Figure 5.3 shows the number and type of residential building permits issued by the Village from 1997 to ~~2008~~ 2009. For this ~~eleven~~ thirteen year period, the Village issued building permits authorizing a total of ~~1,102~~ 1,113 housing units, and average of about ~~92~~ 85.6 new units per year. Of this total, ~~713~~ 718 (about 65 percent) were for single-family houses, ~~168~~ 174 were for two-family units (15 percent) and 221 were for multi-family units (20 percent).

Figure 5.3: Number of Units for which Building Permits Were Issued

Year	Single-family	Two-Family	Multi-Family	Total
1997	68	22	36	126
1998	75	4	12	91
1999	59	8	4	71
2000	26	6	47	79
2001	28	6	8	42
2002	69	28	12	109
2003	64	30	0	94
2004	113	24	58	195
2005	105	20	0	125
2006	51	12	44	107
2007	37	8	0	45
2008	18	0	0	18
2009	5	6	0	11
Total	718	174	221	1,113
Average	55.2	13.4	17.0	85.6

Source: Dane County Department of Planning and Development

D. Projected Land Use Demand and Supply

Both local and regional factors will influence the direct population growth in Cottage Grove, including household size, the balance of residential and non-residential uses, and the average density of development. Figure 5.4 summarizes the estimated amount of land that would be consumed based on projected population growth and assumed land use requirements associated with that growth, based on the following assumptions:

Future Population: Based on ~~a Straight Line Population~~ the most recent WiDOA Population Projection, ~~reflecting historic trends for the Village from 1990 to 2008~~ which was developed in 2008.

Number of New Housing Units: The Village's average household size was projected to decrease over time. Decreasing household sizes have been, and are expected to be a nationwide trend as the population ages. Average household sizes were assumed to be ~~2.78 in 2010,~~ 2.77 in 2015, 2020, and 2025, and 2.76 in 2030.

New Residential Acreage Demand, Based on Residential Density: The number of homes that can be accommodated on a given area of land are usually measured as an average number of dwelling units per acre. For Cottage Grove, the average density was assumed to be 5 dwelling units per acre.

Non-Residential Development Ratio: The breakdown of non-residential land uses generally reflects the extrapolation of the historic balance of these uses in the Village ~~as measured by ratios per 1,000 residents into~~

~~the future~~ measured by dividing 2010 existing land use figures (see Figure 5.1) by the 2010 WiDOA population estimate (5,561 persons), which results in the 2010 acres of land use per person. This number multiplied by the projected population growth at each 5 year interval produces an estimated land use demand for each non-residential land use category.

Land Needed for Roads, Utilities, Stormwater Management, etc: Allowance was added to factor in land required for roads, utilities, stormwater management facilities for both residential and non-residential areas. For both, a land area equivalent to 27 percent of the total acreage demand was assumed.

Adjustment Factor, to Address Historic Residential/Non-Residential Tax Base Imbalance: The Village of Cottage Grove has long experienced an imbalance between residential and non-residential tax base. In 2010, 81% of the assessed value in the village came from residential properties, down only slightly from 84% in 2000. Furthermore, as shown in Figure 1.6, the Village of Cottage Grove has a much lower ratio of local jobs per employed resident than any of the other comparable Dane County Communities. Therefore, simply maintaining the historic rate of growth for the business, office, and industrial sectors would likely not provide the land needed for the necessary development to address this imbalance and accommodate additional jobs. An adjustment factor of 1.5 is proposed to address the rate of non-residential growth.

Flexibility Factor: Because the market for land is not only driven by demand, but is also dictated by the motivations and desires of land owners and developers, it is important to factor in an allowance for uncertainty. In other words, a given parcel of land may not be available for development when the market is ripe for development. Therefore, incorporating a flexibility factor into the projection of land use demand ensures that the supply of land area designated as appropriate for development will reasonably accommodate future demand. The projections utilized a 100% flexibility factor (i.e. total projected land area needs were doubled).

These land use projections suggest a total residential land demand of ~~445~~ 377 acres between ~~2005~~ 2010 and 2030, and ~~105~~ 255 acres of non-residential land demand over that same period. When accounting for a general flexibility factor and the land needed for roads and other public uses, and an adjustment factor to address the residential/non-residential tax base imbalance, the Village should allocate ~~1,120~~ 754 acres for new residential development and ~~270~~ 659 acres for new non-residential development, a total of ~~1,390~~ 1,413 acres or roughly 2.2 square miles.

Figure 5.4: Future Land Use Demand

	2010 – 2015	2015 – 2020	2020 – 2025	2025 – 2030	Total
Number of new residents (based on WiDOA projection)	1,020	1,045	1,033	1,001	4,099
Projected household size (based on WiDOA projection)	2.77	2.77	2.77	2.76	-
New dwelling units needed to accommodate projected growth (new residents/household size)	368	377	373	363	1,481
New Residential Acreage Demand (Using an average density of 5 dwelling units per acre)	74	75	75	73	297
Land for Infrastructure (Roads, Utilities, Stormwater Management, etc. - Assumed to be 27% of Residential Land Demand)	20	20	20	20	80
Subtotal, Residential Acreage plus Land for Infrastructure	94	95	95	93	377
Total, Residential Acreage with 100% flex factor	188	190	190	186	754
New Business Acreage Demand (Based on extrapolation of 2010 ratio of commercial acreage	9.3	9.5	9.4	9.1	37.3

per resident)					
New Office Acreage Demand (Based on extrapolation of 2010 ratio of commercial acreage per resident)	1.2	1.2	1.2	1.2	4.8
New Industrial Acreage Demand (Based on extrapolation of 2010 ratio of commercial acreage per resident)	18.8	19.2	19.0	18.4	75.4
Subtotal, Commercial and Industrial Acreage	29.3	29.9	29.6	28.7	117.5
Land for Infrastructure (Roads, Utilities, Stormwater Management, etc. - Assumed to be 27% of Commercial and Industrial Land Demand)	7.9	8.1	8.0	7.8	31.8
Subtotal, Commercial and Industrial Acreage plus Land for Infrastructure	37.2	38.0	37.6	36.5	149.3
Multiply by 1.5 to address Village desire to correct historical residential v. commercial/industrial tax base imbalance	55.8	57.0	56.4	54.8	224.0
Total, Commercial/Industrial Acreage with 100% flex factor	111.6	114.0	112.8	109.6	448.0
New Community Facilities Acreage Demand (Based on extrapolation of 2010 ratio of commercial acreage per resident)	20.7	21.2	21.0	20.3	83.2
Land for Infrastructure (Roads, Utilities, Stormwater Management, etc. - Assumed to be 27% of Commercial and Industrial Land Demand)	5.6	5.7	5.7	5.5	22.5
Subtotal, Community Facilities Acreage plus Land for Infrastructure	26.3	26.9	26.7	25.8	105.7
Total, Community Facility Acreage with 100% flex factor	52.6	53.8	53.4	51.6	211.4
TOTAL ACREAGE DEMAND	352.2	357.8	356.2	347.2	1,413.4