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# **A**ppendix of Background Data

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## **Appendix A: Population & Housing Trends**

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- ▶ **Table A-1:** Total Persons: 1980, 1990 & 2000
- ▶ **Table A-2:** Population and Gender Characteristics 1970-2000
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**TABLE A-1**  
**TOTAL PERSONS: 1980, 1990 & 2000**  
**Willoughby Hills and Adjacent Jurisdictions**

	1980	1990	Change 1980 - 1990		2000	Change 1990 - 2000	
			#	%		#	%
<b>Lake County</b>							
<b>Kirtland</b>	5,969	5,881	-88	-1.5%	6,670	789	13.4%
<b>Waite Hill</b>	529	449	-80	-15.1%	446	-3	-0.7%
<b>Wickliffe</b>	16,790	14,558	-2,232	-13.3%	13,484	-1,074	-7.4%
<b>Willoughby</b>	19,329	20,510	1,181	6.1%	22,621	2,111	10.3%
<b>Willoughby Hills</b>	8,612	8,427	-185	-2.1%	8,595	168	2.0%
<b>Cuyahoga County</b>							
<b>Euclid</b>	59,999	54,875	-5,124	-8.5%	52,717	-2,158	-3.9%
<b>Gates Mills</b>	2,236	2,508	272	12.2%	2,493	-15	-0.6%
<b>Highland Heights</b>	5,739	6,249	510	8.9%	8,082	1,833	29.3%
<b>Mayfield Village</b>	3,577	3,462	-115	-3.2%	3,435	-27	-0.8%
<b>Richmond Heights</b>	10,095	9,611	-484	-4.8%	10,944	1,333	13.9%
<b>Geauga County</b>							
<b>Chester Township</b>	11,212	11,049	-163	-1.5%	10,968	-81	-0.7%
<b>COUNTY SUMMARY</b>							
<b>Lake County</b>	212,801	215,499	2,698	1.3%	227,511	12,012	5.6%
<b>Geauga County</b>	74,474	81,129	6,655	8.9%	90,895	9,766	12%

SOURCE: U.S. Census Bureau – 1980, 1990 and 2000 Census Reports;  
Missouri State Census Data Center – Basic Demographic Trend Report; and  
Office of Strategic Research, Ohio Department of Development, 3/2001.

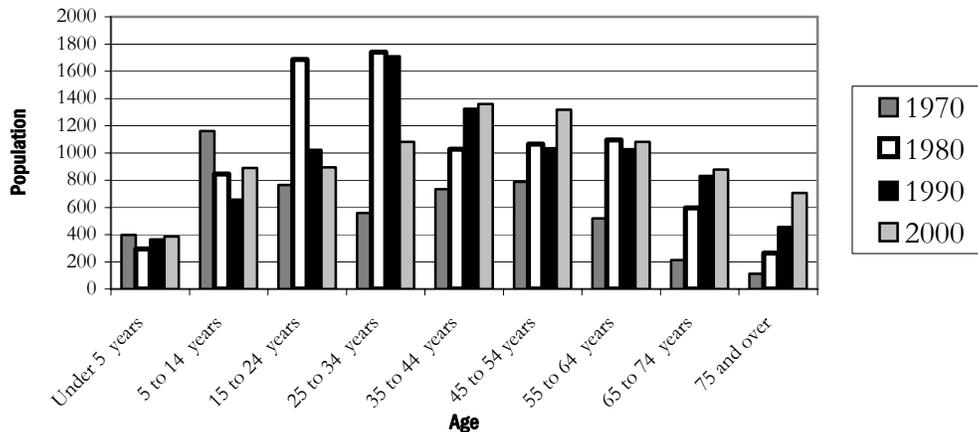
**TABLE A-2**  
**POPULATION AGE AND GENDER CHARACTERISTICS 1970 - 2000**  
**Willoughby Hills**

	1970	1980	1990	2000
<b>Gender</b>				
Male	2,630	4,247	4,129	4,107
Female	2,617	4,365	4,298	4,488
<b>Age</b>				
Under 5 years	397	294	365	387
5 to 14 years	1,160	844	658	890
15 to 24 years	765	1,686 <sup>(a)</sup>	1,023	894
25 to 34 years	559	1,741	1,709	1,081
35 to 44 years	734	1,026	1,323	1,360
45 to 54 years	788	1,064	1,034	1,318
55 to 64 years	519	1,095	1,028	1,081
65 to 74 years	213	596	830	878
75 and over	112	264	457	706
<b>Total</b>	<b>5247</b>	<b>8612</b>	<b>8427</b>	<b>8595</b>

<sup>(a)</sup> 850 aged 22-24 years

SOURCE: U.S. Census Bureau – 1970, 1980, 1990 and 2000 Census Reports.

**Chart A-2**  
**WILLOUGHBY HILLS DEMOGRAPHIC CHANGE 1970-2000**



**TABLE A-3**  
**SCHOOL AGE CHILDREN PER HOUSEHOLD 1970-2000\***  
**Willoughby Hills**

	1970			1980			1990			2000		
	Units	5-18 yrs. Old	Child/unit									
Eastlake	5,630	5,933	1.05	7,310	5,517	0.75	7,979	4,067	0.51	8,310	3,655	0.44
Lakeline	78	NA		90	78	0.87	87	25	0.29	70	28	0.40
Timberlake	251	NA		300	205	0.68	307	164	0.53	321	115	0.36
Wickliffe	5,333	6,803	1.28	5,540	3,582	0.65	5,623	2,159	0.38	5,787	2,010	0.35
Willoughby Hills	2,068	1,668	0.81	3,989	1,261	0.32	4,235	925	0.22	4,292	1,172	0.27
Willoughby	5,538	5,167	0.93	7,749	3,591	0.46	8,969	3,018	0.34	10,700	3,485	0.33
Willowick	5,573	7,199	1.29	6,168	3,479	0.56	6,207	2,066	0.33	6,272	2,306	0.37
<b>Total</b>	24,471	26,770	<b>1.09</b>	31,146	17,713	<b>0.57</b>	33,407	12,424	<b>0.37</b>	35,752	12,771	<b>0.36</b>

\* Approximately 9,000 children attend the Willoughby Eastlake Schools - 0.25 public school students per household.

**TABLE A-4**  
**TOTAL DWELLING UNITS: 1980, 1990 & 2000**  
**Willoughby Hills and Adjacent Jurisdictions**

	1980	1990	Change 1980 - 1990		2000	Change 1990 - 2000	
			#	%		#	%
<b>Lake County</b>							
<b>Kirtland</b>	1,988	2,138	150	7.5%	2,558	420	19.6%
<b>Waite Hill</b>	190	183	-7	-3.7%	197	14	7.7%
<b>Wickliffe</b>	5,540	5,623	83	1.5%	5,787	164	2.9%
<b>Willoughby</b>	7,726	8,969	1,243	16.1%	10,700	1,731	19.3%
<b>Willoughby Hills</b>	3,989	4,235	246	6.2%	4,292	57	1.3%
<b>Cuyahoga County</b>							
<b>Euclid</b>	26,417	26,586	169	0.6%	26,123	-463	-1.7%
<b>Gates Mills</b>	789	992	203	25.7%	974	-18	-1.8%
<b>Highland Heights</b>	1,794	2,176	382	21.3%	2,862	686	31.5%
<b>Mayfield Village</b>	1,332	1,416	84	6.3%	1,471	55	3.9%
<b>Richmond Heights</b>	4,298	4,503	205	4.8%	5,060	557	12.4%
<b>Geauga County</b>							
<b>Chester Township</b>	3,473	3,816	343	9.9%	4,038	222	5.8%
<b>COUNTY SUMMARY</b>							
<b>Lake County</b>	74,792	83,194	8,402	11.2%	93,487	10,293	12.4%
<b>Geauga County</b>	24,049	27,922	3,873	16.1%	32,805	4,883	17.5%

SOURCE: U.S. Census Bureau – 1980, 1990 and 2000 Census Reports;  
Missouri State Census Data Center – Basic Demographic Trend Report;  
Northern Ohio Data and Information Services (NODIS)

**TABLE A-5**  
**CHARACTERISTICS OF HOUSING: 2000**  
**Willoughby Hills and Adjacent Jurisdictions**

	1-unit detached		1-unit attached (a)		2-4 units per building		5 or more units per building		mobile home, other	
	#	%	#	%	#	%	#	%	#	%
<b>Lake County</b>										
<b>Kirtland</b>	2,216	87%	35	0.1%	54	2.1%	122	4.8%	131	5.7%
<b>Waite Hill</b>	193	98%	4	2%	0	0%	0	0%	0	0%
<b>Wickliffe</b>	4,856	84%	168	2.9%	196	3.4%	488	8.4%	79	1.4%
<b>Willoughby</b>	5,353	50%	966	9.0%	699	6.5%	3,416	32%	274	2.5%
<b>Willoughby Hills</b>	2,235	52%	111	2.5%	63	1.5%	1,890	44%	0	0%
<b>Cuyahoga County</b>										
<b>Euclid</b>	14,266	55%	1,685	6.4%	1,339	5.1%	8,823	34%	10	0.03%
<b>Gates Mills</b>	945	100%	0	0%	0	0%	0	0%	0	0%
<b>Highland Heights</b>	2,789	97%	49	1.7%	8	0.3%	16	0.5%	0	0%
<b>Mayfield Village</b>	1,176	78%	41	2.7%	13	0.9%	270	18%	0	0%
<b>Richmond Heights</b>	2,783	55%	426	8.4%	39	0.8%	1,812	36%	8	0.1%
<b>Geauga County</b>										
<b>Chester Township</b>	3,830	95%	34	0.8%	37	0.9%	21	0.5%	116	2.9%
<b>COUNTY SUMMARY</b>										
<b>Lake County</b>	68,094	73%	5,849	6.3%	3,767	4%	13,439	14.4%	2,329	2.5%
<b>Geauga County</b>	28,252	86%	933	2.8%	1,072	3.3%	1,167	3.6%	1,381	4.2%

(a) A unit where the walls separating the unit from another unit extend from the ground to the roof.

SOURCE: 1990 U.S. Census.

**TABLE A-6**  
**HOUSING UNIT CONSTRUCTION RATES: 1996-2001<sup>(a)</sup>**  
**Willoughby Hills and Adjacent Jurisdictions**

	1996	1997	1998	1999	2000	2001 <sup>(b)</sup>	Total 1995 – 2001	Annual Average # of buildings
<b>Lake County</b>								
<b>Kirtland</b>	40	45	43	31	39	24	222	37
<b>Waite Hill</b>	NOT AVAILABLE							
<b>Wickliffe</b>	13	18	11	11	7	4	64	11
<b>Willoughby <sup>(c)</sup></b>	64	74	60	65	70	29	362	60
<b>Willoughby Hills</b>	15	11	10	12	7	12	67	11
<b>Cuyahoga County</b>								
<b>Euclid <sup>(c)</sup></b>	40	3	15	12	16	N/A	86	17
<b>Gates Mills</b>	5	8	7	10	3	1	34	6
<b>Highland Heights<sup>(c)</sup></b>	19	38	43	96	89	51	336	56
<b>Mayfield Village</b>	5	5	4	3	1	2	20	3.3
<b>Richmond Heights</b>	37	43	43	41	36	16	216	36
<b>Geauga County</b>								
<b>Chester Township</b>	15	21	34	34	29	11	144	24
<b>COUNTY SUMMARY</b>								
<b>Lake County <sup>(c)</sup></b>	NOT AVAILABLE			901	761	623	2,285	762
<b>Geauga County</b>	NOT AVAILABLE			594	519	409	1,522	507

(a) Based on the number of building permits issued in each community.

(b) Reported through September 2001.

(c) Communities where a portion of units are multi-family units

SOURCES: U.S. Census Bureau – Residential Building Permit Reports; Kirtland Zoning Department; Lake County Building Department.

**TABLE A-7**  
**AVERAGE HOUSING UNIT CONSTRUCTION COSTS 1996-2001<sup>(a)</sup>**  
**Willoughby Hills and Adjacent Jurisdictions**

	1996 Avg. Cost	1997 Avg. Cost	1998 Avg. Cost	1999 Avg. Cost	2000 Avg. Cost	2001 <sup>(b)</sup> Avg. Cost	Average Annual % Increase 1996-2001
<b>Lake County</b>							
<b>Kirtland</b>	NOT AVAILABLE						
<b>Waite Hill</b>	NOT AVAILABLE						
<b>Wickliffe</b>	\$115,615	\$129,000	\$160,227	\$150,727	\$185,714	\$153,250	5.4%
<b>Willoughby</b>	\$125,985	\$151,165	\$178,050	\$191,760	\$190,613	\$185,670	7.9%
<b>Willoughby Hills</b>	\$167,129	\$183,407	\$246,290	\$299,980	\$222,857	\$257,559	9.0%
<b>Cuyahoga County</b>							
<b>Euclid</b>	\$84,285	\$168,333	\$103,267	\$110,750	\$141,963	\$134,760	10.0%
<b>Gates Mills</b>	\$1,002,000	\$781,750	\$658,214	\$933,738	\$942,240	\$993,000	-0.2%
<b>Highland Heights</b>	\$297,245	\$319,787	\$307,209	\$256,206	\$284,140	\$348,361	2.9%
<b>Mayfield Village</b>	\$279,600	\$192,600	\$344,250	\$400,000	\$85,000	\$350,000	4.2%
<b>Richmond Heights</b>	\$183,243	\$201,044	\$215,087	\$232,463	\$244,528	\$235,218	4.7%
<b>Geauga County</b>							
<b>Chester Township</b>	\$66,333	\$75,930	\$103,458	\$104,716	\$103,243	133,636	17.0%
<b>COUNTY SUMMARY</b>							
<b>Lake County</b>	NOT AVAILABLE			\$185,353	\$163,079	\$160,449	-4.5% <sup>(c)</sup>

<sup>(a)</sup> For new construction of single-family dwellings only.

<sup>(b)</sup> As reported or estimated through September 2001.

<sup>(c)</sup> 1999-2001

SOURCES: U.S. Census Bureau – Residential Building Permit Reports.

**TABLE A-8**  
**HOUSING AND OCCUPANCY CHARACTERISTICS: 1990 & 2000**  
**Willoughby Hills**

	UNITS		PERCENT OF TOTAL		Average PERSONS PER UNIT	
	1990	2000	1990	2000	1990	2000
Owner-occupied	1,813	2,165	45%	54%	3.00	2.60
Rental	2,206	1,808	55%	46%	1.35	1.64
<b>TOTAL OCCUPIED UNITS</b>	<b>4,019</b>	<b>3,973</b>	<b>100%</b>	<b>100%</b>	<b>2.10 <sup>(a)</sup></b>	<b>2.16 <sup>(a)</sup></b>
Vacant	216	319	5.1% of total units	7.4% of total units		
<b>TOTAL</b>	<b>4,235</b>	<b>4,292</b>	<b>100%</b>	<b>100%</b>	<b>2.0 <sup>(b)</sup></b>	<b>2.0 <sup>(b)</sup></b>

(a) Persons per occupied unit is the same as persons per household; does not includes persons living in group quarters.

(b) Persons per unit is based on both occupied and vacant units. This figure therefore contains a realistic vacancy factor that is necessary when estimating future population based on projected housing units.

SOURCE: 1990 and 2000 U.S. Census.



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## **Appendix B: Land Use & Development Capacity**

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- ▶ **Table B-9:** Land Area by Zoning District
- ▶ **Table B-10:** Projected Increase in Dwelling Units & Population
- ▶ **Table B-11:** Residential Development Potential at Build-Out
- ▶ **Table B-12:** Trip Generation By Land Use

**TABLE B-9  
LAND AREA BY ZONING DISTRICT  
Willoughby Hills**

<b>ZONING DISTRICT</b>	<b>-A- Total Acres in District</b>	<b>% of Total Acres</b>	<b>-B- Acres Developed</b>	<b>% of Total in Column -A-</b>	<b>-C- Acres Vacant<sup>1</sup></b>	<b>-D- Flood Plain <sup>2</sup></b>	<b>-E- Total Developable Land<sup>3</sup></b>	<b>% of Total in Column -A-</b>
<b><i>Residential</i></b>								
R Residential	5,269	76%	3,036	58%	2,233	311	1,922	37%
M Multi-Family	13	0.1%	13	100%	0	0	0	0%
M-1 High Rise Apartment	59	0.8%	49	83%	10	10	0	0%
<b>Total Residential</b>	<b>5,341</b>	<b>77%</b>	<b>3,098</b>	<b>58%</b>	<b>2,243</b>	<b>321</b>	<b>1,922</b>	<b>36%</b>
<b><i>Commercial</i></b>								
B Commercial	199	3%	182	91%	17 <sup>4</sup>	0	17	9%
E Research	14 <sup>5</sup>	0.2%	11	79%	3	0	3	21%
<b>Total Commercial</b>	<b>213</b>	<b>3%</b>	<b>193</b>	<b>91%</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>9%</b>
<b>Total Interstate</b>	<b>350</b>	<b>5%</b>	<b>350</b>	<b>100%</b>				
<b><i>Parks/Recreation</i></b>								
Cleveland Metroparks <sup>6</sup>	878	13%	878	100%				
Local Parks <sup>7</sup>	167	2%	167	100%				
<b>Total Parks/Recreation</b>	<b>1,045</b>	<b>15%</b>	<b>1,045</b>	<b>100%</b>				
<b>TOTAL ACRES</b>	<b>6,949</b>	<b>100%</b>	<b>4,686</b>	<b>67%</b>	<b>2,263</b>	<b>321</b>	<b>1,942</b>	<b>28%</b>

<sup>1</sup> Calculated by D.B. Hartt using 2000 aerial photos & base maps revised 2001 – includes hillsides and flood plains.

<sup>2</sup> Only undeveloped land. Flood plain = undeveloped land in the floodway and 100 year flood plain.

<sup>3</sup> Includes 368 acres in the protected hillside area – hillside regulations regulate but do not prohibit development on steep slopes.

<sup>4</sup> Includes pending litigation for M-1 use on 11.5 acres of commercially zoned land.

<sup>5</sup> Includes 3 acres rezoned in spring 2002 to the E District from the R District

<sup>6</sup> Includes Manakiki Golf Course and North Chagrin Reservation.

<sup>7</sup> Includes Airport Greens Golf Course, Hach-Otis Sanctuary, Roemisch Fields and Campbell Park.

**TABLE B-10**  
**PROJECTED INCREASE IN DWELLING UNITS & POPULATION**  
**Willoughby Hills**  
*(based on current zoning)*

ZONING DISTRICT	Vacant or Underdeveloped Acres <sup>1</sup>		Effective Density (units/acre) <sup>3</sup>	Potential Dwelling Units		Projected Population <sup>2</sup>	
	Low	High		Low	High	Low	High
R Residential	1,925	2,236	0.85	1,636	1,900	4,250	4,940
M Multi-family	0	0	--	0			0
M-1 High Rise Apartment	0	0	--	0	0	0	0
<b>Total</b>	<b>1,925</b>	<b>2,236</b>	<b>--</b>	<b>1,636</b>	<b>1,900</b>	<b>4,250</b>	<b>4,940</b>

**TABLE B-11**  
**RESIDENTIAL DEVELOPMENT POTENTIAL AT BUILD-OUT**  
**Willoughby Hills**  
*(based on current zoning)*

	Potential Total Dwelling Units	Potential Total Population
2000 Census	4,292	8,595
Additional Units in 2001	19	50 <sup>3</sup>
Anticipated Units from 11.5 acre M-1 development (pending litigation)	272	435 <sup>4</sup>
<b>Subtotal</b>	<b>4,583</b>	<b>9,080</b>
Additional Development Potential (estimated in Table B-10)	1,636 – 1,900	4,250-4,940
<b>Total Residential Development Potential at Build-Out</b>	<b>6,219 - 6,483</b>	<b>13,330-14,020-</b>
<b>% Growth at Build-Out</b>	<b>36% - 41%</b>	<b>47% - 54%</b>

<sup>1</sup> Includes significant backlands of large parcels and land devoted to farming. Low includes vacant land excluding floodplain, Column E, Table B-9; High includes all vacant land from Column C, Table B-9 for the R district.

<sup>2</sup> Based on 2.6 persons per occupied unit as reported by the 2000 Census.

<sup>3</sup> Effective density takes into account land area devoted to streets and inefficient lot layouts.

<sup>4</sup> Based on 1.6 persons per rental unit as reported by the 2000 Census.

**TABLE B-12**  
**TRIP GENERATION BY LAND USE**

USE	TIME					Unit of Measure
	Week day	A.M. Peak	P.M. Peak	Sat.	Sun.	
<b>Industrial</b>						
Light Industrial	6.97	1.03	1.13			1,000 SF GFA
Industrial Park	6.97	0.08	0.89			1,000 SF GFA
Warehousing	4.88		0.60			1,000 SF GFA
<b>Residential</b>						
Single Family Detached	10.06	0.77	1.01	10.15	8.73	Per DU
Apartment	6.10	0.57	0.70	6.29	5.66	Per DU
Residential Condominium	5.86	0.45	0.54	5.67	4.85	Per DU
Planned Unit Development	7.44	0.58	7.24	6.43	5.09	Per DU
<b>Recreational</b>						
General Recreation (i.e. Sea World)	3.64				2.68	Per Ac
County Park	5.89			2.17	25.96	Per Ac
Golf Course	8.33			7.54	8.06	Per Ac
Tennis Courts	32.93			20.87	26.73	Per Ac
Racquet Club	15.94			25.55	22.15	Per Ac
<b>Special Uses</b>						
Church/Synagogue	7.70			1.29	31.46	1,000 SF GFA
Day Care Center	67.00					1,000 SF GFA
Library	45.50					1,000 SF GFA
<b>Offices</b> Business Park	12.42			2.51	1.29	1,000 SF GFA
<b>Retail</b>						
Specialty Retail Center	40.68			42.04	20.43	1,000 SF GFA
Shopping Center	166.40					1,000 SF GFA
High Quality Restaurant	95.62			91.80	71.96	1,000 SF GFA
High Turnover Restaurant	200.90			222.57	203.29	1,000 SF GFA
Fast Food/ w Drive Thru	632.13			720.83	550.00	1,000 SF GFA

Source: Trip Generation, 6<sup>th</sup> Edition. Institute of Traffic Engineers, 1997.

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## **Appendix C: Tax Comparisons**

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- ▶ **Table C-13:** Comparison of Assessed Tax Valuations: Tax Year 2000
- ▶ **Table C-14:** Comparison of Tax Rates: Tax Year 2000
- ▶ **Table C-15:** Projected Property Valuation At Build-Out

**TABLE C-13**  
**COMPARISON OF ASSESSED TAX VALUATIONS: TAX YEAR 2000**  
**Willoughby Hills and Adjacent Jurisdictions**

*(Sorted highest to lowest % of Commercial/Industrial Valuation)*

COMMUNITY	Real Property		TOTAL <sup>(a)</sup>
	Agricultural/ Residential	Comm/ Industrial/ Public Utility	
Mayfield Village	\$88,578,950 61%	\$56,540,350 39%	\$145,119,300
Willoughby	\$268,680,740 64%	\$153,969,350 36%	\$422,650,090
Richmond Heights	\$165,900,900 66%	\$84,005,750 34%	\$249,906,650
Euclid	\$502,678,150 72%	\$191,537,930 28%	\$694,216,080
Wickliffe	\$187,052,970 75%	\$61,600,250 25%	\$248,653,220
Willoughby Hills	\$165,739,180 75%	\$55,813,270 25%	\$221,552,450
Highland Heights	\$222,593,310 81%	\$53,041,590 19%	\$275,634,900
Chester Township	\$251,808,380 93%	\$20,372,500 7%	\$272,180,880
Kirtland	\$167,475,200 94%	\$10,436,530 6%	\$177,911,730
Gates Mills	\$174,895,610 98%	\$2,745,700 2%	\$177,641,310
Waite Hill	\$32,125,920 99%	\$302,040 1%	\$32,427,960
<b>COUNTY SUMMARY</b>			
Lake County	3,370,167,850 77%	\$1,034,912,510 23%	\$4,405,080,360
Geauga County	\$1,858,913,140 90%	\$210,875,710 10%	\$2,069,788,850

<sup>(a)</sup> Total equals 100%

SOURCE: Lake County Treasurer, Cuyahoga and Geauga County Auditors.

**TABLE C-14**  
**COMPARISON OF TAX RATES: TAX YEAR 2000**  
**Willoughby Hills and Adjacent Jurisdictions**  
*(Sorted lowest to highest Residential Effective Tax Rate)*

Taxing Jurisdiction	Full Tax Rate	Effective Rate	
		Residential/ Agricultural	Other
Highland Heights	80.90	41.47	45.90
Mayfield Village	84.20	41.74	46.67
Willoughby City	69.75	44.42	47.84
Willoughby Hills City	70.24	47.03	49.89
Gates Mills	87.80	47.07	51.17
Willoughby City/Kirtland SD	91.79	47.37	52.55
Wickliffe City	84.41	47.81	63.70
Kirtland City	95.93	49.40	54.47
Chester Township-West Geauga SD	82.77	50.34	51.41
Waite Hill Village/Willoughby SD	75.84	52.85	55.77
Waite Hill Village/Kirtland SD	97.88	55.79	60.48
Euclid	104.60	59.79	74.34
Richmond Heights	105.00	60.22	63.54

SD            School District

SOURCE:    Lake and Cuyahoga County Treasurers, Geauga County Auditor

**TABLE C-15**  
**PROJECTED PROPERTY VALUATION AT BUILD-OUT**  
**Willoughby Hills**

	Existing Real Estate Tax Valuation		Development at Build-out	
	\$\$	%	\$\$	%
Residential/ Agricultural				
Units	4,292		1,636 <sup>(a)</sup>	
Value added			\$157,465,000 <sup>(b)</sup>	
<b>Total Res./ Agricultural</b>	<b>\$165,739,180</b>	<b>75%</b>	<b>\$323,204,180</b>	<b>84%</b>
Commercial				
Acres	193		17	
Value added			\$4,760,000 <sup>(c)</sup>	
<b>Total Commercial</b>	<b>\$55,813,270</b>	<b>23%</b>	<b>\$60,573,270</b>	<b>16%</b>
<b>GRAND TOTAL</b>	<b>\$221,552,450</b>	<b>100%</b>	<b>\$383,777,450</b>	<b>100%</b>

(a) Based on Table B-10 calculation of potential residential units.

(b) Residential: Average unit cost \$275,000. Total Value x 0.35 (assessed value).

Commercial: Total acres x \$800,000 (assumed value per acre based on 10,000 sq. ft. of building floor area per acre x \$80/sq. ft. including land value) x 0.35 (assessed value).

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## **Appendix D: Zoning District Regulations Summary**

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- ▶ **Table D-16:** Permitted Uses in Residential Districts
- ▶ **Table D-17:** Summary of Development Standards in Residential Districts
- ▶ **Table D-18:** Permitted Uses in Commercial and Office Districts
- ▶ **Table D-19:** Summary of Development Standards in Commercial and Office Districts

**TABLE D-16  
PERMITTED USES IN RESIDENTIAL DISTRICTS**

	<b>R</b> Residential Districts	<b>M</b> Multi-Family Districts	<b>M-1</b> High Rise Apartment Districts
<b>(a) Residential</b>			
(1) Single family dwellings	P	-	-
(2) Multi-family dwellings	-	P	P
(3) Apartment buildings	-	P	P
<b>(b) Community Facilities</b>			
(1) Municipal offices and buildings, community center building, and fire stations	P	-	-
(2) Churches	P <sup>(a)</sup>	P	P
(3) Schools	P <sup>(a)</sup>	P	P
(4) Public libraries	P <sup>(a)</sup>	P	P
(5) Public museums	P <sup>(a)</sup>	P	P
(6) General hospitals	P <sup>(a)</sup>	-	-
<b>(c) Open Space, Recreation, Other</b>			
(1) Parks and reservoirs	P	-	-
(2) Agricultural, including nurseries and greenhouses	P	-	-
<b>(d) Required Accessory Uses <sup>(b)</sup></b>			
(1) Off-street parking or garages		A	A
(2) Garbage and rubbish disposal facilities		A	A
(3) Screening and landscaping <sup>(c)</sup>		A	A

Notes to Table 16:

P Principal use permitted by right.

- Use not permitted in district.

A Accessory use.

(a) Only permitted when: the parcel has a minimum frontage of 100 feet on any state or federal highway; the maximum building setback is 500 feet from front lot lines; and all driveways used for service outlet only onto the bordering state or federal highway.

(b) Accessory uses permitted in the R district are not specified.

(c) When adjoining or abutting an R district.

**TABLE D-16 (continued)**  
**PERMITTED USES IN RESIDENTIAL DISTRICTS**

	<b>R</b> Residential Districts	<b>M</b> Multi-Family Districts	<b>M-1</b> High Rise Apartment Districts
<b>(e) Permitted Accessory Uses <sup>(b)</sup></b>			
(1) Enclosed garages		A	A
(2) Directional and real estate signage		A	A
(3) Gardens, fences, walls, swimming pools and other recreational facilities		A	A
(4) Restaurant, limited shops, and service facilities <sup>(d)</sup>		A	A

Notes to Table 16:

P Principal use permitted by right.

- Use not permitted in district.

A Accessory use

<sup>(b)</sup> Accessory uses permitted in the R district are not specified.

<sup>(d)</sup> Only when the restaurant is located in a multi-family complex and is solely accessible from such complex. No signage or advertising shall be visible outside the complex.

**TABLE D-17**  
**SUMMARY OF DEVELOPMENT STANDARDS IN RESIDENTIAL DISTRICTS**

	R	M	M-1
<b>(a) Lot Requirements</b>			
(1) Minimum lot size			
- Residential Dwellings	1 acre	5 acres	8 acres <sup>(a)</sup>
- All other uses permitted	3 acres/ building	5 acres	5 acres
(2) Minimum lot frontage	20 ft.	100 ft. <sup>(b)</sup>	100 ft. <sup>(c)</sup>
(3) Minimum lot width	100 ft. <sup>(d)</sup>	350 ft. <sup>(e)</sup>	100 ft. <sup>(c) (e)</sup>
(4) Maximum land coverage (including accessory uses)	-	25 %	25 %
(5) Maximum density	-	15 units/acre	No Limit
<b>(b) Yard Requirements/ Building Spacing</b>			
(1) Minimum front yard	75 ft. <sup>(f)</sup>	50 ft.	50 ft.
(2) Minimum side yard (each side)	15 ft.	25 ft.	25 ft.
(3) Minimum rear yard	15 ft.	50 ft.	50 ft.
(4) Landscaped buffer yard	-	-	15 ft. <sup>(g)</sup>
(5) Minimum distance between buildings		(h)	(h)
<b>(c) Height Requirements</b>			
(1) Minimum height	-	-	80 ft. <sup>(i)</sup>
(2) Maximum height	2 ½ stories or 35 ft.	2 ½ stories or 35 ft.	12 stories or 150 ft. <sup>(i)</sup>

Notes to Table 17:

- Not specified or not applicable
- (a) For one building, 12 acres for two high rise buildings, and an additional 5 acres of land per building thereafter constructed on the same land.
- (b) 100 ft. minimum frontage is specified for apartments, all other uses conform to a 200 ft. street frontage requirement per section 1141.09 *LOT STREET FRONTAGE*.
- (c) For apartment buildings; all other uses not specified.
- (d) In the event that this 100 ft. width is not achieved by a distance of 75 ft. from the edge of the public right of way, no property between the located between the right of way and the point where 100 ft. is achieved shall be included for the purpose of determining whether or not the lot complies with the minimum lot size requirements.
- (e) At the lots narrowest point, all lots must have an average width of 350 feet, except in the case of irregular lots whereby approval may be sought from the Planning and Zoning Commission.
- (f) Except where there is an established building line, in such case, the building shall be constructed to conform to such setbacks.
- (g) Where parcel abuts an R district.
- (h) The minimum distance shall be determined by adding the length and height of each proposed building and dividing the result by four.
- (i) A high rise apartment building is defined as a multi-family dwelling not less than eighty feet tall, but not more than 12 stories nor more than 150 feet in height.

**TABLE D-17 (continued)**  
**SUMMARY OF DEVELOPMENT STANDARDS IN RESIDENTIAL DISTRICTS**

	<b>R</b>	<b>M</b>	<b>M-1</b>
(1) Minimum living area for single-family dwellings			
- Minimum total area	1,250 sq. ft. <sup>(i)</sup>	-	-
- Minimum first floor area	900 sq. ft.	-	-
(2) Minimum living area for multi-family dwellings			
- One bedroom	-	750 sq. ft. <sup>(i)</sup>	550 sq. ft. <sup>(i)</sup>
- Two bedroom	-	900 sq. ft.	750 sq. ft.
- Three bedroom	-	1,100 sq. ft. <sup>(k)</sup>	900 sq. ft.
- Four bedroom	-	1,250 sq. ft. <sup>(k)</sup>	1,050 sq. ft.
<b>(e) Accessory Building Requirements</b>			
(1) Maximum floor area	600 sq. ft. <sup>(l)</sup>	-	-
(2) Maximum height	15 ft.	15 ft.	-
<b>(f) Parking Setback from R District</b>	-	25 ft.	10 ft.

Notes to Table 17:

- Not specified or not applicable
- <sup>(i)</sup> No more than fifty percent of building shall be in the one bedroom category.
- <sup>(k)</sup> No more than twenty percent of building shall be in the three or more bedroom categories.
- <sup>(l)</sup> Requirement is for lots one acre or less, on lots larger than one acre, permitted area is increased one square foot for every 100 sq. ft. of lot area in excess of 43,560 sq. ft.

**TABLE D-18  
PERMITTED USES IN COMMERCIAL DISTRICTS AND OFFICE DISTRICTS**

	<b>B</b> Commercial Districts	<b>E</b> Research and Office Districts
<b>(a) Residential</b>		
(1) Upper floor apartments <sup>(a)</sup>	P	-
<b>(b) Office and Professional Services</b>		
(1) Professional offices	P	-
(2) Banks	P	-
(3) Brokers	P	-
(4) Agents	P	-
(5) Laboratories for experimental, research, and testing purposes	-	P
(6) Offices for administration of main or permitted businesses	-	P
(7) Offices for wholesale trade with offsite warehouses		
<b>(c) Retail and Personal Services</b>		
(1) Retail stores	P	-
(2) Drug stores	P	-
(3) Shops for custom work sold on premises	P	-
(4) Studios	P	-
(5) Barber shops, beauty shops	P	-
(6) Restaurants, lunch rooms and bakeries <sup>(b)</sup>	P	-
(7) Theaters under roof	P	-
(8) Bowling alleys	P	-
(9) Skating rinks	P	-
(10) Dance halls	P	-

Notes to Table 18:

P Use permitted by right

C Use permitted through a conditional use permit process

A Accessory uses

- Not specified or not applicable

<sup>(a)</sup> Must be designed for the proprietors, caretakers, or operators of stores or offices in the building, cannot exceed the ground floor area of the building; not to be used for rental use.

<sup>(b)</sup> No lunchroom or restaurant shall be permitted on a parcel that abuts a residential zone or which is less than 2 acres.

**TABLE D-18 (continued)**  
**PERMITTED USES IN COMMERCIAL DISTRICTS AND OFFICE DISTRICTS**

	<b>B Commercial Districts</b>	<b>E Research and Office Districts</b>
(11) Automobile sales <sup>(c)</sup>	P	-
(12) Gasoline service stations	C	-
<b>(d) Community Facilities/Other</b>		
(1) Municipal offices and buildings, community center buildings, and fire stations	P	-
(2) Lodge halls, offices or nonresidential quarters for associations, clubs or fraternities	P	-
<b>(e) Required Accessory Uses <sup>(d)</sup></b>		
(1) Off street parking or garages		A
(2) Garbage and rubbish disposal facilities		A
(3) Landscaping and screening <sup>(e)</sup>		A
<b>(f) Permitted Accessory Uses <sup>(d)</sup></b>		
(1) Enclosed garages for the temporary storage of automobiles		A
(2) Private restaurant or cafeteria (not open to the public)		A
(3) Directional and real estate signage		A
(4) Auditoriums, clinics and recreational facilities <sup>(f)</sup>		A
(5) Indoor storage and assembly of components related to permitted uses		A

Notes to Table 18:

- P Use permitted by right
- C Use permitted through a conditional use permit process
- A Accessory uses
- Not specified or not applicable
- <sup>(c)</sup> Auto sales are limited to the sale and service of new automobiles and parts as well as used automobile sales if operated in conjunction with the sale of new automobiles.
- <sup>(d)</sup> Accessory uses permitted in the B district are not specified.
- <sup>(e)</sup> Required when abutting a residential district.
- <sup>(f)</sup> For use by employees and visitors to buildings on the premises, and controlled under the same ownership and operation as the building.

**TABLE D-19  
SUMMARY OF DEVELOPMENT STANDARDS IN COMMERCIAL AND OFFICE DISTRICTS**

	<b>B</b>	<b>E</b>
<b>(a) Lot Requirements</b>		
(1) Minimum lot size	None	5 acres
(2) Minimum lot width and frontage	None	250 ft.
(3) Maximum lot coverage	-	25%
<b>(b) Yard Requirements</b>		
(1) Minimum front yard		
On a federal or state highway	100 ft. <sup>(a)</sup>	100 ft. <sup>(b)</sup>
On other public roads	75 ft. <sup>(a)</sup>	100 ft. <sup>(b)</sup>
On a private road or alley serving 2 or more properties	40 ft. <sup>(a)</sup>	100 ft. <sup>(b)</sup>
(2) Minimum side yard	10 ft. <sup>(c)</sup>	50 ft.
(3) Side yard adjacent to residential	15 ft.	-
(4) Minimum rear yard	10 ft. <sup>(c)</sup>	50 ft.
(5) Landscaped buffer yard	-	15 ft. <sup>(d)</sup>
<b>(c) Parking Setback</b>	<sup>(e)</sup>	25 ft. <sup>(f)</sup>
<b>(d) Maximum Building Height</b>	2 stories or 30 ft. <sup>(g)</sup>	2 stories or 30 ft.

Notes to Table 19:

- Not specified or not applicable
- <sup>(a)</sup> Setbacks as measured from the centerline of the traveled portion of any public or private way.
- <sup>(b)</sup> Ordinance reads setback as being measured from the “street line.”
- <sup>(c)</sup> A zero (0) side and/or rear setback may be utilized if a two hour firewall is, a five foot clearance is required if such wall exists and the building contains a residential.
- <sup>(d)</sup> When abutting a residential district.
- <sup>(e)</sup> Parking may be located in the front setback in accordance with 1145.05(d).
- <sup>(f)</sup> Where a parcel abuts a residential district.
- <sup>(g)</sup> Appurtenances shall be granted an additional three feet; roofs with a pitch steeper than 4/12 shall be granted an additional five feet in overall height.

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## **Appendix E: Bikeway Definitions and Selection Criteria**

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### **Definitions**

A bikeway is any facility that provides primarily for bicycle travel.

**Class I Bikeway (Bike Path).** Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.

**Class II Bikeway (Bike Lane).** Provides a striped lane for one-way travel on a street or highway.

**Class III Bikeway (Bike Route).** Provides for shared use with pedestrian or motor traffic.

### **Selection of the Type of Bikeway Facility**

The following applications are the most common for each type of facility.

**Shared Roadway (No Bikeway Designation).** Most bicycle travel occurs on streets and highways without bikeway designations. In some instances, the streets are adequate for safe and efficient bicycle travel, and signing and striping for bicycle use may be unnecessary. Routes that are not along high bicycle demand corridors are generally inappropriate to designate as bikeways (i.e. minor residential streets).

**Class I Bikeway (Bike Path).** Generally, bike paths should be used to serve corridors not served by streets and highways or where a wide right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets. Bike paths should offer opportunities not provided by the road system. They can either provide a recreational opportunity, or in some instances, can serve as direct high-speed commute routes if cross flow by motor vehicles and pedestrian conflicts can be minimized. The most common applications are along rivers, canals, utility right-of-ways, abandoned railroad right-of-ways, within college campuses, or within and between parks. There may also be situations where such facilities can be provided as part of planned developments. Another common application of Class I facilities is to close gaps to bicycle travel caused by construction of freeways or because of the existence of natural barriers such as rivers and streams.

**Class II Bikeway (Bike Lane).** Bike lanes are established along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them. The purpose should be to improve conditions for bicyclists in the corridors. Bike lanes are intended to delineate the right-of-way assigned to bicyclists and motorists and to provide for more predictable movements by each. But a more important reason for constructing bike lanes is to better accommodate bicyclists through corridors where insufficient room exists for safe bicycling on existing streets. This can be accomplished by reducing the number of lanes, or prohibiting parking on given streets in order to delineate bike lanes. In addition, other things can be done on bike lane streets to improve the situation for bicyclists, that might not be possible on all streets (e.g., improvements to the surface augmented sweeping programs, special signal facilities, etc.). Generally, stripes alone will not measurably enhance bicycling.

If bicycle travel is to be controlled by delineation, special efforts should be made to assure that high levels of service are provided with these lanes.

**Class III Bikeway (Bike Route).** Bike routes are shared facilities that serve either to:

- Provide continuity to other bicycle facilities (usually Class II Bikeways); or
- Designate preferred routes through high demand corridors.

As with bike lanes, designation of bike routes should indicate to bicyclists that there are particular advantages to using these routes as compared with alternative routes. This means that responsible agencies have taken actions to assure that these routes are suitable as shared routes and will be maintained in a manner consistent with the needs of bicyclists. Normally, bike routes are shared with motor vehicles. The use of sidewalks as Class III bikeways is strongly discouraged.

Source: Highway Design Manual. February 1, 2001. <http://www.dot.ca.gov/hq/oppd/hdm/pdf/chp1000.pdf>