developments should be connected by street access or parking lot connectivity to limit trips onto the main traffic artery, also shared driveway accesses are favored over an excessive number of curb cuts.

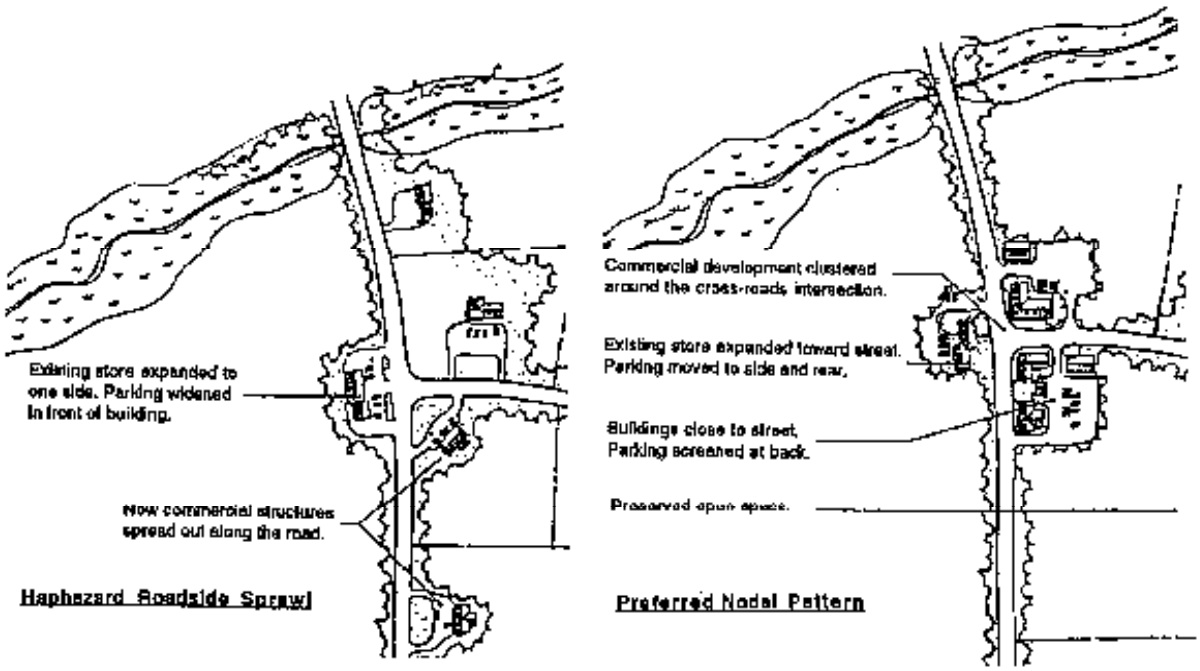
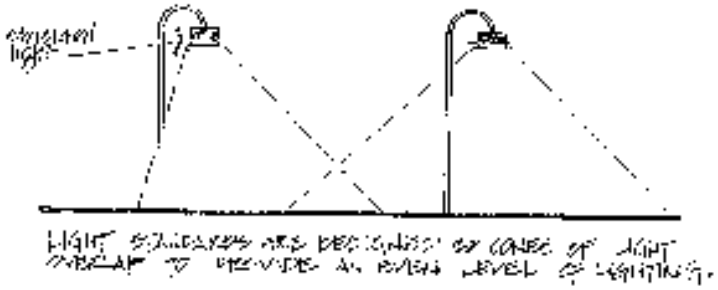


Figure 9–16. Two alternatives for arranging commercial development along a rural highway: strip versus nodes. Within the node, stores are located toward the front of their lots, with interconnected rear parking provision. *Source:* Dodson Associates.

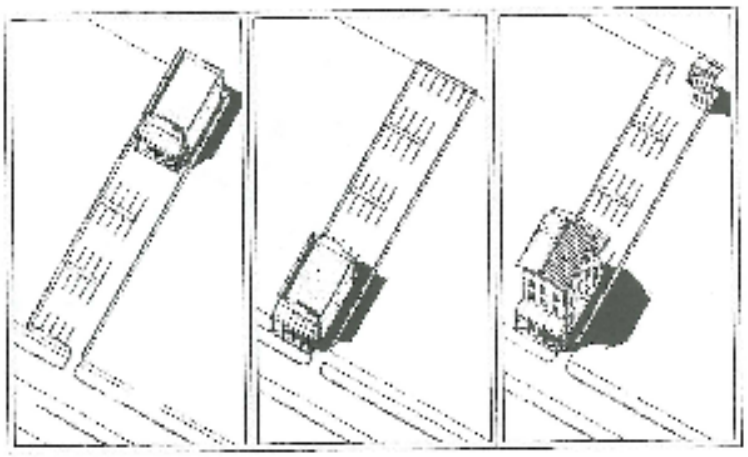
√ **Lighting** – Lighting should be used where appropriate, however, over-lighting and excess glare should be avoided, especially on neighboring properties and the public roads. Shielded or cutoff lights should be used to minimize lighting spill-over.



For example, lighting should be controlled in both height and intensity to maintain rural character. Light levels at the lot line should not exceed 0.2 foot-candles, measured at ground level. To achieve this, light fixtures should be fully shielded to prevent light shining beyond the lot lines onto neighboring properties or roadways.

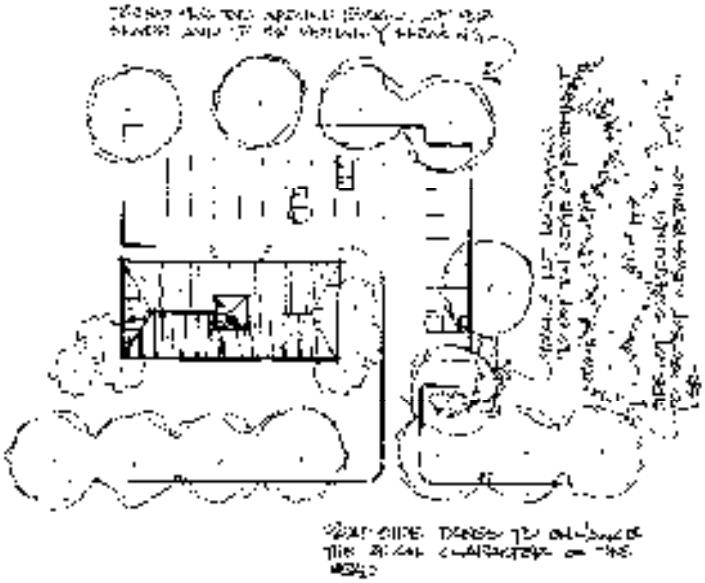
√ **Building setbacks** – Maintain current setbacks in business areas utilizing build-to lines.

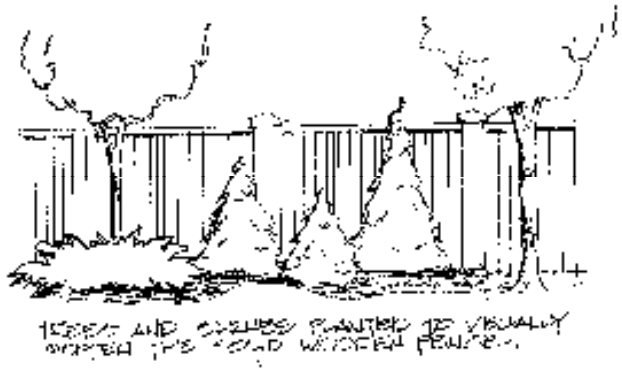
For example, setbacks often push new buildings away from roads, fostering a contrasting character and anti-pedestrian pattern than historical patterns of development. Build-to lines require buildings to be placed closer to the street, allow parking to the side and rear, and create a pedestrian friendly streetscape.



√ **Parking to the side or rear** – the bulk of parking areas should be smaller distinct areas to the side or rear to allow closer building placement to the street in order to maintain community character, reinforce the visual presence of building as opposed to parked vehicles and the pattern of buildings along the roadside.

√ **Landscaping** – appropriate landscaped buffering should be used to soften parking area edges and buildings, including screening views between uses where needed and partially screen views of parking areas from public roads.





√ **Mixed use development** – mixed use developments should be considered where feasible to include the historic pattern of services\employment centers with residences above or nearby, to allow enhanced pedestrian opportunities and decrease traffic congestion.

√ **Pedestrian scale or walkable to\from -** foster walkable projects with buildings near the street that include sidewalks or pedestrian paths, are within walking distance from other destinations, and are in

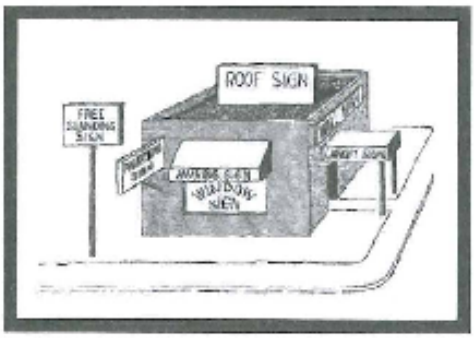
scale with village businesses and residential areas. See above description of pedestrian scale in the overall considerations.

√ **Business hours of operation -** for offices or businesses locating near or within primarily residential areas, consider compatible hours of operation (including hours that parking area lights are used).

√ **Maximum building heights –** consider building heights compatible with current Village business and residential buildings to maintain historic patterns and community character.

√ **Signage** – Where appropriate, only adequately sized signs should be used (font and total sign size based upon the speed limit), with a total size allowable limit to ensure efficient signage. Within hamlet areas and slower speed limit zones, smaller, lower, and externally lit signs should be used. Free standing signs should consider lower monument style. Internally lit signs should be constructed to limit glare. Glare from all signage should be minimized. Except for directional signage, limiting off premise signs along the Seaway Trail Scenic Byway should be considered.

For example, Saratoga Springs, New York, regulates freestanding signage based on speed limit: downtown area is limited to 12 feet in height, 12 square feet in area; other districts within areas of slower speeds such as those 44 mph and less, 12 feet in height and 24 square feet; district areas with speed limits of 45 mph or greater, 20 feet in height and 40 square feet in size.



Source: *Signage Made Simple* - Monmouth, NJ County Planning Board.

Alternative Energy Project Considerations

As sustainable energy sources offer options for local energy production, local requirements for such alternative energy projects should be developed. Similar to the above Planning Project Considerations, the following considerations should be used when reviewing alternative energy projects and\or updating the zoning regulation review criteria used to set standards for their review. Alternative energy systems may have an impact on adjacent properties or neighborhood aesthetics therefore municipalities should review their land use regulations to facilitate opportunities for promoting renewable energy in a way that reflects community values and planning. These considerations are designed to help shape a dialogue if alternative energy regulations are contemplated by the Town.

Such solar and wind turbine requirements should address potential impacts to protect the community, its long-term quality of life, and economic value. Currently the Town is not considering allowing industrial wind turbines or additional transmission lines. However, adequate standards should be put in place to protect the community from any future requests in or near the Town.

√ **Local Solar Energy Recommendation -** Solar panels that create electricity from sunlight can be placed on residential roof-tops, accessory buildings, or installed as free-standing, ground-mounted structures. As solar energy systems may have impacts on adjacent properties or neighborhoods, local solar energy standards should address the following types of installations:

Roof Mounted Panels	**Ground Mounted Panels**
Consider a roof vertical projection standard	Consider rear yard placement or within side yards if setbacks can be met
Bldg height limits – shouldn't effect panels	Consider placement directly adjacent to building
Consider setting a maximum roof coverage	Consider setbacks from rear and side lines
	Consider a maximum height standard
	Maximum lot area – proportion of lot size
	Consider screening at the base of ground mounted systems with short fencing pruned vegetation
Shading: some municipalities prohibit new structures and landscaping from shading existing solar energy systems on adjacent lots which depend on exposure to the sun.	
As part of a site plan review project – the review should consider the location, arrangement, size, design and general site compatibility of proposed solar collectors.	

√ **Local Wind Turbine Recommendations** – Wind turbines that create electricity from wind can be constructed for distinct purposes: onsite use (residential, small business, or farm), municipal or commercial. As wind turbines have impacts on adjacent areas, neighborhoods, and the community at large, local turbine standards should address the following types of installations (on the following page):

Private\Small Wind Turbines	**Industrial Wind Turbines**	**Standard transmission lines**
Typical height: less than 100 ft.	Typical height: less than 500 ft.	Typical height: 110 ft. or less
Capacity: less than 100 kW	Capacity: less than 5 Megawatts	Capacity: 115 - 230 kV
Power use: for residential, small businesses, or farm use onsite	Power use: commercial for sale to the grid for profit	Use: transmit industrial wind project power to the grid
Private\Small Wind Turbine Standards should address:	**Industrial Wind Turbine Standards should address:**	**Transmission Line Standards should address:**
Noise standard at property line	Noise standard at property line and building for both audible and low frequency	Routes set back away from scenic highway corridors
Safety setbacks from roads & buildings	Safety setbacks from roads & buildings	Underground lines preferred by the Town
Compatibility with nearby uses	Compatibility with nearby uses	Use existing corridors
Limit "ice throw" by moving blades	Limit visual impacts in recognized scenic priority areas with adequate setbacks	Prefer underground installation with no visual impact.
	Limit shadow flicker affects, Limit "ice throw" by moving blades	Monopole or wood designs have less visual impact than least preferred steel lattice
Falling tower concern - setbacks	Falling tower concern - setbacks	
	Adequate setbacks from: buildings, off-site property lines, wildlife roost and habitat areas,	Adequate setbacks from: recognized scenic priority areas

Recommended Industrial Wind Standards

The majority of respondents to the 2011 Town of Lyme Wind Survey indicated they are opposed to industrial wind development anywhere within the Town of Lyme. However, should industrial wind development be considered in the future, the survey results shall apply as they appear in the attached appendix.

Zoning Considerations

Town Plan additional recommended zoning considerations:

The existing zoning law has specific use regulations for mobile homes, shopping centers, hotels\motels, mobile home parks, quarries, automobile service stations, junkyards, commercial campgrounds, satellite receivers, recreational vehicles, swimming pools, single family dwellings, RV parks, and cell towers.

- Therefore, the Plan recommends the Town examine inclusion of additional definitions where needed and specific use regulations for the following uses:
  large retail,
  small retail,
  offices,
  self storage facilities,
  kennels,
  multi-family residential,
  boat storage & repair facilities,
  marinas,
  restaurants,
  night clubs,
  adult uses,
  light industrial,
  solar and wind energy facilities (personal, municipal, and industrial)

- Plan also recommends a consideration of establishing a distinct Hamlet Zoning District (To be applied in Three Mile Bay and perhaps Point Peninsula Villlage)

- The plan also recommends the Town consider some larger business uses be removed from the AR Zoning District into a Commercial or mixed use zone of some kind to allow a businesses to flourish in certain appropriate areas such as major intersections and perhaps a gateway zone for example.

- The plan also recommends the establishment of the priority character area identified on the Priority Character Areas Map of an overlay district that would provide additional review criteria or guidelines for projects within that portion of the Town.

- Lastly, the plan recommends that home occupations be defined, and a set of guidelines be established to allow the multitude of appropriate home occupations to flourish and to ensure they have little or no impact on neighboring areas and roads.

APPENDIX

Report

for the

Town of Lyme - Town Board

Wind Survey of Residents and Property Owners

Prepared by

Professor Paul G. Carr, Ph.D., P.E.
Citizens' Environmental, Health and Safety Committee

September 25, 2011

About the Contributors:

Paul G. Carr is an Engineering Professor at Cornell University where he has taught for the last 12 years. Prior to that he was on the faculty at Virginia Tech. His family roots in the Town of Lyme go back over 75 years on Point Salubrious, where he spent his summers since 1952. He has been a resident and property owner in the Town for the last 30 years, where he and his wife now reside.

Dr. Carr holds degrees from Canton College [Associates in Applied Science], Rochester Institute of Technology [Bachelors in Civil Engineering], Cornell University [Masters of Engineering] and Virginia Tech [Doctor of Philosophy in Civil Engineering].

Professor Carr is the former CEO and Chairman of the Watertown engineering firm bearing his name, and has extensive experience in the planning, design and development of major engineering works, and currently conducts research on behavioral patterns in human performance and productivity.

Professor Carr may be reached at **pgc3@cornell.edu**

Data Audit and Entry Validation:

Michael K. White, a resident and former Town Board Member, randomly generated 80-survey numbers (5% of the total) for an audit that the data entry was correct, which, with one small exception, it was. Based upon the results of the audit it was determined that there was no need to continue beyond the 80 surveys.

DR. PAUL G. CARR, P.E.*
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AND
ENGINEERING MANAGEMENT PROFESSOR
CORNELL UNIVERSITY
(315) 783-3637 – PGC3@CORNELL.EDU

September 21, 2011

Town of Lyme Town Board
Town Offices
Chaumont, New York 13622

Dear Members of the Board:

Per your request, I have performed an evaluation of the *Wind Survey for Residents and Property Owners* for the Town of Lyme. Mr. Michael White and I have performed a data entry, audit, and validation review to provide a level of assurance that the survey data used in the evaluation reflects that of the survey results, which it does. The analysis that follows provides the results of the survey.

EXECUTIVE SUMMARY

The survey follows a prior survey conducted in the Town of Lyme with similar questions. The questions in this year's survey replicated six of the questions from the prior survey, with minor adjustments to reflect the current inquiry of the Town Board.

As an example from the prior survey, Question 1, sought opinions on industrial wind turbines with possible responses: 1 – In favor; 2 - Not in favor; or, 3 – Need more information. It has been decided by the present Town Board to lead the Survey with a single important question. That Question is 1 on the current survey which asked:

"What is your opinion on industrial wind turbines in the Town of Lyme?"

This question, per the Town Supervisor and the Board, now allowed two answers: 1 - In favor, and 2 – Not in favor. This is an example of how the Board has clarified, yet repeated the same inquiry as established in the Town Planning Board's 2007 survey. That survey underwent rigorous review for the content validity – soliciting the data through questions for which the Planning Board and the Town wanted answers. The same is true of the present Survey.

The Town again, after four years of study, with the public better informed of the benefits and questions surrounding industrial wind turbines, wanted to re-test the public's sentiment. What follows are the responses to those areas of inquiry.

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* **National Academy of Forensic Engineers**
Diplomate - Forensic Engineering

THE SURVEY -

Approximately 5,000 surveys were mailed. Town Supervisor Aubertine oversaw the Survey mailing at volunteer work sessions, where those volunteers utilized several database records to cross-reference and identify potential respondents. The response resulted in an overall return of 1,621 surveys, for inclusion into the study results. As with the first townwide survey conducted in 2007, this is a very high percentage of response.

As before, there are several issues that come into play in the development and application of a survey instrument, which include the survey instrument's *validity* and *reliability*. The first survey, upon which this re-survey is based was determined to be both *valid and reliable*, a conclusion detailed in the first wind survey, which remains in the Town Records. Those elements were detailed in that document, in the section written by the primary author – and explained.

A second issue has arisen through numerous informal inquiries: "is the response to the current survey big enough to be indicative of the wishes of the community?" In the analysis of Question 1, it will be demonstrated that the response rate is dramatically larger than required to have a reliable indication of the wishes of the community.

Under normal circumstances, the determination of the survey size is a task performed before the survey is distributed. This is done to inform a researcher of the number of properly completed surveys that are necessary to have a particular confidence that the response number is adequate to provide accurate results. This is Hypothesis Testing, and you establish what is referred to as the Power of the Survey. Power analysis can be used to calculate the minimum sample size required for a certain level of confidence of accuracy of responses.

If this survey had been conducted under a Hypothesis testing inquiry, the minimum number of responses – or the Power of the Survey would be applicable. In that case, when using a target significance criteria of 95% [0.05; or 1 in 20], and a population size of 5,000 [maximum], with an acceptable margin of error of 5%, and a distribution skew between 50-50 and one third - two thirds; the minimum sample size would be estimated to be approximately 320 to 360.

In terms of the numbers established above, the sample size n is given by the following equations, where, N is the population size, r is the fraction of responses that you are interested in, and $Z(c/100)$ is the critical value for the confidence level c.

$$x = Z(^{c}/_{100})^{2} r(100-r)$$

$$n = {}^{Nx}/_{((N-1)E^{2} + x)}$$

Given the high return rate, it is not unreasonable to include a margin of error as an indication of the accuracy of the resulting statistics.

$$\text{Margin of Error} = z_c \sqrt{\frac{p(1-p)}{n}}$$

1.96 is the correct number to use for z_c when the level of confidence c = 95%. With n (lower case) as the sample size, and p is the percentage of the responses that favor a particular outcome. 50% or 0.5 leads to the largest margin of error [conservative assessment] and using it in the calculation yields a margin of error of 0.024, a finite population correction factor (0.8231 by calculation) can be reasonably applied to reduce the margin of error to 0.0201 or about 2%.

A caution to note is that 2% applies only to percentages that refer to the entire sample of 1621; or, Question No. 1. The percentages about subgroups sub-groups (such as the percentage of people for or against industrial wind towers, in a sub-area, D for example, with a smaller response number than the full 1,621) the margin of error would vary upwards. In the Area D subgroup "stand alone" with 124 responses, the margin of error would be 8.7%.

As such, the Margin of Error has been computed for each Area, and is presented in the following chart. This is simply offered as a guide when one looks at the results, within areas. For example, there is one result presented in the study that shows an anomaly from Area G. However, since the sample size is so small, with only 21 responses, the Margin of Error is 21.34%, too high for the stand-alone results to be considered reliable.

Area	Responses	Margin of Error
A. Point Peninsula	597	3.76%
B. Three Mile Pt & Pt. Salubrious	462	4.34%
C. Hamlet of Three Mile Bay	104	9.51%
D. East of Route 12 E North of River	124	8.69%
E. Chaumont River	93	10.07%
F. Case Road Area	36	16.28%
G. 12 E East of Chaumont	21	21.34%
1 to 5. Village of Chaumont	152	7.83%
No Identification of Area	32	17.27%
Overall	1621	2.00%

Figure 1

The computation, and validation using the Margin of Error, with a result of 2.00%, applies to the core question of the survey, Question number 1, with a simple consensus based, up or down vote on turbines in the Town of Lyme.

The independent audit of the input data also revealed that of the random survey questions selected, and 2,240 possible input points checked, there was only one questionable response – a respondent who answered Question 1 – No Turbines; then responded in favor of turbines in Area F, without this response recorded. Thus, the audit concluded an input error rate of less than 0.045%, in essence, no error whatsoever. There is no reason to question the data upon which the analysis is based.

The following sections of this report provide the summary of this Survey. The Report begins with Question 5, detailing the Areas and numbers of the respondents. The Report then follows each of the other questions in turn. It concludes with an overall Summary and Conclusions section. The raw data is available for further inquiry into any individual question and response pattern.

THE SURVEY RESULTS

Common to every Question in the Survey is reference to the Town Survey Area Map. The map below is a copy of that which was included as part of the Survey and may be used as reference in the study of this Report.

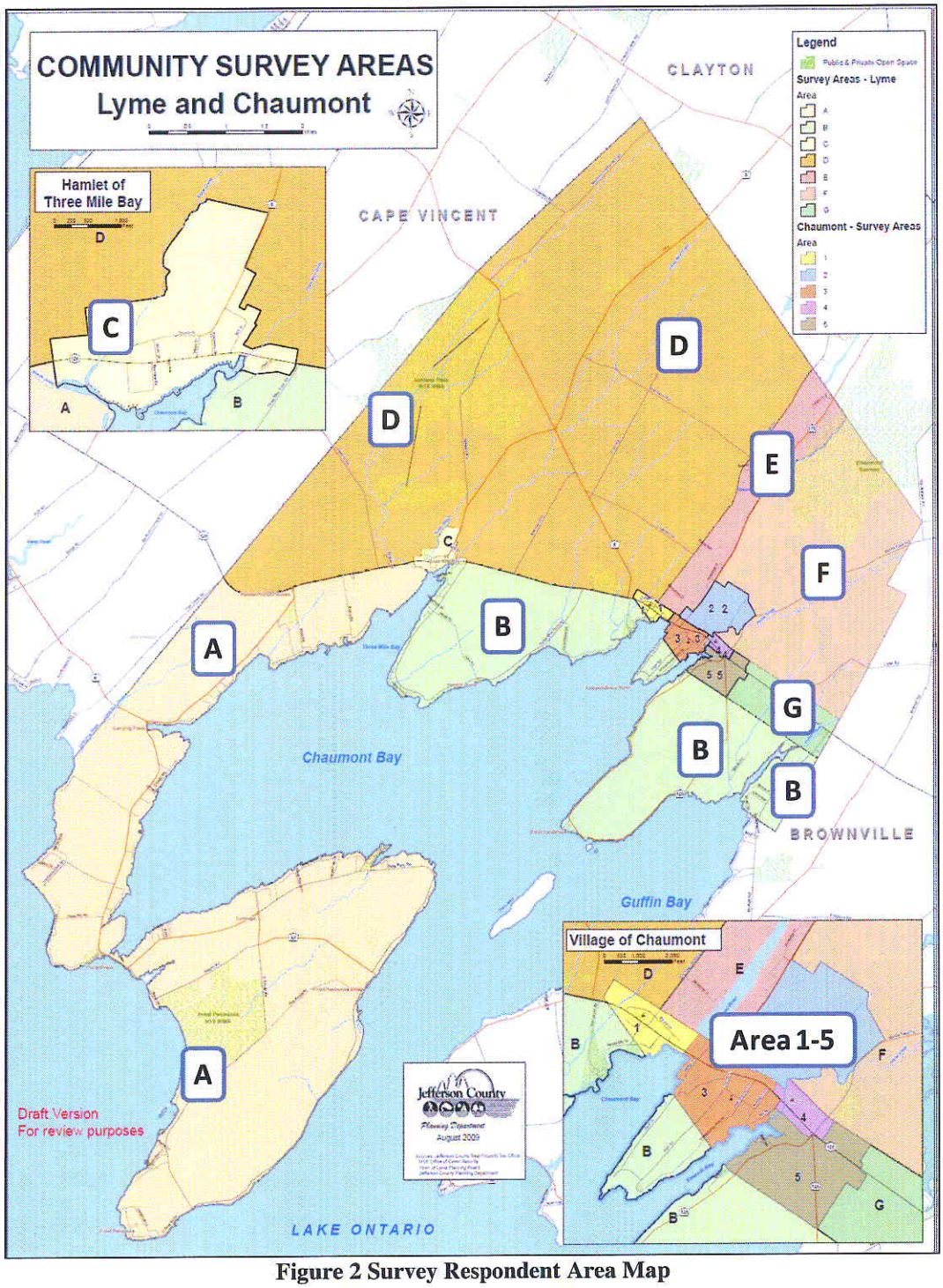
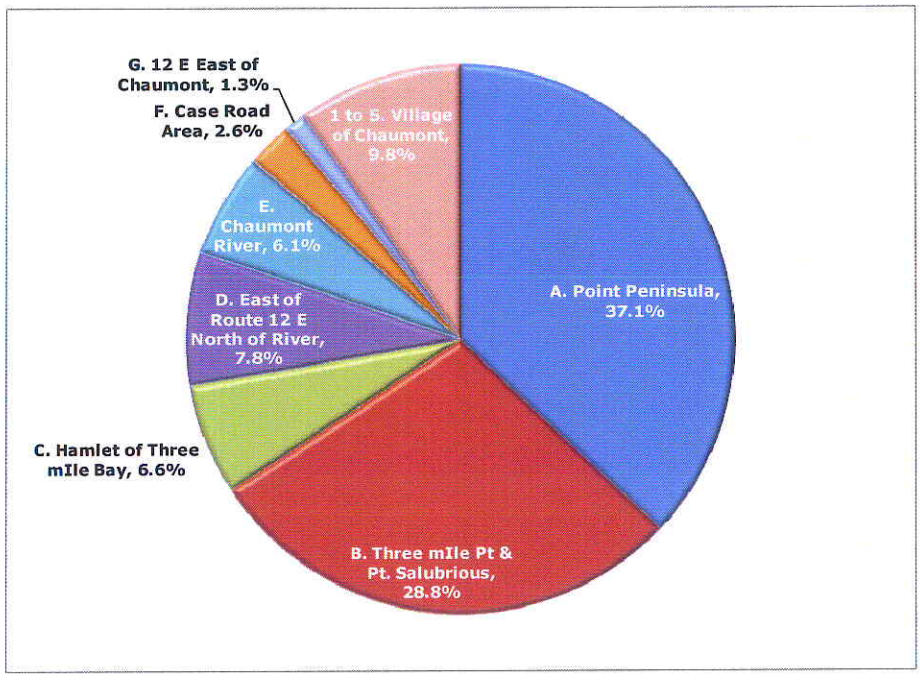


Figure 2 Survey Respondent Area Map

QUESTION 5 – FROM WHICH SURVEY AREA ARE YOU RESPONDING?

To illustrate the response rate, the pie chart shows the percentage of the overall sample, by Area of response.



Area	Responses
A. Point Peninsula	597
B. Three Mlle Pt & Pt. Salubrious	462
C. Hamlet of Three Mlle Bay	104
D. East of Route 12 E North of River	124
E. Chaumont River	93
F. Case Road Area	36
G. 12 E East of Chaumont	21
1 to 5. Village of Chaumont	152
No Identification of Area	32
Overall	1621

Figure 3 Overall Respondent Locations, Numbers and Percentage by Area

The descriptors for the Areas A – G, plus 1-5 [Village of Chaumont] will be used throughout the report, they coincide with the survey and the map presented on the previous page.

QUESTION 1: WHAT IS YOUR OPINION OF INDUSTRIAL WIND TURBINES IN THE TOWN OF LYME?

This question seeks the overall opinion of the respondent on siting Industrial Wind Turbines within the Town of Lyme. The respondents' answers were scored "In Favor" or "Not in Favor" - with the overall results for the Town as shown in the following figure. The responses

included: 566 In Favor; 1,041 Not in Favor; while 14 completed responses to other questions, but did not answer Question 1.

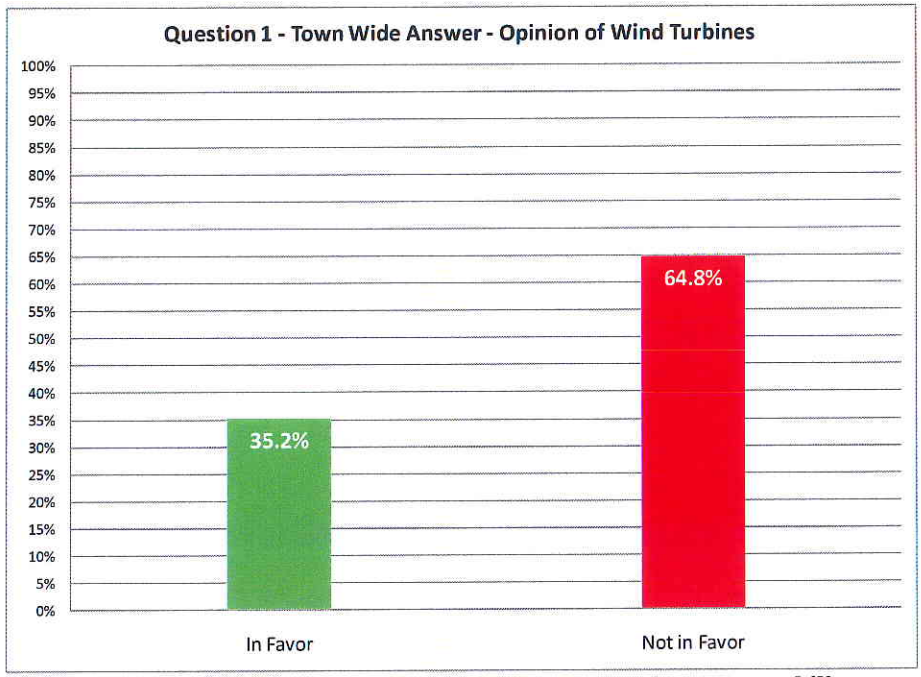


Figure 4 Overall Response to Industrial Wind Turbines Acceptability

The data for those who answered Question 1 is shown below, with 1,607 responses.

Overall Survey	In Favor	566	35.2%
	Not In Favor	1,041	64.8%
	Total	1,607	100.0%

Figure 5 Industrial Wind Turbines

The overall response ratio to Question 1, including those who did not answer that question is shown below, demonstrating no significant impact in the results.

Overall Survey	In Favor	566	34.9%
	Not In Favor	1,041	64.2%
	No Opinion	14	0.9%
		1,621	100.0%

Figure 6 Overall Response to Question 1

A. Sample Size Adequacy Example

The question has arisen, "is a response of 1,621 adequate?" Earlier in this study, it is reported that given the population size, a response rate of ~ 320 would provide reliable results that accurately reflected the overall response. Thus, to demonstrate this, with a response of ~1,600, the survey was broken into five [5] categories to validate the adequacy of a sample of

approximately 320. In other words, if a random selection of 320 potential respondents had been selected for the survey, would the results be considered reliable? The answer is yes.

Question No. 1 of the survey underwent five assessments, individually analyzing responses numbered from 1 to 1,000; 1001 to 2000; etc. with approximately 320 in each category. The results follow. A caution is that this breakdown is from those who answered the survey, instead of a random selection of the 5,000 potential respondents, but is offered nevertheless as a demonstration only, that the answers from any randomly selected group of ~300 will attain results similar to that of the full 1,621. 320 survey responses provide the answer.

As can be seen below, the data accounting for approximately 1/5th of the total responses received provides the same results. Each group of responses, ranging in counts of between 292 to 343, report a 1/3 to 2/3rd "in favor" versus "opposed" ratio. The overall response to the survey of 1,621 provides the Board with results that reflect the sentiments of the community.

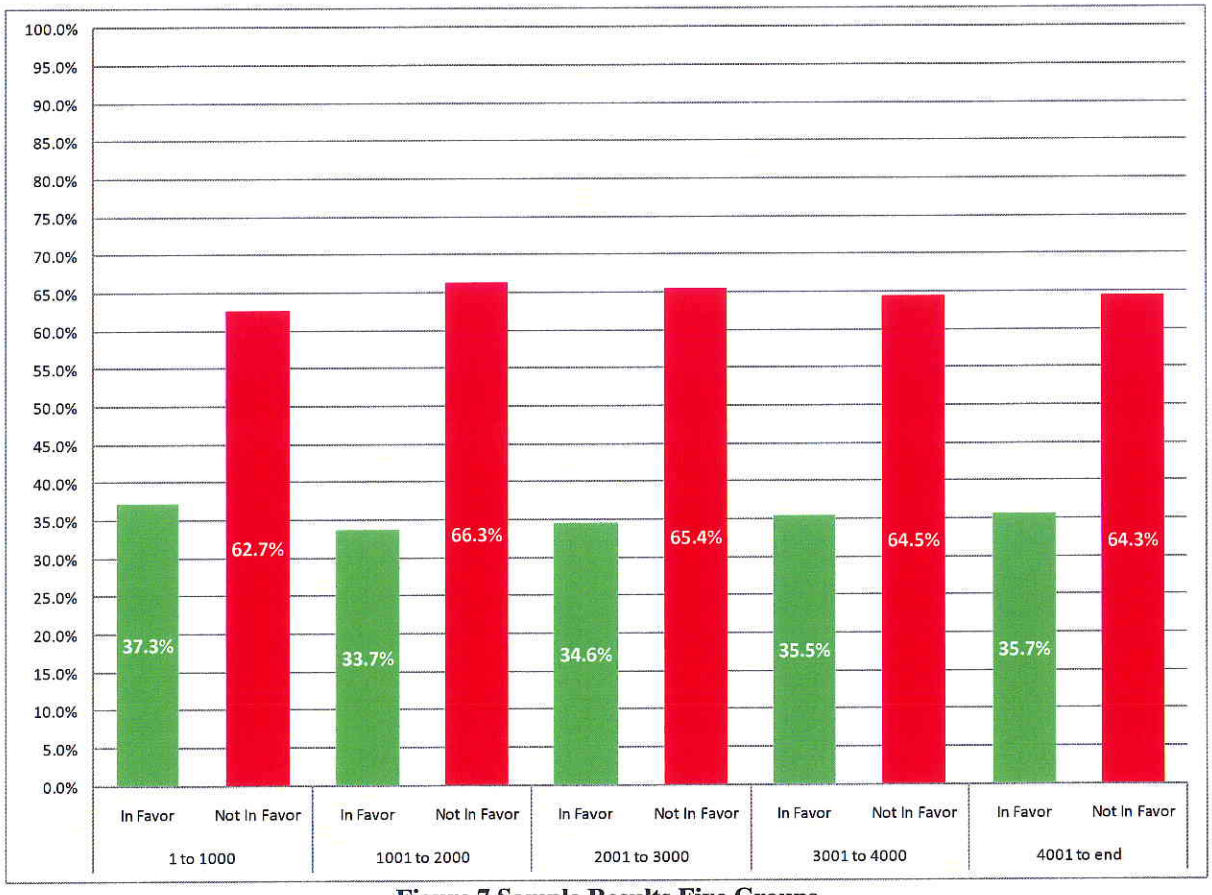


Figure 7 Sample Results Five Groups

Surveys	1 to 1000		1001 to 2000		2001 to 3000		3001 to 4000		4001 to end	
	In Favor	Not In Favor	In Favor	Not In Favor	In Favor	Not In Favor	In Favor	Not In Favor	In Favor	Not In Favor
Percentage	37.3%	62.7%	33.7%	66.3%	34.6%	65.4%	35.5%	64.5%	35.7%	64.3%
Number	129	217	115	226	101	191	119	216	106	191
Total Number		346		341		292		335		297

Figure 8 Survey Evaluated with 1/5th Response Breakdown

B. Response by Area

The following figure shows the response by Area, beginning with Area A, and proceeding through the surveys that indicated No Identification of Area. Recalling the Margin of Error, only areas A and B have a sample size large enough to provide stand-alone results meeting the 5% maximum – even though an indication from the other areas is presented.

		In favor of Turbines		No	Margin of
Area	Responses	Yes	No	Opinion	Error
A. Point Peninsula	597	25.3%	74.2%	0.5%	3.76%
B. Three Mile Pt & Pt. Salubrious	462	26.2%	73.6%	0.2%	4.34%
C. Hamlet of Three Mile Bay	104	51.9%	44.2%	3.8%	9.51%
D. East of Route 12 E North of River	124	58.9%	41.1%	0.0%	8.69%
E. Chaumont River	93	39.8%	60.2%	0.0%	10.07%
F. Case Road Area	36	72.2%	25.0%	2.8%	16.28%
G. 12 E East of Chaumont	21	81.0%	19.0%	0.0%	21.34%
1 to 5. Village of Chaumont	152	54.6%	43.4%	2.0%	7.83%
No Identification of Area	32	12.5%	81.3%	6.3%	17.27%
Overall	1621	34.92%	64.22%	0.86%	2.00%
Overall with an Opinion	1607	35.22%	64.78%		

Figure 9 Question 1 Response By Area

QUESTION 2: If wind turbines were to be allowed in the Town of Lyme, where do you feel they should be placed?

This question seeks the opinion of the respondents as to where they believe wind turbines, if allowed, should be located within the Town of Lyme. The Town Board has previously promised the Town that no turbines would be considered west of Route 12E. As such, the Town sought responses as to the suitability of turbines within Area D and/or Area F. In addition, the respondents were able to state that nowhere in the Town is suitable for wind turbines. The respondents were allowed to provide multiple answers to this question [i.e. they could choose Area D, or Area F, or both Areas D and F].

There are a number of ways to look at this response. Some respondents who were not in favor of turbines did identify where [if they were to be in the Town of Lyme] turbines should be located. In evaluating this response, it is found that 57.9% of the respondents want turbines "*Nowhere in the Town*". Only 35.3% of the respondents are in favor turbines in Area D, while 64.7% are opposed. When we consider the responses to Area F, there are 23.4% "in favor" of locating turbines there, while 76.6% are opposed to turbines located in F.

Area D	Area F	Nowhere
35.3%	23.4%	57.9%

Figure 10

The response to this Question is presented in the following chart. Clearly, the results favor turbines in neither Area D nor F.

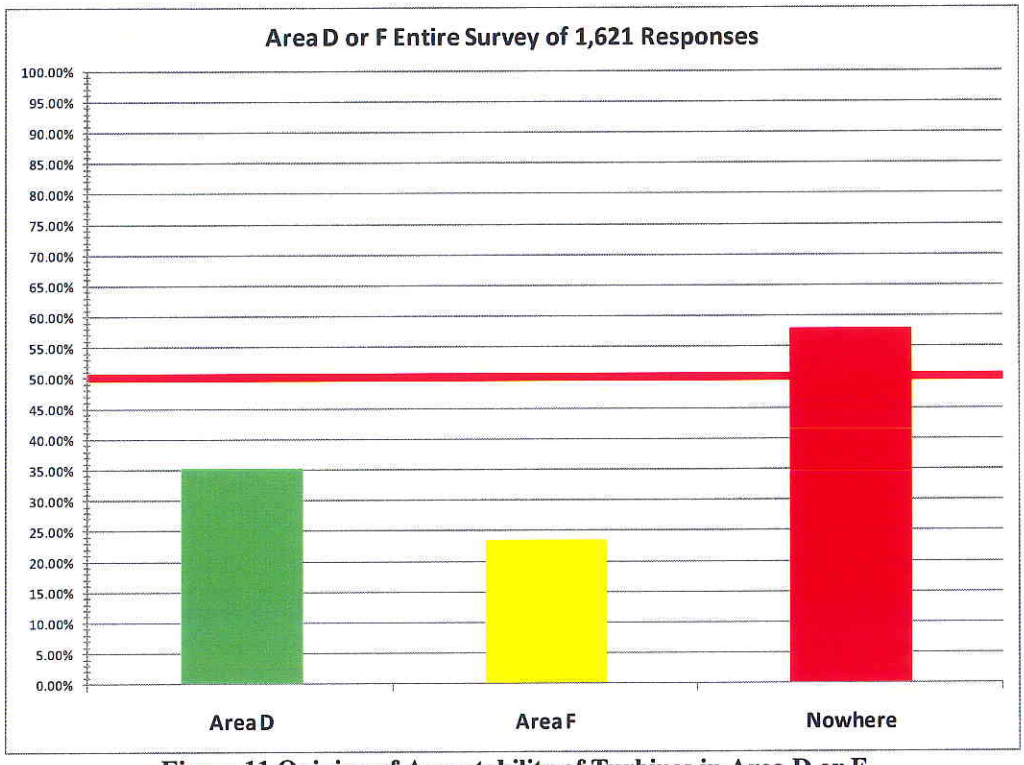


Figure 11 Opinion of Acceptability of Turbines in Area D or F

It would not be unreasonable to ask the question, what is the opinion of the respondents, excluding the waterfront Areas of A and B – since these are Areas that are not being considered for turbines. Considering only the responses of those in the target area for turbines – East of 12E, *is there a widespread support for turbines in either of these Areas*?

There are several reasons for looking at this. First, these are the Areas targeted for consideration. Secondly, by collapsing the data to include all of these remaining areas [excluding A, B and no ID] the sample size is large enough to provide a Margin of Error of 4.03%, better than the 5% significance level, thus providing confidence in the results.

This allows the Board to test whether those living in close proximity wish to have turbines in Area D or F.

The following chart presents the results considering only the respondents East of 12 E [in other words excluding Areas A and B, and those who provided no identification of their Area].

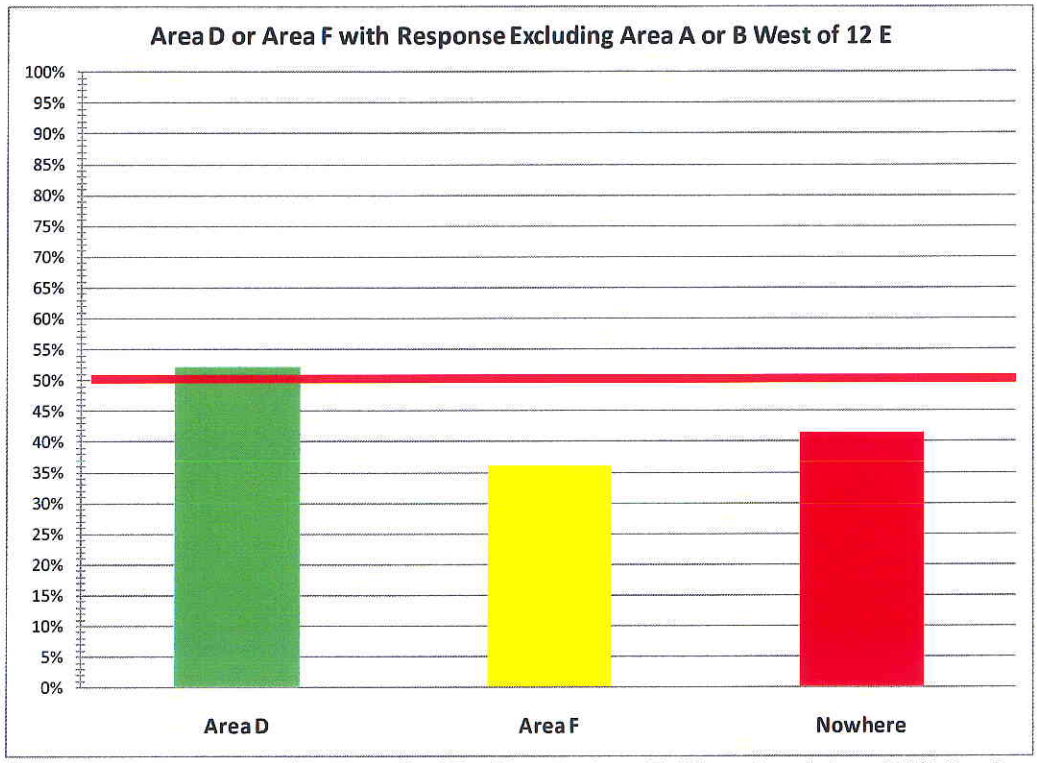


Figure 12 Percentage "In Favor" of Turbines in Area D [Green] and Area F [Yellow]

	Area D	Area F	Nowhere
Excluding Area A, B & no ID	52.08%	36.04%	41.5%

Figure 13 Support for Area D or F Excluding A and B

Even under these subdivided conditions, there is only minor support for Area D, with 52.08% in favor and 47.9% in opposition to turbines.

There is no support for turbines in Area F – with support at only 36.04%.

In essence, the response to this Question is that 57.7% of the people object to turbines anywhere within the Town. 64.6% of the respondents oppose Turbines in Area D, and 76.6% of the respondents oppose turbines in Area F.

QUESTION 3 AND 4: SETBACKS FROM THE WATERFRONT AND POPULATION CENTERS

These questions ask the respondents to provide their opinion on the setbacks that would be acceptable to keep turbines away from the waterfront and population centers.

These questions were included in the 2011 Survey, which allows a comparison with the results of the 2007 Survey. In the prior Survey, the question stated the distances, and as a final choice, it stated "nowhere near…" without a distance, which was interpreted in that Report as greater than 4,500 feet. [Caution, this is offered as a rough comparison only, since the population was different in the 2007 survey from that of the 2011 survey].

The objection from certain members of the community had been that they held an opinion that "*nowhere near…*" meant "*less than*" the closest distance of 1,500 feet, not "*greater than*" the greatest distance of 4,500 feet. The inquiry of this topic is repeated in the 2011 Survey to clarify the prior results and inform the Board as to the Setbacks desired by the respondents.

The response reported in 2007 survey was that 63% wanted greater than 4,500 from the waterfront, while 68% wanted greater than 4,500 feet from the population centers.

Setbacks from Waterfront		
177	1500 feet	20.61%
136	3000 feet	15.83%
67	4500 feet	7.80%
479	Not Near	55.76%
859		100.00%

Setbacks from Population Centers		
148	1,500 feet	17.25%
118	3,000 feet	13.75%
97	4,500 feet	11.31%
495	> 4,500 feet	57.69%
858		100.00%

Figure 14 2007 Survey Results for Setbacks from Waterfront and Population Centers

The 2011 Survey found similar, yet somewhat stronger results, with 71.4% in favor of at least 4,500 feet setbacks from the waterfront; and 72.4% in favor of at least 4,500 feet from the population centers. The respondents want, as a condition of turbines being considered for the Town, setbacks of greater than 4,500 feet from the waterfront of Lake Ontario and the Chaumont River, as well as 4,500 from the border of both the hamlet of Three Mile Bay and the Village of Chaumont.

Setback from Water			Combined	71.4%	Setback from Populations			Combined	72.4%
<1500	>1500	>3000	>4500	Nowhere	<1500	>1500	>3000	>4500	Nowhere
9.6%	12.3%	6.7%	11.4%	60.0%	8.8%	10.7%	8.1%	12.3%	60.1%

Figure 15 2011 Survey Results for Setbacks from Waterfront and Population Centers

As with the overall Survey results of 64% opposed to turbines in the Town, this Question reflects that approximately 60% of respondents are opposed to the presence of turbines, regardless of setbacks.

QUESTION 6 WHAT NOISE INCREASE WOULD YOU BE WILLING TO ACCEPT FROM AN INDUSTRIAL WIND PROJECT?

As with the 2007 Survey, this present survey re-tests the question that recognizes that a certain noise from the turbines will be generated. Through the use of the excerpt from the New York State guidelines for *"Assessing and Mitigating Noise Impact"* the Town again asks the respondents to identify the sound level increase that would be acceptable with the installation and operation of wind turbines in the Town of Lyme.

Certain members of the community had suggested the 2007 survey question was leading, in that it included an additional statement drafted by the Planning Board. It was believed this statement may have skewed the results, therefore the Question is repeated in the 2011 Survey, without information beyond that which is presented in the New York State guideline document.

It was reported in the 2007 Report that the *"question received universal support for a noise limit of less than a 5 decibel increase over ambient sound levels"* – this result is repeated in the 2011 Survey.

The overall townwide results in 2011 are 83.0% of the respondents either wrote in "no sound increase is acceptable" or selected the "*less than 5 decibel*" sound increase. No area of the Town has a majority that would accept any sound increase over 5-dBA above existing background levels.

Area	<5 dBA	5 to 10	10 to 15	15 to 20	>20
A. Point Peninsula	90.7%	4.8%	1.6%	0.9%	2.0%
B. Three Mile Pt & Pt. Salubrious	87.2%	8.0%	2.5%	0.5%	1.8%
C. Hamlet of Three Mile Bay	72.5%	14.3%	9.9%	0.0%	3.3%
D. East of Route 12 E North of River	59.5%	15.5%	10.3%	7.8%	6.9%
E. Chaumont River	80.5%	5.7%	3.4%	0.0%	10.3%
F. Case Road Area	57.6%	18.2%	6.1%	6.1%	12.1%
G. 12 E East of Chaumont	66.7%	16.7%	16.7%	0.0%	0.0%
1 to 5. Village of Chaumont	72.2%	15.3%	6.3%	0.7%	5.6%
No Identification of Area	96.2%	0.0%	3.8%	0.0%	0.0%
Overall	**83.0%**	**8.5%**	**3.9%**	**1.3%**	**3.4%**

Figure 16 2011 Survey Results for the Acceptable Sound Increase

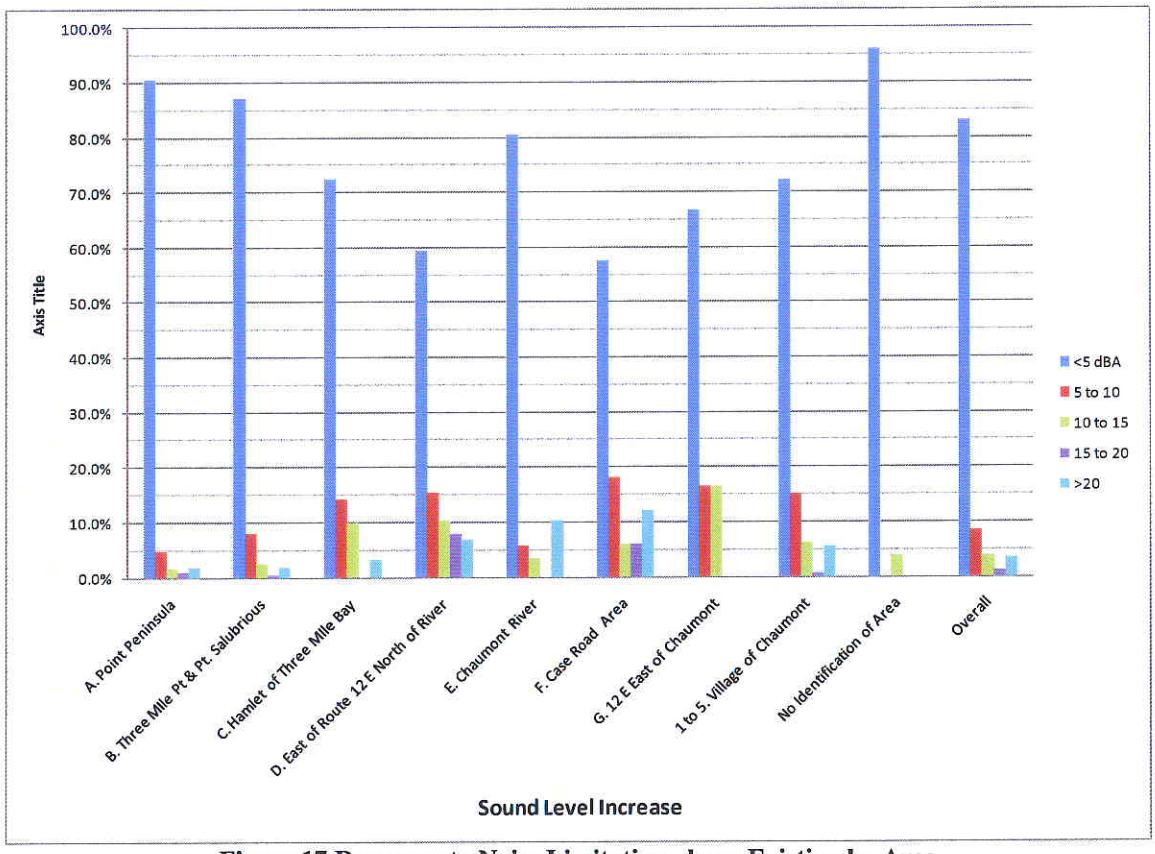


Figure 17 Response to Noise Limitation above Existing by Area

SUMMARY and CONCLUSIONS

It appears that the community is *"not in favor"* of Industrial Wind Turbines within the Town of Lyme [Q1 = 64.22%], yet there is a group that is *"in favor"* [34.92%], while one in one hundred neither supported nor opposed turbines [0.86%] leaving the answer blank.

Q2 inquired as to where the turbines should be located if they were to be in Lyme. The majority of respondents *opposed wind turbine development* in either Area D or Area F. For those who responded from Areas in close proximity to the targeted Area, there is no clear majority of respondents *in favor of wind turbines* in F, and only minor support for Area D.

Q3 and Q4 sought input on setbacks from the waterfront and population centers, with the response being that 71.4% and 72.4% of the respondents are *opposed to turbines* located within 4,500 feet from the water, and 4,500 feet from the population center boundaries, respectively. The majority reported that the turbines should not be within the Town at all [60%] while 11.4% and 12.3% opine they must be greater than 4,500 feet away if they are to be found in the Town. Less than 10% believe they should be allowed closer than 1,500 feet from those boundaries.

Q6 was the question on noise limits on the sound generated from the Industrial Wind Turbines. The overwhelming answer to the survey question from the townwide respondents was that the sound levels should be kept to less than 5 decibels above ambient.

This response, regardless of the Area, answered that all respondents want protection from sound increases.

Even when the sample is broken between those who are "in favor" of wind turbines, versus those who are "opposed", considering only those "in favor" - the noise limit increase of less than 5 dBA above ambient has a majority who favor of this limit.

CONCLUSIONS

The Survey demonstrates that unlike the 2007 Survey where 52.2% of the respondents were in favor of turbines, only 34.9% of the current respondents are now in favor of turbines. This drop in support may be due to the increased education and debate which has taken place over the last four years since the prior survey. No doubt, the "moratorium" put in place by the Board to investigate, study and allow the public to become educated on the appropriateness of turbines in the community has afforded the time to do a second survey.

It is also clear that in all other aspects [i.e. setbacks, sound limits etc.] the results of the current 2011 Survey are consistent with the prior Survey. The respondents want the protections of both setbacks from waterfront and population centers. The majority of the community is in favor of greater than 4,500 feet setbacks from the waterfront, the Chaumont River and the population centers.

In addition, "*the respondents overwhelmingly seek protection from noise intrusion,*" whether they are in a turbine designated Area or not [Area D or F]. 31.1% of the respondents

report that no noise level increase is acceptable, while 51.9% respond that the limit of less than 5 decibels above ambient should be the maximum limit. Overall, 83.0% of the respondents want protection against noise intrusion of greater than 5-dBA, and the majority of those from the target Areas also want this protection [58.4%].

At the outset, it seemed to be the position of the Board that if the results indicated a majority of respondents were against turbines within the Town, an outright ban would be enacted. However, regardless of such action, the results of this Survey are clear – and that is:

1. The respondents to the Survey are against the placement of industrial winds turbines within the Town of Lyme by an approximately 2 to 1 margin.
2. There is no majority support for turbines in either Area D or Area F, with *64.7% opposed to Area D, and 76.6% opposed to Area F.*
3. The overall response is that setbacks from the waterfront and the population centers must be at a minimum of 4,500 feet, if allowed at all. *The majority [60%] are opposed to turbines being located anywhere within the Town.*
4. A strict noise ordinance, restricting sound level increases to less than 5 decibels above ambient is required. This limit is the response not only of those who are *opposed* to wind turbines, but also a majority of those who responded that they were *in favor* of turbines. The mandate for this protection is unequivocal.

In the event that an outright ban of industrial wind turbines is not pursued, it is clear that strict setbacks and strict sound limits must be considered for the Town if the Board is to respect the results of the 2011 Survey.

As questions arise, I would be pleased to try to provide answers.

Respectfully submitted,

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