

**Summary Preface for the
Existing Land Use Chapter
Issues and Implications for CPUC Consideration**

ISSUES

1. Residential development is becoming increasingly scattered throughout the community establishing a land use pattern that could be referred to as rural sprawl.
2. Residential development appears to be consuming more land per dwelling than it did a decade ago.
3. New residential subdivisions, on larger interior parcels, are becoming more prevalent throughout the community.
4. There is only a small amount of undeveloped land available for higher density residential development, in the Medium District zone, near the village center.
5. A large percentage of the town is zoned to permit gravel extraction operations.
6. The town has only a small amount of land that is permanently protected from future development.
7. Existing commercial zoning districts along the Lewiston and Portland Roads will promote increased strip development, especially retail and service uses.
8. Land in the Commercial district is being inefficiently used by existing businesses which limits the possibility for maximizing the district's development potential in the future.
9. There are a number of uses permitted in various zoning districts that are incompatible with the primary intent of the district. Permitted uses should be re-evaluated for each district.

IMPLICATIONS

1. There are likely to be increases in the cost of municipal services and the need for additional facilities at new locations.
2. Changes in the rural landscape will affect the traditional use of the land as a shared community resource for land based recreation (such as fishing, hunting, hiking, snowmobiling) and from a quality of life perspective.
3. New subdivision roads may result in the creation of a haphazard road network that does not efficiently serve the needs of the town.
4. Failure to identify and protect important open space and other natural resources in a comprehensive manner will require the town to take a re-active posture regarding development proposals that encroach on these areas.
5. The limited amount of land available for higher density housing reduces opportunities for the construction of affordable and senior housing.
6. The amount of land zoned for commercial and industrial development is probably insufficient to provide adequate options for expansion of the town's non-residential tax base.
7. The town may need to increase current efforts to identify and acquire land for the siting of municipal facilities that may be required to service future growth.

Existing Land Use

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1. Introduction

This chapter presents an assessment of existing land use conditions and changes that have occurred over the past decade in Gray. The first part of the chapter focuses changes in the amount and locations of various land uses by major categories such as residential, commercial and industrial, public and semi-public, and other natural resources. In conjunction with this land use analysis an overview of the town's zoning district and regulations is presented to provide a sense for how these regulations have influenced the town's development patterns. The second part of the chapter presents a build out analysis that examines the potential for future residential and non-residential development within the town.

2. Summary of Major Findings and Conclusions

- Almost 62% of the town's land area, approximately 17,200 acres, is still undeveloped.
- Residential development is the largest user of land in Gray with approximately 5,500 acres, or 20% of the total land area. This amount almost doubled since the previous comprehensive plan was completed in 1991.
- There is an indication that new housing development is using more land area on average per dwelling basis, than the average dwelling at the beginning of the 1990s. This may be attributable to housing market demands as well as changes in zoning density requirements for the town.
- Residential development has continued to expand out along the frontage of most roadways within the town. This trend will likely necessitate the provision of municipal services to an increasingly broader area at greater cost to the community.

- The majority of the town's land area is zoned for low density residential uses. There is very little land remaining for higher density residential development.
- The residential build out analysis estimated that an additional 4,530 to 7,780 housing units could be constructed on undeveloped land zoned for residential uses. Based on historical development trends it could take 70 to 120 years for all of these units to be constructed.
- The town has a relatively small amount of commercial and industrially zoned land which reduces the potential to attract new non-residential development to support tax base expansion. The non-residential build out analysis estimated that 670,000 to 1.1 million square feet of additional commercial and industrial building space could be constructed on the remaining undeveloped land. However, it is unlikely that this development potential will be fully realized due to various constraints associated with these properties.
- Land within commercial and industrial zones is being inefficiently developed which reduces the potential for maximizing the use of these areas. In addition, the commercial districts are prone to encouraging strip development along some of the town's major roadway corridors.
- Gravel extraction is permitted on almost 70% of the town's land area based on existing zoning regulations. Gravel pits are currently permitted on parcels containing almost 980 acres, 324 acres of which are presently being actively mined.
- Although the town still has a considerable amount of undeveloped land, only a small percentage of this area is permanently protected from future development.

3. Existing Land Use

This section of the chapter presents a summary of the existing land uses within Gray and highlights significant changes that have occurred over the last decade. Gray's current land use development patterns are illustrated on Map 2-1 entitled Existing Land Use. The map divides land use activities into six major categories which include: residential; commercial and industrial; public and semi-public; and other resources.

The primary source of information used to identify existing land uses was the town's assessment database. This database contains information about every parcel of land in town, including approximately 80 different *use codes*, which identify the primary land use of the each property. This land information database was "linked" to the town's digital tax parcel map by means of a geographic information system (GIS) and used to create the Existing Land Use Map. The computerized land use information was also checked by means of field surveys and through an "overlay" analysis using digital aerial photographs taken in 2001.

The residential category is further subdivided based on the type and number of dwelling units located on an individual parcel. The residential subcategories include single family, condominiums (also referred to as single family attached), multi-family (which are structures containing two or more units), and mobile homes (on individual lots or in parks). It should be noted that the land use map makes a distinction for large residential parcels of 10 acres or more that contain only one single family home. For such occurrences the map shows the *developed area* around the structure in a bright yellow color, while the remainder of the property is colored in light yellow. This method was used in order not to overstate the amount of residentially developed land in the community, while also identifying the fact that these parcels are not in the same category as those that are completely undeveloped.

The commercial and industrial categories include all businesses that are non-agricultural in nature. This would include such uses as banks, offices, gas stations, restaurants and retail stores, manufacturing, and warehouse operations. Commercial properties greater than 10 acres in size were also delineated using the two-color method which differentiates between the developed and undeveloped portions of the property (as described above for large residential properties).

Also included in the commercial and industrial land use category are parcels identified in municipal records as being authorized gravel pit properties. The Existing Land Use map identifies the entire gravel pit parcel, as well as the approximate area of excavation which was delineated based on the 2001 aerial photographs.

The roads and utilities category includes powerlines and pipelines, road rights-of-way, State Turnpike Authority property, and other associated uses. It should be noted that only utilities having a dedicated parcel or right-of-way are shown on the land use map. There may be other utility corridors that do not have dedicated rights-of-ways that are not depicted on this map. The location of those facilities are discussed in the Municipal Services and Infrastructure chapter of this plan.

The public and semi-public category identifies those remaining subcategories of developed land that are associated with government and institutional uses. These include such uses as municipal buildings, police and fire stations, schools, churches, and cemeteries. It also includes the State-owned wildlife park on Shaker Road as well as several other undeveloped parcels that are owned by the State. Also placed in this grouping is the subcategory of uses entitled recreation/open space. These parcels that are primarily dedicated to passive and active recreation uses, such as the golf course, but also include parcels within cluster subdivisions that have been reserved as permanent open space. This subcategory does not include all active recreation facilities in the community. That information can be found in the Recreation chapter of this plan.

The remaining categories are associated with resource based land uses and comprise the majority of the town's remaining undeveloped land area. The agriculture category includes all parcels that are known to be actively used for crops, hay, livestock, or similar uses. It also includes a few properties, such as dairy farms or equestrian related operation, which while agriculturally oriented, also have

associated structures. Based on assessment records, 16 of the agriculture parcels depicted on Map 2-1 are participating in the farm and open space tax program that, under State law, allows for a reduced tax levy for actively used agricultural operations. The second resource category, tree growth, represents those properties that are enrolled in the tax program that encourages the conservation and management of forest resources which also allows for a reduced property tax levy. This category does not represent all of the forested land in Gray only those properties that are enrolled in the tax program. Some of the parcels categorized as either agriculture or tree growth may also include a residence but are, for the most part, dedicated to management of these resources.

The final map category, undeveloped, includes all of the remaining parcels in town that are not identified within the municipal assessment database as having an existing structure. Based on a review of aerial photographs it can be generally stated that a good portion of these parcels are wooded, but also include fields, wetlands, and other forms of non-developed land cover.

Table 2-1 presents a summary of the approximate acreage contained in each of the above mentioned land use categories. These acreage figures have been calculated by means of the GIS parcel map and therefore, may not exactly match total area measurements for the town derived from other mapping sources. However, the GIS derived acreage figures are within 3% of the acreage figures contained in the town's assessment records and therefore, considered to be representative of existing conditions.

As illustrated in the table, the largest amount of land dedicated to any of the *developed* land categories is for residential land uses which account for approximately 5,500 acres, or 19.9% of the town's land area. Land use estimates from the town's previous comprehensive plan, in 1991, indicated that the total acreage dedicated to residential land uses was approximately 2,780 acres. This suggests that the amount of land used for residential purposes in Gray has doubled over the last decade. A comparison of the two time periods also suggests that more land is being used per dwelling unit now versus a decade ago. In 1990 there were 2,836 dwelling units occupying 2,780 acres of land which represents 0.98 acres per unit. As of 2000 there were approximately 3,200 dwellings on 5,538 acres, 1.7 acres per unit, almost a doubling of the amount from the 1990 estimates. While some of this increase is no doubt attributable to the application of different methodologies used to derive the estimates for the two time periods, it does indicate the possible beginnings of trend that should be closely monitored.

Gray's residential land use pattern is characterized by several primary features. The first is that residential development now extends along the frontage of almost all of the town's historical road network. This is a typical early phase of successional growth within a community since development along existing roadways can generally be accomplished more quickly and for less expense versus the need for constructing new subdivision roadways to access back land parcels. However, as the amount of existing road frontage available for residential development has decreased, new subdivisions have begun to emerge in various parts of town as illustrated on the Existing Land Use map.

Land Use	Total Acres	% of Total Land Area
Residential	5,538	19.9
Commercial	226	0.8
Industrial	107	0.4
Gravel Pits	976	3.5
Total Parcel Area		
Approx. Excavated Area	324	
Roads/Utilities	1,138	4.1
Road ROW	932	
Other	206	
Municipal/School	149	0.5
State	557	2.0
Wildlife Park	250	
Other	257	
Institutional	71	0.2
Recreation/Open Space	388	1.4
Agriculture	1,412	5.1
Undeveloped	17,198	62.0
Tree Growth	3,212	
Vacant/Partially Developed	4,489	
Other Undeveloped	9,497	
Total Land Area	27,760	100%
Surface Water	1,718	—
Total Land and Water	29,478	—
Source: 2001 Assessment Records and digital parcel map, Town of Gray; 2001 Aerial Photography, GPCOG; and RKG Associates, Inc.		

The second prominent feature of the residential land use pattern is the extent of high density housing development surrounding the town’s lakefront areas. As illustrated on the map, seasonal housing development, combined with some year-round homes, encompass the entire perimeters of Sebago, Crystal, and Forest Lakes. Although there are scattered vacant parcels still available, these lakefront areas are largely built-out at this point.

In contrast to the town’s residential development, commercial and industrial land uses comprise a

relatively small percentage of total development within Gray. As illustrated in Table 2-1, commercial and industrial uses accounted for a combined total of approximately 330 acres as of 2001, or 1.2% of the total land area. The 1991 comprehensive plan identified a total of approximately 185 acres devoted to commercial and industrial uses which represents an increase of 78% over the last 10 years. Some of the difference in these two time periods is likely to be attributable to differing methods of estimating total developed acreage.

Commercial and industrial development is primarily located at scattered locations along the frontage of the Lewiston and Portland Roads. It is also concentrated within the village area and in a small node on the West Gray Road, around the business park, which adjoins the Maine Turnpike interchange. There are other scattered commercial and industrial sites throughout the town, but for the most part commercial and industrial land uses are focused along these corridors.

Another industrially related use which affects a significant amount of the town's land area are gravel pits. As shown on the Existing Land Use map, parcels with gravel extraction operations are primarily concentrated on the east side of town around the Mayall and Yarmouth Road areas. Several other scattered pits are also located on the Shaker Road and West Gray Road. The map illustrates both the total parcel area associated with these operations as well as the approximate extent of current excavation, as determined from 2001 aerial photography. The total area of these parcels is 976 acres, about 3.5% of the town's land area. However, only about one-third of that area had been excavated as of 2001.

The land use category which contains the largest amount of the town's land area is the Undeveloped category. As shown in Table 2-1, the total amount of land that still remains undeveloped in Gray is approximately 17,200 acres, or 62% of the total land area. There are several components that comprise the total undeveloped acreage. The largest component is simply *undeveloped land*, parcels that have no man-made structures on them, which accounts for approximately 55% (9,947 acres) of the total undeveloped acreage in the town.

The second element of the town's undeveloped land base are those properties that are partially developed, but still largely vacant of structures. The types of properties included in this category are large lots (greater than 10 acres) which contain only one single family house, or business, that occupies a small percentage of the total lot area. The undeveloped portions of these properties contains approximately 4,489 acres, or 26% of the town's undeveloped land area. The final component of the town's undeveloped land area are properties participating the Tree Growth program. These properties, which are being actively managed for their wood resources, contain 3,212 acres or 19% of the town's undeveloped land area. A few of these parcels do contain a residential dwelling, but most are predominantly undeveloped.

Gray also has a significant percentage of land being used for agricultural related uses. Although these properties are not technically considered to be undeveloped they do represent a low intensity land use which does have the potential to be further developed at some point in the future.

Agricultural areas contain an estimated 1,412 acres which represents 5.1% of the town's land base.

Although the town still has a substantial amount of undeveloped land remaining, only a small amount can be classified as permanently protected open space. Table 2-1 shows that 388 acres, or 1.4% of the town's total area, falls into the recreation/open space category. Approximately 174 of these acres represent a golf course, while the remainder is predominantly land set aside as open space within cluster subdivisions. These parcels are the only areas that have been identified as permanently protected open space. (NOTE: There may be other protected parcels that will be identified as part of the Open Space chapter).

The State of Maine also owns a considerable amount of land within the community. Of the total 557 acres owned by the State approximately half is comprised of the Wildlife Park facilities located between Shaker Road and Weymouth Road. The park is used as an educational facility to promote conservation issues related to wildlife and habitat management. Although this property does contain a number of structures it still represents a relatively large amount of wooded open space within the community. The remaining 257 acres controlled by the State are contained in several large tracts of undeveloped land located in the eastern corner of the town, adjacent to the town lines of New Gloucester and Yarmouth.

The other public and semi-public properties within the town contain the structures and facilities used to provide services associated with operation of the town, school district, water district and other institutional uses, such as churches, cemeteries, and civic organizations. These uses occupy a relatively small amount of land area totaling 220 acres, which is less than one percent of the town's total land area.

The remaining land use category includes all rights-of-ways for roadways, utilities, and rail corridors, as well as other associated structures. The total acreage dedicated to these uses is approximately 1,140 acres, or 4.1% of the town's land area. Of that total acreage, over 80% is contained within road rights-of-way, which includes the Maine Turnpike corridor.

4. Zoning

The zoning ordinance contains regulations which are the primary determinant of where various types of land use are permitted within the community. Gray's *Zoning Ordinance* and *Shoreland Zoning Ordinance*¹ divides the town into eight primary, or *base districts*, and five additional *overlay districts*. These areas are illustrated on Map 2-2 entitled *Zoning Districts*. For a complete description of these districts and their regulations refer to the town's official Zoning Ordinance which is on file at the town offices.

¹ *Town of Gray Zoning Ordinance, Chapter 402, June 1, 1994 and Shoreland Zoning Ordinance, Chapter 403, Adopted December 3, 1991, As Amended Through August 31, 2000.*

Table 2-2 presents the total acreage within each of the base zoning districts as well as how much of the district remained undeveloped as of 2001. As the table shows, the Rural Residential and Agriculture District (RRA) comprises almost 68% of the town and is only 37% developed, with approximately 11,700 acres of land undeveloped. This district is intended to promote low density residential and agricultural uses that reinforce the rural, open space environment of the town. Along with the permitted residential and agricultural uses the district also allows a number of commercial uses, as well as the excavation of earth materials. The minimum lot size is 80,000 square feet, with a minimum land area of 40,000 square feet per dwelling unit.

The Lake District (LD) is the second largest accounting for approximately 24% of the town’s land area. Almost 4,300 acres (66.8%) of this district are still undeveloped at this time. The purpose of this district is to promote low density development and reduce potentially harmful land uses within

Zoning District	Acres	% Total	Undeveloped Acres*	% of District Undeveloped
Rural Residential & Agriculture (RRA)	18,730	67.5%	11,702	62.5
Lake District (LD)	6,553	23.6	4,379	66.8
Medium Density (MD)	629	2.3	217	34.5
Village Aquifer Protection (VAP)	230	0.8	30	13.0
Business District (BD)	598	2.2	331	55.4
Commercial (C)	533	1.9	250	46.9
Wellhead Protection 1 (WH1)	426	1.5	148	34.7
Wellhead Protection 2 (WH2)	60	0.2	4	3.7
Total Land Area	27,760	100%	17,061	61.5

*This column includes the undeveloped acreage on partially developed parcels (e.g. a single family house on a lot which is ten or more acres in size).
Source: 2001 Assessment Records, digital zoning map and parcel map, Town of Gray; 2001 Aerial Photography, GPCOG; and RKG Associates, Inc.

the watershed boundaries of the town’s lakes. The permitted uses are very similar to those of the RRA district although fewer non-residential uses are permitted and excavation activities are not permitted. The development density is also slightly less than in the RRA district with a minimum lot size of 80,000 square feet and a minimum land area of 80,000 square feet per dwelling unit.

The Medium Density District (MD) is intended, as stated in the Zoning Ordinance, to serve as a predominantly residential district, with a somewhat higher development density, in areas adjoining

the village center that are serviced by municipal water. The exception to this is the MD zone located along the Portland Road abutting the Cumberland town line. These districts represent a relatively small amount of the town's area, accounting for only 629 acres, or 2.3% of the town. Approximately two-thirds of the land in these districts has been developed leaving 217 acres undeveloped. Most of this remaining land is contained either in a few large parcels, or as *back land*, which is more difficult to access from a development perspective. The minimum lot size with municipal water is 40,000 square feet and minimum land area of 20,000 square feet per dwelling unit. Without municipal water the minimum lot size is 80,000 square feet and 40,000 square feet per dwelling unit.

The Village Aquifer Protection District (VAP) comprises the town's mixed use, village center area, which also overlies the aquifer that supplies the municipal water supply. The intent of this district is to provide commercial services, promote a functional pedestrian environment, preserve the New England character of the village, and also protect the quality of the drinking water supply. As shown in table 2-2, only 30 acres remain undeveloped within the VAP district, which combined with the minimum lot size of 4 acres, will be rather limiting for new future development within the village. Some additional development however, is also likely to occur through the expansion of existing development and on non-conforming lots (i.e. lots that don't meet minimum lot size requirements but which existed prior to establishment of the district).

The town has two districts intended to promote commercial and industrial development which are the Commercial District (C) and the Business Development District (BD). As illustrated on Map 2-2 these districts encompass roughly three-quarters of the road frontage of the Portland Road and the Lewiston Road, as well as a separate district to the west of the Turnpike on the West Gray Road. Together, these districts have a total of 1,131 acres which represents a little over 3% of the town's land area.

The Commercial District's regulations allow for the provision of services and commercial goods in a more auto-oriented environment. This district contains 533 acres of which, an estimated 250 acres (47%) remains undeveloped. However, almost half of the remaining undeveloped acreage is located on parcels that already contain a commercial use, or represents back land within the district. In addition, a considerable portion of the land in this district is occupied by residential uses, which are permitted by right under zoning, which is likely to slow the rate of future commercial development. The minimum lot size is 40,000 square feet with a maximum lot coverage of 65%. The zoning ordinance also mandates certain site design criteria in order to minimize the potential negative impacts of "strip development". However, it may be necessary to take a more pro-active approach in order to successfully deal with this issue.

The Business Development District (BD) was established to provide alternative locations for larger scale business activities than those that are likely to occur within the Commercial district. These types of uses include business parks, warehousing facilities, and manufacturing plants. However, the zoning ordinance also permits an array of various retail, service, and residential uses, as well as the excavation of earth materials. The BD district contains a total of 598 acres in two locations.

Approximately 398 acres are situated at the north end of the Lewiston Road near the New Gloucester town line. The remaining 200 acres are located on the West Gray road adjacent to the Turnpike corridor. An estimated 331 acres, or 55% of the district is presently available for development, however 54 of these acres have already been subdivided as part of the Northbrook Business Park. In addition, a considerable number of the frontage parcels located in this district on the Lewiston Road are already occupied by existing residential and commercial uses leaving predominantly back land available for future development. The minimum lot size in this district is 80,000 square feet and the maximum lot coverage is 65%.

The remaining two base districts in the town's zoning ordinance are the Wellhead Protection Districts (WH1 and WH2). These districts encircle the town's municipal water well and are intended to minimize the potential threat of contamination and loss of recharge capability to the land area immediately surrounding the well. The district regulations allows for the establishment of predominantly residential, agricultural and public oriented uses at low densities with a minimum lot size of 4 acres. It also restricts the amount of impervious surface areas, which would affect aquifer recharge rates, to 10% of the lot area. These districts have a combined area of 486 acres of which, 152 acres (38.4%) is still available for development. Most of the undeveloped acreage is in the WH1 district.

5. Build Out Analysis

Based on existing land uses and the zoning analysis presented in the preceding sections a build out analysis has been conducted to determine the potential for future development in Gray. The analysis was conducted using the town's GIS digital parcel map, linked to the municipal assessment database, which was overlaid with the digital zoning map. This method allowed the amount of undeveloped acreage to be estimated within each zoning district which was used, in turn, to estimate possible future development potential in the town. The build out analysis examined the potential for both residential and non-residential development.

As with any analyses of this type it is necessary to rely on a certain set of assumptions since there are a number of variables than can affect the type and amount of growth the town may incur in the future. Therefore, the estimates presented here should not be viewed as what *will* happen but only as *one possibility* based on the assumptions used. For the residential build out the calculations were made based only on the potential for construction of new single family homes. However, the town's regulations allow for the construction of multi-family housing, such as duplexes, in most districts which could increase the potential number of units constructed. The build out also assumed that for those districts that are predominantly residential in nature, the RRA, LD, MD, and WH districts, all developable land would primarily be used for houses. In fact, some percentage of this land will be used for non-residential purposes which would reduce the potential number of units constructed.

A similar set of assumptions were relied upon for the commercial build out analysis. For undeveloped land in the BD, C, and VAP zoning districts, it was assumed that all future

development would be non-residential in nature. The amount of building space that could potentially be constructed within these districts was based on density levels that typically occur in communities that have characteristics similar to Gray. This methodology employs a Floor Area Ratio (FAR) which establishes average building square footages, by zoning district, which is related to different types of commercial uses and the lot size being developed.

The residential build out analysis considered two separate components with regard to future development. The first is the development potential on land that is completely undeveloped with no existing structures. The second is the development potential on the undeveloped portion of large lots that have an existing structure such as a single family house. Since these parcels can be further subdivided they do represent some potential for future development, although the time-frame for possible development may be very long or even non-existent.

Through the use of the GIS it was estimated that there are 12,657 acres of undeveloped land in the residential districts as show in Table 2-3. There is an additional 4,002 acres of undeveloped land on parcels that contain an existing residential building. These total acreage figures were reduced by 15% in order to allow for natural constraints such as wetlands, steep slopes and irregular lot configurations, as well as for the construction of roads and utilities. The remaining potentially developable land area was then divided by the minimum lot size and the average lot size for each zoning district. The minimum lot size is that which is prescribed by the zoning ordinance. The average lot size is based on a review of existing house lots in the district. The average lot size is typically a bit larger as a result of development constraints and market demand within the housing market. In addition, for all of the undeveloped acreage located within the town's Aquifer Overlay Protection District, a minimum lot size of 4 acres, as required by the ordinance, was used to estimate future development potential.

Based on these factors it is estimated that approximately 3,270 to 5,670 additional single family houses could be constructed on the remaining undeveloped land in Gray. The lower number is based on the average lot size and the higher represents the minimum lot size. An additional 1,260 to 2,110 units could potentially be constructed on undeveloped land with an existing residential structure. This represents a combined total of 4,530 to 7,780 single family units that could potentially be accommodated on undeveloped land in Gray. Information presented in the Population and Housing Chapter of this plan indicated that on average, the town has issued about 65 residential building permits annually over the last 20 years. Based on these trends it could take as long as 70 to 120 years for all of these units to be constructed. As of 2000, there were 3,202 dwelling units in Gray.

A similar methodology was used to estimate the potential commercial and industrial building space that could be constructed in the three zoning districts which are predominantly non-residential in nature. These include the BD, C, and VAP districts. As shown in Table 2-4 there is approximately 355 acres of undeveloped land and another 278 acres of undeveloped acres on parcels that have an existing commercial structure. It is also possible that some new commercial square footage could be constructed through the redevelopment of residential properties in commercial districts, however,

this potential was not evaluated as part of this analysis.

Table 2-3 Residential Build Out by Zoning District - 2001 Town of Gray						
Zoning District	RRA	LD	MD	WH1	WH2	Total
Potentially Developable Acreage(1)	10,523	3,732	187	140	3	14,584
Potential Additional Single Family Units Based on Minimum Lot Size						
Total Units	5,571	1,971	201	35	1	7,779
Potential Additional Single Family Units Based on Average Lot Size						
Total Units	3,433	1,002	65	26	1	4,527
(1) Includes undeveloped land and land which is partially developed with a residential structure. Represents the total undeveloped acreage reduced to account for existing development as well as a 15% reduction for the construction of roads, utilities and limitations associated with natural constraints. Source: 2001 assessment records, digital parcel map and zoning map, and RKG Associates, Inc.						

As mentioned previously the commercial build out methodology relied on a Floor Area Ratio (FAR) calculation which assumes an average amount of building square footage will be constructed on a given parcel based on the types of uses permitted in the district and other local economic factors. Historically, commercial and industrial buildings in the Gray have been rather modest, in terms of building size and density. These conditions have been reflected in the build out calculations.

As illustrated in Table 2-4 it is estimated that undeveloped land remaining in the commercial districts totals 355 acres. There is an additional 278 acres of potentially developable land contained in parcels that have an existing commercial structure. The potential development for some of this acreage will be reduced due to density limitations created by the Aquifer Overlay Protection District. It is estimated that approximately 670,000 square feet of new building space could be constructed on land which is currently undeveloped. Approximately two-thirds of this space would be in the BD district with one-third in the Commercial and VAP districts. Based on the *Community Economic Growth Strategy*² prepared for the town in 2001, it is estimated that approximately 850,000 square feet of non-residential building space currently exists in Gray.

There is also the potential to construct approximately 497,000 square feet of building space on the

²*Community Economic Growth Strategy for the Town of Gray, Maine*, prepared for the Gray Economic Development Committee, by Planning Decisions Inc., July 2001.

undeveloped portions of parcels that have an existing commercial building. However, it is unlikely that this potential will be fully realized given the fact that much of this acreage is back land, which will create access issues that will make the land less marketable. The willingness of business to offer their land for development could also be a limiting factor.

Table 2-4 Non-Residential Build Out by Zoning District - 2001 Town of Gray				
Zoning District	C	BD	VAP	Total
Potentially Developable Acreage(1)	113	283	20	416
Potential Additional Building Square Footage on Undeveloped Parcels				
Total Sq. Ft.	222,156	422,096	25,918	670,171
Potential Additional Building Square Footage on Partially Developed Parcels				
Total Sq. Ft.	241,558	193,276	62,944	497,778
(1) Includes undeveloped land and land which is partially developed with a commercial structure. Represents the total undeveloped acreage reduced to account for existing development as well as a 15% reduction for the construction of roads, utilities and limitations associated with natural constraints. Source: 2001 assessment records, digital parcel map and zoning map, and RKG Associates, Inc.				

6. Implications for the Future

The town’s land use development patterns are the result of many factors that have influenced the town’s growth throughout the community’s existence. The characteristics of these development patterns have implications for all other aspects considered in the Comprehensive Plan including future housing construction, commercial and industrial development, open space and resource conservation, and the provision of municipal services.

There are a number of implications resulting from the trends identified in the land use and build out analysis presented in this chapter that should be noted. The first, from a residential perspective, is that there is more than an ample supply of undeveloped land to support projected growth in the town for the foreseeable future. Most of this growth will occur at low densities in the Rural Residential/Agriculture zoning district and the Lake District.

Over the past decade residential development has exhibited two significant characteristics. The first characteristic is the continuation of frontage development along an increasing amount of the town’s historic (versus new subdivision roads) roadway corridors. This scattered development extends into

almost all sections of the community and is forming the beginnings of a “rural sprawl” land use pattern. As the number of housing units increases in areas away from the core of the town’s municipal service base it could begin to create a marginal increase in the cost of local services such as police and fire protection, school bus routes, and road maintenance. Eventually, it may lead to the need for establishing additional municipal or school facilities in new locations. This scenario would warrant the need for the town to identify land parcels for these future facilities before the most suitable sites are developed for other purposes.

The second characteristic of residential development is that as the amount of developable road frontage is decreased it necessitates the construction of new subdivision roads into back lands. New road construction will require additional road maintenance and will also create a new road network without consideration for the most appropriate locations of extending and linking the town’s road network. These linkages are important from the aspect of providing municipal services in an efficient manner and helping to minimize the impacts of traffic increases throughout the community by providing alternative routes.

The extension of new subdivision roads into previously undeveloped areas also has implications for open space, land conservation issues, and the traditional use of land as a shared community resource. The other trend that will have an impact on this issue is the apparent increase in the amount of land is being used per residential dwelling for new development. As discussed in this chapter the town has a very small amount of land set aside as permanently protected open space. In the past there may not have been a sense of urgency to protect land because much of the town is still undeveloped. However, future subdivisions will continue to encroach on more environmentally sensitive areas that will place the town in a *re-active* position for preserving open space if priority areas, and a plan for their protection, have not been established. New development will continue to *fragment* large tracts of land thus reducing the value of these tracts from a natural resource perspective. It will be many years before the town ever approaches it’s potential build out threshold but changes in the rural landscape have already begun to occur in an incremental fashion that is only beginning to become perceptible at this time.

The town has provided options for somewhat higher density housing through the establishment of the Medium Density zoning district. However, only a relatively small amount of land remains undeveloped in that district which will limit the potential for higher density housing at locations concentrated around the village core area of the town. This means that future housing development will be prompted to more outlying areas of the community and thus, continue the trend described above.

The town has seen a number of cluster housing subdivision constructed over the last decade which has fostered the creation of more open space and added to the availability of more affordably priced housing units, mainly duplex type units. The town may want to consider expanding the use of this alternative development method in a more directed fashion to achieve specific housing and land conservation goals.

Development of seasonal housing around the town's lakes will be a continuing issue for the town. Although there remains only a small percentage of lake front land available for future development, the demand for housing in these locations is likely to continue. This could put increasing development pressure on lands on the outside of the "ring roads" that provide access to the lake areas. The increased demand on these resources could affect the environment of the lakes and would also create increasing demands for municipal services in outlying portions of the town.

The extent of gravel excavations, and the potential for their future expansion, is also an issue that the town should evaluate. Earth excavation operations are presently permitted anywhere in the RRA zoning district which represents almost 68% of the town's land area. The extent of existing gravel operations in the eastern half of the town cuts a fairly significant swath between the adjoining land areas. Although the availability of these earth materials is necessary for the construction industries, the town may want to re-evaluate the amount of land area that is accessible for new operation of this type in the future. This recommendation was presented in the previous comprehensive plan.

In comparison to residential growth, commercial and industrial development in Gray has been much more limited. One of the implications of these conditions is that the town has less non-residential tax base to help offset the costs associated with the increases in residential development. Although there are a number of factors that influence commercial and industrial development the limited amount of suitably zoned land within Gray has clearly played a role in the limited expansion of these uses over the past decade. This conclusion was also expressed in the Community Economic Growth Strategy completed by the town in 2001.

Presently, only four to five percent of the town is zoned for the creation of predominantly commercial and industrial uses in the BD, C, and VAP districts. About half of the zoned acreage is still undeveloped but much of this acreage is constrained by access and ownership issues. The ownership issue is related to the fact that a number of parcels in the Commercial district are "underdeveloped" and being inefficiently used with relatively small amounts of building square footage on large parcels of land. In addition, the Commercial and Business Development districts both allow residential uses, excavation operations and other inappropriate uses for these districts which could usurp land from the more desired uses of the land in these districts.

The Commercial and BD districts extend in ribbon fashion along the Portland and Lewiston Roads which, despite provisions in the zoning ordinance, will tend to foster commercial strip development along these roadways. The town may need to develop a corridor management plan, that may include the creation of parallel service roads, that controls access onto the roadways in a regulated manner at prescribed locations. An alternative to this would be to reconfigure the shape of the districts in more of a "node" shape which would concentrate development at specific locations along the corridors. It may also be appropriate to establish other commercial zoning district nodes at strategic highway locations in other outlying areas of town that would allow for the provision of *neighborhood commercial areas* that would preclude the need for residents to drive through the more congested commercial areas for certain goods and services.