

# City of Cottage Grove



## FUTURE VISION 2030



**Comprehensive Plan**

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# Acknowledgements

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# Table of Contents

	Page #		Page #
		<b>CHAPTER 1: COMMUNITY GROWTH AND VISION</b>	
	1-2	Background	6-26
	1-3	Projected Growth	6-27
	1-3	Community Vision	6-29
		<b>CHAPTER 2: LAND USE</b>	
	2-2	Goals & Policies	7-2
	2-3	Previous Plans	7-3
	2-10	Land Use Designations	7-5
	2-16	Plan Modifications	7-7
		<b>CHAPTER 3: HOUSING</b>	
	3-2	Goals & Policies	7-8
	3-3	Existing Housing	7-10
	3-4	Future Housing	7-13
		<b>CHAPTER 4: HISTORIC PRESERVATION</b>	
	4-3	Goals & Policies	7-15
	4-7	Inventory	7-17
	4-7	Future Vision	7-17
		<b>CHAPTER 5: PARKS AND OPEN SPACE</b>	
	5-2	Goals & Policies	7-20
	5-4	Classifications	7-25
	5-9	Recreation Standards	
	5-12	Future Parks and Open Space	
	5-14	Trails	
	5-23	Regional Opportunities	
		<b>CHAPTER 6: TRANSPORTATION</b>	
	6-2	Goals & Policies	
	6-4	Roadway System and Volumes	
	6-12	Roadway Classification	
	6-21	Future Roadway Improvements	
	6-24	Rail Systems	
		<b>CHAPTER 7: WATER RESOURCES</b>	
		Water Supply Intro and Forecasts	
		Other Water Issues	
		Implementation	
		Sanitary Sewer Intro	
		Sanitary Sewer System	
		Forecasts	
		ISTS	
		Sanitary Sewer Goals & Policies	
		Implementation	
		Surface Water Introduction	
		Surface Water Goals & Policies	
		Surface Water Management Highlights	
		<b>APPENDICES</b>	
		Appendix A: Zoning Map	

## List of Figures and Tables

	Page #		Page #
<b>CHAPTER 1: COMMUNITY GROWTH AND VISION</b>		<b>CHAPTER 6: TRANSPORTATION</b>	
Fig 1-1 Historical Population	1-3	Tab 6-1 Roadway Jurisdiction	6-4
Fig 1-2 Projected Population	1-3	Fig 6-1 Existing Roadway Jurisdiction Map	6-5
<b>CHAPTER 2: LAND USE</b>		Fig 6-2 Existing State-Aid Routes	6-6
Fig 2-1 Natural Resource Inventory	2-4	Tab 6-2 Socio-Economic Data per TAZ	6-9
Fig 2-2 East Ravine Map	2-6	Tab 6-3 Total Households and Employment	6-9
Fig 2-3 Met Council 2005 Land Use Map	2-7	Fig 6-3 Existing Traffic Volumes	6-10
Tab 2-1 Met Council 2005 Table	2-8	Fig 6-4 2030 Estimated Traffic Volumes	6-11
Fig 2-4 Adopted Met Council 2020 Land Use Map	2-9	Tab 6-4 Roadway Volume/Capacity planning level thresholds year 2030	6-14
Fig 2-5 2020 (adopted) Future Land Use Map	2-11	Fig 6-5 Existing Roadway Functional Classification System	6-16
Fig 2-6 2030 Future Land Use Map	2-12	Fig 6-6 Proposed Roadway Functional Classification System	6-17
Tab 2-2 2020-2030 Land Use Acreage Table	2-13	Tab 6-5 Roadway Functional Classification Criteria	6-20
Fig 2-7 2030 Utility Staging Map	2-14	Fig 6-7 Transportation Issues	6-23
Tab 2-3 2030 Staging Table	2-15	Fig 6-8 Existing Railroad Crossings	6-25
<b>CHAPTER 3: HOUSING</b>		<b>CHAPTER 7: WATER RESOURCES</b>	
Tab 3-1 Age of Housing Units	3-3	Tab 7-1 Projected Water Demands	7-3
Tab 3-2 Housing Units by Type	3-3	Fig 7-1 Trunk Water Distribution System	7-4
Tab 3-3 Single Family Detached Property Values	3-4	Tab 7-2 Population Forecasts	7-8
Fig 3-1 Future Housing Demand	3-5	Fig 7-2 Sanitary Sewer System Map	7-9
<b>CHAPTER 4: HISTORIC PRESERVATION</b>		Tab 7-3 Wastewater Flow Projections	7-10
<b>CHAPTER 5: PARKS AND OPEN SPACE</b>		Tab 7-4 Phased Wastewater Flow Projections	7-11
Fig 5-1 Existing Parks and Open Space Map	5-10	Tab 7-5 Capacity & Design Flows	7-12
Tab 5-1 Inventory of Existing Facilities	5-11	Fig 7-3 ISTS	7-14
Fig 5-2 2030 Future Parks and Open Space	5-13	Tab 7-6 CIP for Trunk Sanitary Sewer System Improvements	7-16
Fig 5-3 Existing Trailway Plan	5-18	Tab 7-7 WRMPP Standards	7-18
Fig 5-4 Sidewalks	5-19		
Fig 5-5 Transportation Trails	5-20		
Fig 5-6 Recreation Trails	5-21		
Fig 5-7 2030 Future Trailway Plan	5-22		



# **GROWTH AND COMMUNITY VISION**

## **CHAPTER 1**



## Background

### **INTRODUCTION**

The Comprehensive Plan sets the course for future growth in Cottage Grove. Included in the plan are goals and policies intended to guide decisions on development and redevelopment in the city. The plan also brings together in a single document plans for land use, transportation, utilities, and parks.

This update to the Comprehensive Plan was developed by the Comprehensive Plan Steering Committee over ten meetings held in 2007-2008. The committee reviewed previous plans and considered projections of future growth. The recommendations of the committee were reviewed in a public hearing and subsequently by the City Council.

Plan chapters include:

1. **Growth and Community Vision.** Presents the history of development in Cottage Grove, the key development objectives, and growth forecasts for the city.
2. **Land Use.** This chapter presents designated land uses for properties in the city and a staging plan for future growth.
3. **Housing.** The housing chapter includes policies for preservation on existing housing and development of new housing and forecasts of housing growth.
4. **Historic Preservation.** Cottage Grove's long standing efforts to preserve historic places and structures are summarized in this chapter.

5. **Parks and Open Space.** Plans to expand the parks systems are described.
6. **Transportation.** Projected growth in traffic and need-ed transportation improvements are summarized.
7. **Water Resources.** Proposed extensions of the water, sanitary sewer, and storm sewer systems necessary for future growth are described.

### **HISTORICAL GROWTH**

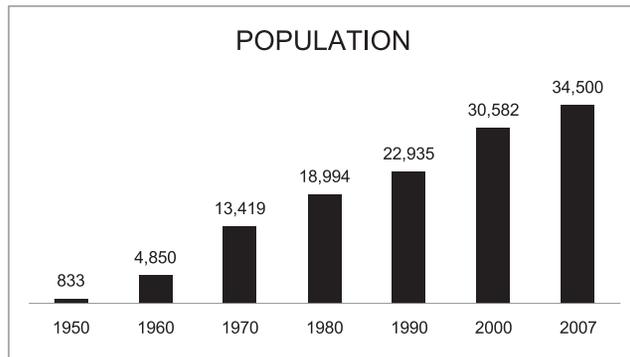
Cottage Grove was one of the first areas in what became Minnesota to be settled, with the first settlements dating to the late 1840's. For the next 100 years, the community remained rural in character, with most people living on dispersed farmsteads. In 1958 the suburbanization of the community began with the development by Orrin Thompson



## Projected Growth & Vision

Homes of the Thompson Grove subdivision located south of TH 61. This development was followed by other single family subdivisions in the 1960's, most also built by Orrin Thompson Homes. Suburban development continued at a steady and moderate pace until the present, with 200 to 300 new households added in a typical year.

Figure 1-1 Historical Population

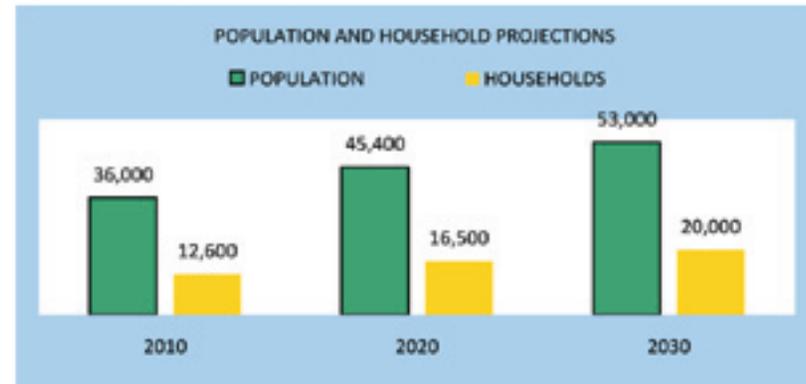


### **PROJECTED GROWTH**

The rate of growth is projected to increase slightly through 2030, with Cottage Grove expected to add approximately 270 new households per year. Driving this future growth will be the availability of undeveloped land in Cottage Grove and the improved transportation access to the remainder of the Metropolitan Area.

By 2030 the population of Cottage Grove is expected to grow by 55 percent to 53,000 people. The number of households over the same period is projected to increase by 66 percent. The higher growth in households than total population is due to a continued trend toward smaller sized households.

Figure 1-2 Projected Population



Factors which could affect the rate of future growth include the pace of recovery from the current slowdown in housing sales and higher fuel prices which increase the cost of commuting.

### **COMMUNITY VISION**

In community discussions on updating the Comprehensive Plan, several guiding principles have been identified:

- Maintain Small Town Character.** When asked what they like best about the community, residents have repeatedly stated that they value the small town feel of Cottage Grove. A key challenge will be to retain that small town character in a developing community. The most effective approach is to build and maintain strong cohesive neighborhoods throughout Cottage Grove. As the city grows, the ability of residents to identify with individual neighborhoods will increase in importance. This plan also addresses the desire to retain the small town character of the community by



preserving Cottage Grove's history, enhancing parks and open spaces, creating a walkable community, encouraging life cycle housing opportunities, and providing community gathering places.



- **Create More Commercial Activity.** Demand continues to grow for additional retail opportunities and restaurant choices in the community. This plan designates areas for new commercial development to meet this demand. Included is a future neighborhood commercial area located at Keats Avenue and 70th Street. This area is planned to meet the neighborhood shopping and service needs of the East Ravine area.
- **Increase Employment.** Adding jobs in the city allows more residents to work in Cottage Grove and spurs overall economic activity. Areas of new industrial and commercial development are proposed which will generate new employment in the city.
- **Enhance Access to Mississippi River.** The Mississippi is the most significant natural resource in Cottage Grove. Opportunities for residents to access the river are, however, limited at the present time. The plan calls for additional open space along the Mississippi and enhanced access for residents to the river.
- **Improve Environmental Sustainability.** Future energy costs are projected to be higher with environmental regulations expected to be more rigorous. This will require more efficient approaches to transportation, land development, and construction. The plan includes measures for reducing automobile trips through enhanced bicycle and pedestrian facilities and improved transit service. The City will also implement best practices in energy efficient design for new construction.
- The **2030 Regional Development Framework** identifies Cottage Grove as a "Developing Community" which is defined as areas of the metro region that will accommodate the substantial amount of new growth. The land use patterns established in Cottage Grove for the next twenty years were designed to meet forecasted growth in a contiguous and efficient manner.



**LAND USE**

**CHAPTER 2**



# Goals and Policies

## **INTRODUCTION**

The Land Use Plan is the critical element of the Comprehensive Plan, presenting the blueprint for how Cottage Grove will grow. The plan establishes the land use designations for properties throughout the city and a schedule for staging new development. The Land Use Plan also serves as the basis for future decisions on transportation improvements, utility extensions, and expansion of the park and open space system.

Land uses and growth staging are projected in the Plan through 2030. It is expected, however, that periodic updates and amendments will be necessary to reflect changes in community goals and priorities.

## **GOALS AND POLICIES**

### **GOAL: THE LAND USE PLAN WILL SERVE AS THE FOUNDATION FOR LAND USE DECISIONS IN COTTAGE GROVE.**

**POLICY 2.1** All rezoning decisions must conform to the Land Use Plan.



**POLICY 2.2** New development must conform to the Staging Plan established in this chapter.

**POLICY 2.3** The Land Use Plan will be updated to reflect changing priorities and conditions or as required by the state Metropolitan Land Planning Act.

### **GOAL: TO PRESERVE AND ENHANCE THE UNIQUE CHARACTER OF COTTAGE GROVE.**

**POLICY 2.5** Goals for historic preservation will be considered in land use decisions.

**POLICY 2.6** Parks and open spaces will be planned to be within walking distance of all residential areas.

**POLICY 2.7** Subdivision and zoning standards will emphasize high quality site and architectural design.

**POLICY 2.8** Public buildings and properties will be constructed and maintained to be a source of civic pride. Public buildings will be designed to set a standard for private property owners to follow.

### **GOAL: EXISTING RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL AREAS WILL CONTINUE TO BE MAINTAINED AND REVITALIZED.**

**POLICY 2.9** The City and Economic Development Authority will use available resources to meet redevelopment needs. This will include cooperation with the Washington County Housing and Redevelopment Authority and the Metropolitan Council to achieve redevelopment objectives.

## Previous Plans

### **GOAL: ENVIRONMENTAL SUSTAINABILITY WILL BE SOUGHT IN LAND USE DECISIONS AND INVESTMENTS IN INFRASTRUCTURE.**

**POLICY 2.10** The City will encourage energy efficient design in all public and private construction.

**POLICY 2.11** Sidewalks, trails, and other pedestrian facilities will be constructed in new developments and redevelopment projects.

**POLICY 2.12** Solar access protection completed in accordance with the City zoning ordinance shall be a component of all site development and platting reviews conducted by the City.

### **PREVIOUS PLANS**

In addition to previous Comprehensive Plans, the current update is informed by two recent planning studies in the City: the Natural Resources Inventory and the East Ravine Master Plan.

#### **COMPREHENSIVE PLAN 2020**

The Comprehensive Plan was last updated in October 2000. The Plan did not vary significantly from the previous 1994 Comprehensive Plan. City growth projections included in the plan were lower than projections by the Metropolitan Council, with new housing estimated at approximately 200 units per year.

The Comprehensive Plan 2020 also addressed the following:

- Additional high density residential areas were designated to provide more senior housing.

- Added neighborhood commercial areas.
- Created transition zones for areas proposed for future development which were not ready for rezoning.
- Designated the Langdon area of Cottage Grove as the location of a station on the proposed Red Rock Commuter Rail line.
- Proposed the development of a sports complex and further study of the need for a community center.
- Extensive discussions centered on future uses for Lower Grey Island. The Plan called for a mix of residential and open space uses on the island.

#### **NATURAL RESOURCES INVENTORY**

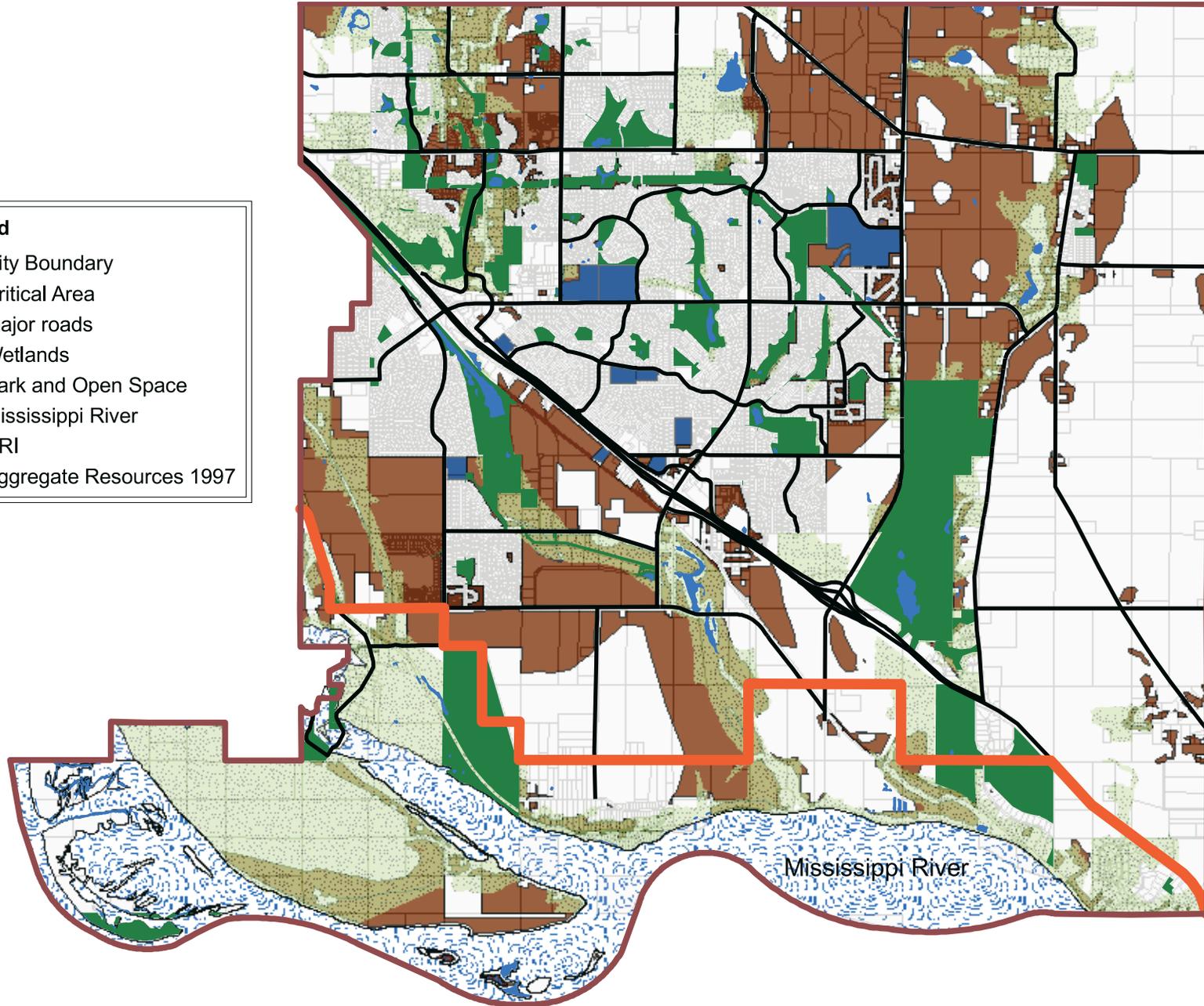
In 1998, an extensive inventory of natural resources in Cottage Grove was completed (See Figure 2-1). This study examined significant natural features (e.g., forest, wetlands, and prairies), scenic areas, cultural resources and sensitive resources within the community. This was aimed at allowing the City to guide future development in an environmentally sustainable manner, foster greater awareness and appreciation, and protect important natural resources for future generations to enjoy.

#### **AGGREGATE RESOURCES**

The City of Cottage Grove has significant aggregate resource reserves that are of regional significance. The location of these resources is included on figure 2-1. Sand and gravel extraction in these areas is allowed as a conditional use as a component of site preparation for development. Sand and gravel extraction within the Mississippi River Critical Area Overlay District (Critical Area)



Figure 2-1 Natural Resource Inventory



as depicted on figure 2-1 is subject to additional review criteria.

#### **MISSISSIPPI RIVER CRITICAL AREA PLAN**

In 1982 Cottage Grove adopted the Mississippi River Critical Area Corridor (Critical Area) Plan which identifies the management of a state designated overlay district established along the River on the southern border of Cottage Grove. The Critical area boundaries are detailed on Figure 2-1. In addition to the Critical Area plan, the City zoning ordinance has regulations established that are consistent with state statutes. The City works with the Minnesota Department of Natural Resources to monitor and guide development activity in the corridor. The boundaries of the Critical Area coincide with the Mississippi National River and Recreation Area (MNRRA). The regulating agency of MNRRA is the National Park Service which coordinates their responsibility management efforts with the City. The critical area ordinance adopted by the City is included in the appendix.

#### **EAST RAVINE MASTER PLAN**

The East Ravine area is the latest section of the City to be opened for urban development. Anticipating development in the East Ravine, a master plan for the area was completed in 2005 (See Figure 2-2). The master plan describes land use designations, major roadway alignments, parks and open space locations, and the types of utility extensions necessary to serve the area. In addition, a staging plan was established for the sequence of development in the East Ravine.

The key principles included in the plan for guiding development in the East Ravine:

- Preservation of the natural features in the area as open spaces, notably the East Ravine landform itself.
- Create a system of green corridors in the East Ravine for walking and bicycling.
- Maintain the unique and historic character of Old Cottage Grove and Cedarhurst Mansion.
- While allowing for a range of housing densities in the East Ravine, most land in the area will be designated for low density residential development.
- To balance the supply of housing in Cottage Grove, provide expanded opportunities for move-up housing in the East Ravine.

Figure 2-2 East Ravine

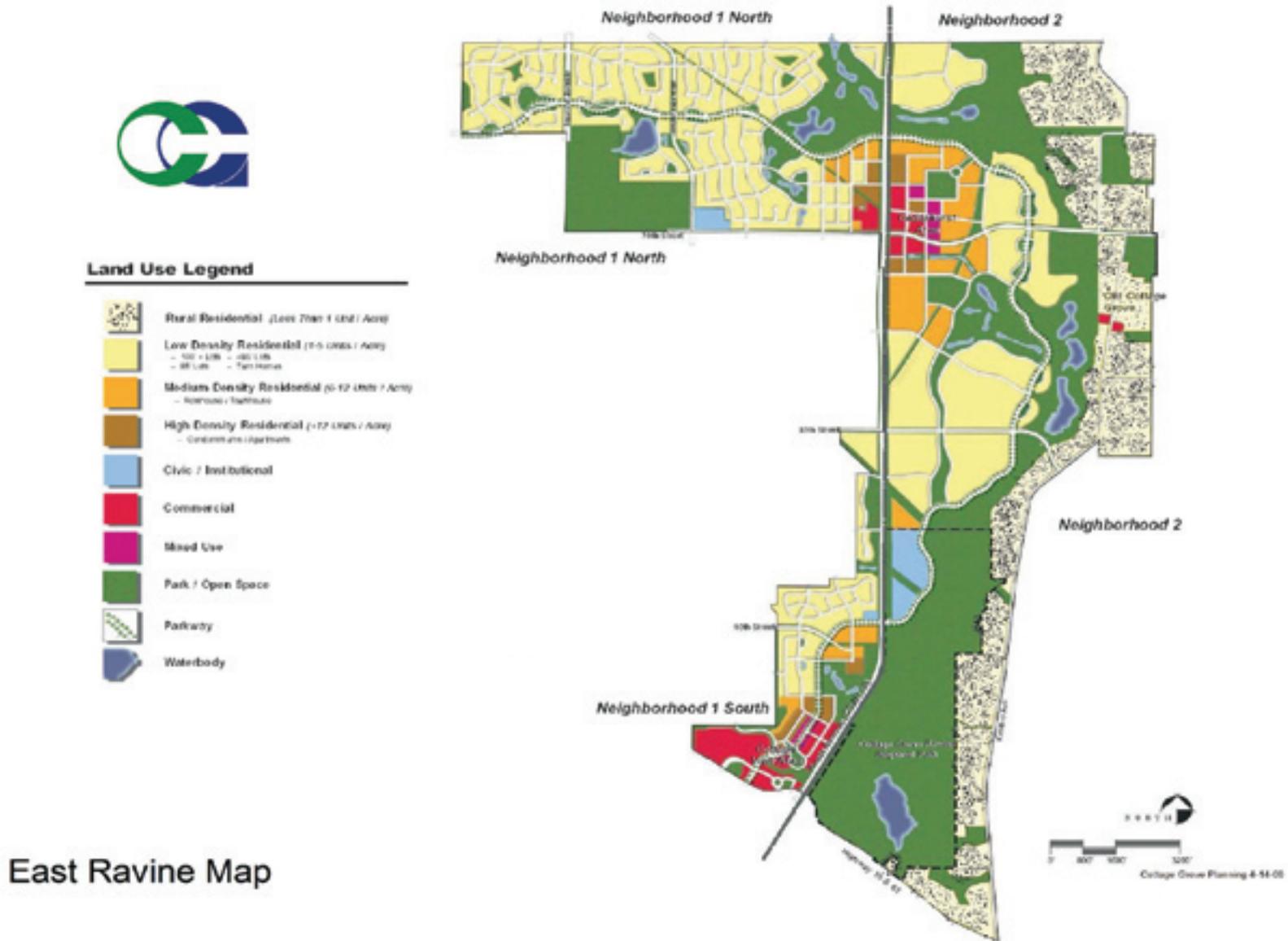


Figure 2-3 Met Council 2005 Generalized Land Use Map

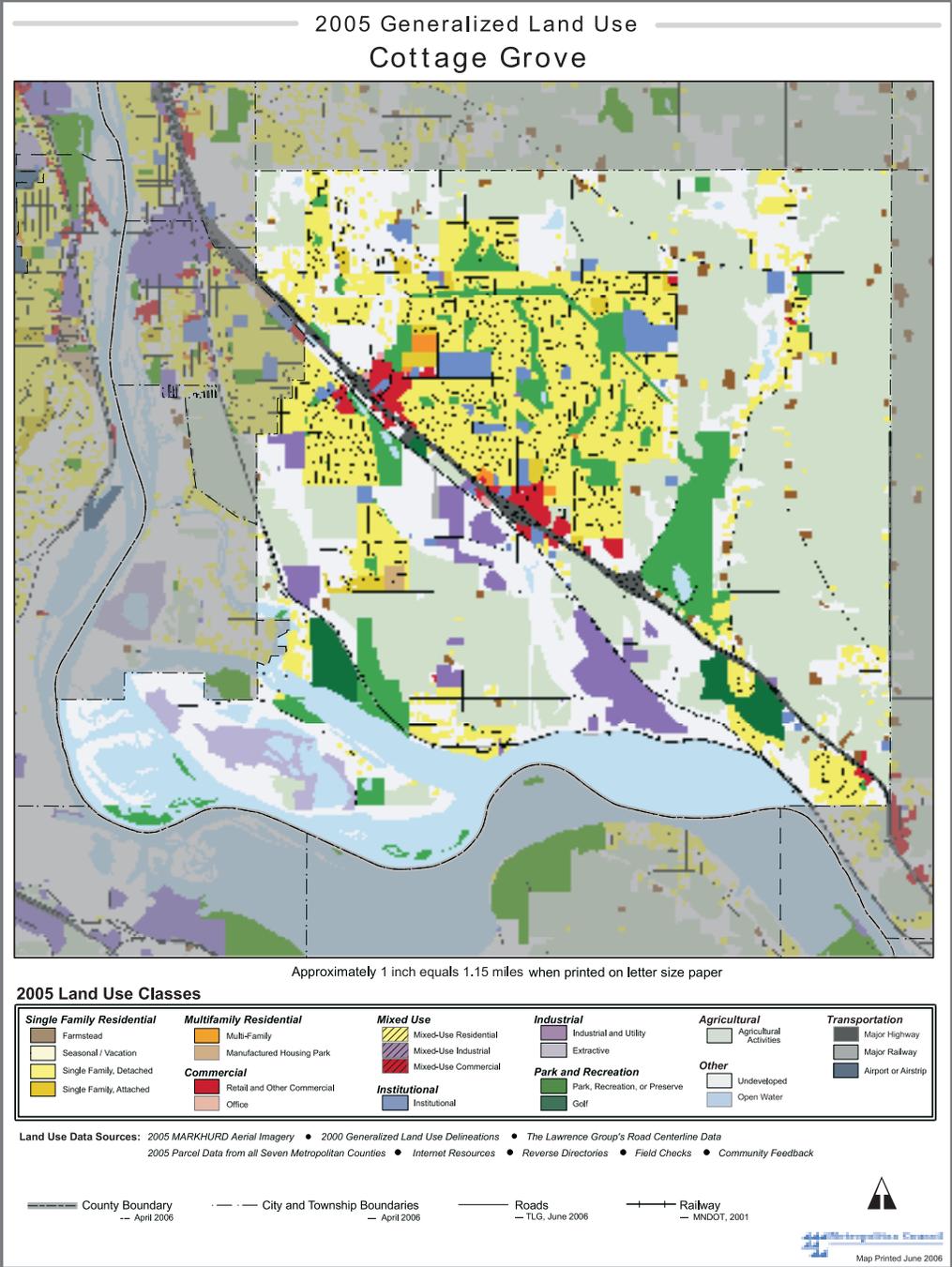
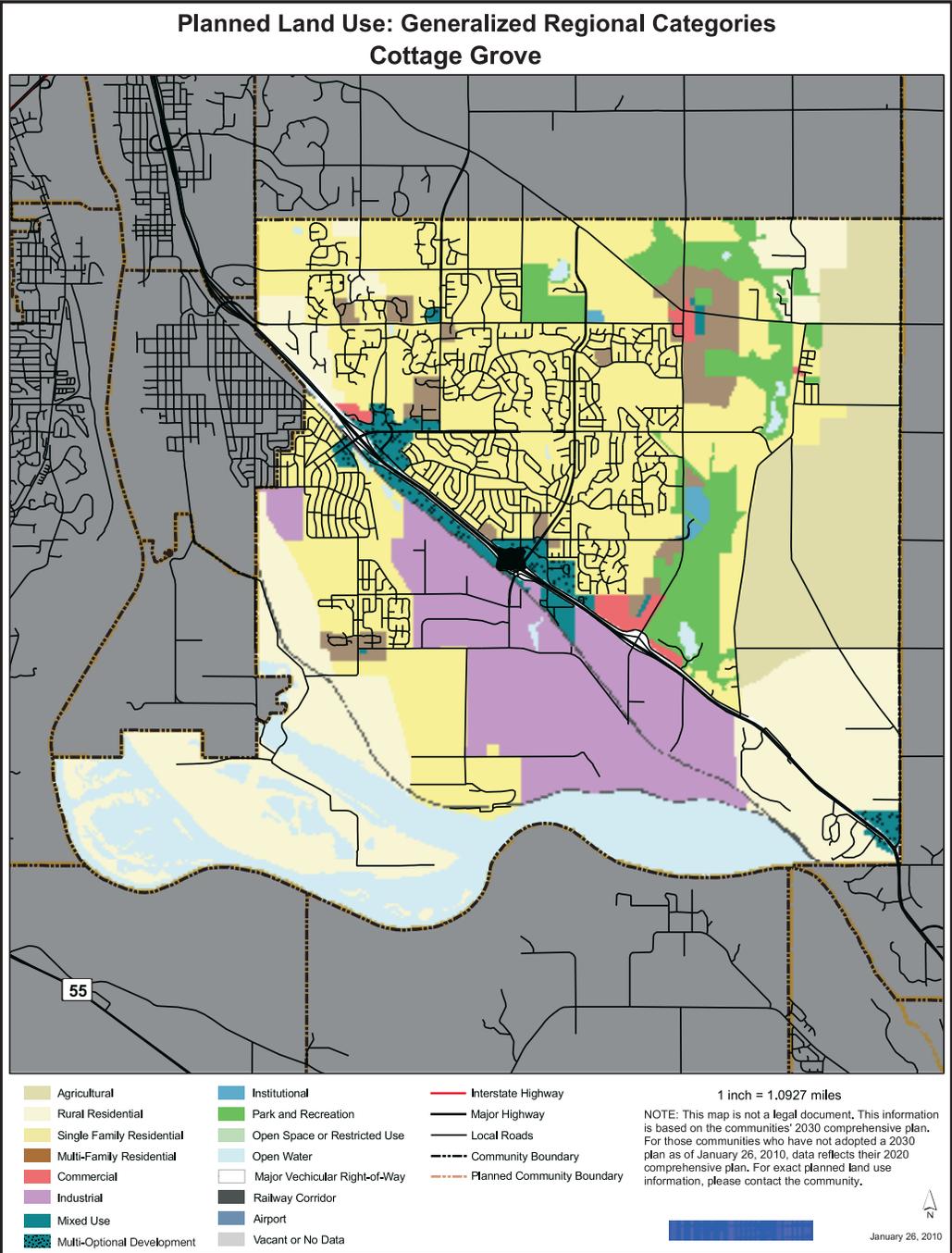


Table 2-1: Met Council 2005 Generalized Land Use Table

Land Use Categories	2000 Total (in acres)	2005 Total (in acres)
<b>Residential Total</b>	<b>4,321</b>	<b>4,848</b>
Single Family Residential	3,938	4,434
Farmsteads	208	187
Multi-Family Residential	175	226
<b>Mixed-Use</b>	<b>0</b>	<b>6</b>
<b>Commercial</b>	<b>236</b>	<b>279</b>
<b>Industrial Total</b>	<b>967</b>	<b>1,067</b>
Industrial & Utility	559	681
Extractive	305	285
Railway	103	100
<b>Institutional</b>	<b>340</b>	<b>415</b>
<b>Parks, Recreation, &amp; Preserves</b>	<b>1,753</b>	<b>1,842</b>
<b>Major Vehicular Rights-of-Way</b>	<b>295</b>	<b>334</b>
<b>Airports</b>	<b>0</b>	<b>0</b>
<b>Agriculture &amp; Undeveloped Total</b>	<b>13,455</b>	<b>12,563</b>
Agriculture	8,434	7,854
Undeveloped Land	5,021	4,710
Agricultural & Vacant	N/A	N/A
Industrial Parks not Developed	N/A	N/A
Public & Semi-Public Vacant	N/A	N/A
<b>Open Water</b>	<b>2,600</b>	<b>2,829</b>
<b>Total</b>	<b>23,968</b>	<b>24,184</b>

Figure 2-4 Adopted Met Council 2020 Generalized Land Use Map



# Land Use Designations

## **LAND USE DESIGNATIONS**

**AGRICULTURAL:** Commercial agricultural uses are the principal land use of the property. May also contain a residence and other associated outbuildings at a minimum gross density of one unit per 40 acres.

**LOW DENSITY RESIDENTIAL:** Residential development in areas within the MUSA at gross densities of 1-4 units per acre.

**MEDIUM DENSITY RESIDENTIAL:** Residential development in areas within the MUSA at gross densities of 4.1 to 10 units per acre.

**HIGH DENSITY:** Residential development in areas within the MUSA at gross densities of 10.1 to 20 units per acre.

**RURAL RESIDENTIAL:** Residential development in areas outside the MUSA boundary with lots served by private wells and on-site sewer systems. Cluster development will be encouraged in this area to preserve open space and natural amenities. The minimum gross density for the Rural Residential district is 1 dwelling unit per 3 acres.

**COMMERCIAL:** Commercial development including retail, service and office uses. With few exceptions, areas designated for commercial development are within the MUSA.

**INDUSTRIAL:** Industrial development including research, manufacturing, distribution, assembly, and office uses. With the exception of the 3M Cottage Grove facility, industrial development will occur within the MUSA.

**MIXED USE:** Areas designated "Mixed use" may include combinations of commercial and residential uses with densities up to 6 units per acre. Residential development in areas within the mixed use district can range from a minimum gross density of 4.1 units per acre to 20 units per acre.

**PARK AND PRIVATE OPEN SPACE:** Public parks and private land designated for preservation as open space.

**TRANSITIONAL PLANNING AREA:** Areas designated transitional planning area are located outside the MUSA and are areas where additional planning efforts are required prior to establishing future land use designations. Master plans will be completed for each transitional planning area in conjunction with the timing established in the development staging plan of this document. Allowable uses in areas designated transitional planning area include commercial agriculture and residential uses on lots of a minimum of 20 acres. Properties actively enrolled in the Agricultural Preserves Program and that fall within the Transitional Planning Area shall have a maximum density of one dwelling unit per 40 acres.

**GOLF COURSE:** Areas used for public or private golf courses.

Figure 2-5 2020 (adopted) Future Land Use Map

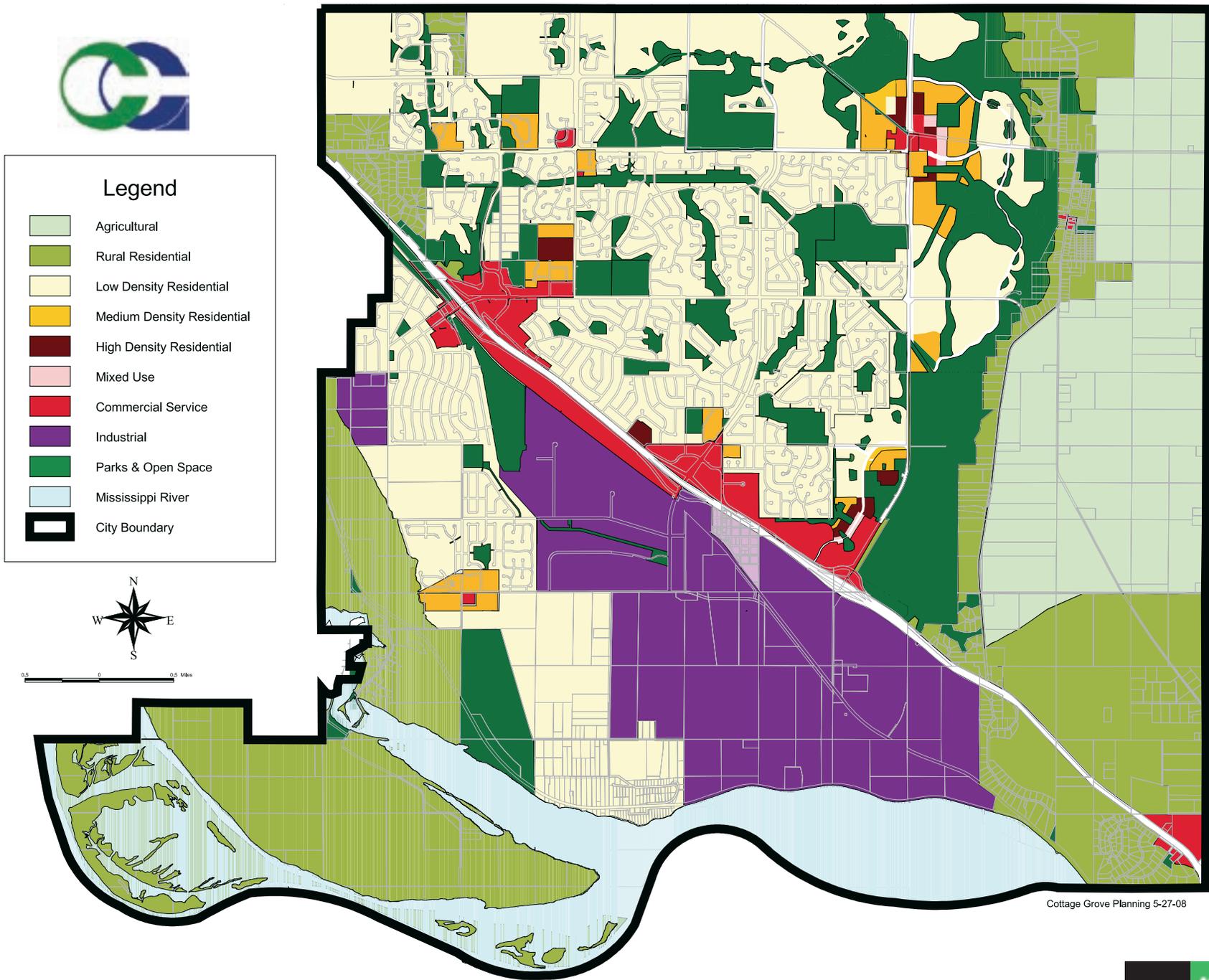




Table 2-2: 2020-2030 Land Use Acreage Table

Land Use	2020	2030
Agricultural	2,657.42	2,657.42
Rural Residential	5,953.92	2,366.15
Low Density Residential	5,598.87	5,598.87
Medium Density Residential	413.379	413.379
High Density Residential	92.808	92.808
Mixed Use	74.88	74.88
Transitional Planning Area	2,663.76	2,663.76
Parks/Private Open Space	0.00	3,587.77
Golf Course	289.89	289.89
Commercial	629.27	629.27
Industrial	2,832.83	2,832.83
Mississippi River	2,520.88	2,520.88
<b>Total</b>	<b>23,727.91</b>	<b>23,727.91</b>



Figure 2-7 2030 Utility Staging Map

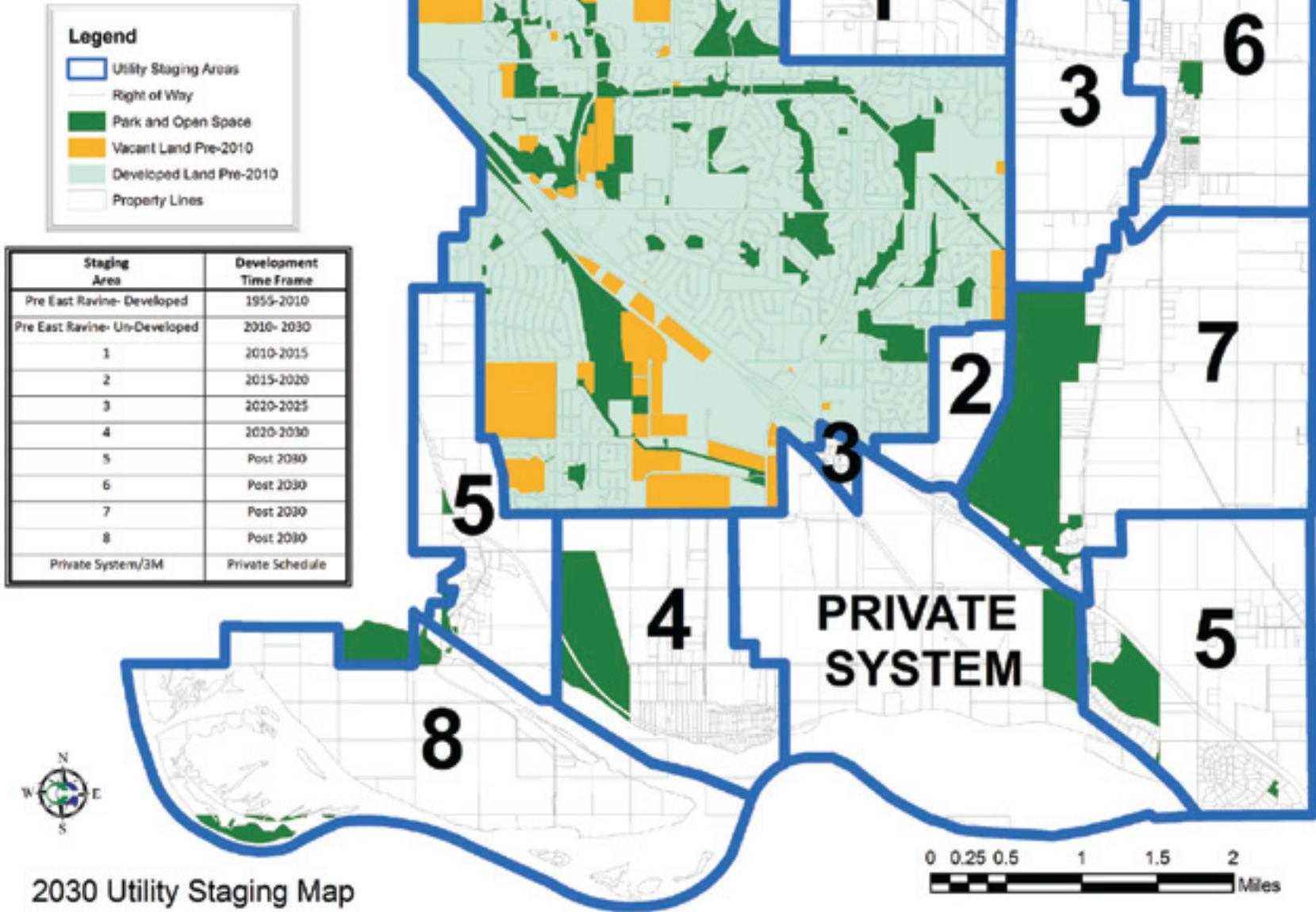


Table 2-3: 2030 Staging Table

July 27,2010	Pre-2010 Developed	Pre 2020 Undeveloped	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6	STAGE 7	STAGE 8	3M	Total
City of COTTAGE GROVE	1955 - 2010	2010-Post 2030	2010- 2015	2015- 2020	2020- 2025	2025- 2030	Post 2030	Post 2030	Post 2030	Post 2030	Private	Full City
LAND USE-ALL	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES	ACRES
Agricultural	0	0	0	0	0	0	1	849	1809	0	0	2659
Rural Residential	236	14	0		35	0	1068	507	239	237	26	2362
Low Density Residential	3800	634	617	96	439	0	3	1	0	0	0	5590
Med Density Residential	216	1	34	27	141	0	1	0	0	0	0	420
High Density Residential	36	0	15	24	19	0	0	0	0	0	0	94
Mixed Use	0	6	0	6	63	0	0	0	0	0	0	75
Transition Planning Area	4	1	0	0	0	789	806	0	0	1058	0	2658
Commercial	360	73	9	81	28	0	56	6	0	0	2	615
Industrial	331	295	0	0	0	124	184	0	0	0	1895	2829
Parks/Private Open Space	1187	145	384	62	498	231	99	123	573	296	3	3601
Golf Course	0	0	0	0	0	0	290	0	0	0	0	290
Railroad	105	0	0	0	0	0	0	0	0	0	0	105
Airport	0	0	0	0	0	0	0	0	0	0	0	0
Major Right Of Way	424	0	0	0	0	0	0	0	0	0	0	424
Designated Wetlands	125	0	0	0	0	0	0	0	0	0	0	125
Mississippi River	0	0	0	0	0	213	122	0	0	1308	875	2518
<b>Total Acres</b>	<b>6824</b>	<b>1169</b>	<b>1060</b>	<b>295</b>	<b>1223</b>	<b>1357</b>	<b>2630</b>	<b>1486</b>	<b>2621</b>	<b>2899</b>	<b>2801</b>	<b>24364</b>



## Plan Modifications

### **STAGING PLAN**

The staging plan (Figure 2-7) establishes the sequence of urban development in various areas of the city. The purpose of the staging plan is to allow for the efficient extension of urban services. New areas will not be opened for development until previous areas are approximately 80 percent developed.

### **PLAN MODIFICATIONS**

The update to the Land Use Guide Plan includes numerous revisions to the land use designations included in the Comprehensive Plan 2020 and subsequent amendments. The major modifications to the plan are described below.

#### **TRANSITIONAL PLANNING AREA**

This change primarily affects properties in the southeastern and southwestern areas of the City. The Transitional Planning Area designation is intended to indicate areas of the city that require more scrutiny than is allowed under the scope of this comprehensive plan update. For each area designated Transitional Planning Area, the City will develop master plans in advance of establishing land use classifications and subsequently opening the area for development. These master plans will include specific land uses, locations for park and open space, and utility and transportation improvements necessary for development.

#### **LOWER GREY CLOUD ISLAND**

Previous Cottage Grove Comprehensive Plans designated Lower Grey Cloud Island for rural residential development. There have also been plans developed by Washington County and the Metropolitan Council to establish a regional park on the Island. This update to the Land Use Plan designates the Island as urban reserve. This acknowledges

that most of the Island will be used for sand and gravel mining through at least 2030. Future plan updates will determine the appropriate mix of development and park and open space uses on Lower Grey Cloud Island.

#### **GOLF COURSE DESIGNATION**

A new land use designation for golf courses was established to differentiate land used for golf courses which has potential for future development from areas designated for parks and opens space.

#### **LANGDON AREA**

This area, located south of Highway 61 and east of Jamaica Avenue, is the site of the nineteenth century Langdon Village. The area was included in the Red Rock Corridor study as a potential Cottage Grove station location for commuter rail line. The previous comprehensive plan also described this area as a station location and designated Langdon for mixed use development. This designation envisioned a combination of commercial and medium to high density residential development to best complement the transit investment. The current plan retains the mixed use land use designation for Langdon and places the area in Staging Area 3. Utility extensions to the area and subsequent urban development will not occur until a master plan of the area is completed. This master plan will describe locations for various land uses, street and utility plans, as well as station and park and ride lot design.



**HOUSING**

**CHAPTER 3**



# Goals and Policies

## **INTRODUCTION**

The health and character of a community may best be measured in its housing stock. Vital cities provide a variety of housing choices and work to ensure that existing housing is well maintained. Cottage Grove is fortunate to have a relatively young housing stock without serious immediate needs for rehabilitation.

In the future, however, the city will need to focus more attention on maintaining and upgrading its housing. With about one-third of all houses in the city having been built in the 1960's and 1970's, a large share of Cottage Grove's housing is approaching 40 to 50 years in age, the point at which housing rehabilitation needs become more pronounced. This will require Cottage Grove to dedicate resources to inspecting existing housing and play a larger role in coordinating local and regional funding for home improvement.

While working to maintain existing housing, the city must also ensure that new housing meets the changing needs of the community. This includes providing more options for empty nesters and seniors, while also promoting move-up housing opportunities for younger families.



## **GOALS AND POLICIES**

### **GOAL: PRESERVE AND IMPROVE EXISTING NEIGHBORHOODS AND HOUSING UNITS.**

**POLICY 3.1** Continue to vigorously enforce housing maintenance and zoning ordinances.

**POLICY 3.2** Add flexibility to the Zoning Ordinance in areas such as building setbacks which allow expansion and reinvestment in existing houses.

**POLICY 3.3** Partner with the Washington County Housing and Redevelopment Authority and other agencies that provide housing rehabilitation programs and services.

### **GOAL: MEET FUTURE NEEDS WITH A VARIETY OF HOUSING PRODUCTS.**

**POLICY 3.4** Encourage life-cycle housing opportunities in Cottage Grove that allow residents to remain in the community throughout their lives. This includes:

- Maintenance of existing entry level housing.
- Construction of move-up single family housing.
- Construction of various types of senior housing, including senior ownership units, senior rental units, and assisted living units.

**POLICY 3.5** The Livable Communities Act (LCA) Housing Plan prepared in 1996 will continue to be used as an implementation tool in accomplishing the City's LCA housing goals.

**POLICY 3.6** The City will encourage environmentally sustainable housing development and construction practices.

## Existing Housing

### **HISTORICAL DEVELOPMENT**

Prior to the late 1950's, all housing in Cottage Grove was on scattered rural parcels served by private wells and on-site septic systems. In 1958 the suburbanization of the community began with the development by Orrin Thompson Homes of the Thompson Grove subdivision located south of TH 61. This development was followed by other single family subdivisions in the 1960's, most also built by Orrin Thompson Homes. The most common housing style of this era was the single story rambler, typically with a detached single car garage.

Table 3-1: Age of Housing Units

AGE OF HOUSING UNITS		
1949 or earlier	213	1.80%
1950 – 1959	945	7.80%
1960 – 1969	1,608	13.30%
1970 – 1979	2,361	19.50%
1980 – 1989	1,906	15.70%
1990 – 1999	3,180	26.20%
2000 or later	1,916	15.80%
<b>Total</b>	<b>12,129</b>	<b>100.00%</b>

By the 1970's housing subdivisions began to include the split-level design in addition to earlier rambler and Cape Cod style houses. In the 1990's, and continuing to the present, larger two-story houses became the most common form of new construction.

### **EXISTING HOUSING**

Cottage Grove remains a predominantly single-family community. Of the 12,129 housing units in the city, 80

percent are single family units. This is significantly higher than for the metropolitan area as a whole, where single family units make up less than 60 percent of all housing. Single family housing also makes up a larger share of total housing in Cottage Grove than most other second ring developing communities. For example, in Rosemount the corresponding share of single family units is 69 percent, Woodbury has 61 percent and Eagan 53 percent of total housing in single family units.

Table 3-2: Housing Units by Type

HOUSING UNITS BY TYPE		
	Number of Units	Percentage
Single-Family Detached	9,734	80%
Single-Family Manufactured	132	1%
Twinhomes	94	1%
Attached Townhouses	1,337	11%
Detached Townhouses	20	0%
Multiple Family	812	7%
<b>Total</b>	<b>12,129</b>	<b>100%</b>

With a large share of single family housing, there are relatively few attached housing units in the city. Townhouse units make up 12 percent of the total supply, with only 7 percent of all units in multiple family housing. The numbers and variety of attached housing products are expected to increase as development continues in the City. The East Ravine Master Plan called for approximately 35 percent of new housing units in that area to be in attached housing products. In particular, the East Ravine Plan emphasized the need for additional "empty nester" housing choices, including single level townhouse units and condominiums.



## Future Housing

Table 3-3: Single-Family Detached Property Values

<b>SINGLE-FAMILY DETACHED PROPERTY VALUES (Land and Building Values)</b>		
	# of SF Units	%
< \$200,000	2,301	23.60%
\$200,001 - \$300,000	5,643	58.00%
\$300,001 - \$400,000	1,288	13.20%
\$400,001 - \$500,000	373	3.80%
\$500,001 - \$600,000	94	1.00%
> \$600,001	35	0.40%
Average Value	\$250,939	
Median Value	\$229,000	

Most single family housing in the city is moderately priced. Approximately 82 percent of all single family units are valued at less than \$300,000. The median value for all single family houses is \$229,000. The average value is expected to increase in the future. Most existing single family houses valued above \$300,000 have been built in the past decade. In 2007, the average sale price for new single family houses was \$510,000. Given higher land costs, increasing construction costs, and current market preferences for larger houses, the trend toward higher values is expected to continue.

### **FUTURE HOUSING DEMAND**

In 2007 a housing market study was prepared for the Washington County Housing and Redevelopment Authority by Maxfield Research, Inc. The study projected demand for various housing types through 2030 in Washington County communities. In projecting demand, Cottage Grove was combined in the study with St. Paul Park and Newport. It was determined that approximately 88 percent of the

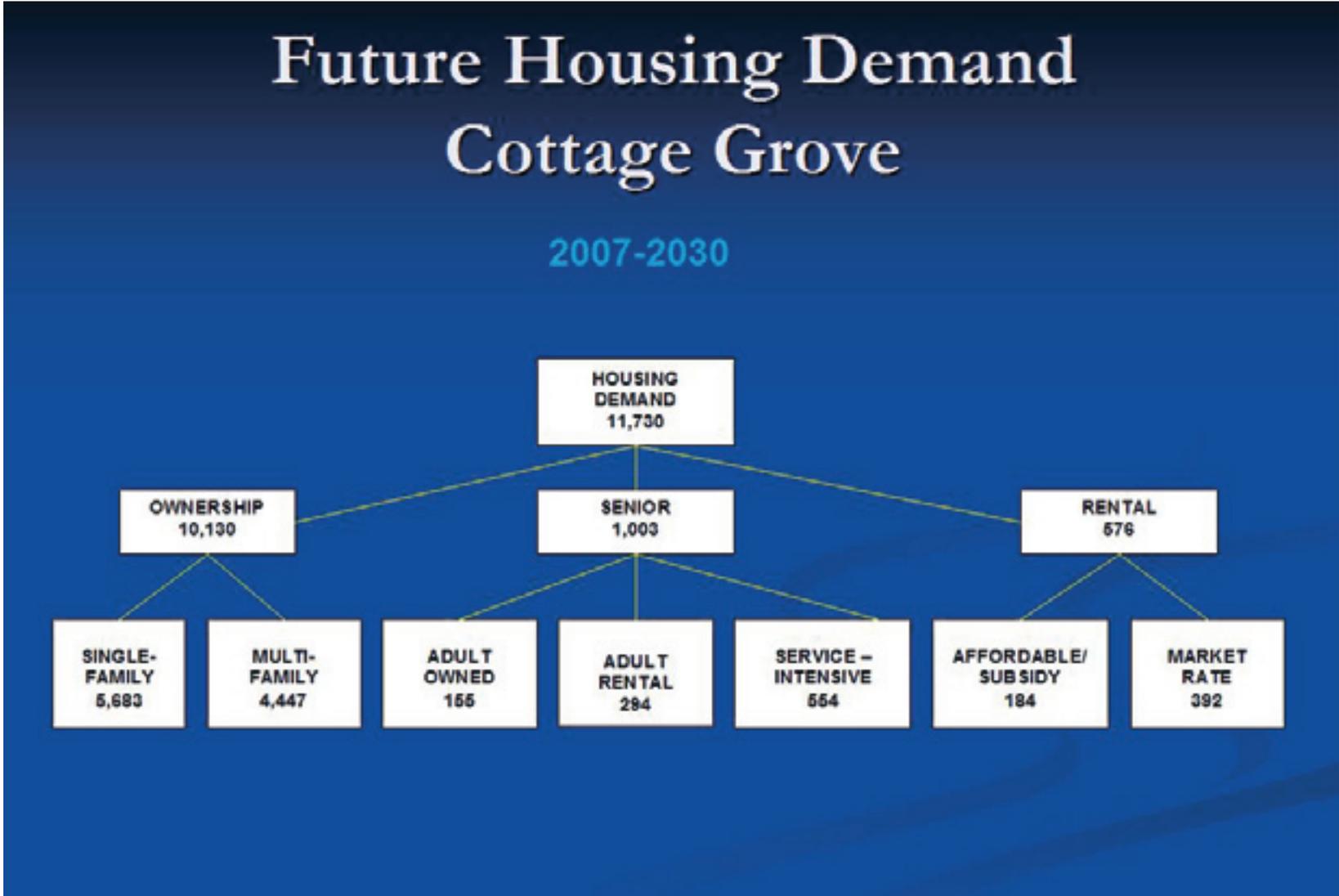


demand for the sub-area would occur in Cottage Grove alone. Demand for various types of housing in Cottage Grove is shown on page 3-5.

This study shows that 86 percent of housing demand will be for owner occupied units. Of these units, there will be increased demand for townhouse units. Approximately 44 percent of the demand for owner-occupied units will be for various types of townhouses, with single family houses making up 56 percent of the new units. This growth in demand for townhouses continues a recent trend. Since 2000, about 40 percent of the new housing units in the city have been townhouses. Even with the growth in numbers of attached housing units, by 2030 single family houses will comprise about 65 percent all housing units.

The city is projected to experience modest growth in the number of rental units. Projections in the HRA housing study show the city more than doubling the number of rental units by 2030 with 1,400 new units. Of these new rental units, nearly 60 percent will be senior rental units, with assisted living units making up about 38 percent of the total new units. Even with this large projected increase in rental units, nearly 90 percent of all housing in Cottage Grove is expected to be owner occupied.

Figure 3-1: Future Housing Demand



Source: Washington County HRA Housing Study 2007

**Affordable housing:** The City's regionally established share of affordable housing for the years 2011 to 2020 is 985 units. The amount of land designated for Medium and High Density Residential provides sufficient opportunities for the development market to react to affordable housing opportunities and needs. The City will participate in federal and state programs to provide affordable housing in conjunction with reviewing opportunities that can be made available through the zoning ordinance.



## **HISTORIC PRESERVATION**

### **CHAPTER 4**



# Introduction

## **INTRODUCTION**

The citizens of Cottage Grove are heirs to a legacy of historic sites and landmarks, which together form a unique set of heritage resources. These heritage resources are scarce and they are non-renewable. The mission of the City historic preservation program is to protect and enhance Cottage Grove's significant heritage resources for the benefit of present and future generations.

This plan for historic preservation in the City of Cottage Grove is intended to be the guide to be used by city officials and citizens responsible for implementing the City historic preservation program. Authorized under Title 9 Chapter 9 of the City Ordinance, the plan provides the basis for integrating historic preservation with other community development planning and establishes goals and policies for preserving, protecting, and using the City's significant heritage resources.

The City preservation ordinance provides for design review of development projects and compliance with established preservation treatment standards. Whenever a property listed in, or eligible for inclusion in, the City Register will be affected by a development project, the City will explore ways to mitigate the effects on the heritage resource.

The City Historic Preservation Officer (CHPO), appointed by the City Council, staffs the ACHP and advises city officials on all matters relating to historic preservation and heritage resource management. The CHPO is responsible for carrying out a comprehensive survey to identify (i.e., survey), inventory, and evaluate heritage resources within the city limits, and works with members of the city staff to ensure that development projects are carefully reviewed for their potential effects on significant historic properties.



The CHPO prepares and implements the comprehensive historic preservation plan and provides public information, education, and training in historic preservation.

The National Historic Preservation Act of 1966, as amended, provides for the certification of local government historic preservation programs by the Secretary of the Interior. The City historic preservation program was certified in 1985 as a Certified Local Government (CLG).

Since the City enacted its first historic preservation ordinance in 1981, the heritage resources inventory listed almost 300 historic buildings, sites, structures, objects, and districts within the city limits, of which more than 40 had been evaluated as significant and eligible for historic site designation.

The City historic preservation plan integrates heritage resource management into community development planning by establishing goals, policies, and procedures



## Goals and Policies

as part of the comprehensive planning process. Heritage resource identification and evaluation activities generate an inventory of properties that meet defined criteria of historical, architectural, archeological, or cultural significance. Properties that can be shown to represent significant heritage resources may be listed in the City Register of Historic Sites and Landmarks by City Council resolution. Planners, developers, property owners, and others undertaking projects which require city approval must submit their plans for review by the ACHP and CHPO whenever the proposed activity may have an effect on a significant heritage resource. Wherever possible, the City advises and assists property owners, developers, and contractors in historic preservation matters; provides public information and education in historic preservation; and cooperates with other units of government in the national preservation program.

### **GOALS AND POLICIES**

**GOAL: TO ORGANIZE PRESERVATION ACTIVITIES IN A LOGICAL SEQUENCE, AND TO UTILIZE THE NEEDS ASSESSMENT PROCESS TO DEVELOP GOALS AND ESTABLISH PRIORITIES FOR HISTORIC PRESERVATION ACTIVITIES FOR THE IDENTIFICATION, EVALUATION, AND PRESERVATION OF HISTORIC PROPERTIES.**

**POLICY 4.1** The City Historic Preservation Program will be coordinated with the general public, the State Historic Preservation Office, Washington County, other government entities, regional non-profit preservation organizations, and neighboring communities.

**POLICY 4.2** Historic preservation policies will be implemented through integration with other city activities, such as community development planning,

zoning, ordinance enforcement, public works, public safety, and economic development.

**POLICY 4.3** To be effective, protective measures need to focus on preservation of significant resources; not everything that is old is worth preserving.

**GOAL: TO UNDERTAKE SURVEYS TO IDENTIFY ALL HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES WITHIN THE CITY LIMITS, AND INTEGRATE DATA INTO THE PRESERVATION PLANNING PROCESS.**



**POLICY 4.4** Thorough and systematic background research, including archival research, will precede all field surveys. Whenever possible, identification of heritage resources will be based upon primary, rather than secondary sources, of documentary information, or intensive field survey, or both.



**POLICY 4.5** A central heritage resources inventory file will be maintained by the City Historic Preservation Officer. The inventory shall be the source of baseline data on the historical, architectural, archeological, and cultural resources of the City and is intended for the use of city officials and the general public.

**POLICY 4.6** Public access to information on the precise location of archeological sites and Native American traditional cultural properties may be restricted in cases where the City has reason to believe that the integrity of the resource may be threatened by the release of that information.

**GOAL: TO REVIEW ALL COMPLETED SURVEYS TO IDENTIFY SIGNIFICANCE OF PROPERTIES IN RELATION TO HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES, AND EVALUATE THE FINDINGS AGAINST THE ELIGIBILITY CRITERIA FOR LISTING IN THE CITY REGISTER OF HISTORIC SITES AND LANDMARKS.**

**POLICY 4.7** In evaluating the significance of an historic property, the Advisory Committee on Historic Preservation shall apply the City Register of Historic



Sites and Landmarks eligibility criteria contained in City Ordinance Title 9, Chapter 9.

**POLICY 4.8** In determining whether or not a heritage resource is eligible for registration, its age or date of construction will not be the primary factor in evaluating its significance or preservation value.

**POLICY 4.9** Properties identified by the heritage resources survey which meet one or more of the City Register eligibility criteria shall be documented in the heritage resources inventory.

**POLICY 4.10** The Advisory Committee on Historic Preservation shall issue a Finding of Significance in relation to any heritage resource which it determines eligible for nomination to the City Register of Historic Sites and Landmarks.

**GOAL: HISTORIC PROPERTIES THAT HAVE BEEN EVALUATED AS SIGNIFICANT BY THE ADVISORY COMMITTEE ON HISTORIC PRESERVATION ARE NOMINATED TO THE CITY REGISTER OF HISTORIC SITES AND LANDMARKS. DUAL LISTING OF HISTORIC PROPERTIES IN THE CITY REGISTER OF HISTORIC SITES AND LANDMARKS AND THE NATIONAL REGISTER OF HISTORIC PLACES IS ENCOURAGED.**

**POLICY 4.11** Properties considered for nomination to the City Register are reviewed against established criteria for evaluation: to qualify, a property must represent a significant facet of local history, and it must retain integrity of the physical characteristics necessary to convey its significance.

**POLICY 4.12** Prior to a City Council resolution designating a heritage resource as an Historic Site or



Landmark, the City Historic Preservation Officer shall prepare a Preservation Planning Report that presents the documentation supporting the registration. Whenever appropriate, the Preservation Planning Report will also include site-specific design review and treatment recommendations which may guide decision makers in the future; these recommendations will be based upon existing city policies and should not be construed as prescriptions or conditions.

**GOAL: THAT EVERY PUBLIC OR PRIVATE APPLICATION FOR A CITY PERMIT FOR PLANNING, ZONING, DEMOLITION OR EXTERIOR BUILDING WORK ON A PROPERTY THAT IS ELIGIBLE FOR OR LISTED IN THE CITY REGISTER OF HISTORIC SITES AND LANDMARKS SHALL BE REVIEWED BY THE ADVISORY COMMITTEE ON HISTORIC PRESERVATION.**

**POLICY 4.13** No city permit will be issued without a

Certificate of Appropriateness from the ACHP. Permits for minor work may be reviewed administratively by city staff and a Certificate of Appropriateness issued by the City Historic Preservation Officer. Appeals of denial of Certificates of Appropriateness are taken directly to the City Council or, when appropriate, to the authorized zoning board of adjustment.

**POLICY 4.14** In cases involving historic properties that are eligible for listing in the City Register of Historic Sites and Landmarks, a reasonable effort will be made to preserve and protect or at a minimum document historical, architectural, archeological, and cultural resources through the administrative process.

**POLICY 4.15** In cases involving historic properties which are listed in the City Register of Historic Sites and Landmarks, all efforts will be made to preserve and protect historical, architectural, archeological, and



cultural resources through a public hearing process conducted before the City Council.

**POLICY 4.16** No significant heritage resource should be destroyed, damaged, or defaced as a result of any activity funded, permitted, licensed, or assisted by the City of Cottage Grove without exhaustive exploration of mitigating measures.

**POLICY 4.17** To focus design review decisions on desirable outcomes rather than process in order to achieve creative solutions to heritage resource management issues or problems.

**POLICY 4.18** The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Comprehensive Historic Preservation Plan shall be the required basis for design review decisions.

**GOAL: TO THE EXTENT POSSIBLE, THE CITY WILL PROACTIVELY ASSIST PRIVATE PROPERTY OWNERS IN THEIR EFFORTS TO PRESERVE AND ENHANCE SIGNIFICANT HERITAGE RESOURCES.**

**POLICY 4.19** The City shall provide owners of historic properties with information, education, and training in the preservation, rehabilitation, restoration, and reconstruction of historic buildings, structures, and sites.

**POLICY 4.20** The City has adopted the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation as the authoritative guide for historic preservation program decisions. The standards and guidelines are worded in a flexible manner and are neither technical nor prescriptive: they are intended



to provide philosophical consistency for historic preservation projects. In addition to general standards for historic preservation, the Secretary of the Interior has developed standards for historic preservation planning, identification, evaluation, registration, documentation, and treatment of historic properties.

**POLICY 4.21** To provide further assistance to city officials and citizens in identifying, protecting, and enhancing heritage resources, the ACHP has prepared guidelines tailored specifically to address local preservation issues. These local guidelines supplement, but do not replace, the Secretary of the Interior's standards for historic preservation.

**POLICY 4.22** Like the Secretary of the Interior's standards, the local guidelines cannot, in and of themselves, be used to make essential decisions about heritage resource management.



## Future Vision

### **HISTORIC PROPERTY INVENTORY**

#### **CITY REGISTER OF HISTORIC SITES AND LANDMARKS**

- Atkinson Cemetery; next to McDonald's Restaurant (1982)
- Cottage Grove Town Hall; 9540 Islay Avenue South (1982)
- Old People's Cemetery, Section 7 (1982)
- Arthur H. Steen House/Forest Home; 7405 Lamar Avenue South (1983)
- John Watson House; 8919 – 70th Street South (1984)
- Historic First Congregational Church/Accacia Lodge No. 51; 11094 – 70th Street South (1987)
- William W. Furber House; 7697 Lamar Avenue South (1987)
- Cottage Grove Cemetery; Sections 2 and 11 (1989)
- Hill/Gibson House; 7003-7007 East Point Douglas Road (1998)
- Roberts House; 8348 Keats Avenue South (1998)
- Hope Glen Farm; 10287 Point Douglas Road South (2001)

#### **NATIONAL REGISTER OF HISTORIC PLACES AND CITY REGISTER OF HISTORIC SITES AND LANDMARKS**

- Historic Mary and Cordenio Severance House/ Cedarhurst Mansion; 6940 Keats Avenue South (1974)
- Schilling Archeological District; Lower Grey Cloud Island (1974)
- Grey Cloud Lime Kiln; 10398 Grey Cloud Trail. Placed on the National Register in 1978 and on the City's Register in 1982.
- John P. Furber House; 7310 Lamar Avenue South. Placed on the National Register in 1982 and the City's Register in 1983.

### **FUTURE PRESERVATION VISION 2030**

The City of Cottage Grove historic preservation program is a successful local preservation program, it reflects the past and present and ideologies of the community. The education of the general public about the significance of people, places, and events of the past will be a key factor in the success in the future of our history, and should be planned for.

It is expected that the ACHP and future Councils will continue to shape a vision of where the City historic preservation program is going and the steps necessary to carry this vision forward.

The ACHP envisioned the following outcomes characterizing the state of the City historic preservation program in the year 2030:

- Historic preservation will continue to stress empowerment of individuals and communities through stewardship, advocacy, education, and partnership.
- Cottage Grove will be a distinctive and recognizable community where preserved historic buildings and sites provide physical links to the past and foster a sense of community and personal identity.
- Core historic preservation program areas will continue to emphasize comprehensive planning, identification and evaluation of heritage resources, the City Register of Historic Sites and Landmarks, and design review, with important initiatives in the areas of heritage education and tourism, economic development, and treatment of historic properties.





- Historic buildings will be preserved as functional, useful parts of the modern city and will be a focus for important education, edification, recreation, and economic development activities.

To achieve these outcomes, a list of benchmarks will help future decision-makers evaluate the success of the historic preservation program. These benchmarks reflect the basic assumptions and goals incorporated in the historic preservation plan and are both practical and cost-effective to carry out over the next 15 to 20 years.

By the year 2030, the city historic preservation program will have achieved the following:

- Made all pertinent information on the City's heritage resources accessible to the general public.
- Completed archeological reconnaissance surveys of all undeveloped lands within the city limits

and intensive surveys of potentially significant archeological sites.

- Developed and implemented effective, voluntary, non-regulatory approaches to managing heritage resources on private land.
- Fully integrated historic preservation planning with planning for parks and recreation, community development, public safety, public works, and education.
- Developed public interpretation programs for selected historic properties in partnership with outside agencies and property owners.
- Developed programs for providing historic property owners with financial assistance, technical assistance, and training in historic preservation.
- Made local history and heritage preservation a vital part of the K-12 school curricula and life-long learning.
- Preserved and enhanced the significant historic character assets of Lower Grey Cloud Island.
- Preserved and enhanced the historic character of Old Cottage Grove.



## **PARKS AND OPEN SPACE**

### **CHAPTER 5**



## Goals and Policies

### **INTRODUCTION**

The Parks and Open Space chapter provides information on planning for acquisition and development of a signature parks and open space system. Included is an inventory of existing parks, open space, and recreation facilities and a guide for future park land. This chapter builds upon previous park plans, the 2006 Park and Open Space Study, and the East Ravine Master Plan, and incorporates new ideas and standards that reflect a shifting public expectation on design, function, and maintenance of public facilities.

The Comprehensive Plan should lay the ground work for assembling and maintaining a first-class park and recreation system for the City and present some of the tools needed to make sound planning decisions. The acquisition, development, and maintenance of the Cottage Grove parks, recreation, and open space system should continue to be a community priority in the governing and development process.

### **GOALS AND POLICIES**

**GOAL: ACQUIRE AND PRESERVE NECESSARY PARK AND OPEN SPACE AREAS. WHEREVER PRACTICAL, PARKS SHALL INCLUDE CONSERVANCY OPEN SPACE IN AREAS THAT PRESERVE AND PROTECT WOODLANDS, WETLANDS, NATURAL OR CULTURAL RESOURCES, AND ENVIRONMENTALLY SENSITIVE AREAS.**

**POLICY 5.1** Parkland and open space areas will be acquired through park dedication, purchase, eminent domain, or donation. Private developers will be required to dedicate a portion of their land for public use when a development includes areas planned for park and open



space acquisition. Full dedication credit is not given for lands with steep slopes, tree preservation areas, wetlands, bedrock, or other areas that are development constrained.

**POLICY 5.2** When feasible, the acquisition of parks, open space, and other recreational facilities should be accomplished at an early date, so that appropriate sites can be obtained to meet long-range public recreational needs before development pressures render the property too expensive.

**POLICY 5.3** The City will coordinate its recreation plan with bordering communities, South Washington County School District 833, Washington County, the Metropolitan Council, and the State of Minnesota.

**GOAL: DEVELOP AN INTEGRATED SYSTEM OF PARKS AND OPEN SPACE AREAS THAT OFFERS A VARIETY OF FACILITIES AND PROGRAMS TO ALL RESIDENTS OF THE CITY THROUGHOUT THE YEAR.**

**POLICY 5.4** The City will prepare a master plan for each component of the park and recreation system based on

the criteria established in this comprehensive plan. The park master plans shall be the basis for site acquisition, development, and use, and upon establishment, be reviewed on a biannual basis.

**POLICY 5.5** All park and open space facilities will be designed to be environmentally friendly. Appropriate measures will be taken during construction to mitigate any negative environmental impact.

**GOAL: CREATE A COORDINATED NETWORK OF TRAILWAY ROUTES THAT ARE DESIGNED TO ACCOMMODATE A VARIETY OF USERS WHILE PROVIDING FOR INTEGRATED LINKS TO NEIGHBORHOODS, THE COMMUNITY, THE REGION, AND OTHER SPECIAL POINTS OF INTEREST.**

**POLICY 5.6** New trailway installations shall include the identification of future replacement and maintenance programs and appropriate funding sources for these programs.

**POLICY 5.7** The trailway system will be separated from roadways whenever feasible.

**POLICY 5.8** For safety reasons, the trailway system will incorporate security lighting where needed.

**POLICY 5.9** The trailway system will include landscaping, informational signage, directional signage, educational signage, benches, bike racks, garbage receptacles, pet waste disposal bags, and other similar amenities where reasonable or necessary.

**POLICY 5.10** The trailway system will include a variety of surfaces, slopes, and linear distance that will accommodate the needs of all segments of the general

population. The system will be implemented to conform to the Americans with Disabilities Act, except when topography or other environmental constraints prohibit meeting the majority of the standards.

**POLICY 5.11** The trailway system within the Mississippi River Critical Area will be limited to links to scenic overlooks, public property, and other points of interest unless the existing railroad right-of-way is abandoned and a linear trailway can be established along the river.

**POLICY 5.12** Transportation sidewalks and trails shall be installed by developers along all collector and minor arterial streets, or on roadways that are determined to generate sufficient traffic to warrant concern for either pedestrian or bicycle use within the street right-of-way.

**POLICY 5.13** The trailway system will be implemented by creating links between all new and existing developments in the City, through the acquisition of easements, right-of-way dedications, purchase, eminent domain, or donations.

**POLICY 5.14** The trailway system will include the establishment of a set of rules of operation that is actively provided to the public and is periodically updated to reflect current usage needs, problems, and trends.

**POLICY 5.15** The individual components of the trailway system will be monitored for volumes of usage and safety factors to determine if additional improvements are required.



# Park and Open Space Classifications

## **DEFINITIONS AND STANDARDS**

Development of a Park Open Space and Trail System relies on standards for the systematic approach to providing facilities.

Definitions and standards have been created to help communicate and coordinate park and open space facility development standards. It should be noted that standards are relative guidelines, not absolute requirements when dealing with unique park and open space components and landforms. A proper understanding of the following terms is essential for correct interpretation of this chapter:

## **PARK AND OPEN SPACE CLASSIFICATIONS**

### **PUBLIC PARK**

An area dedicated to recreational use and generally characterized by its natural, historic, topographic, or landscape features. It may be used for both passive and active forms of recreation and may be designed to serve a neighborhood, larger community, or as a local link with regional systems. Encroachment on lands within a public park by adjacent neighbors is not permitted.



### **PUBLIC OPEN SPACE**

A relatively undeveloped area which may be located within or outside of the urbanized development area. Open space may include utility easements, drainageways, ravines, holding ponds, treed slopes, and steep slopes, and may also include any land unsuitable for building. Open space may be used for general recreational activities. Encroachment on lands within a public park by adjacent neighbors is not permitted.

### **PRIVATE OPEN SPACE**

Privately-owned land, which because of certain limiting conservation easements, are permanently protected from development. Privately owned recreational facilities, such as golf courses, would not be considered private open space because of future development potential.

### **MINI-PARK**

Mini-park is the smallest park classification and is used to address limited or specific recreational needs. Examples of where a mini-park may be located include areas of concentrated populations, isolated development areas, landscaped public use areas in an industrial/commercial area, scenic overlooks, and play areas in shopping districts. Although demographics and population density play a role in location, the justification for a mini-park lies more in servicing a specific recreational need or taking advantage of a unique opportunity. In a residential setting, the service area is usually less than a quarter mile in radius and the park is generally one acre or less in size.

Site selection criteria should include ease of access from the surrounding area and ideally be linked to a community pathway system. Given their size, they are typically not intended to be used for programmed activities, and off-street parking is not provided.



### **NEIGHBORHOOD PARK AND OPEN SPACE**

The neighborhood park and open space is the basic unit of the City's park system and is designed to serve as the recreational and social focus of neighborhoods. They include active and passive recreation activities geared specifically for those living within a half mile service area. The park should be centrally located and easily accessible by way of interconnecting trails, sidewalks, or low-volume residential streets. Five acres is the accepted minimum standard necessary to provide space for recreation activities. Seven to ten acres are considered optimal. The site should exhibit physical characteristics appropriate for both active and passive recreation uses including suitable soils, positive drainage, varying topography, and a variety of vegetation and natural resource areas. Sites should be connected to schools and other park system components such as natural resource areas, lakes, ponds, and greenways.

Potential active recreation facilities include play structures, creative play attractions, game courts, ball fields, tennis courts, volleyball courts, horseshoe courts, and general ice

skating areas.

Passive activity facilities include networks of recreation and nature trails, individual and group picnic/sitting areas, general open space and unique landscapes/features, nature study areas, and ornamental gardens. The ability to hold cultural activities, such as plays and concerts, is also appropriate for a community park. Distribution of land area between active and passive recreation is determined on a site-by-site basis. Parking lots of limited size should be provided as necessary to accommodate user access, and park lighting should be used moderately due to proximity to residential units.

### **SCHOOL COMMONS**

A school commons allows for expanded recreation, social, and educational opportunities available to the community in an efficient and cost-effective manner. Depending on its size, one school site may serve in a number of capacities such as a neighborhood park, youth athletic fields, and the obvious outdoor active area for the school. The important outcome in the joint-use relationship is that both the school district and the park system benefit from shared use of facilities and land area. When planning efforts coincide, attempts should be made to coordinate the needs of the School District with that of the park and recreation system. The criteria established for neighborhood park and community park classifications is the basis for determining how a school commons site should function and be developed.

### **COMMUNITY PARK AND OPEN SPACE**

Community parks and open space are typically larger than 50 acres in size and serve a broad audience of users and purposes within the City park and open space system. Multi-functional design and facilities are found within



the boundaries of these parks and focus on meeting the recreation needs of large sections of the community. Preservation of unique landscapes and open space is possible on a grand scale in community parks, and management of community parks require special attention and fiscal resources because of the size and amount of facilities and the intensive community use.

A community park should serve two or more neighborhoods with a service area of one to three miles in radius. Ideally, the site should be serviced by arterial and collector streets and be easily accessible from throughout its service area by way of interconnecting trails. Selection of community park sites should take into consideration existing private conservancy areas, natural resource areas, and regional parks and schools, each of which may provide recreational opportunities normally provided in community parks.

The site should exhibit physical characteristics appropriate for both active and passive recreation uses. It should have suitable soils, positive drainage, varying topography, and a variety of vegetation and include natural resource areas, greenways, lakes, ponds, and woodlands.



Potential active recreation facilities include large play structures, creative play attractions, game courts, ballfields, tennis courts, volleyball courts, horseshoe courts, bocce ball courts, ice skating areas, archery ranges, disc golf areas, and amphitheaters.

Passive activity facilities include extensive recreation and nature trails, individual and group picnic/sitting areas, general open space and unique landscapes/features, nature study areas, and ornamental gardens. The ability to hold cultural activities, plays, and concerts, is also appropriate for a community park. Distribution of land area between active and passive recreation is determined on a site-by-site basis, and active field areas should be sized large enough to accommodate a field rotation maintenance program. Landscaped parking lots should be provided as necessary to accommodate user access. Park lighting should be utilized as appropriate for security, safety, lighting facilities, and extending the hours of use/scheduling of active athletic areas.

#### **REGIONAL METROPOLITAN PARK**

Often a regional metropolitan park includes outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses. The sites are normally contiguous to or encompass existing natural resources.

The Metropolitan Council recommends that metropolitan regional parks shall be of 200 or more acres and service populations within 30 minutes driving time. Due to their size, they can provide a wider array of activities, some of which cannot be found in a community park. Their size also dictates that they have several parking areas and good access, and often they contain some type of park shelter.

### **REGIONAL PARK RESERVE**

An area of natural quality for nature-oriented outdoor recreation such as viewing and studying nature, wildlife habitat, conservation, swimming, picnicking, hiking, fishing, boating, camping, and trail uses. May include some minor active play areas. Generally 80 percent of the land is reserved for conservation and natural resource management. Desirable characteristics include unique or diverse natural resources such as lakes, streams, marshes, flora, fauna, and topography.

The Metropolitan Council recommends that regional park reserves shall be of 2,000 or more acres and serve populations within one hour driving time.

### **GREENWAY LINKING CORRIDORS**

Greenway linking corridors are lineal oriented public open spaces that are designed to provide buffering, transition, continuity and access between adjacent parks and open space areas, neighborhoods, and schools. The minimum cross dimension of greenway corridors is 30 feet in width, and shall contain a Class III recreational trailway. Larger corridors may contain a combination of trailway classifications. Spacing of major community wide greenway linking corridors is based on a square mile grid section offset one-half mile from the major transportation grid.

### **GREENWAY BUFFER AREAS**

Greenway buffer areas are lineal oriented open spaces along minor arterials and major collector roadways that are designed to provide buffering, transition, and continuity along the roadway. The minimum average cross dimension of the corridors is 75 feet in width and shall contain a combination of trailway classifications. The buffer area can be publicly owned or under the control of a private homeowner's association with an overlying public



trailway/access easement. Buffer areas are required to be extensively landscaped with a variety of native or formal vegetation and may include existing natural areas, lakes, wetlands, and stormwater ponds.

### **NATURAL RESOURCE AREAS**

The City's Natural Resource Inventory categorized local natural resources as compared to those found in the state and also based upon a local value categorization of natural resource areas identified as having significant natural resources, woodlands, or remnant landscapes. Many of these areas serve as habitat corridors. The natural resource areas identified as the highest quality in the Natural Resource Inventory should be given priority in access or preservation efforts. Development impacts should be kept to a level that preserves the integrity of the resource.

### **GOLF COURSES**

One 18-hole daily fee golf course is recommended for each 25,000 population. A daily fee golf course may include a semi-private facility that draws from the golfing element who use the public facilities. Approximately 75 acres are recommended for a 9-hole course and at least 180 acres is





considered necessary for regulation courses.

#### **SWIMMING POOLS**

A standard of one pool per 20,000 population is recommended. The deck area should be twice the area of the water surface. Year-round swimming facilities should be considered when deciding to construct a pool in the community.

#### **RECREATION BUILDING – SUNSHADE STRUCTURE**

The sunshade structure is an open canopy of limited size that provides shade for a passive or waiting area. The shaded area may be hard surfaced. No kitchen facilities, electricity, water or restrooms are included in the design.

#### **RECREATION BUILDING – PICNIC STRUCTURE**

The picnic structure is a large open-sided facility of a size that provides shade and picnic activity areas for larger groups. No kitchen facilities are included in the design, but electricity, water, and restrooms may be included.

#### **RECREATION BUILDING – NEIGHBORHOOD CENTER**

The neighborhood recreation center is a smaller community-

based recreation service facility in the City. It should serve the neighborhood in which it is located by providing a facility for general neighborhood organizations as well as supervised recreation programs. The building is approximately 3,000 to 5,000 square feet in size and typically includes meeting, game, and multi-purpose rooms; an office; limited kitchen facilities; a storage area; and restrooms. The mechanical equipment necessary for year-round use should be included in the design.

#### **RECREATION BUILDING – COMMUNITY CENTER**

A community recreation center provides opportunity for year-round programming of leisure time activities. A wide range of social, aquatic, cultural, and physical programs typically take place in community centers. Building size varies from 30,000 square feet to 60,000 square feet and typically includes multi-purpose rooms, gymnasium, swimming pool, racquetball courts, arts and crafts room, senior center, aerobic/dance room, weight room, running track, kitchen facilities, and administrative offices. This facility serves the needs of the entire community. For that reason, location and access are keys to facility siting. Often a community center is in close proximity to other public buildings such as a city hall or sited to take advantage of attractive natural features.

#### **SPORTS COMPLEX**

A sports complex consolidates heavily programmed athletic fields and associated facilities at larger sites strategically located throughout the community. This allows for economies of scale and higher quality facilities, improved management and scheduling, improved control of facility use, and reduces the number of areas dedicated to sports facilities. The greatest advantage, if planned appropriately, is the city's ability to control negative impacts to

## Recreation Standards

neighborhood and community parks such as overuse, noise, traffic congestion, parking, and in some cases, domination of facilities by those outside the neighborhood.

Sports complexes should be developed to accommodate the specific needs of user groups and athletic associations within the community based on demands and program offerings. Sport complexes are community-wide facilities and attempts should be made to centrally locate the site. Because it serves the greater community, access from arterial collector streets is desirable. Sports complexes should be adjacent to non-residential land uses if possible and should be buffered. These areas should be clearly identified prior to residential development to avoid long-term conflicts. Demographic profiles, age group population forecasts, and participation rates should be used to determine the types of facilities to provide. Sites should be a minimum of 40 acres with 80 acres being optimal.

Potential sites should exhibit physical characteristics appropriate for developing athletic facilities. Topography and soils are of the utmost concern. Although extreme topographical change should be avoided, some elevation is desirable to allow for drainage and to give the site some character. Natural vegetation along the perimeter of the site and in non-field areas is desirable to buffer their impact on surrounding land uses. Currently, there are several areas in the community located outside of the MUSA that would appear to meet the designated locational parameters for a sports complex.

Sports complexes are intended for programmed athletic use, such as youth and adult softball, baseball, and soccer leagues and tournaments. Sports complexes increase tourism, drawing both tournament participants and spectators. Potential facilities include ballfields, soccer

fields, football fields, outdoor and indoor skating rinks, tennis courts, play structures, hard courts, and volleyball courts. Internal trails should provide access to all facilities as well as connection to the citywide pathway system. Group picnic areas and shelters should also be provided along with support facilities such as multi-purpose buildings, restrooms, and common space.

### **RECREATION STANDARDS**

Sound principles of recreation planning include standards and more general elements:

- Designating areas for differing age groups, rather than just children;
- Consideration of aesthetics in addition to function; and
- Creating a proper balance between private and public recreation activities.

Recreational activities are generally divided into two types – active and passive. Facilities for both active and passive recreation should be available to the public on three levels:

- **Neighborhood Level:** Facilities intended for use by those within a half-mile radius and bounded by major streets.
- **Community Level:** Major facilities designed for residents of the entire community.
- **Regional Level:** Major facilities utilized by residents of the metropolitan area.

Figure 5-1 shows the Existing Parks and Open Space System and Table 5-1 shows an Inventory of Existing Facilities.





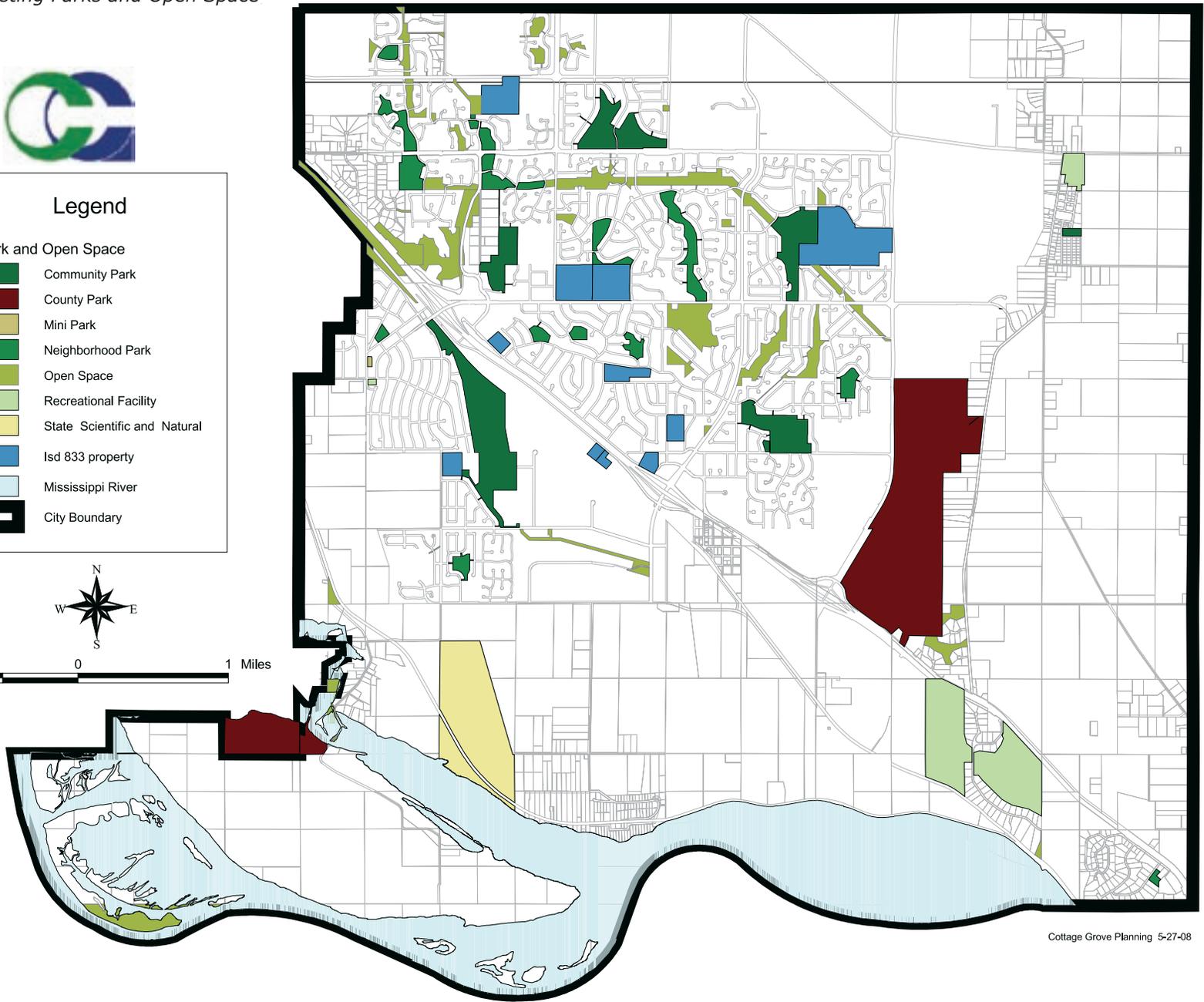
Legend

Park and Open Space

- Community Park
- County Park
- Mini Park
- Neighborhood Park
- Open Space
- Recreational Facility
- State Scientific and Natural
- Isd 833 property
- Mississippi River
- City Boundary



1 0 1 Miles



Cottage Grove Planning 5-27-08

Table 5-1: Inventory of Existing Facilities

	Acres	Archery Range	Baseball/Softball Field	Basketball Court	Boat Launch	Bocce Ball Court	Building	Disc Golf Course	Fishing Pier	Football Field	Golf Course/Range	Grill	Horseshoe Court	Lacrosse Field	Picnic Shelter	Play Structure	Skating Rink	Sliding Hill	Soccer Field	Swimming/Wading Pool	Tennis Court	Trails	Undeveloped	Volleyball Courts
Arbor Meadows Park	11.7		1	1												•	•		1			•		
Belden Park	3.7		2													•			1					
Cottage Grove Ravine Regional Park	573							•			•				•	•						•	•	
Foothill Park	7.8																					•	•	
Granada Park	1.2															•					2			
Grey Cloud Dunes State SNA	238																						•	
Hamlet Park	158	4	2L			•			2(1L)		•				•	•	•		1L		2L	•		•
Hardwood Park	10.2														•	•						•		
Hazen P. Mooer Park	1							•																
Hearthside Park	6.5	1	3L			•										•	•	•			1L			
Hemingway Park	5.6	1														•	•		2					
Hidden Valley Park	25.9							•								•						•		
Highlands Park	65	1	3			•					•				•	•	•	•	4		2L	•		
Ice Arena	3.4																•							
Ideal Park	9.1															•	•	•						
Kingston Park	57.4		2			•					•				•	•			11		2	•		
Lamar Park	20.8	4(2L)			•	•									•	•								
Meadow Grass Park	16.4															•						•		
Municipal Pool	1.5																			•				
Nina's Park	5															•	•							
North Ideal Park	9.9															•	•						•	
Oakwood Park	37	1					•				•				•	•	•	•				•		
Old Cottage Grove Park	4	1	1													•	•	•						
Peter Thompson Park	6.4	1	1			•					•				•	•	•	•	1			•		
Pine Coulee Park	2.8	1															•							
Pine Glen Park	8.8	2	1													•			2					•
Pine Tree Pond Park	43.5	•		1												•						•		
Pine Tree Valley Park	36	1				•										•	•					•		
River Oaks Golf Course	219.5										•													
River Oaks Scenic Overlook	2																						•	
West Draw Park	20.86																		3				•	
Woodridge Park	57	2	2L			•					•				•	•	•	•		3		2L	•	•
<b>SCHOOLS</b>																								
Armstrong Elementary	12.7		2	1												•	•							1
Cottage Grove Junior High	52.5		4	1					1										3					
Cottage Grove Elementary	35		2	1												•			2			•		
Crestview Elementary	19		3	1												•			1					
Grey Cloud Elementary	52.5		5													•			2			•		
Hillside Elementary	16.7		4						1				1		•				2					
Park Senior High	52		4						2										3		5	•		
Pine Hill Elementary	13		2	1												•						•		

Key: L = Lights

## Future Parks and Open Space

### **FUTURE PARKS AND OPEN SPACE**

Plans for future park acquisition and development are based on two basic assumptions. First, there will be a continued increase in demand for park and recreation services and facilities for our youth population and a dramatic increase in recreational demands from the adult segment of the population. Second, as the city continues to grow, parklands and open space areas will become more important for their growing recreational, aesthetic, and conservation values.

Demographic data suggests that until well into the next century, Cottage Grove will continue to be a community dominated by married-couple families with children. At the

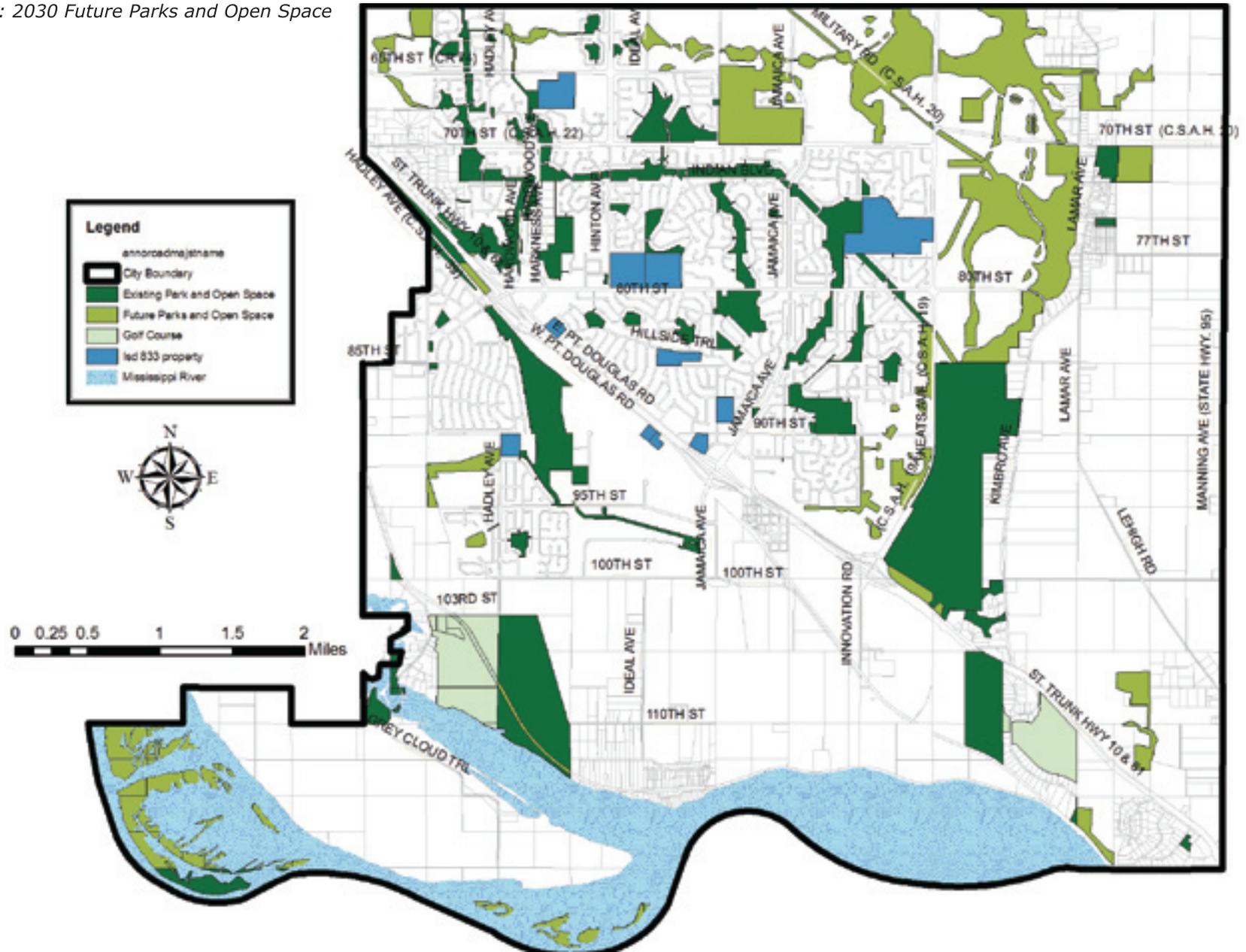
average age of the citizens will continue to increase. It is expected that children will represent a smaller proportion of the total population, although the total number will remain fairly constant.

Cottage Grove cannot afford to stop investing in parks, trails, and open space. Public opinion surveys indicate a very high level of citizen approval for acquiring, developing, and maintaining a quality park and recreation system in Cottage Grove. The general public consensus appears to be that parks are a critical factor in assessing the “quality of life” in the community. Figure 5-2 shows the 2030 Future Parks and Open Space System.



same time, the age structure of the community is changing; even though the proportion of children to adults is predicted to slowly decrease. If the city continues to grow, the total number of children will probably remain stable or increase. In light of this, future parks, trails, and open space acquisition and development plans are predicated on the vision of a city where both the total population and the

Figure 5-2: 2030 Future Parks and Open Space



# Trails

## **EXISTING TRAILWAY NETWORK**

The trailway network in Cottage Grove consists of a combination of on and off-road routes designed for pedestrian and non-motorized use that links neighborhoods, commercial areas, schools, parks, points of interest, scenic overlooks, unique natural and historical features, and other public gathering places (Figure 5-3). The trailway network is accessible to pedestrians, bicyclists, non-motorized use, and persons with disabilities; and has connections with other transitway components of the network.

The purpose of the trail network is to offer the residents of Cottage Grove the safest possible access route for pedestrian and non-motorized use. The City has been actively working to improve the trail network to one that offers a greater variety of access opportunities. Each segment identified on the trail network is a vital component of the whole trail network. The major routing emphasis of the trails plan correlates directly with the future transportation network and ties higher class trails with collectors and minor arterials. However, roadways that function as residential collectors or provide access to schools, parks, and other gathering spots should also be considered for some type of pedestrian access. The trail network provides residents with not only recreational access, but also with alternative transportation options to the major destination points in the City.

Where feasible, it is preferable to develop off-road trails, which provide facilities for both bicyclists and pedestrians. Trails along rivers and through parks and natural areas are always highly desirable routes, if and when they can be attained, as they provide a more scenic experience for the user. An off-road trail is one that is physically separated

from motorized vehicular traffic by an open space or barrier either within the road right-of-way or within an independent right-of-way. According to AASHTO guidelines, the minimum width of a trail that provides for two-way bicycle traffic and allows for pedestrian use is eight (8) feet with two-foot shoulders on each side. Where traffic volumes are higher, ten (10) feet is the desired width.

Adequate space is not always available within the existing right-of-way for an off-road trail. Where it is necessary to develop continuous trail segments, it is recommended that the City work with residential developers and owners of commercial properties to obtain easements in areas where the road right-of-way is insufficient or in areas with topography constraints.

In cases where funding or right-of-way is limited, an on-road bicycle trail can present a more economical solution. The provision of an on-road bicycle trail can be accomplished through the restriping of existing roadways



## Trailway Classifications

or with extra consideration during the design of a new roadway. Similar to a functional classification of roadways, trailway facilities also have a hierarchy of structure. The following classification helps to define the different facilities available for trails.

### **TRAILWAY CLASSIFICATIONS**

#### **Class I – Sidewalk**

Class I Sidewalks are installed on public right-of-way, are constructed of concrete, are five to six feet in width, and are located along local streets, sub-collectors, and collector streets. On neighborhood local streets, sidewalks may be located on only one side of the street. On collector and arterial streets, sidewalks are required to be located on both sides of the street unless prohibited by topography or other engineering constraints. Pedestrian curb ramps are required at the terminus of the sidewalk with public or private roadways, driveways, and parking lots. Due to a sidewalk's width, pedestrian use has right-of-way over bikes and other non-motorized use. See Figure 5-4 for a Sidewalk Plan.

#### **Class II – Transportation Trailway**

Class II Transportation Trailways are installed in public right-of-way or in trailway easements adjacent to collector and minor arterial streets and are physically separated from motor vehicle traffic. Class II construction consists of asphalt bituminous material with a minimum width of eight feet. Sealcoating is periodically performed on transportation trailways. Pedestrian curb ramps are required at the terminus of the transportation trailway with public or private roadways, driveways, and parking lots. Transportation trailways are designed for bicycle, other non-motorized, and pedestrian uses. See Figure 5-5 for a Transportation Trailway Plan.

#### **Class III – Recreational Trailway**

Class III Recreational Trailways are installed in public parks and open-space and other natural areas of the community. Recreational trailways are located in and adjacent to a variety of different landscapes in the community including wetlands, woods, prairies, and other passive areas (See Figure 5-6). The recreational trailway system also links the different active areas of the city park and open space system to provide for accessibility and cohesiveness of the facilities. Class III construction consists of asphalt



bituminous material with a minimum width of eight feet. Sealcoating is periodically performed on recreational trailways. Pedestrian curb ramps are required at the terminus of the recreational trailway with public or private roadways, driveways and parking lots. Recreational trailways are designed for bicycle, other non-motorized, and pedestrian uses.

#### **Class IV – Nature Trailway**

Class IV Nature Trailways are installed in public parks and





open space and other natural areas of the community. Nature trailways are located in and adjacent to a variety of different landscapes in the community including wetlands, woods, prairies, and other passive areas. Class IV construction consists of woodchip or crushed rock material with a width of four to eight feet. Nature trails are located in areas of future Class III Recreational Trail corridors that have yet to be completed, or in other areas that cannot be hard surfaced due to steep slopes, tree massing, water features, or other environmentally sensitive features. Tree trimming, erosion control, and surface restoration are required to be periodically performed on nature trailways. Nature trailways are designed specifically for pedestrian use and some limited bicycle use.

#### **CLASS V – LANEWAYS**

A laneway is a restricted segment of a shared street that is designed for bicycle and pedestrian use. Laneways are linear corridors of land separated from motor vehicle traffic by a designated colored marking stripe, which provides a psychological barrier rather than physical protection to the user. Laneways are provided on minor arterial and collector

streets, where pathways are not provided or are difficult to install. Laneways should conform to the flow of traffic, be located on both sides of the road, and be no less than four feet from the curb or shoulder. Parking is allowed, but not desired on designated laneways.

#### **CLASS VI – BIKE ROUTE**

A shared right-of-way is located on lightly traveled streets and roadways and designated solely by the standard "Bike Route" signs encouraging cyclists' use and warning motorists to anticipate bicycles on the street.



A main goal of the trails plan is to link together the major pedestrian generators in the City such as schools, parks, and commercial development. Trail crossing locations along collectors and arterials should be carefully considered to maximize trail user safety. Additionally, trails can be a vital link to transit facilities. A number of municipal trails are proposed for future development (Figure 5-7).

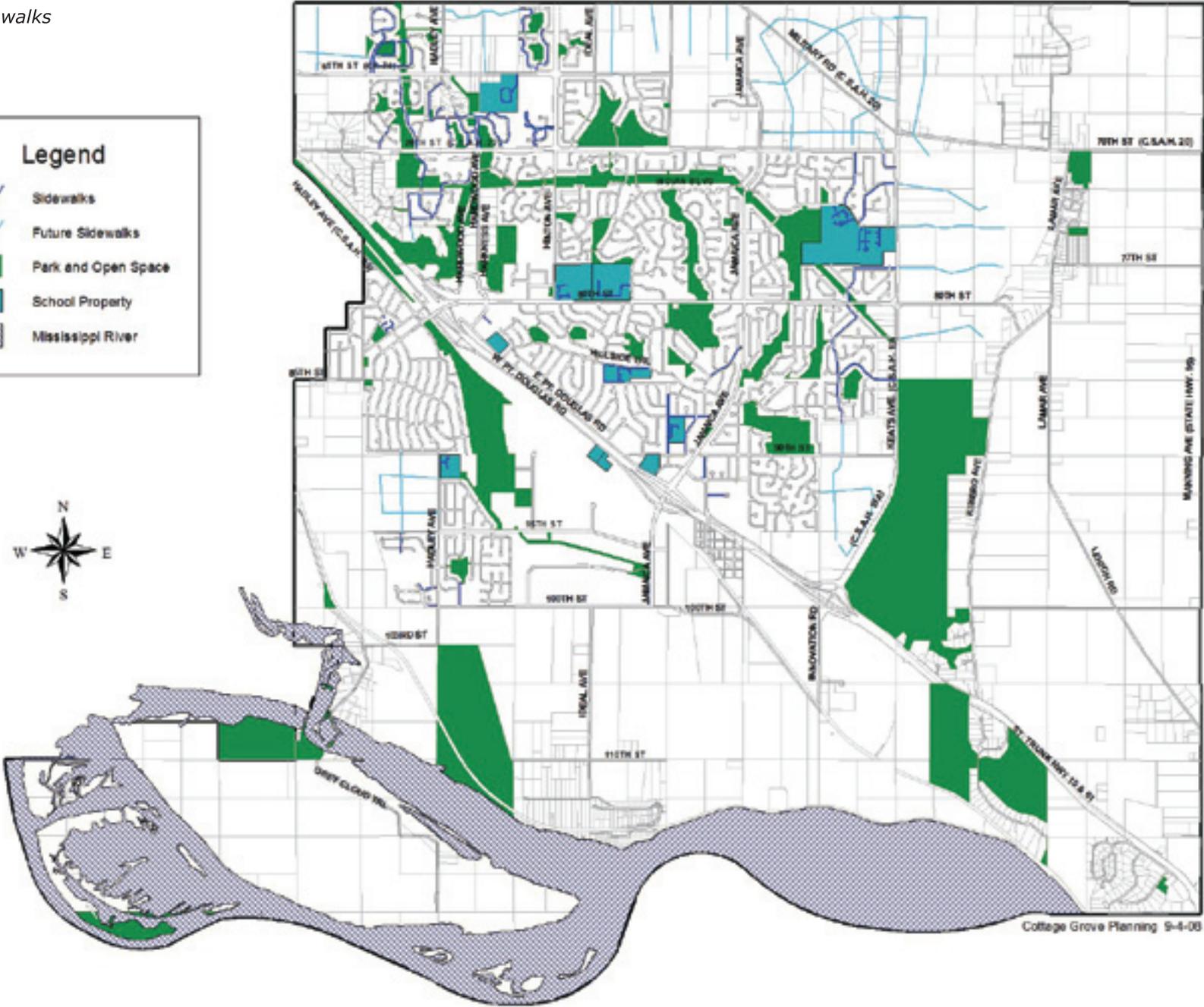
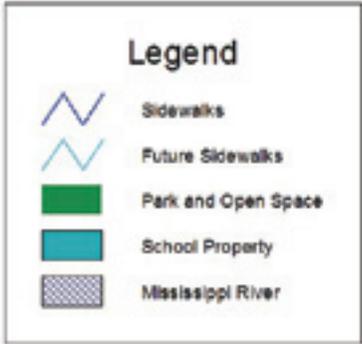
**Class VII – REGIONAL TRAILS:**

The City's trailway network also includes three regional trail designations: the Washington County Greenway Regional Trail, the Grey Cloud Island Regional Trail, and the Prairie View Regional Trail. These regionally designated trails are similar to Class VI bike routes in that they share public right-of-way with vehicles. As regional monies become available it is expected that the City of Cottage Grove would benefit from regional trailway funding programs designed to create safe off-road bituminous trailways along the Class VII Regional Trail Routes. The Class VII trails are detailed on Figure 5-7.





Figure 5-4: Sidewalks



Cottage Grove Planning 9-4-08

Figure 5-5: Transportation Trails

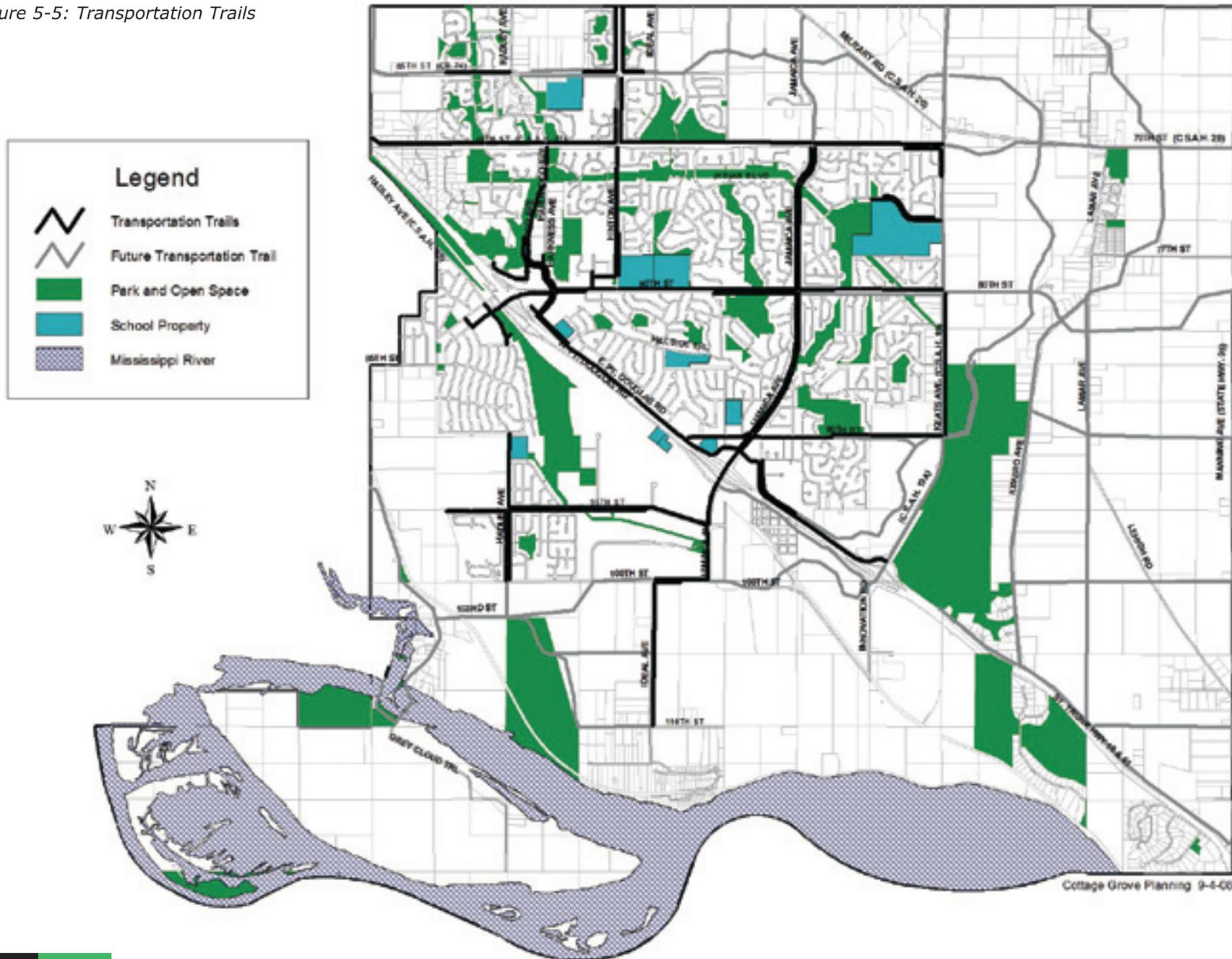
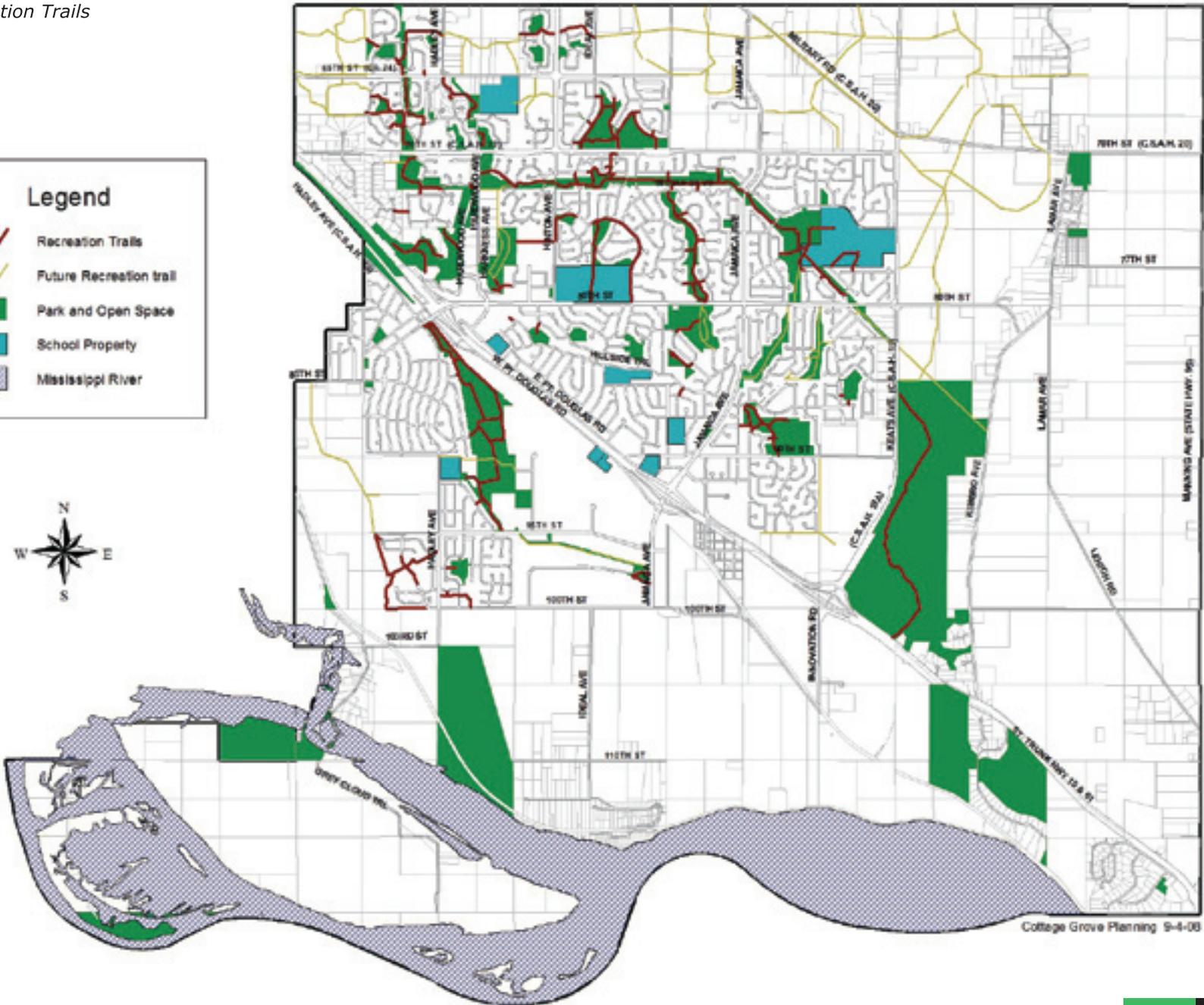
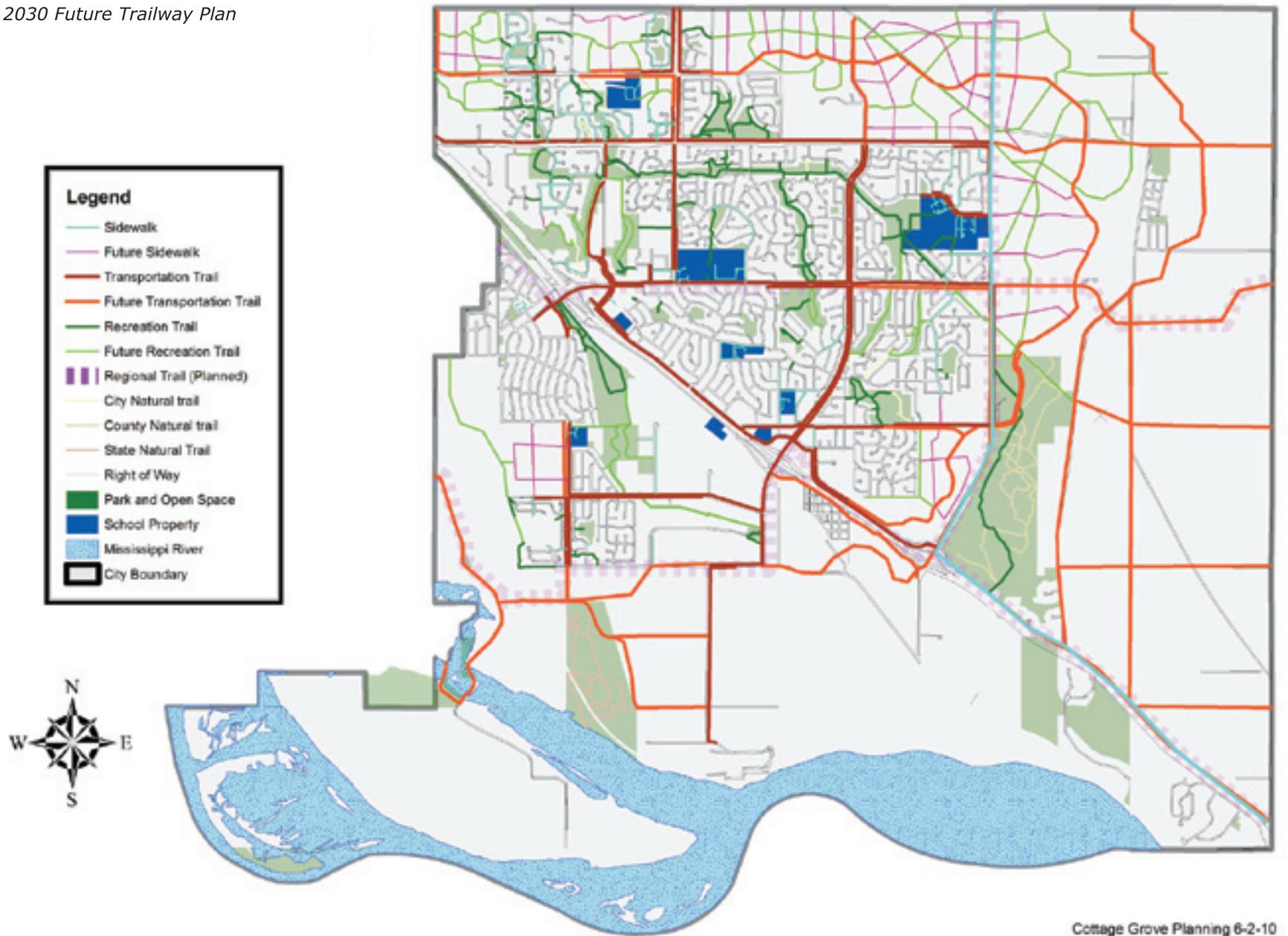


Figure 5-6: Recreation Trails



Cottage Grove Planning 9-4-08

Figure 5-7: 2030 Future Trailway Plan



## Regional Opportunities

### **REGIONAL PARKS AND INTER-COMMUNITY LINKAGES**

Opportunities abound to connect regional systems with inter-community non-vehicular trailways. However, such linkages along minor arterial road systems and utility easements will only occur as urban expansion occurs toward the Cottage Grove Ravine Regional Park or toward future federal or regional park acquisitions on Grey Cloud Island. Urban expansion can occur through upgrading of various roadway systems with associated sidewalk or trailways, through parkland dedication of utility easement areas, or future park bond land and trail acquisition and development programs.

### **COTTAGE GROVE RAVINE REGIONAL PARK**

Outside the time frame of this plan as urban development crosses Keats Avenue and development occurs contiguous to this regional facility, pathways and street access points will need to be coordinated with the Washington County Park Department's interpark trail systems and park master planning. More than likely, future trail connections will occur along an NSP transmission line easement that enters on the northwest portion of the park. Roadway connection opportunities also exist opposite the 90th Street and Keats intersection and at several other points along Keats Avenue.

Currently, the main entry point into the park is along the service road (East Point Douglas Road) parallel to T.H. 61/10. Park patrons use this entrance for both vehicular and bikeway access into the park. A northwest access to the site may be necessary to more readily serve both vehicular and non-vehicular networks outside and within the park.

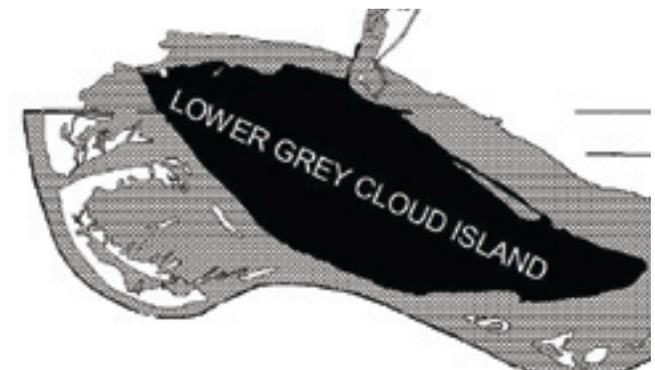
Access into the park from the east is non-existent and it is expected to remain that way throughout the duration of this

plan. It should be noted that as properties east of the park receive urban utilities, access from the east should become a priority.

### **LOWER GREY CLOUD ISLAND REGIONAL POTENTIAL**

Lower Grey Cloud Island has been identified by Washington County, the Metropolitan Council, and the Minnesota Department of Natural Resources as a prime site for a state or county park. Existing access to this area is inadequate for park use due to winding narrow causeways, low bridges, and older minimally designed rural roads. Any federal or regional acquisition and development of land on Grey Cloud Island must be accompanied with funds to upgrade the complete transportation system.

Although the City's overall sanitary sewer study shows engineering potentials, present and future residents on the Island are not expected to receive sanitary sewer or municipal water. As the Island gradually receives more residents or other more intense land uses, further road and trail development is expected. If private development occurs on the Island, care should be taken to provide public access opportunities to areas of the Island, the River, and associated backwaters.





# TRANSPORTATION

## CHAPTER 6



## Introduction

A well-planned transportation system is critical to the growth of the city. All aspects of community development from land use and property values to utility installations are directly related to current and future transportation systems. The Transportation Plan is a living document that requires revisions as land use and other conditions change. The Goals and Policies Section of the Plan was established in order to give a direction to decision-makers to accomplish the efficient growth and management of the transportation system in Cottage Grove.

The existing transportation system in the City consists of a combination of transportation modes and facilities. Including a planned network of roadways, from local streets to a regional principal arterial that bisects the community. Roadways are planned and constructed for differing classifications using established design criteria that will meet the current and future access needs of the community.

The sections contained in this element of the Comprehensive Plan are listed in the Table of Contents and consist of the remaining facets of Cottage Grove's transportation system. These include:

- Roadway System
- Rail System
- Water Ports and Terminals
- Transit
- Trail System
- Airports and Terminals

As the City's and the Metro Area's roads become more congested and more passenger vehicles are added to the roadway systems, alternate transportation options will become a higher priority. In the future, emphasis may be

placed on multi-modal systems that can provide a seamless transit alternative for City commuters. The City will plan for increased population and does not want growth to adversely affect existing and future transportation systems. From that perspective, the Plan takes into account the projected needs and desires within the City and those of adjacent communities, as well as metropolitan concerns.

All of the components of the City's transportation system are dealt with in the present and future context and should be used as a whole when dealing with growth of the system.



### **TRANSPORTATION GOALS AND POLICIES**

Cottage Grove is a growing community and there are decisions the City faces that affect the existing and future facilities in addition to affecting other transportation modes and systems. These decisions need to be made in the most informed manner possible. The establishment of transportation goals and policies helps to guide these decisions by guiding the development of the transportation system.

## Roadway System

### **GOAL: PROVIDE A SAFE, HIGH-QUALITY, AND COST EFFECTIVE MULTI-MODAL TRANSPORTATION SYSTEM**

**POLICY 6.1** Transportation improvements will be coordinated with the plans of MnDOT, Washington County, and adjoining communities.

**POLICY 6.2** The City will support regional improvements to major transportation facilities serving the city.

**POLICY 6.3** New techniques and environmental sustainability will be considered in planning new transportation facilities.

**POLICY 6.4** A network of sidewalks and trails will be constructed in all new developments and, where feasible, in developed areas.

**POLICY 6.5** Developers will be required to provide the transportation facilities, including rights-of-way, roadways, and bicycle and pedestrian facilities necessary to support their development.

**POLICY 6.6** Existing facilities will be maintained in a manner necessary to preserve service levels and minimize life-cycle costs. This includes an ongoing pavement management program for city streets.

**POLICY 6.7** Where feasible, planning for roadway improvements will include consideration of aesthetic improvements such as landscaping and street lighting.



### **GOAL: EXPAND TRANSIT OPTIONS SERVING COTTAGE GROVE**

**POLICY 6.8** The City will continue to support and participate in the Red Rock Corridor Commission and its efforts to implement commuter rail service in the Red Rock Corridor. This will include conducting station area planning for potential station locations in Cottage Grove.

**POLICY 6.9** The City will continue to support development of a high speed rail corridor between St. Paul and Chicago on an alignment through Cottage Grove to help reduce the cost of implementing commuter rail service in the Red Rock Corridor.

**POLICY 6.10** The City will seek to expand express bus service to Cottage Grove and local dial-a-ride and circulator service within the city.

**POLICY 6.11** The City will work with the Metropolitan Council or an opt-out transit provider to determine future transit services consistent with the municipalities market area and service standards.



Table 6-1 -Cottage Grove Roadway Jurisdiction

Jurisdiction – Category	Miles	Percentage
State –		
Federal Interstate	0	
US Trunk Highway	7.944	4.5%
Minnesota Trunk Highway	5.831	3.3%
County –		
County State-Aid Highway	13.203	7.4%
County Road	2.436	1.4%
Local Agency –		
Municipal State-Aid Road	27.671	15.7%
Township Road	0	
Municipal Road	120.696	67.7%
Totals	177.781	100.0%
Source: MnDOT 2006-2007 Roadway Data		

## **ROADWAY SYSTEM**

### **EXISTING ROADWAY JURISDICTION**

Roadways are categorized under the agency that is responsible for their maintenance. The State is responsible for the Federal Interstate, US Trunk Highway (USTH), Minnesota Trunk Highways (MNTH), and State Park Roads. The County is responsible for County State-Aid Highway (CSAH) and County Roads (CR). Other roadways including Municipal State-Aid Streets (MSAS), and Municipal Roads are the responsibility of the City. Figure 6-1 shows the roadway system in Cottage Grove according to its current jurisdiction. The mileage present for each jurisdictional type is current as of 2007.

### **State-Aid System**

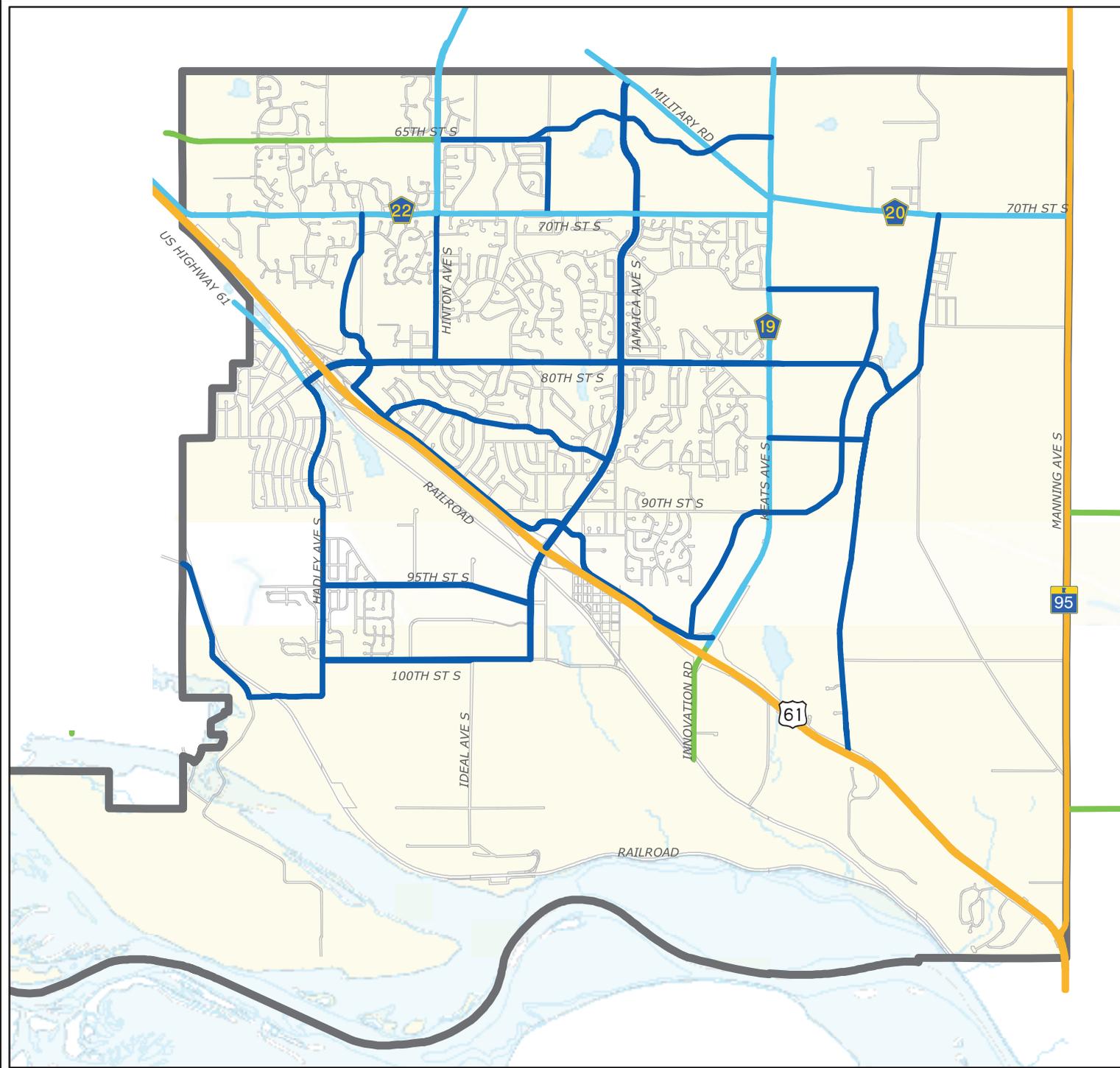
A City's State-Aid system (Figure 6-2) includes roadways that have been designated following MnDOT's Municipal State-Aid Street guidelines. According to Minnesota State-Aid rules, each city is allowed to designate 20 percent of the total public roadway miles within the municipality as State-Aid streets.

A Municipal State-Aid Street can be selected based on the following criteria:

- The street is projected to carry a relatively heavier traffic volume or is functionally classified as collector or arterial as identified on the urban municipality's functional classification plan.
- Connects the points of major traffic interest, parks, parkways, or recreational areas within an urban municipality.
- Provides an integrated street system affording, within practical limits, a state-aid street network consistent with projected traffic demands.

With an approved system, State-Aid funds can be used on these designated roadways for construction and maintenance purposes. Designated routes can be revised and removed from the system by a City Council Resolution. If no State-Aid money has been spent on these roadways, there is no penalty for removal. If State-Aid money has been spent at any time for construction of the roadway designated, revocation of the route will require repayment to MnDOT for any funds spent.

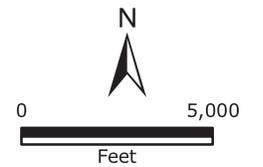
Figure 6-1 -Existing Roadway Jurisdiction Map



# ROADWAY JURISDICTION MAP

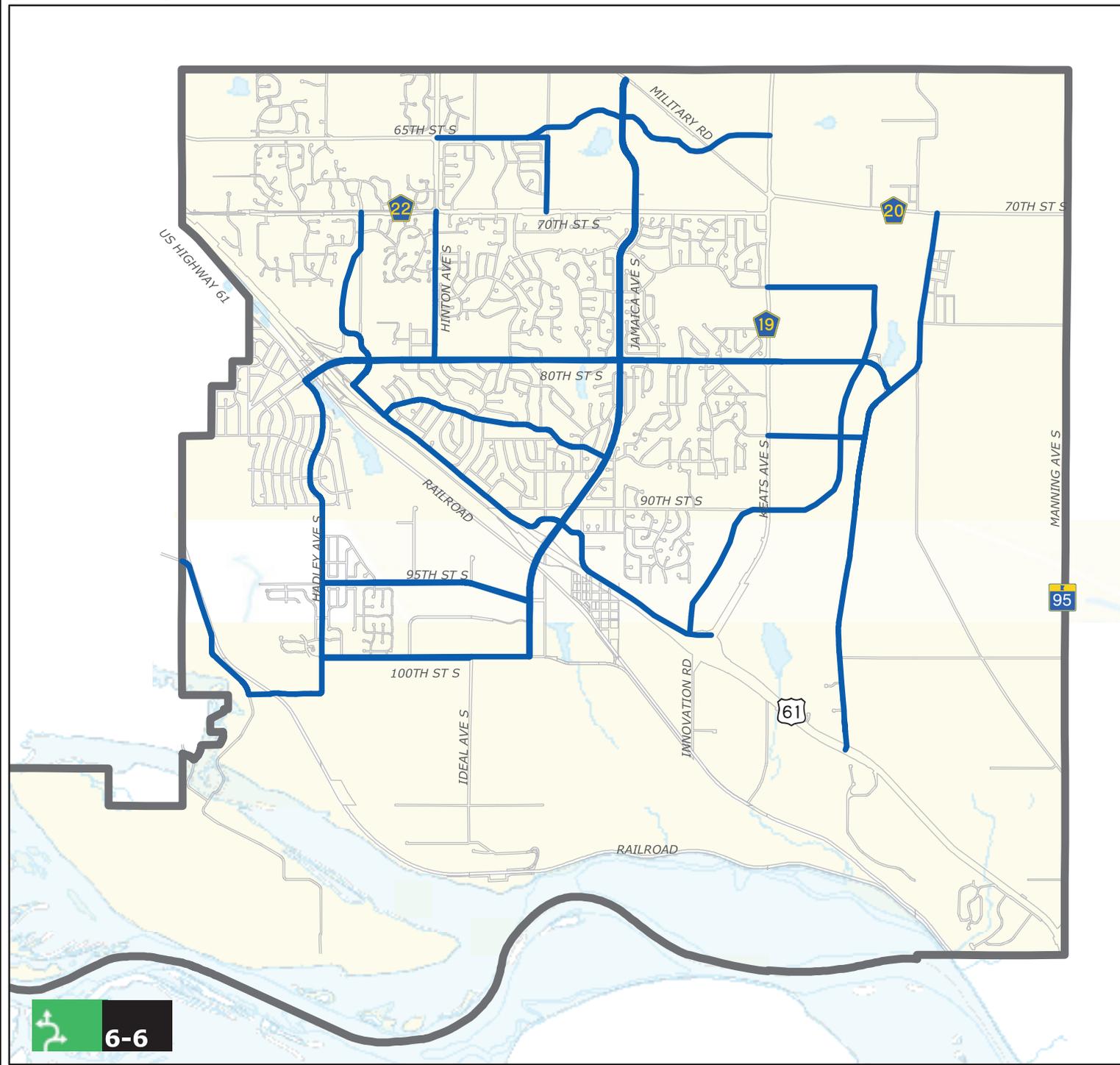
Figure 6-1

- County Road
- CSAH Route
- MSA Route
- Trunk Highway
- Municipal Boundary
- Water



May 2008  **Bonestroo**

Figure 6-2- Existing State-Aid Routes



# MUNICIPAL STATE-AID MAP

Figure 6-2

	MSA Route
	Municipal Boundary
	Water

N



0 5,000



Feet

May 2008



### Funding

In Minnesota, revenue from the State's gas tax, license fees, motor vehicle sales tax, and interest are deposited in the State's Highway Users Tax Distribution Fund. From the total collected, approximately 95 percent gets distributed between the Trunk Highway Fund (55%), the County State-Aid Highway Fund (30%), and the Municipal State-Aid Street Fund (10%).

The funds available in the Municipal State-Aid Street account are divided between all State-Aid cities as a Population apportionment (50%) and a Construction 'Needs' apportionment (50%). The Population apportionment distributes funds to cities on a pro-rata basis from highest population to the lowest. The Construction 'Needs' apportionment distributes funds on a pro-rata basis to cities with the greatest 'Needs' to the least. Construction 'Needs' are defined by MnDOT as the estimated construction cost required to improve a state-aid system to standards adequate for future traffic on a uniform basis.

MnDOT distributes each city's apportionment through two accounts, Maintenance and Construction. The Maintenance account is typically 25 percent of the city's total apportionment. These payments are received by the city in two equal payments on or around January 1 and July 1 of each year. The remaining apportionment is deposited into a Construction account at the beginning of the year.

2011 Cottage Grove State Aid Total Apportionment:  
\$1,372,788

Maintenance Account: \$43,905  
Construction Account: \$1,328,883



### Annual Requirements

Participation in the State-Aid program includes several annual requirements:

**CERTIFICATION OF MILEAGE:** The Certification of Mileage is a form used to track and revise the total public mileage within the city and determine the allowable 20 percent available to designate as State-Aid streets. All new construction from the previous year will be added to this form annually as well as any additions or revocations of State-Aid Streets.

**ROAD STATUS MAPPING:** Road status mapping is reported for all new road construction and revisions completed within the year. This information will match the certification of mileage and is used to update State-wide base maps.

**CONSTRUCTION 'NEEDS':** Construction 'Needs' are tabulated to determine the estimated construction cost required to improve a State-Aid system to standards adequate for future traffic on a uniform basis over a lifecycle of 20 years. For each designated route, existing and proposed information



is collected. Based on this information, quantities are tabulated into a cost based on unit prices determined by the Municipal State-Aid Screening Board. For Construction 'Needs' apportionment purposes, MnDOT will sum the total 'Needs' of segments that are deemed deficient by State-Aid Standards. Deficient segments are typically those that are greater than 20 years old or do not meet present geometric design standards. This information is revised on an annual basis based on construction over the previous year to State-Aid streets.

*TRAFFIC VOLUMES:* State-Aid Cities are required by MnDOT to provide traffic volume information on a 2-year cycle for State-Aid Routes.

#### **EXISTING TRAFFIC VOLUMES**

The most recent daily traffic volume information for the primary roadways in Cottage Grove were obtained from various sources including State and County traffic flow maps and the City of Cottage Grove. The most recent daily traffic volume information is provided on Figure 6-3.

#### **FUTURE TRAFFIC VOLUMES**

The Transportation Plan provides a look into the future with regard to roadway systems. The year 2030 is the horizon year for which travel demand on the area roadway system is forecast. A 20-year horizon is the most often utilized forecast and it coincides with the 2030 forecasts provided by Washington County.

The County analyzed several different facility improvement scenarios when they prepared these forecasts. The Cottage Grove plan uses the 2030 Base Scenario prepared by Washington County. The 2030 volume forecasts prepared by

the County utilized the Cottage Grove traffic analysis zones shown on Figure 6-4.

These forecasts and socio-economic zones were prepared for the County network. Utilizing the zonal information and existing volume data that has been prepared by the Minnesota Department of Transportation (MnDOT), volume projections for important City owned roadways have been prepared for this plan. The year 2030 daily volume projections are shown on Figure 6-4, along with the existing traffic volume data. These forecasts utilize the County



projections for County and State facilities. The County's Base Scenario was used. The intent of the projections are to assist the City in assessing roadways that may exhibit potential capacity issues in the coming years. The socio-economic data per the Washington County model traffic analysis zones is shown in Table 6-2. The total number of households and employment for Cottage Grove are summarized in Table 6-3.

Table 6-2- Socio-Economic Data per Traffic Analysis Zone

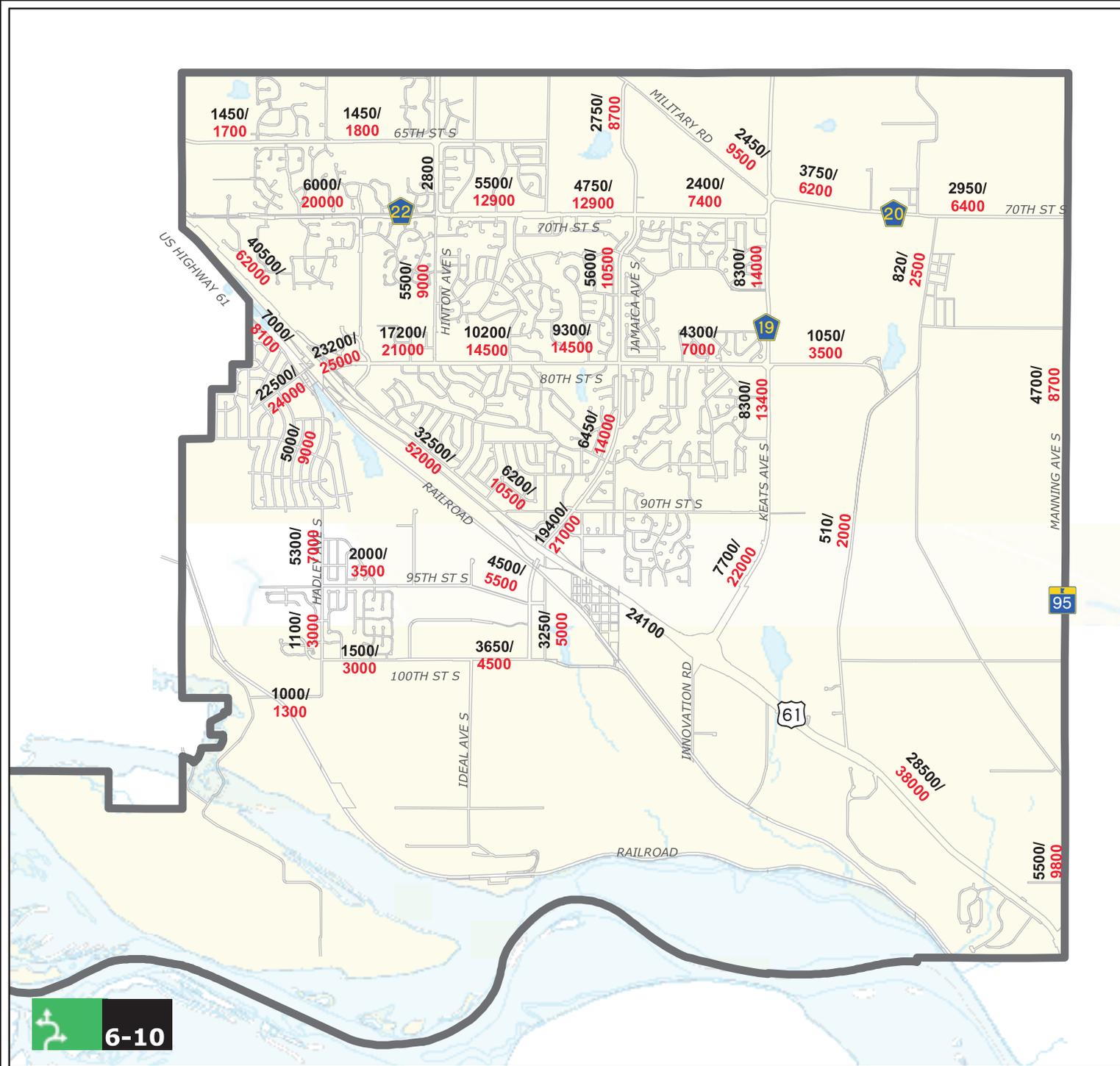
Washington County Socio-Economic Data by TAZ			2005				2030*			
CITY	Washington County TAZ	Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment	Population	Households	Retail Employment	Non-retail Employment
COTTAGE GROVE	1080	1080	85	29	0	62	1610	718	0	62
COTTAGE GROVE	1204	1080	50	17	1	1	429	189	1	1
COTTAGE GROVE	1205	1080	147	50	-	-	1668	739	-	-
COTTAGE GROVE	1278	1080	310	106	21	-	670	278	21	-
COTTAGE GROVE	1081	1081	193	67	0	31	5154	2216	244	354
COTTAGE GROVE	1206	1081	196	68	12	30	1839	784	116	169
COTTAGE GROVE	1082	1082	5735	1675	0	0	5950	1913	0	0
COTTAGE GROVE	1207	1082	195	57	431	67	181	57	441	560
COTTAGE GROVE	1083	1083	3987	1163	29	299	3840	1220	29	398
COTTAGE GROVE	1084	1084	65	20	10	16	800	307	17	49
COTTAGE GROVE	1208	1084	798	243	-	-	3703	1,393	-	-
COTTAGE GROVE	1085	1085	2897	927	7	153	3520	1250	7	153
COTTAGE GROVE	1086	1086	2534	901	208	273	2585	1000	292	324
COTTAGE GROVE	1087	1087	0	0	196	139	0	0	196	139
COTTAGE GROVE	1209	1087	5395	1,858	330	641	5025	1,870	330	644
COTTAGE GROVE	1210	1088	83	28	57	768	77	28	119	1,184
COTTAGE GROVE	1088	1088	802	269	-	528	4831	1,967	189	1,535
COTTAGE GROVE	1089	1089	550	224	2	36	518	228	9	112
COTTAGE GROVE	1090	1090	38	13	30	374	35	13	30	631
COTTAGE GROVE	1212	1090	763	259	98	35	776	288	239	35
COTTAGE GROVE	1213	1090	1515	514	29	905	1610	600	29	1,105
COTTAGE GROVE	1184	1184	4716	1,453	-	-	4708	1,580	-	478
COTTAGE GROVE	1262	1185	2193	791	49	141	2262	891	161	690
COTTAGE GROVE	1185	1185	1306	471	30	377	1209	471	30	377
<b>City Totals</b>	Washington County TAZ	Met Council TAZ	<b>34,553</b>	<b>11,203</b>	<b>1,540</b>	<b>4,876</b>	<b>53,000</b>	<b>20,000</b>	<b>2,500</b>	<b>9,000</b>

Table 6-3- Total Households and Employment

	Households	Retail Employment	Non-Retail Employment	Total Employment
2005	11,203	1,540	4,876	6,416
2030	20,000	2,500	9,000	11,500



Figure 6-3- Existing Traffic Volumes



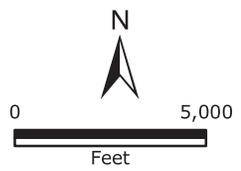
TRAFFIC VOLUME

Figure 6-3

4300/  
7000 Existing /2030 Traffic Vol.

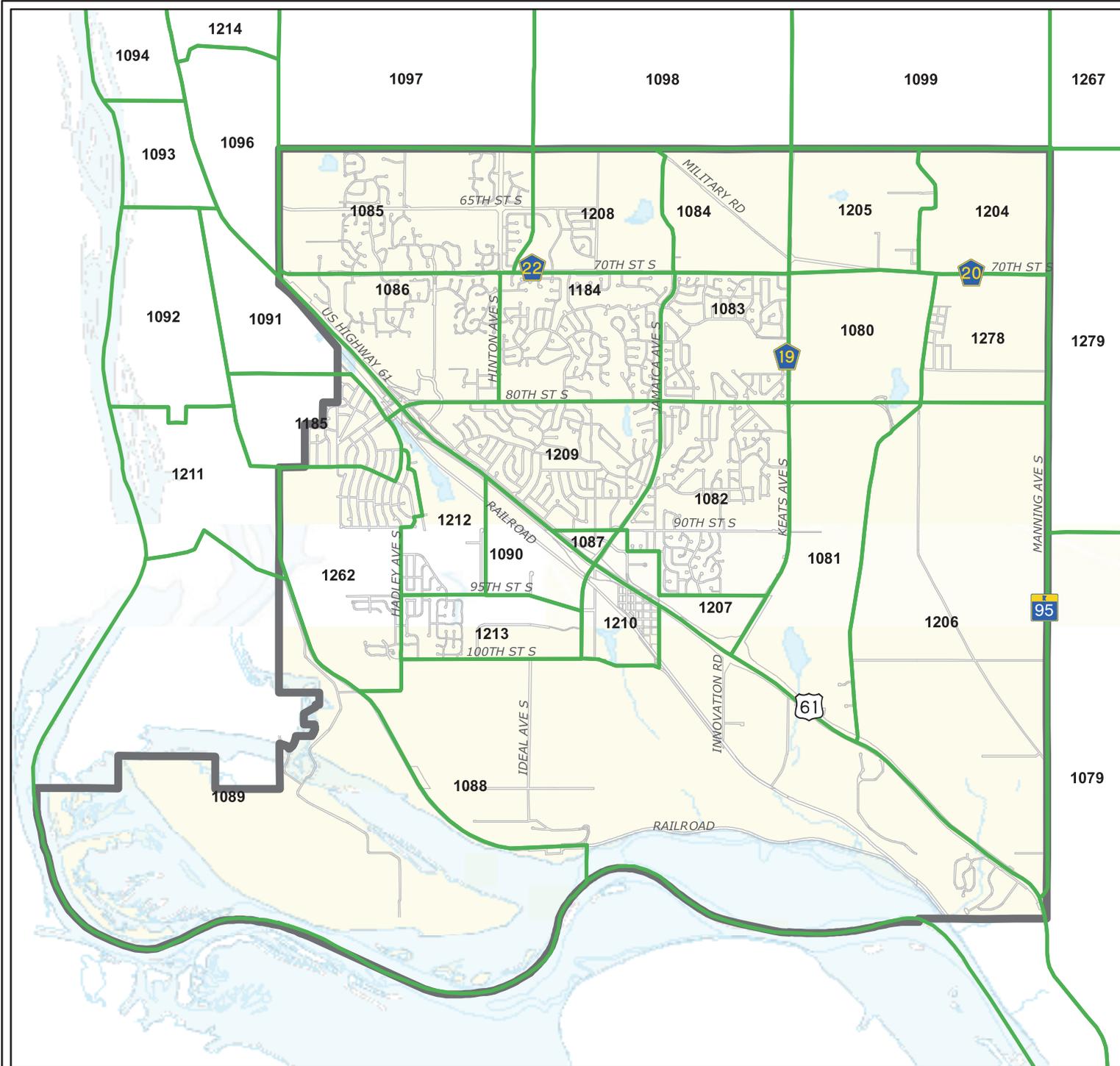
Municipal Boundary

Water



May 2008

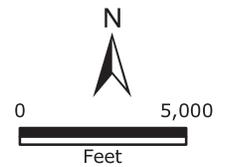
Figure 6-4- 2030 Estimated Traffic Volumes



TRAFFIC ANALYSIS ZONES

Figure 6-4

-  Traffic Analysis Zone
-  Municipal Boundary
-  Water



May 2008



### **POTENTIAL CAPACITY ISSUES**

The year 2030 traffic volume projections allows for the evaluation of potential capacity issues along roadway segments where volumes have been projected. This planning level evaluation utilizes the capacity of roadway segments evaluated against the 2030 volume projections. Table 6-4 provides these evaluations for County and City controlled roadways.

The planning level thresholds indicate that two County roadways will be over capacity by 2030. Keats Avenue (CR19) north of Highway 61 will experience substantial growth and a four-lane facility will be required. 70th Street (CR22) will also experience substantial growth from Highway 61 to Jamaica Avenue and will require improvement to a four-lane facility. It doesn't appear as though any City controlled roadways will require expansion of through lanes although as volumes increase it may be necessary to add turn lanes or improve intersection capacities. These volumes can change due to ever-changing land use and regional characteristics and need monitoring on an annual basis. The City will work with Washington County to plan improvements to those County roadways that are expected to have potential capacity issues.



### **EXISTING ROADWAY FUNCTIONAL CLASSIFICATION**

The functional classification of roadways provides guidelines for safe and efficient movement of people and goods within the City. Roads are categorized based upon the level of access and/or mobility provided. The functional classification of roadways in the City of Cottage Grove consists of the following types:

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Road

The existing functional classification system is shown on Figure 6-5.

### **FUTURE ROADWAY FUNCTIONAL CLASSIFICATION SYSTEM**

Functional classification of a roadway system involves determining what function each roadway should be performing with regard to travel within and through the City. The intent of a functional classification system is the creation of a roadway hierarchy that collects and distributes traffic from local roadways and collectors to arterials in a safe and efficient manner. Such classification aids in determining appropriate roadway widths, speed limits, intersection control, design features, accessibility and maintenance priorities. Functional classification helps to ensure that non-transportation factors, such as land use and development, are taken into account in planning and design of the roadway system.

A balanced system is desired, yet not always attainable due to existing conditions and characteristics. The criteria of the functional classification system are intended to be guidelines and are to be applied when plans are developed

for the construction or reconstruction of a given classified route. It can and does occur that different roadways with similar design characteristics may have different functional classifications. Some roadways, for a short segment, may carry higher volumes than a roadway with a higher classification. Spacing guidelines may not follow recommendations for a variety of reasons such as topography, land use type and density, and environmental concerns.

The two major considerations in the classification of roadway networks are access and mobility. Mobility is of primary importance on arterials, thus limitation of access is a necessity. The primary function of a local roadway, however, is the provision of access, which in turn limits mobility. The extent and degree of access control is a very important factor in the function of a roadway facility. The functional classification types utilized are dependent upon one another in order to provide a complete system of streets and highways. The relationship of functional classification with regard to traffic mobility and land access is shown in the figure at the right.

A complete functional design system provides a series of distinct travel movements. Most trips exhibit six recognizable stages. These stages are as follows:

- Main movement
- Transition
- Distribution
- Collection
- Access
- Termination

As an example, the graphic depicts this hierarchy of movement by illustrating a hypothetical trip using a

freeway, which comprises the main movement. When the vehicle leaves the freeway, the transition is the use of the freeway ramp at a reduced speed. The vehicle then enters the moderate speed arterial, the distribution function, to travel toward a neighborhood. From the arterial the vehicle enters a collection road. Then a local access road provides a direct approach to the residence or termination point. Each of the six stages of the trip is handled by a facility designed specifically for that function. Speeds and volumes normally decrease as one travels through the six stages of movement.

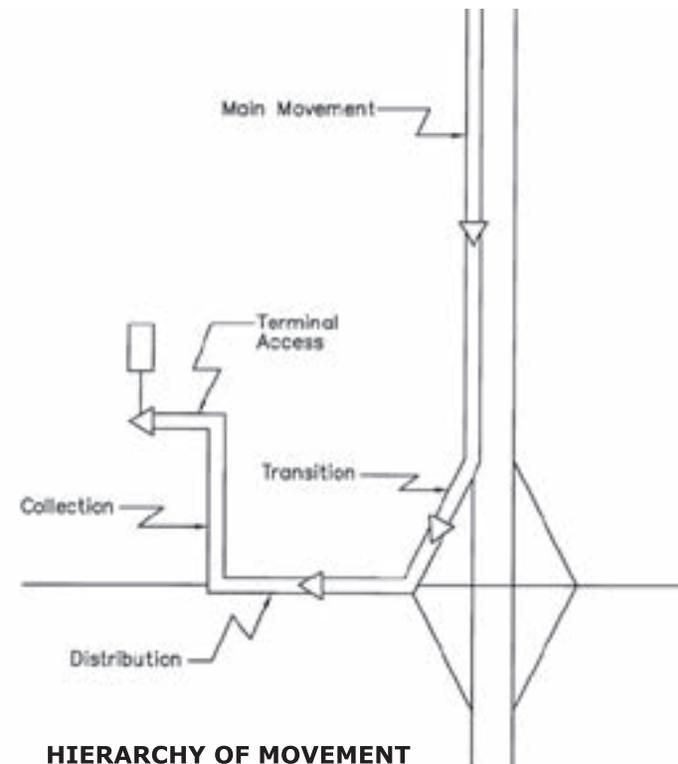


Table 6-4: Roadway volume/capacity planning level thresholds year 2030

Roadway	Existing Cross-Section	Year 2030 ADT Projection	Planning Level ADT Capacity	Volume Over/Under Capacity
TH95 – Manning Avenue	2 Lane Undivided Rural	8,700-9,800	14,000-15,000	Under
CR19 – Keats Avenue – North of Highway 61	2 Lane Undivided Rural	22,000	14,000-15,000	Over
CR19 – Keats Avenue – South of 80 <sup>th</sup> Street	2 Lane Undivided Rural	13,400	14,000-15,000	Under
CR19 – Keats Avenue – North of 80 <sup>th</sup> Street	2 Lane Undivided Rural	14,000	14,000-15,000	Under
CR39 – Hadley Avenue – North of Grange Blvd.	2 Lane Undivided Urban	7,800	8,000-10,000	Under
CR22 – 70 <sup>th</sup> Street – Highway 61 to Hinton Avenue	2 Lane Undivided Urban	20,000	8,000-10,000	Over
CR22 – 70 <sup>th</sup> Street – Hinton to Jamaica Avenue	2 Lane Undivided Urban	12,900	8,000-10,000	Over
CR22 – 70 <sup>th</sup> Street – Jamaica to Keats Avenue	2 Lane Undivided Urban	7,400	8,000-10,000	Under
CR13 – Hinton Avenue – 70 <sup>th</sup> Street to N. City Boundary	4 Lane Undivided Urban	9,700	18,000-22,000	Under
CR20 – Military Road – East City Boundary to Keats Avenue	2 Lane Undivided Rural	6,400	14,000-15,000	Under
CR20 – Military Road – Keats Avenue to Jamaica	2 Lane Undivided Rural	9,500	14,000-15,000	Under
CSAH74 – 65 <sup>th</sup> Street	2 Lane Undivided Urban	1,800	8,000-10,000	Under
Kimbrow Avenue – North of Highway 61	2 Lane Undivided Rural	2,000	14,000-15,000	Under
Innovation Road – South of Highway 61	2 Lane Undivided Rural	3,500	14,000-15,000	Under
Jamaica Avenue – Military Road to 80 <sup>th</sup> Street	4 Lane Divided Urban	8,700	28,000-32,000	Under
Jamaica Avenue – 80 <sup>th</sup> Street To E. Point Douglas	4 Lane Divided Urban	17,000	28,000-32,000	Under
Jamaica Avenue – E. Point Douglas to Highway 61	4 Lane Divided Urban	21,000	28,000-32,000	Under
Jamaica Avenue – South of Highway 61	4 Lane Undivided Urban	14,000	18,000-22,000	Under

Table 6-4: Roadway volume/capacity planning level thresholds year 2030, continued...

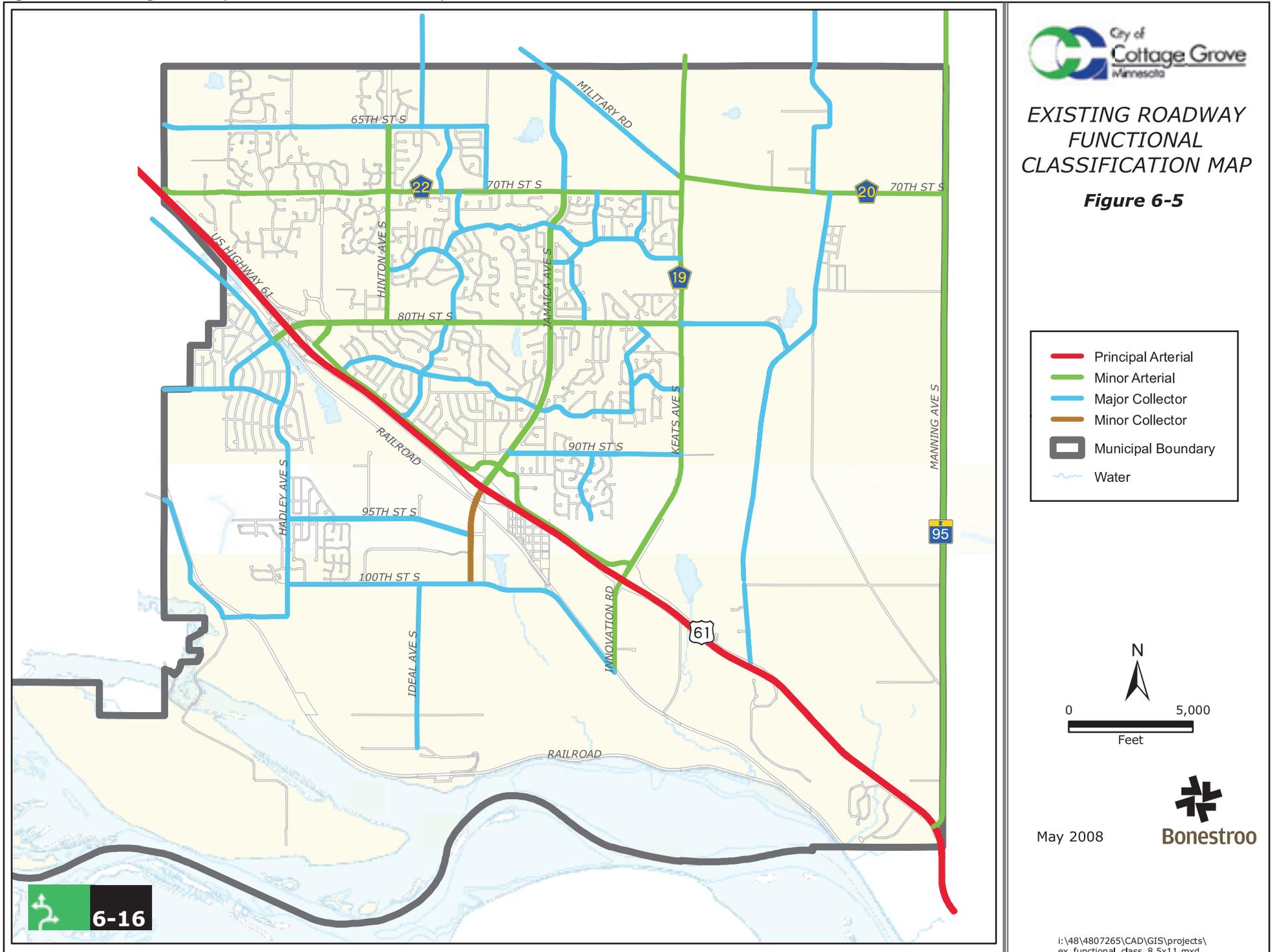
Roadway	Existing Cross-Section	Year 2030 ADT Projection	Planning Level ADT Capacity	Volume Over/Under Capacity
Hinton Avenue – 70 <sup>th</sup> Street to 80 <sup>th</sup> Street	4 Lane Undivided Urban	9,000	18,000-22,000	Under
Hadley Avenue – Grange Blvd. to 95 <sup>th</sup> Street	2 Lane Undivided Urban	9,000	8,000-10,000	Under
Hadley Avenue – 95 <sup>th</sup> Street to 100 <sup>th</sup> Street	2 Lane Undivided Urban	3,000	8,000-10,000	Under
100 <sup>th</sup> Street – Hadley to Jamaica	2 Lane Undivided Urban	4,500	8,000-10,000	Under
East Point Douglas – South of Four-Lane Connection to 90 <sup>th</sup> Street	2 Lane Undivided Urban	9,000	8,000-10,000	At Capacity
95 <sup>th</sup> Street S. – Hadley to Jamaica	4 Lane Undivided Urban	6,000	18,000-22,000	Under
80 <sup>th</sup> Street – East Point Douglas to Highway 61	4 Lane Divided Urban	25,000	28,000-32,000	Under
80 <sup>th</sup> Street – East Point Douglas to Hinton	4 Lane Divided Urban	21,000	28,000-32,000	Under
80 <sup>th</sup> Street – Hinton to Jamaica	4 Lane Divided Urban	14,500	28,000-32,000	Under
80 <sup>th</sup> Street – Jamaica to Keats	4 Lane Undivided Urban	7,000	18,000-22,000	Under
80 <sup>th</sup> Street – Keats to Kimbro	2 Lane Undivided Urban	3,500	8,000-10,000	Under

## DEFINITIONS

- Undivided: An undivided roadway does not have a raised median separating opposing traffic or left-turn lanes for turning traffic.
- Divided: A divided roadway has a raised median separating opposing traffic, left-turn lanes and right-turn lanes.
- Rural: A rural design implies higher speeds, fewer cross streets/accesses and cross streets/accesses with low volumes.
- Urban: An urban design implies lower speeds, more cross streets/accesses and cross streets/accesses with higher volumes.
- Freeway: A freeway is a divided roadway with limited access and no traffic signals or other traffic control.



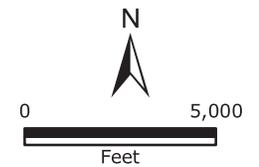
Figure 6-5- Existing Roadway Functional Classification System



**EXISTING ROADWAY  
FUNCTIONAL  
CLASSIFICATION MAP**

**Figure 6-5**

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Municipal Boundary
- ~ Water



May 2008

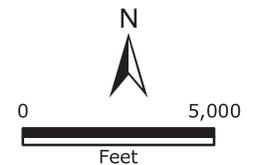
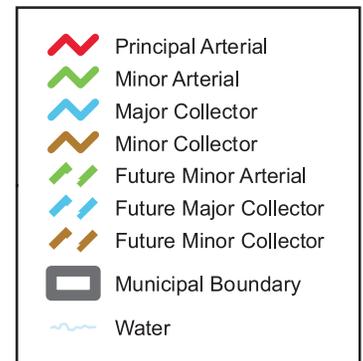


Figure 6-6- Proposed Roadway Functional Classification



**PROPOSED ROADWAY  
FUNCTIONAL  
CLASSIFICATION  
MAP**

**Figure 6-6**



May 2008

**Bonestroo**

**6-17**

It must be recognized that all intermediate facilities are not always needed for various trip types. The character of movement or service that is provided has a function, and these functions do not act independently. Thus, the travel categories become consistent with function and the classification of the function. Figure 6-6 shows the Proposed Functional Roadway Classification.

### **Principal Arterials**

Principal arterial roadways serve major activity centers, higher traffic volumes, longer trips and carry a higher proportion of total urbanized travel on a minimum of mileage. Along these facilities, access needs to be limited in order to preserve the ability of the roadway to accommodate the volumes and to maximize safety. Spacing varies from 2-3 miles for a fully developed area to 3-6 miles for a developing area. The management criteria require that a 40 mph average speed be achieved during peak traffic periods. Also, little or no direct land access should be allowed within an urban area. Grade separated intersections are required for freeways and highly desired for other principal arterial roadways. The only principal arterial through Cottage Grove is Highway 61.

### **Minor Arterials**

Minor arterial roadways connect the urban service area to cities and towns inside and outside the region and generally service medium to short trips. Minor arterials may also provide an alternate route for congested principal arterial roadways. Minor arterials connect principal arterials, minor arterials, and connectors. The spacing ranges from  $\frac{1}{4}$  to  $\frac{3}{4}$  of a mile in metro centers to 1-2 miles in a developing area. The desired minimum average speed during peak traffic periods is 20 mph in fully developed areas and 30 mph in developing areas. Examples of minor arterials in Cottage



Grove are Manning Ave, 70th Street, Keats Avenue, Jamaica Avenue, 80th Street, and Hinton Avenue.

The emphasis for minor arterial roadways is on mobility rather than on land access. In urban areas, direct land access is generally restricted to concentrations of commercial/industrial land uses. Minor arterials can be broken down further into 'A' Minor and 'B' Minor Arterials.

#### **'A' Minor Arterials**

'A' minor arterials have less emphasis on land access than 'B' minor arterials. This allows 'A' minor arterials to become eligible to compete for Federal funding. 'A' Minor Arterials are roadways that are of regional importance because they relieve, expand, or complement the principal arterial system. 'A' Minor Arterials are categorized into four types, consistent with Metropolitan Council guidelines:

- Relievers – Minor arterials that provide direct relief

for metro highway traffic.

- Expanders – Routes that provide a way to make connections between urban areas outside the I-494/I-694 beltway.
- Connectors – Roads that provide good, safe connections to and among communities at the edge of the urbanized area and in rural areas.
- Augmenters – Roadways that augment principal arterials within the I-494/I-694 beltway.

#### **'B' Minor Arterials**

The 'B' minor arterial roadways provide connections to the surrounding cities of Woodbury, Newport, St. Paul Park, and Hastings. The 'B' minor arterial roadways typically serve medium to long distance trips.



#### **Collector Streets**

Collector streets provide more land access than arterials and connections to arterials, although not in all cases. As is the case with any roadway system, there will always be exceptions to the planning guidelines that are used to classify a roadway system. Collectors serve a dual function of accommodating traffic and provision of more access to adjacent properties. Mobility and land access are equally important and direct land access should predominately be to development concentrations. Collectors generally connect to minor arterials and serve short trips. Spacing for collectors range from  $\frac{1}{4}$  to  $\frac{3}{4}$  of a mile in fully developed area to  $\frac{1}{2}$  to 1 mile in developing areas. Major collector roadways within the City of Cottage Grove include Military Road, 65th Street, Hadley Avenue, 95th Street, 100th Street, and several others.

#### **Local Streets**

The lowest classification of roadways is the local roadway where access is provided with much less concern for control but land service is paramount. Spacing for local streets is as needed to access land uses. Local roadways generally have lower speed limits in urban areas and normally serve short trips. Local streets will connect with some minor arterials but generally connect to collectors and other local streets. The development of local streets will be guided by the location of the existing and proposed minor arterials and collectors as well as by development and the expansion of local utilities.

Table 6-5 depicts the depicts the previous discussion in a table format.



Table 6-5-Roadway Functional Classification Criteria

Criteria		Principal Arterial	Minor Arterial	Collector	Local Street
Place Connections		Interconnects metro centers and regional business concentrations	Interconnects major trip generators	Interconnects neighborhoods and minor business concentrations	Interconnects blocks within neighborhoods and land parcels within commercial areas
Spacing	Developed Areas	2 - 3 miles	½ - 1 mile	¼ - ¾ mile	As needed to access land uses
	Developing Areas	3 - 6 miles	1 - 2 miles	½ - 1 mile	As needed to access lane uses
Roadway Connections		To interstates, principal arterials, and selected minor arterials and collectors	To interstates, principal arterials, other minor arterials, collectors, and some local streets	To minor arterials, other collectors, and local streets	To collectors, other local streets, and some minor arterials
Mobility		Highest	High	Moderate	Low
Access		No direct property access	Limited access to property	Access to properties is common	Unrestricted property access
Percent of Mileage		5-10%	15-25%	5-10%	65-80%
Percent of Vehicle Miles Traveled		40-65%	15-40%	5-10%	10-30%
Intersections		Grade separated or high-capacity intersection controls	Traffic signals and cross-street stops	All-way stops and some traffic signals	As required for safe operation
Parking		Non	Restricted as necessary	Restricted as necessary	Usually restricted
Large Trucks		No restrictions	No restrictions	Restricted as necessary	Restricted as necessary
Typical Average Daily Traffic		15,000-200,000	5,000-30,000	1,000-15,000	Less than 1,000
Right-of-Way Width		100-300 ft	60-150 ft	60-100 ft	50-80 ft
Transit Accommodations		Priority access for transit in peak periods	Preferential treatment where needed	Designed for use by regular route buses	Normally used as bus routes only in non-residential areas
<i>Source: Metropolitan Council, Transportation Policy Plan, 1995</i>					

## Future Roadway Improvements

### **FUTURE ROADWAY IMPROVEMENTS**

#### **ARTERIAL STREETS**

Keats Avenue (CSAH 19). This county road serves as the main arterial for the developing East Ravine area. Traffic volumes along the four miles of Keats Avenue are projected to grow from the current 6,000 to 8,000 daily trips to 12,000 to 23,000 daily trips by 2030. Increased traffic volumes will require expanded capacity, improving the road to four lanes. In addition, installation of traffic signals will be required at the key intersections of future Ravine Parkway, 70th Street, 80th Street, and 90th Street. It is expected that Washington County will make improvements to Keats Avenue in segments, with the likely first segment being between 80th Street and Highway 61.

70th Street (CSAH 22). 70th Street is a county road which serves as the main east-west arterial through the northern one-third of Cottage Grove. 70th Street will eventually connect Highway 61 on the west with Manning Avenue (TH 95) on the east. With development of the East Ravine area, traffic on 70th Street will grow from the current 5,000 to 6,000 daily trips to 13,000 to 19,000 daily trips by 2030. As development occurs on the east side of Keats Avenue, 70th Street will be extended through the area to create a continuous route. Planned improvements to existing segments of 70th Street include widening the roadway to four lanes and installing traffic signals at Hardwood Avenue, Hinton Avenue (CSAH 13), Jamaica Avenue, and Keats Avenue

Highway 61 Corridor. From Innovation Road north through Cottage Grove, Highway 61 is built to freeway standard, with grade-separated interchanges. South of Innovation Road Highway 61 includes numerous at-grade intersections and serves local trips through the area. This segment of Highway 61 is projected to have traffic increases of approximately 40 percent by 2030, eventually carrying 36,000 daily trips. A study of this section in collaboration with MnDOT is recommended to determine the safety improvements and access controls necessary to accommodate the increased traffic. It is suggested that the study examine necessary improvements to the intersection with Manning Avenue, the best location of a future grade-separated interchange between Keats and Manning Avenues, and the feasibility of frontage roads in this area.

Southwest Area Corridor. In 2008 the City and Washington County completed a study of potential roadway improvements to the southwest area of Cottage Grove. The study included recommendations for reconstructing the Highway 61/Innovation Road interchange to accommodate traffic generated by commercial development on the Cottage View Theatre site. Also examined were possible alignments of a future county road linking Innovation Road on the east and Grey Cloud Trail on the west.

Key considerations in selecting a potential county road alignment were maintaining a high level of access to the 3M Cottage Grove facility and minimizing impacts on future development of 3M property in the area. After discussions with 3M, an alignment for a future county road was recommended which connects



to existing 100th Street near Jamaica Avenue and provides a connection to a future southerly extension of West Point Douglas Road. It is expected that segments of this road will be constructed in the future as warranted by traffic demand from development in the area. Upon connection of the road to 100th Street, it is intended that segments of 100th Street, lying east of the new road, and Innovation Road, lying south of the new road, be vacated for incorporation into the 3M site. (See Figure 6-7).

#### **COLLECTOR STREETS**

65th Street (CR 74). This county road has been proposed to be turned back to the City. 65th Street is proposed to remain a two-lane collector street with future turn lane improvements at key intersections. Since 65th Street connects to future Ravine Parkway, it is proposed that elements of the parkway design be incorporated into future improvements to existing 65th and that the street eventually be renamed Ravine Parkway.

Ravine Parkway. The East Ravine Master Plan called for a collector street designed to parkway standards to link all new neighborhoods through the East Ravine area. The future two lane parkway will extend for over six miles from west of Jamaica Avenue to East Point Douglas Road connecting park and open spaces along the entire route. The design of the parkway includes extensive landscaping and sidewalks or trails on both sides of the road.

Hadley Avenue - North of 65th Street. The collector roadway connects 65th Street to Woodlane Avenue

in Woodbury. Given the steep grades and amount of tree cover along Hadley in this area, designs for future improvements will incorporate measures to preserve the unique character of the area.

Hadley Avenue - 90th to 100th Streets. Upgrades to this street will be necessary with continued development in the area. Hadley will be reconstructed to two-lane collector standards with turn lanes added at key intersections. Future roadway designs will also incorporate traffic calming measures in the vicinity of Pine Hill Elementary School.

#### **NEW RIVER CROSSING**

The concept of a new crossing of the Mississippi River between the Wakota and Hastings Bridges has been discussed for a number of years. It is anticipated that Washington and Dakota Counties will soon conduct a preliminary study of the feasibility of such a crossing. This study would include potential locations for a new bridge. Early indications are that a bridge alignment located north of Lower Grey Cloud Island and connecting to the planned east-west county road in southwest Cottage Grove will be considered. Cottage Grove will participate in any planning for new river crossings and consider revising land use and transportation plans to reflect the results of the river crossing study.

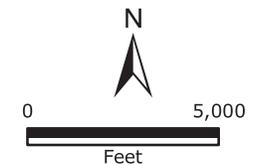
Figure 6-7- Transportation Issues



**TRANSPORTATION  
ISSUES**

**Figure 6-7**

-  Intersection Improvements
-  Corridor Improvements
-  Municipal Boundary
-  Water



May 2008



# Rail Systems

## **RAIL SYSTEMS**

### **EXISTING FREIGHT RAIL SYSTEM**

There are two commercial rail lines operating within the City of Cottage Grove. The Burlington Northern and Santa Fe Railroad runs north of and parallel with the Mississippi River. According to data provided by the MnDOT's Office of Freight and Commercial Vehicle Operations there is an average of 40 trains per day on this rail line operating at a maximum train speed of 40 mph. The second rail track is operated by Canadian-Pacific Railroad. This track runs south of and parallel with Highway 61. There are approximately 28 trains per day on this track operating at a maximum train speed of 79 mph. The CP Rail serves the 3M Cottage Grove plant site and several businesses in the Cottage Grove Industrial Park. At this time, the railways function primarily for freight transportation.

There are currently three at-grade crossings with the rail system and roadway system. These crossings are located at the following intersections:

- Belden Boulevard near West Point Douglas Road
- At the 3M Cottage Grove Plant
- 115th Street and River Acres Road

The crossings are located in areas of relatively low traffic volumes. Each of the crossings are controlled with crossing lights, arms, or signals.

The majority of land uses and zoning surrounding the northern rail line are commercial or industrial and are compatible with the rail land use. Care should be taken in the future to protect the interest of all adjoining property owners.

Figure 6-8 shows the location of existing railroad crossings.

### **FUTURE FREIGHT RAIL SYSTEM**

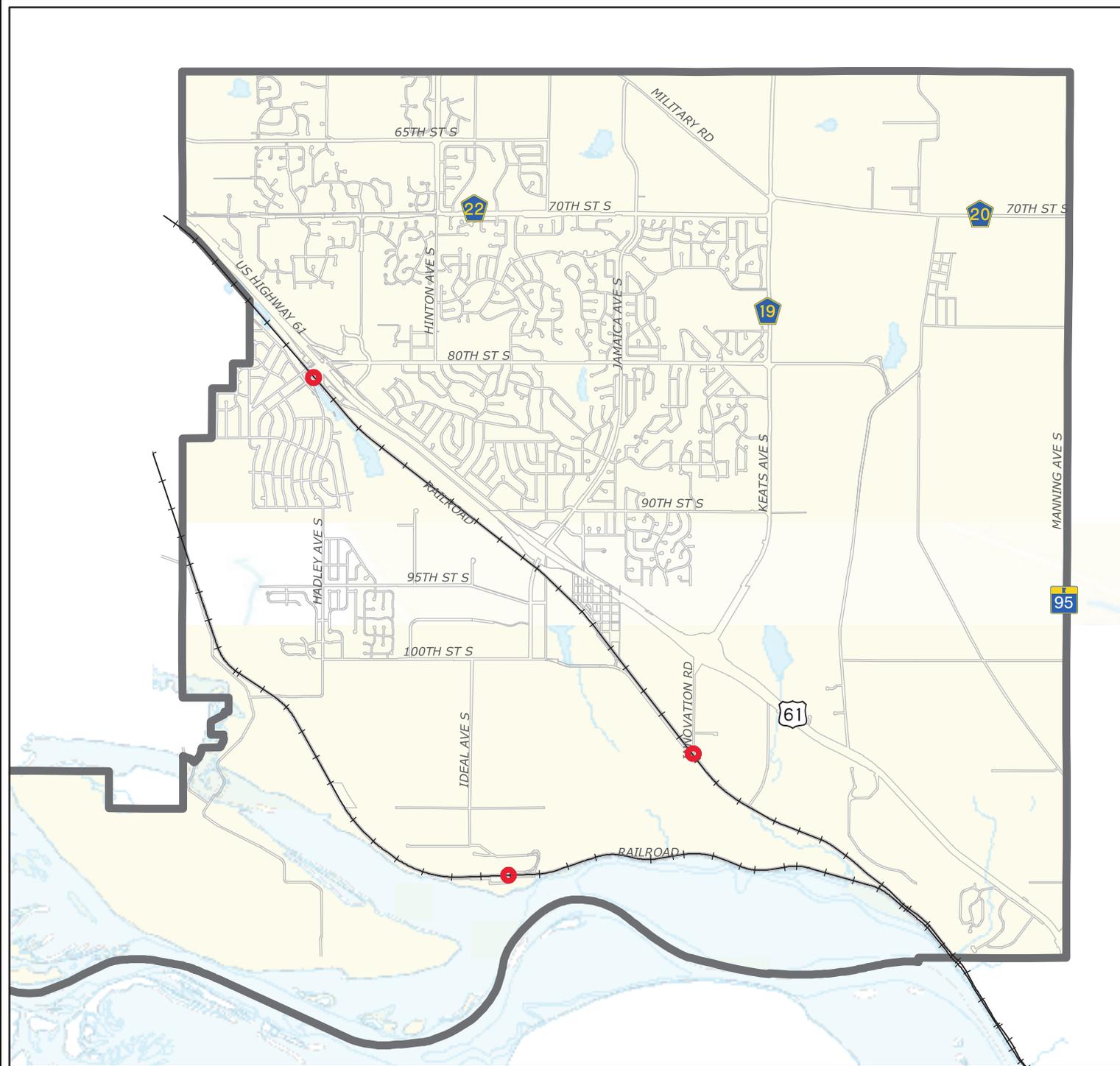
The use of the railroad in the Cottage Grove Industrial Park should be developed to its maximum potential and in a manner that is beneficial to the City and future industrial users. Rail operations that abut existing residentially-zoned areas should be carried out in a manner that is least disruptive to the intended character of the residential district. Development of vacant property that abuts a rail line, in any zoning district, should be done in a manner that will provide a buffer between the two uses, to the greatest extent possible.

The City is currently in the process of reviewing and potentially implementing "quiet zones" at the Belden and 115th Street crossings. This provides for safer crossings that do not require train warning horns.

The latest in safety technologies should be utilized at the three at-grade rail/roadway crossings whenever feasible in order to promote minimal conflict between the two modes of transportation. At no time in the future should any more at-grade rail/roadway crossings be approved without the extensive exploration into other, safer alternatives.

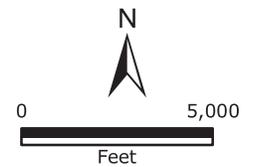
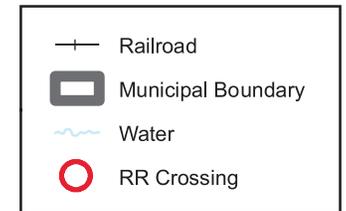
The protection of the environment and the citizens of Cottage Grove from possible problems during the transportation of hazardous and other materials should be a high priority for all involved with the monitoring and regulating of such activity.

Figure 6-8- Existing Railroad Crossings



## EXISTING RAILROAD CROSSINGS

Figure 6-8



May 2008



6-25



## Water Ports and Terminals

### **WATER PORTS AND TERMINALS**

#### **EXISTING WATER PORTS AND TERMINALS**

The City of Cottage Grove abuts one of the major waterway transportation routes in the metro and midwestern regions. The Mississippi River borders the southern portion of Cottage Grove and is the only transportation waterway that affects Cottage Grove. Its accessibility to other regions and waterways make it a valuable asset to the total transportation system of the City.

The Mississippi River is used by commercial and recreational watercraft of all types. One of the heaviest users on the



Mississippi River is commercial barge traffic. This traffic consists of commercial users originating and passing through the City.

There is a barge terminal on Lower Grey Cloud Island that is operated by Aggregate Industries – Nelson Plant located on river mile 825.0 L. Aggregate is the primary commodity handled at this site. Access to the terminal by truck is on Highway 61 via Grey Cloud Trail. This site has a total storage capacity of 300,000 tons.

The Mississippi River is also used as a transportation route by other commercial activities such as passenger paddlewheel crafts and a seaplane land zone located in the Baldwin Lake area. Smaller watercrafts on the river are mainly for recreational uses. There is only one public water access in Cottage Grove. This access is limited to smaller watercraft because of natural obstructions and site size.

#### **FUTURE WATER PORTS AND TERMINALS**

Transportation opportunities available on the Mississippi River are an important component of the state, regional, and local transportation systems and should be preserved and protected in the future. Cultural, scenic, environmental, and other aspects of the river are all affected by water transportation. Care should be given not to upset the balance between those systems and the river.

The following agencies or governmental units are involved in the protection of the river and should be dealt with when expanding transportation use on the Mississippi River. Permitting by these agencies may be required.

- Department of Interior – Mississippi National River Recreational Area
- U.S. Army Corps of Engineers – Critical Area, Navigable River
- FEMA – Flood Plain Area
- DNR – Shoreland Management Act
- Metro Council – Barging and Clean Water

As long as the character of the Mississippi River is not compromised or degraded, the City will encourage controlled growth of existing and new barge traffic and fleeting along the river.

## Transit



Recreational traffic that utilizes the river responsibly will also be encouraged in Cottage Grove. The City may consider additional water access, either private or public, on Lower Grey Cloud Island upon a change in the existing land use. Public access may be facilitated by a City-owned landing or may be made available through other park and open space uses on the Island.

### **TRANSIT**

#### **EXISTING TRANSIT SERVICE**

Cottage Grove is in transit Market Areas III and IV. Service options for market Area III include peak-only express, small vehicle circulators, midday circulators, special needs paratransit (ADA, seniors), and ridesharing. Service options for Market Area IV include Dial-A-Ride, volunteer driver programs and ridesharing. The Dial-A-Ride Service in

Cottage Grove is provided by Human Services Inc., and South County Circulator.

#### **FUTURE TRANSIT SERVICE IMPROVEMENTS**

Necessary improvements to transit service in Cottage Grove include both short term expansion of bus service and long term implementation of commuter rail service in the Red Rock Corridor. Short term bus improvements include:

- Expanded Express Bus Service. Adding peak period trips and initiating midday service would provide more options for commuters, resulting in higher ridership.
- Addition of Crosstown Service. Existing routes provide service only to the two downtowns. Providing crosstown routes will allow Cottage Grove residents to use transit to travel to other parts of the region without the need for a transfer in the downtowns. Potential crosstown routes could connect to the proposed Robert Street Transitway, the Hiawatha LRT Line, the airport, and Mall of America.

#### **RED ROCK CORRIDOR**

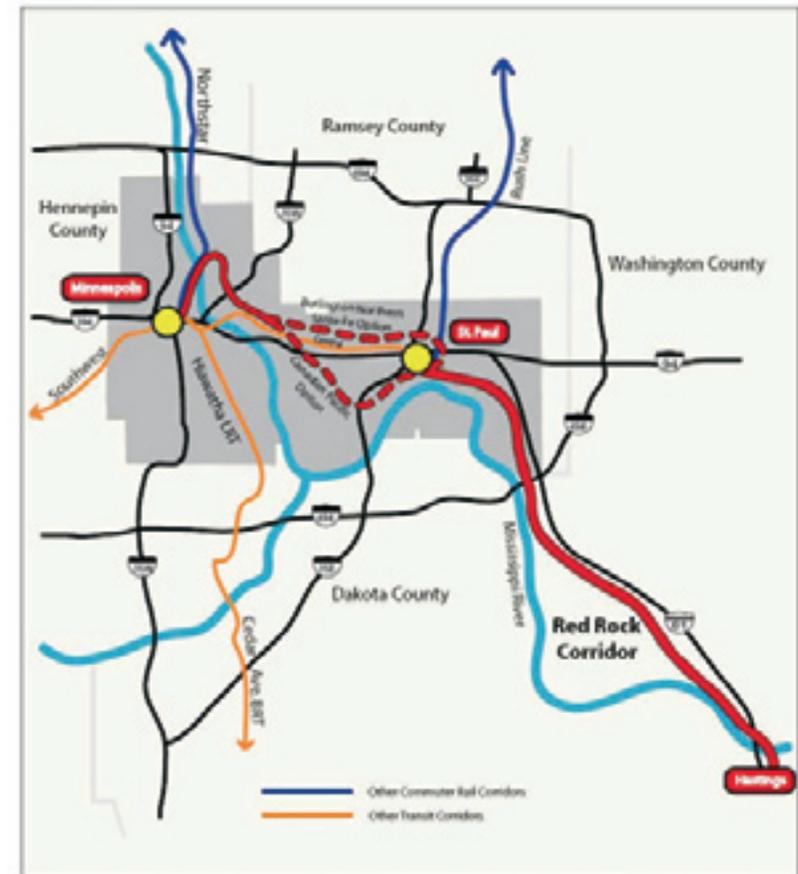
Cottage Grove has participated in the Red Rock Corridor Commission since its inception in the late 1990's. This Commission is made up of communities along the corridor from Hastings to St. Paul and includes the Railroad Authorities in Washington, Dakota, Hennepin, and Ramsey Counties. The Red Rock Corridor is included as a Tier 2 corridor in the Metropolitan Council's 2030 Transitway System.

In 2007 the Red Rock Corridor Commission completed an Alternatives Analysis of possible transit improvements



in the corridor. The study called for future development of a commuter rail line from Hastings to St. Paul, with a station located in Cottage Grove. Prior to implementing commuter rail service, the study proposed interim transit improvements within the corridor including additional express bus service and expanded park and ride lots.

In 2008 and 2009, the City will work with the Corridor Commission to plan for future commuter rail stations within Cottage Grove. Two locations along the Canadian Pacific tracks will be considered: in the Langdon area and at the existing park and ride lot on West Point Douglas Road.



# Airports and Terminals

## **AIRPORTS AND TERMINALS**

### **EXISTING AIRPORTS AND TERMINALS**

The City does not have any active airports or landing fields at this time. The commercial agricultural areas of the City occasionally have private plane landing and take-off activity.

Cottage Grove is served mainly by the Minneapolis/St. Paul (MSP) International Airport. Air service is also available at the Lake Elmo, St. Paul Downtown, and South St. Paul Municipal airports.

Small private planes, including motorized gliders, use the airspace over Cottage Grove, but do not result in any significant noise or visual impacts. The flight approach path for the larger commercial airlines landing and/or taking-off the northwest-southeast runways for MSP International is over the Mississippi River, but occasionally, these commercial airlines do fly over the urbanized area of the community.

### **Obstructions to Air Travel**

Currently, building structures within the City of Cottage Grove are less than 200 feet above the ground. This height is not expected to cause obstructions to low flying aircraft.

### **Seaplane Operations**

Seaplanes are permitted on the Mississippi River and represent the only area in Cottage Grove approved for aircraft operations. The river is not extensively used at the present time by seaplanes. The backwater area north and south of Lower Grey Cloud Island is quite shallow and tree stumps are near the surface. Other potential hazards should be identified.

### **FUTURE AIRPORTS AND TERMINALS**

It is anticipated that any modifications to existing airports will not have an adverse affect to the City of Cottage Grove. The City will continue to monitor any proposed improvements to surrounding airports and ensure community growth is not adversely impacted by the changes.

### **ACCESS MANAGEMENT**

The management of access along roadway systems, particularly arterial and collector roadways, is a very important component of maximizing the capacity of a roadway and decreasing the accident potential along those facilities. Arterial roadways have a function of accommodating larger volumes of traffic, often at higher speeds. Therefore, access to such facilities must be limited in order to protect the integrity of the arterial function. Collector roadways provide a link from local streets to arterial roadways and are designed to provide more access to local land uses since the volumes and speeds are often less than arterial roadways.

The Minnesota Department of Transportation (MnDOT) reports that studies have shown that as the density of access points increase,<sup>1</sup> whether public or private, the traffic-carrying capacity of the roadway decreases and the vehicular crash rate increases. Well-designed access to commercial properties supports long-term economic vitality.

As with many transportation related decisions, land use activity and planning is an integral part of the creation of a safe and efficient roadway system. Land use decisions have a major impact on the access conditions along the roadway system. Every land use plan amendment, subdivision,

1. "Toward an Access Classification System and Spacing Guidelines", Technical Study No. 4, MnDOT, February 1999.



rezoning, conditional use permit, or site plan involves access and creates potential impacts to the efficiency of the transportation system. Properties having access rights and good design will minimize the deleterious effect upon the roadway system. Access management is a combination of good land use planning and effective property access design.

The granting of access in Cottage Grove is shared by the City and by Washington County, with each having the permitting process responsibility over roadways under their control. Access to Highway 61 is the responsibility of MnDOT. Access control guidelines are used to preserve public investment in the roadway system and to inform developers for plan preparation. The guidelines balance the public interest (mobility) with the interests of property owners (access). MnDOT has developed a policy on access management and guidelines for access spacing which can be found at <http://www.oim.dot.state.mn.us/access/index.html>.

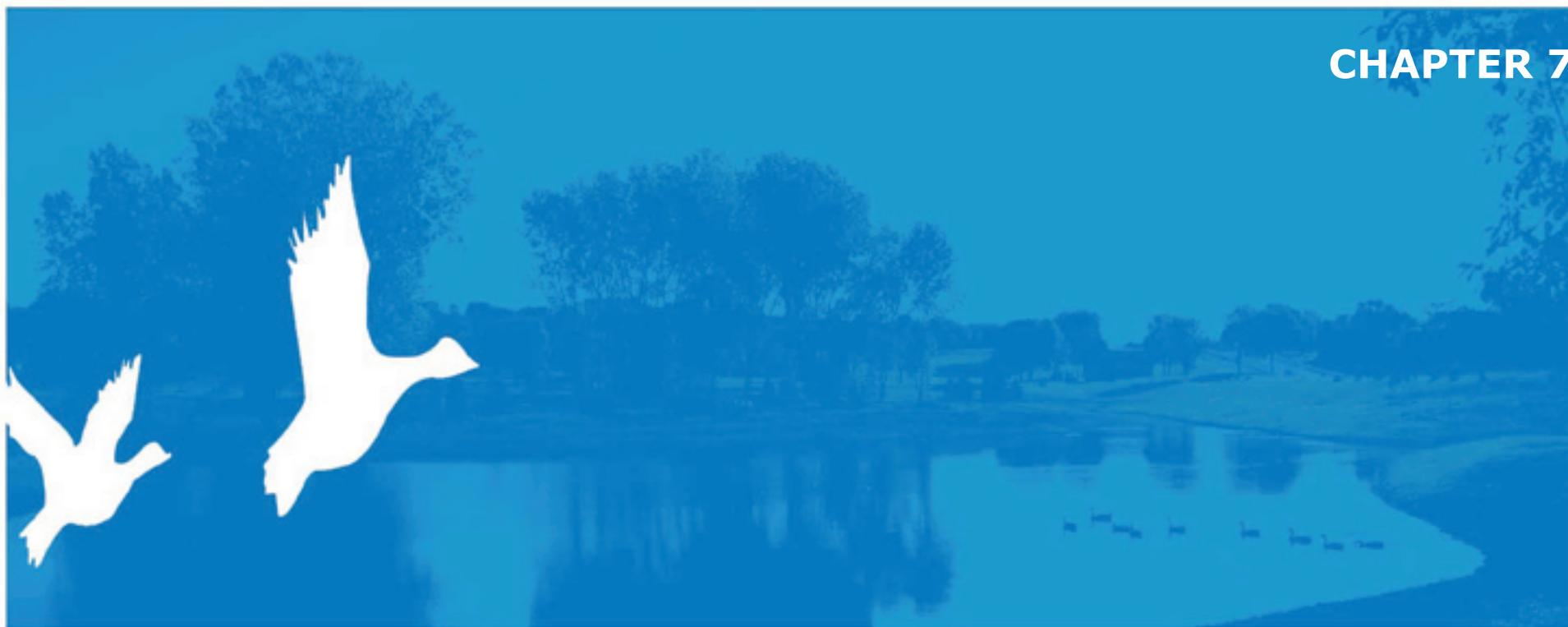
The Washington County's Access Spacing Guidelines should be followed on all roads that are under the County's jurisdiction. The County's guidelines are contained within their comprehensive plan and can be found at [http://www.co.washington.mn.us/info\\_for\\_residents/board\\_of\\_commissioners/ordinances/comprehensive\\_plan\\_-\\_ordinance\\_124/](http://www.co.washington.mn.us/info_for_residents/board_of_commissioners/ordinances/comprehensive_plan_-_ordinance_124/).





# **WATER RESOURCES**

## **CHAPTER 7**



# Water Supply Introduction

## **INTRODUCTION**

The Metropolitan Land Planning Act (amended 1995) requires local governments to prepare comprehensive plans and submit them to the Metropolitan Council to determine their consistency with metropolitan system plans. One element of these plans must address municipal water systems. Minnesota Statute 473.859 requires Water Supply Plans (also referred to as Water Emergency and Conservation Plans) to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process. Additionally, Minnesota Statute 103G.291 requires all public water suppliers that serve more than 1000 people to have a Water Supply Plan approved by the Minnesota Department of Natural Resources (DNR). An approved Water Supply Plan is also a requirement to obtain a Water Appropriations Permit Amendment from the DNR.

Cottage Grove's Water Supply Plan was submitted to the DNR and Met Council in 2007. The Water Supply Plan consists of four parts:

- Part 1: Water supply system description and evaluation
- Part 2: Emergency response procedures
- Part 3: Conservation plan
- Part 4: Metropolitan Land Planning Act requirements

The City of Cottage Grove also regularly prepares a Water Supply and Distribution Plan (WSDP). This detailed and comprehensive engineering analysis of the existing and proposed trunk water system serves as a planning document to guide Cottage Grove as it extends city water to urbanizing areas. The WSDP performs a more exhaustive scientific, engineering and financial analysis of the water system than is required to meet the minimum Metropolitan



Council and DNR requirements. The most recent WSDP was prepared in 2006. The previous WSDP was prepared in 1995.

The purpose of this chapter of the comprehensive plan is to provide a summary of the Water Supply Plan and the more detailed WSDP. For brevity and security reasons, the more detailed documents are not included in this 2030 Comprehensive Plan.

## **FORECASTS**

Water usage within the City has increased steadily during the last 10 years with the influx of new residents, businesses and employees. In 2004, the City of Cottage Grove pumped approximately 1.3 billion gallons of water into the system. Peak day water demand in 2003 was 12.6 million gallons per day (MGD). Cottage Grove's Water Supply Plan contains a detailed analysis of existing water usage, including historic water demand and high volume users. Water usage will continue to increase with added businesses and people. The projected water demand for 2030 is a daily average of 5.7 MGD with an estimated daily maximum of 18.7 MGD as shown in Table 7-1. Water conservation is discussed later in this chapter.

Table 7-1-Projected Water Demands

Year	Population Served	Avg. Day Demand (MGD)	Max. Day Demand (MGD)	Projected Demand (MG per Year)
2010	36,000	3.7	13.4	1,340
2020	45,400	4.7	16.3	1,723
2030	53,000	5.7	18.7	2,070

#### **WATER SUPPLY SYSTEM**

The existing water supply and distribution system has served Cottage Grove's needs well. Previous studies have provided cost-effective and timely improvements for the system. The existing trunk distribution system is presented on the Existing and Future Trunk Water Supply and Distribution System Map (Figure 7-1). The system operates under three pressure zones. This approach provides satisfactory pressure to all customers. The City presently obtains its raw water supply from 11 wells in two well fields. All wells obtain water from the Jordan aquifer.

The North Well Field supplies a total firm capacity of 8.9 MGD. The South Well Field supplies a total firm capacity of 1.7 MGD. Firm capacity is defined as the amount supplied with one out of every 10 wells out of service.

Because Cottage Grove's water source meets or exceeds all Federal and State drinking water standards, minimal treatment is required. Water from the supply wells is pumped into the distribution system, after chlorine and fluoride are added to disinfect and prevent tooth decay, respectively.

Several storage facilities stabilize pressures during peak water demands and also serve as a source of water during fires or power outages. There is a total existing usable storage volume of 4.65 million gallons.

#### **OTHER WATER SUPPLY ISSUES**

##### **EMERGENCY RESPONSE PROCEDURES**

Cottage Grove has prepared a water system vulnerability assessment and emergency response plan in accordance with the Safe Drinking Water Act, as modified by the Bioterrorism Preparedness and Response Act of 2002. These documents identify contacts for emergency situations, emergency response procedures, describe water sources and services areas, and provide procedures for augmenting water supplies in the event of an emergency.

The Water Supply Plan identifies triggers for implementing demand reduction procedures in the event of a water system emergency. Water use is rationed in accordance with water use priorities established by state statute. These triggers and water use priorities are regularly reviewed and adjusted as needed. Demand reduction measures are instituted by the City Administrator or City Emergency Management Director.

##### **WATER CONSERVATION PLAN**

Water conservation programs are intended to reduce the demand for water, improve the efficiency in use and reduce loss and waste of water. Conserving water can be a cost-effective way to reduce the need to construct and operate additional water supply facilities.

Water conservation planning is a relatively new concept in the metropolitan area. Cottage Grove's first water



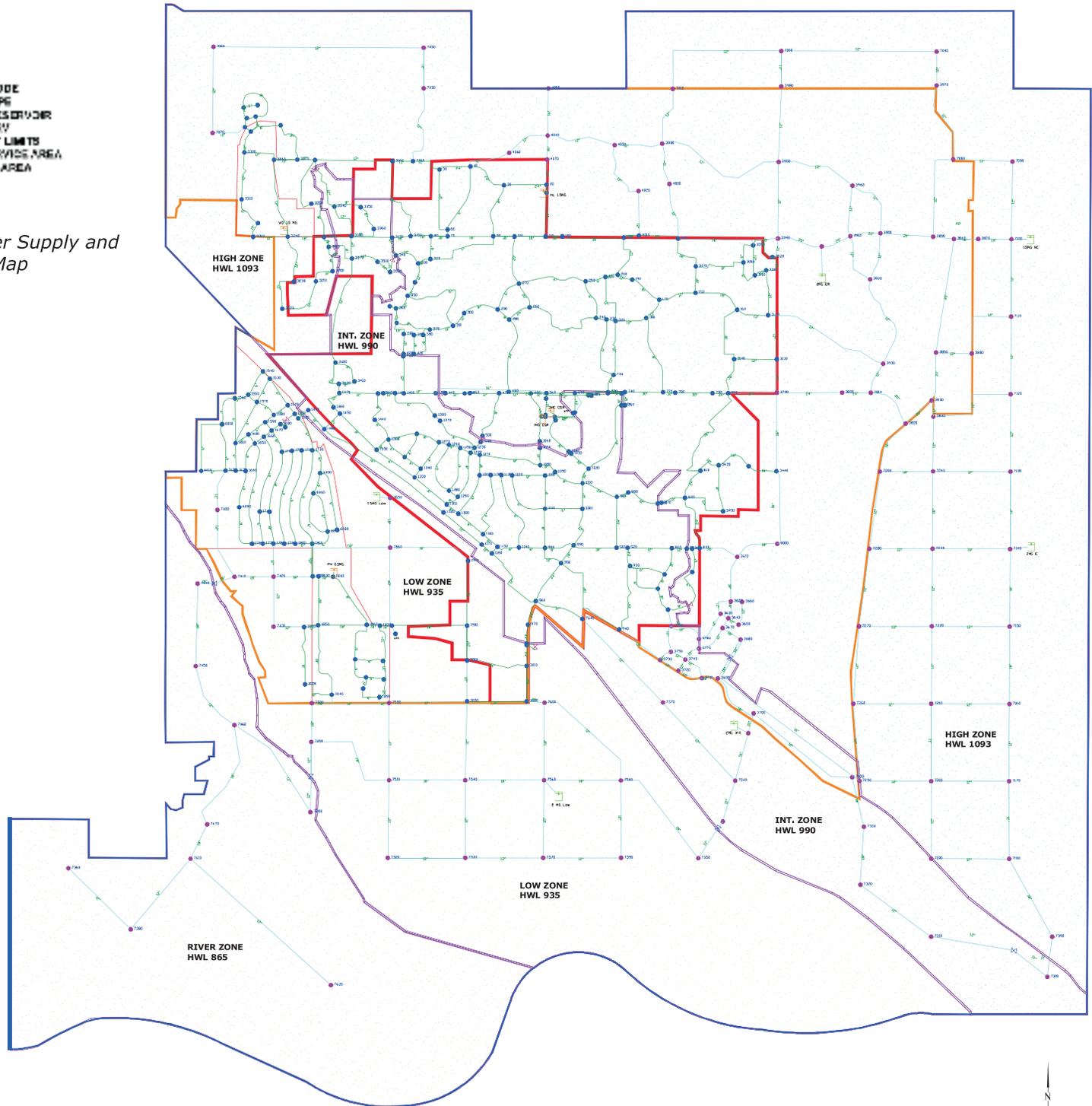
Figure 7-1-Existing and Future Trunk Water Supply and Distribution System Map

- LEGEND**
- EXISTING NODE
  - PROPOSED NODE
  - EXISTING PIPE
  - PROPOSED PIPE
  - EXISTING RESERVOIR
  - PROPOSED RESERVOIR
  - EXISTING PRV
  - PROPOSED PRV
  - PIPE "LOW" ZONE
  - EXISTING CITY LIMITS
  - PRESSURE ZONE BOUNDARY
  - ULTIMATE SERVICE AREA
  - JOB SERVICE AREA

Figure 7-1  
Existing and Future Trunk Water Supply and  
Distribution System Map



DATE: 07/2016



## Implementation

conservation plan was a component of the 1995 WSDP. Since 1995, Cottage Grove has expanded existing conservation practices and implemented new water conservation measures. Cottage Grove's water conservation goals include the following:

- Reduce unaccounted for water use
- Reduce overall water use (residential and total per capita water use)
- Reduce peak day water usage

Cottage Grove's Water Conservation Plan (contained in the Water Supply Plan) details each of the conservation goals and how Cottage Grove compares to "benchmark" metrics for each of the goals. The conservation plan also details existing and proposed conservation programs. These programs include:

- Metering of water usage. All wells and customers in Cottage Grove are metered, so that Cottage Grove has an accurate account of water pumped and water sold.
- Water audits. Cottage Grove intermittently compares water pumped to water sold, and estimates un-metered water use (such as construction and hydrant flushing).
- Conservation oriented water rates such as Cottage Grove's increasing block rate.
- Regulation and enforcement of federal, state and local regulations such as: plumbing codes, rain sensors on irrigation systems, water efficient plumbing fixtures and watering restrictions
- Education programs such as billing inserts, Consumer Confidence Reports, newspaper and community newsletter articles, demonstration projects, information at schools, and utility buildings,

as well as information on their website.

Cottage Grove annually reviews the effectiveness of its existing water conservation programs. Adjustments to existing programs and new and innovative programs are evaluated regularly.



### **IMPLEMENTATION**

#### **FUTURE SYSTEM NEEDS**

The 2030 design system shown on the Existing and Future Trunk Water Supply and Distribution System Map (Figure 7-1) consists of the following improvements:

- Additional water supply wells in the existing well fields. The Water Supply Plan and the WSDP contains a much more detailed analysis on the sustainability of the aquifer to sustain Cottage Grove's current and projected demands.



- Additional water storage reservoirs. Water storage facilities are typically added as areas develop.
- Additional trunk and lateral water distribution mains, added with development.

### **CAPITAL IMPROVEMENT PLAN**

Cottage Grove annually updates the trunk water system Capital Improvement Plan (CIP). A copy of a current CIP is included in Cottage Grove's Water Supply Plan.

Costs for constructing, operating and maintaining Cottage Grove's water system are recovered in a variety of ways. The charges are reviewed and updated regularly by the City. The following provides a brief overview of the various charge systems.

- **DEVELOPER CHARGES.** Construction of the pipes within a development (the "lateral distribution system") is paid for by the developer. The cost of constructing the trunk water system (wells, storage and pipe oversizing) is split equitably between all of the developable properties. Cottage Grove currently collects this trunk charge based on the area to be served (area charge) and by the number of connections (connection charge).
- **WATER RATES.** Operation and maintenance costs are recovered through the City's water user charge system.

### **PERFORMANCE MEASURES**

The City regularly monitors its infrastructure systems to measure the effectiveness and efficiency of the services that are provided to its citizens. Some of the indicators used in monitoring and measuring Cottage Grove's water supply, storage and distribution system are as follows:

- **WATER USE** (average and maximum day use for each service area)
- **WATER BILLING SUMMARIES** (water use by customer type and top 10 users)
- **FINANCIAL SAVINGS** in trunk water system facilities that are attributed to the City's water conservation goals
- **CUSTOMER COMPLAINTS** (number of customer "dirty water" complaints due to iron and manganese settling in the water mains)

## Sanitary Sewer Introduction

### **INTRODUCTION**

According to the Metropolitan Land Planning Act, a Local Comprehensive Plan is to include a sanitary sewer element covering the collection and disposal of wastewater generated by the community. Similarly, the Metropolitan Sewer Act requires local governments to submit a Comprehensive Sewer Policy Plan (CSPP) which describes the current and future service needs required from Metropolitan Council Environmental Services (MCES). This sanitary sewer section will serve as both the sanitary sewer element of the City's Comprehensive Plan and the City's CSPP document.

In March, 2005 the Metropolitan Council adopted a revised 2030 Water Resources Management Policy Plan (WRMPP). The 2030 WRMPP includes the metropolitan wastewater system plan with which local comprehensive plans must conform. Cottage Grove has prepared this sewer element chapter of its Comprehensive Plan to demonstrate its conformance to the regional plan. This chapter updates previous sewer planning efforts and describes in detail the expansion of the City's sanitary sewer system to serve urban development. This sanitary sewer section provides the specific information needed to meet the 2030 WRMPP requirements.

Cottage Grove's 2020 Comprehensive Plan included a wastewater section describing the expansion of the City's trunk system through 2020 and the demands this expansion would place on the Metropolitan Disposal System (MDS) operated by MCES. This wastewater section in the 2030 Comprehensive Plan describes these demands out to 2030. MCES also uses this section to determine whether capacity upgrades will be needed at the Eagles Point Wastewater Treatment Plant (WWTP), which services all of



Cottage Grove.

Cottage Grove's sanitary sewer system is designed to carry wastewater from homes to the MDS, which is owned and operated by MCES. The MDS consists of interceptors and wastewater treatment plants and appurtenances to these including lift stations, siphons, valves and tunnels. Cottage Grove's sanitary sewer system consists of lateral sewer pipes that serve neighborhoods and businesses, trunk sewer pipes (larger than 10-inch diameter) that collect wastewater from laterals and lift stations that pump wastewater from lower areas of the City.

Municipal sanitary sewer service was initially provided within Cottage Grove in 1961 as a replacement for the individual septic tank systems that were serving the Thompson Grove plats. The first stage of the Cottage Grove WWTP



## Sanitary Sewer System

was constructed in 1962 in conjunction with this original municipal sewer installation. This plant continued to serve the wastewater treatment needs of Cottage Grove until it was replaced by the Eagles Point WWTP in 2002. The new treatment plant has a wastewater capacity of 10 Million Gallons per Day (MGD) to serve Cottage Grove and portions of Woodbury via the South Washington County Interceptor (SWCI) through approximately 2020, at which time it could be expanded to 20 MGD for added service capacity. Ultimately, the Eagles Point WWTP discharges effluent to the Mississippi River.

### **SANITARY SEWER SYSTEM**

The Sanitary Sewer System Map (Figure 7-2) identifies the ultimate service area, represented by sewer district delineations, delivering wastewater to the Eagles Point WWTP via the SWCI. The Sanitary Sewer System Map provides a detailed inventory of the City's existing trunk facilities, including: trunk sanitary sewer pipe, lift stations, forcemains, and MCES Interceptors. The location of lateral sanitary sewer pipe is also identified. All five existing and future connection points to the MDS (i.e. connections to the SWCI) are identified and numbered one through five. The Sanitary Sewer System Map also identifies the intercommunity wastewater flow connection points.

The only existing private treatment facility in Cottage Grove is located at the 3M Cottage Grove Center industrial complex. Because 3M is a high-volume facility, it is inspected annually by either the Environmental Protection Agency or the MPCA in order to determine compliance with their National Pollution Discharge Elimination System permit. The City of Cottage Grove oversees proper operation of the 3M facility by maintaining contact with the MPCA

*Table 7-2 Cottage Grove Population, Household and Employment Forecasts*

Forecasts												
CTU_NAME	Component	POP 2010	POP 2020	POP 2030	HH 2010	HH 2020	HH 2030	EMP 2010	EMP 2020	EMP 2030		
Cottage Grove	Private sewer	2277	800	0	800	300	0	1300	1300	1300		
Cottage Grove	Metro System	33723	44600	53000	11800	16200	20000	7200	8700	113700		
Cottage Grove	TOTAL	36000	45400	53000	12600	16500	20000	8500	10000	115000		

representative responsible for this plant and reviewing the annual inspection report. The location of the 3M treatment facility is identified on Figure 7-2.

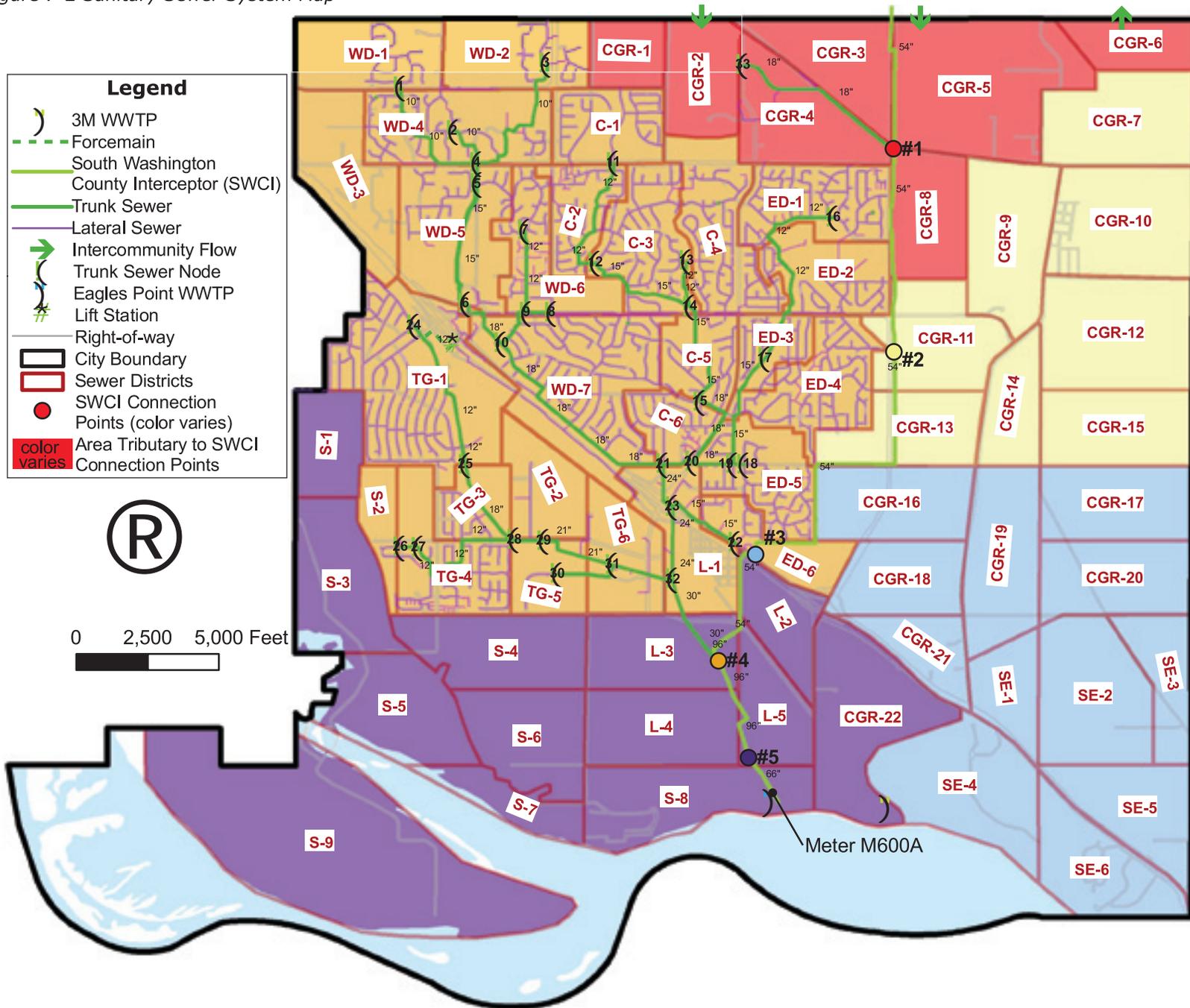
### **FORECASTS**

The Metropolitan Council requires municipalities to include adopted forecasts for population, households, and employment in five-year increments to 2030 in their comprehensive plans.

Table 7-2 includes the forecast figures directly from the Metropolitan Council Cottage Grove System Statement dated March 8, 2006. These forecast numbers are confirmed in the WRMPP revised forecasts dated January 9, 2008. The City of Cottage Grove has reviewed and concurs with these projections.

In addition to the forecasts in Table 7-2, the Metropolitan Council also requires cities to provide projected average wastewater flows in 5-year increments through 2030. The Metropolitan Council uses these forecasts to plan all future interceptors and wastewater treatment work needed to provide adequate service. Table 7-3 presents projected

Figure 7-2 Sanitary Sewer System Map



## Forecasts

average flow data from two sources:

- Flows identified in the Metropolitan Council Cottage Grove System Statement dated March 8, 2006, and City projected flows. Metropolitan Council's projected flows for the years 2010, 2020 and 2030 are from its WRMP (updated 2005). Flow numbers for intermediate years are interpolated.
- City flow projections are calculated by a combination of metered flow data and spreadsheet sewer models (existing and ultimate). The City of Cottage Grove's 2007 wastewater flow to the Eagles Point WWTP is based upon MCES metered average flow from meter number M600A (less Woodbury's average flows measured at meter number M075), located in the south-central portion of Cottage Grove. Projected flows were determined by multiplying the ratio of increase in flow from 2007 to 2030 (ratio of 3.6) from the City's spreadsheet sewer model by the existing metered flow. The trunk sanitary sewer staging is consistent with the overall utility staging map provided in Chapter 2.

**Table 7-3 - Wastewater Flow Projections**

Year	MCES Projected Average Flow <sup>1,2</sup> (MGD)	City Projected Average Flow (MGD)
2007	--	2.05
2010	2.42	2.72
2015	2.81	3.51
2020	3.19	3.99
2025	3.49	5.23
2030	3.78	5.34
Ultimate	--	7.37

<sup>1</sup>From Metropolitan Council Cottage Grove System Statement dated March 8, 2006

<sup>2</sup>2015 and 2025 values are interpolated

The Metropolitan Council projected flow values in Table 7-3 were checked by multiplying the population and employee numbers from Table 7-2 by 75 gallons/capita/day and 25 gallons/employee/day. According to our calculations, it appears that the Metropolitan Council flows presented in Table 7-3 are approximately 13% below the City's recalculated flows. This discrepancy should be verified by the Metropolitan Council while reviewing the City's projected flow values.

The City average flow projections presented in Table 7-3 assume that the areas identified as urban reserve remain undeveloped through 2030, only developing post-2030 in the ultimate development condition. The City considers this assumption to be consistent with the Metropolitan Council sewer population projections presented in Table 7-2.

The City-wide average flows presented in Table 7-3 are further divided into the projected average wastewater flow to each MDS connection point in 5-year increments through 2030. Figure 7-2 identifies the five connection points to the MDS from Cottage Grove and the area tributary to each of these five connection points. The trunk sanitary sewer staging to each connection point to the MDS (i.e. connection to the SWCI) is consistent with the overall utility staging map provided in Chapter 2. This information is provided in Table 7-4.

**Table 7-4 - Phased Wastewater Flow Projections by Connection Point to the MDS**

City Projected Average Flow by Connection Point to the MDS (per ratio)						
Stage Year	#1 (MGD)	#2 (MGD)	#3 (MGD)	#4 (MGD)	#5 (MGD)	Total
2007	0	0	0	2.05	0	2.05
2010	0.00	0.00	0.00	2.72	0.00	2.72
2015	0.36	0.00	0.07	2.92	0.15	3.51
2020	0.64	0.19	0.07	2.92	0.15	3.99
2025	0.64	0.19	0.07	2.92	1.39	5.23
2030	0.64	0.19	0.07	2.92	1.51	5.34
Ultimate	0.69	0.77	0.71	2.92	2.28	7.37

Table 7-5 presents the capacity and design flows of the existing trunk sanitary sewer pipes. The trunk system is summarized from node to node, as identified on Figure 7-2. For the purposes of this narrative, a node is identified within trunk sewer system at the following locations:

- Upstream end of a trunk (generally considered 10" pipe and larger) sewer pipe
- Trunk sewer junction points
- Trunk sewer pipe size changes

The design flows presented in Table 7-5 on the next page are calculated from the summation of the average flow values of the sewer districts tributary to a particular trunk pipe segment, multiplied by the appropriate peak flow factor.

### **INFILTRATION AND INFLOW**

The Metropolitan Council has instituted its Inflow/Infiltration (I/I) Surcharge Program since Cottage Grove's previous plan. The fundamental policy statement summarizing this program is that the Metropolitan Council "will not provide additional capacity within its interceptor system to serve excessive inflow and infiltration." The Council

establishes inflow and infiltration thresholds for each of the communities that use its system. Communities that exceed this threshold are required to eliminate this excess flow within a reasonable timeframe. The Metropolitan Council has not identified Cottage Grove as a community with observed excess I/I.

Cottage Grove's sanitary sewer system is relatively new and I/I has not been a significant issue to date. Comparing the MCES flow meter (M600A) data and daily rainfall data over the past few years, no consistent correlation is observed between rainfall events and higher average flow values, indicating I/I problems. The City has identified the Thompson Grove trunk sanitary sewer through subdistricts TG-1 and TG-3 as a potential I/I contributor and is diligent in inspecting this trunk sanitary sewer frequently to identify cracks or joint separations, and performing crack grouting or joint repair as necessary.

An outline of the City's proactive program directed at identifying and correcting I/I, is as follows:

- City Ordinance 8-1-13A prohibits roof and foundation drains to be connected to the sanitary sewer system. The ordinance states that "No owner, occupant

**Table 7-5 - Capacity and Design Flows for Existing Trunk Sewers**

From Node	To Node	Add Subdistricts	Trunk Size	Average Flow	Total Ave Flow	PFF	Design Flow	Pipe Capacity
			(inches)	(MGD)	(MGD)		(MGD)	(MGD)
1	4	WD-1	10	0.07	0.07	4	0.29	1.10
2	4	WD-2	10	0.23	0.23	3.80	0.87	1.10
3	4	WD-3	10	0.06	0.06	4.00	0.26	1.10
4	5		15		0.37	3.6	1.32	1.21
5	6	WD-5	2-15	0.13	0.50	3.5	1.75	2.72
6	10	WD-3	18	0.06	0.56	3.4	1.91	3.25
7	9	1/2 WD-6	12	0.09	0.09	4	0.38	1.13
8	9	1/2 WD-6	12	0.09	0.09	4	0.38	1.37
9	10		9 and 12		0.19	3.9	0.73	0.99
10	21	WD-7	18	0.45	1.20	3.1	3.72	3.04
11	12	C-1	9 and 12	0.08	0.17	3.9	0.66	0.99
		C-2		0.09				
12	14	C-3	15	0.12	0.29	3.7	1.08	1.68
13	14	C-4	12	0.15	0.15	3.9	0.59	1.16
14	15	C-5	15	0.06	0.50	3.5	1.75	2.65
15	20	C-6	18	0.08	0.58	3.4	1.98	4.01
16	17	ED-1	12	0.15	0.38	3.6	1.37	1.42
		ED-2		0.08				
		ED-4		0.15				
17	19	ED-3	15	0.06	0.44	3.5	1.54	1.85
18	19	ED-5	18	0.16	0.16	3.9	0.61	3.26
19	20		18		0.60	3.4	2.03	3.7
20	21		24		1.18	3.1	3.66	6.19
21	23		24		2.38	2.7	6.42	6.61
22	23	ED-6	8 and 15	0.23	0.23	3.8	0.86	0.78
23	32	L-1	24	0.39	3.00	2.6	7.79	6.54
24	25	TG-1	12	0.37	0.37	3.6	1.35	1.02
25	28	TG-3	18	0.11	0.49	3.5	1.71	2.64
26	27	S-2	10	0.10	0.10	4	0.40	0.69
27	28	TG-4	12	0.20	0.30	3.6	1.09	2.39
28	29		18		0.79	3.3	2.61	2.64
29	31	TG-2	21	0.33	1.12	3.1	3.46	3.86
30	31	TG-5	12	0.24	0.24	3.7	0.89	1.62
31	32	TG-6	21	0.37	1.72	2.9	5.00	5.43
32	MDS #4		30		4.72	2.4	11.33	11.87
33	MDS #1	CGR-1	18	0.10	0.59	3.4	2.01	4.37
		CGR-2		0.11				
		CGR-3		0.15				
		CGR-4		0.22				

or user of any premises shall direct into or allow any storm water or surface water to drain into the sanitary system of the City.”

- Cottage Grove conducts sewer line televising for a portion of the system annually in conjunction with the sewer cleaning schedule, making repairs where potential I/I problems are indicated. All new City facilities are also televised before being placed in service. Additionally, after major street reconstruction projects, sanitary sewer pipe in the project area are televised to ensure that no damage occurred.
- Continue regular monitoring and maintenance activities on trunk sanitary sewer lines suspected of contributing to I/I, particularly the trunk sewer through subdistricts TG-1 and TG-3.
- Communication with the MCES regarding above average flow readings at meter number M600A indicating a potential I/I problem.

### **INDIVIDUAL SEWAGE TREATMENT SYSTEMS (ISTS)**

According to the current Washington County ISTS database, there are approximately 808 ISTS in operation within the City of Cottage Grove. In August 1999, Cottage Grove turned administrative responsibility for ISTS over to Washington County. The transfer of authority was conducted under the premise that Washington County can more easily keep up-to-date on evolving regulation regarding these systems. Section 17.2 of the Washington County Individual Sewage Treatment System Regulations (Ordinance 128) states:

*“The owner of an individual sewage treatment system or the owner’s agent shall regularly, but in no case less*

*frequently than every three years, have the tank or tanks pumped. As an alternative, the owner may inspect and measure the accumulations of scum, which includes grease and other floating materials at the top of each septic tank and compartment along with the sludge, which includes the solids denser than water.”*

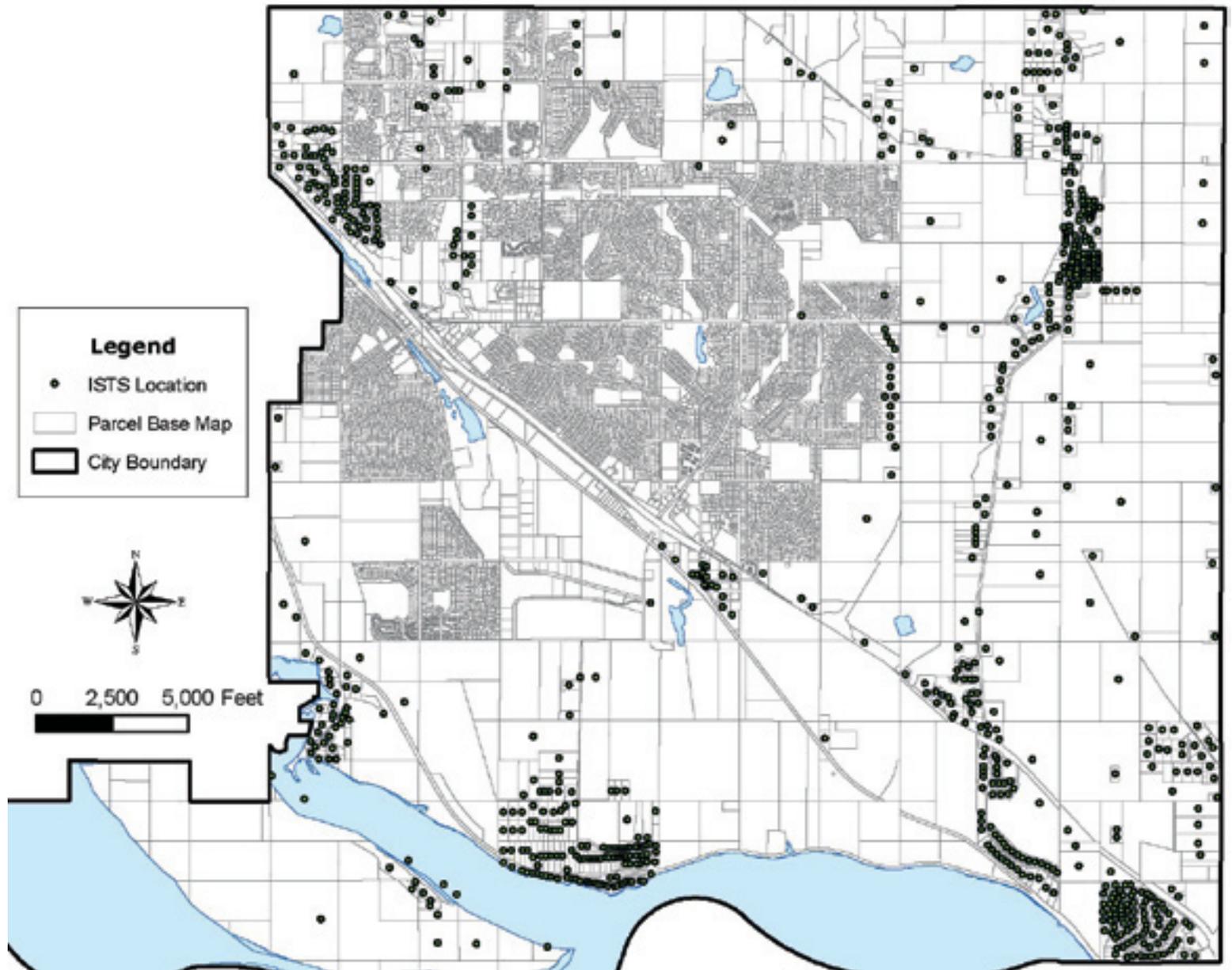
The following is a comparison of Washington County regulations versus those contained in Minnesota Rules 7080.

- The Washington County regulations establish a 30 day time frame to correct failing systems which pose an imminent threat to the public health, safety and welfare, whereas Chapter 7080 establishes a 10 month time frame.
- The Washington County ordinance establishes a 90 day time frame for correcting failing systems that do not pose an imminent threat to public health, safety and welfare, whereas there is no time frame listed in Chapter 7080.
- The Washington County regulations require percolation tests and four soil borings for proposed sites, while Minnesota Rules 7080 has no such requirements.
- Under the Washington County regulations, a minimum of 12 inches of rock layer is required, while Minnesota Rules 7080 requires 6 inches.
- The Washington County regulations require that homeowners have tanks pumped every three years or be inspected, while Chapter 7080 requires a homeowner inspection every three years.

Figure 7-3 shows the locations of ISTS within Cottage Grove.



Figure 7-3 ISTS within Cottage Grove



## Sanitary Sewer Goals and Policies

### **GOALS AND POLICIES**

Cottage Grove's sanitary sewer system represents a major municipal investment that is supported by area and connection charges and utility fees paid by Cottage Grove's residents and businesses. Cottage Grove's goals and policies demonstrate the City's commitment to maintaining the value of this investment. A few of the benefits of a well maintained sanitary sewer system are:

- Fewer sewer backups
- Fewer pipe blockages
- Reduce infrastructure costs due to less I/I into the system
- Prolonged service life of the system
- Surface water and groundwater resource protection

A well maintained system, such as Cottage Grove's, operates without being noticed by the many residents who depend upon it. The following goals and policies dictate the operation of Cottage Grove's sanitary sewer system.

#### **GOAL: EFFECTIVE AND EFFICIENT OPERATION AND MAINTENANCE OF THE CITY'S SANITARY SEWER SYSTEM.**

**POLICY 7.1** Cottage Grove shall construct its system to facilitate operation and maintenance and prevent inflow and infiltration.

**POLICY 7.2** Cottage Grove shall maintain a detailed inventory of its sanitary sewer system including an up-to-date electronic map of all pipes, structures, and lift stations.

**POLICY 7.3** Cottage Grove shall clean a portion of its sanitary sewer system every year.

**POLICY 7.4** Cottage Grove shall regularly televise its sanitary sewer system to determine integrity and performance.

**POLICY 7.5** With major street reconstruction projects, Cottage Grove shall assess the system within the project area and make improvements as needed.

**POLICY 7.6** Cottage Grove shall ensure the training of those responsible for managing its sanitary sewer system and ensures that staff has the equipment necessary to properly maintain the system.

**POLICY 7.7** Cottage Grove shall maintain an organizational chart of its sewer maintenance department.

**POLICY 7.8** Cottage Grove shall rehabilitate sewers before their deterioration negatively affects city residents or the Metropolitan Disposal System.

**POLICY 7.9** Cottage Grove shall maintain a general emergency response plan that pertains to sanitary sewer overflows as well.

**POLICY 7.10** The City will coordinate sanitary sewer utility services and development with surrounding communities, Washington County, and the Metropolitan Council.

#### **GOAL: TO PROVIDE SANITARY SEWER SERVICE THAT IS ADEQUATE TO MEET CURRENT AND FUTURE DEVELOPMENT NEEDS.**

**POLICY 7.11** The extension of sanitary sewers shall be



programmed so as to achieve maximum benefit from the existing utilities.

**POLICY 7.12** The sanitary sewer system shall be constructed to accommodate the proposed land use densities identified in the future land use plan.

**POLICY 7.13** Cottage Grove shall provide a system reserve capacity in all trunk designs so that local occurrences of higher sewage generating uses or higher densities can be accommodated.

**POLICY 7.14** When in-fill development or redevelopment occurs, Cottage Grove evaluates existing sanitary sewer systems as to their capacity.

**POLICY 7.15** Cottage Grove develops and regularly updates its sanitary sewer system Capital Improvement Plan (CIP).

**POLICY 7.16** The City will encourage development densities that maximize the use of the existing sanitary system. Where existing facilities do not have capacities to accommodate the maximum allowable densities, the City reserves the right to restrict development to average density.

**POLICY 7.17** For properties in the rural service area, on-site sewer systems shall be allowed provided such systems conform to all local, county, state, and federal requirements.

**GOAL: COTTAGE GROVE PROVIDES A COST EFFECTIVE SANITARY SEWER SYSTEM THAT IS EQUITABLY FINANCED.**

**POLICY 7.18** Cottage Grove shall finance new sanitary sewer trunks for new development through area and connection charges.

**POLICY 7.19** Cottage Grove shall finance its existing system operation and maintenance through utility billings.

**POLICY 7.20** Cottage Grove shall prepare for replacement of its sanitary sewer system by incorporating replacement costs into its utility billing rates.

**POLICY 7.21** The extension of sanitary sewers shall be programmed so as to efficiently achieve maximum benefit from the existing utilities.

**Table 7-6 - CIP for Trunk Sanitary Sewer System Improvements**

CIP Year	Project Location	Project Description	CIP Cost
2008	Ideal/Immanuel District	Pavement Management and utility rehabilitation	\$128,200
2009	75th St to 80th St, E of Jamaica	Access trails to trunk sanitary sewers	\$26,500
	Hamlet Avenue S to 95th St S	Access trails to trunk sanitary sewers	\$25,500
	80th St to Jeffrey, E of Jamaica	Access trails to trunk sanitary sewers	\$38,500
2010	Ideal to 80th, N of 80th and Irvin	Access trails to trunk sanitary sewers	\$37,300
2011	--	--	--
2012	East of Jamaica, N of 80th	Pavement Management and utility rehabilitation	\$183,300
Post 2012	Fire Station 2	Purchase fire station 2 for utility usage	\$600,000
	West Point Douglas	Lift station upgrade	\$500,000

## Surface Water Introduction

### **IMPLEMENTATION**

#### **CAPITAL IMPROVEMENT PLAN**

Table 7-6 presents the section in Cottage Grove's CIP identifying improvements to the trunk sanitary sewer system. The CIP identifies improvements by year, for the next five years, as stated below.

#### **PERFORMANCE MEASURES**

The City regularly monitors its infrastructure systems to measure the effectiveness and efficiency of the services that are provided to its citizens. Some of the indicators that are used in monitoring and measuring Cottage Grove's sanitary sewer system are as follows:

- Number of sewer backups reported.
- Number of sanitary sewer overflows reported.
- Amount of infiltration and inflow surcharge charged to Cottage Grove by MCES – currently no surcharge is applied to Cottage Grove.

### **SURFACE WATER BACKGROUND**

The City of Cottage Grove's Surface Water Management Plan (SWMP) serves as a comprehensive planning document to guide the City of Cottage Grove in conserving, protecting, and managing its surface water resources. Cottage Grove updated its SWMP in conjunction with its Comprehensive Plan Update and the updated SWMP stands separate from the Comprehensive Plan document, though it is summarized here.

The Cottage Grove SWMP has been drafted to meet the requirements detailed in Minnesota Statutes 103B and Minnesota Rules 8410, administered by the Minnesota Board of Water and Soil Resources. The SWMP also seeks

consistency with the stormwater management standards of the two Watershed Management Organizations (WMOs) having jurisdiction within Cottage Grove: South Washington Watershed District (SWWD) and Lower St Croix Watershed Management Organization (LSCWMO); and with the requirements and guidance provided in the Metropolitan Council's 2030 Water Resources Management Policy Plan (WRMPP).

### **REQUIRED CONTENT**

Minnesota Rules Chapter 8410 require that Local Surface Water Management Plans address specific items and the Metropolitan Council expands upon this required content in the 2030 WRMPP. The structure of Cottage Grove's SWMP meets the requirements outlined in Chapter 8410 and is consistent with the Metropolitan Council's 2030 WRMPP. To aid in the review of this section of the City's Comprehensive Plan and more specifically the SWMP from which this section derives, the following table (Table 7-7) identifies the section of the SWMP where each of the WRMPP requirements found in Appendix B-2 (b) are addressed.

Much of the content from the City's SWMP is not included in this summary chapter. However, excerpts from the City's SWMP pertaining to certain high priority surface water management topics identified in the WRMPP requirements are included below:

### **GOALS AND POLICIES**

The Cottage Grove SWMP includes surface water management goals and policies to address proper management of the City's system. A selection of the most pertinent goals and policies is included on page 7-20:

Table 7-7: WRMPP Standards

WRMPP Requirements		Location in SWMP
1. Purpose of plan		Section 1.2
2. Water resource management related agreements		Section 3.3
3. Executive summary		Executive Summary
4. Land and water resources inventory		Section 2
5. Establishment of policies and goals		
	A. All communities need a strong policy statement to show that they are committed to a goal of no adverse impact (nondegradation) for area water resources.	Section 3.2 - Policies 1.2 and 6.1
	B. All communities need goals for their lakes consistent with Watershed Management Organization (WMO) plan goals.	Section 3.2 - Policies 1.1 and 4.1
	C. The Council's 2030 Regional Development Framework classified communities as urban planning areas (developing and developed areas) and rural planning areas. Communities classified as developed or developing need to include actions that show the community is committed to the goal of no adverse impact or nondegradation goal for area water resources. Actions should include:	--
	i. Adopting erosion and sediment control ordinances that are consistent with NPDES Construction Stormwater permit and MS4 permit requirements	Section 3.2 - Policies 3.3, 6.1, and 6.8
	ii. Preparing wetland management plans	Section 3.2 - Policy 5.1
	iii. Adopting ordinances that control peak runoff	Section 3.2 - Policy 2.3
	iv. Adopting best management practices for development that will result in TSS and TP reductions of 80% and 50% respectively	Section 3.2 - Policy 3.2
	v. Adopting best management practices for redevelopment that will result in TSS and TP reductions	Section 3.2 - Policies 6.1 and 6.7
	vi. Including funding mechanisms that support implementation and enforcement	Section 3.2 - Policy 6.6
	D. Developing and developed communities that are a Phase I or Phase II NPDES MS4 permit community need to integrate their Stormwater Pollution Prevention Plan (SWPPP) policies and goals into their Local Water Management Plan (LWMP), in accordance with MPCA requirements and schedules.	Section 3.2 - Policies 3.3, 6.1, and 6.8
	E. Developed and developing communities listed as nondegradation communities as part of their NPDES MS4 permit need to revise their SWPPP to include the required information for nondegradation. Nondegradation policies and goals should be summarized or integrated into their LWMP.	Section 3.2 - Policies 1.2 and 6.1
	F. Rural planning area communities...	NA
6. Assessment of problems and corrective actions for problems identified		
	A. All communities need to assess the water quality and quantity related problems in their community, prioritize the problems and include actions to adequately solve the problems that were identified.	Sections 5, 6, and 7.9
	B. All communities must acknowledge and list any impaired waters within their jurisdiction as shown on the current MPCA 303d Impaired Waters list. A community that discharges water to an impaired waterbody within or adjacent to the community, needs to explain how and if it intends to be involved with the development of the TMDL study.	Section 5.5
	i. If a TMDL study is not completed, the city should identify the priority it places on addressing impaired waters and how the city intends to participate in the development or implementation of TMDL studies.	Section 5.5
	ii. If the city is not directly involved in the TMDL study, the city should show how it intends to implement the study findings once the study is completed by the responsible party.	Section 5.5
	iii. If a TMDL study is completed for the impaired water...	NA
7. Financial considerations		
	A. All communities need to include a 5-year CIP that includes funds to solve the problems identified in number 6 above.	Section 7.9
	B. All communities need to include funding in their CIP or operating budget for ongoing maintenance of their stormwater infrastructure.	Section 7.6

Table 7-7: WRMP Standards continued

WRMP Requirements		Location in SWMP
8. Implementation priorities and program		
	A. Developed and developing MS4 communities need to provide information on how they intend to manage stormwater:	--
	i. Include an erosion and sediment control ordinance consistent with NPDES Construction Stormwater permit and MS4 permit requirements.	Sections 5.6 and 7.9
	ii. Identify ways to control runoff rates so that land-altering activities do not increase peak stormwater flow from the site for a 24-hour precipitation event with a return frequency of 1 or 2, 10, and 100 years.	Section 3.2 - Policy 2.3
	iii. Require criteria for wet detention basin minimum pollutant removal efficiency to protect and improve stormwater runoff quality. BMPs for development and redevelopment should result in TSS and TP reductions.	Section 3.2 - Policy 3.2, Section 6.1.4
	iv. Require infiltration of the first ½ inch of runoff from the impervious areas created by new projects where there are A and B soils. Use of infiltration techniques is prohibited in some potential stormwater hotspot areas, e.g. vehicle fueling areas.	Section 3.2 - Policies 6.1 and 6.2
	v. Recommend adding a soil amendment and requiring soil ripping 1 ½- 2 feet after mass grading is complete for all soil types.	Section 3.2 - Policy 6.4
	vi. Require infiltration in wellhead protection areas to be based on the community's wellhead protection plan and at the discretion of the LGU.	Section 3.2 - Policy 6.2
	vii. Require pretreatment of stormwater prior to discharge into all lakes and streams.	Section 3.2 - Policy 4.3
	B. Rural planning area communities...	NA
	C. All communities with designated trout streams...	NA
	D. All communities with special waters...	NA
	E. All communities need to consider the use of stormwater practices that promote infiltration/filtration and decrease impervious areas, where practical.	Section 3.2 - Policies 3.1, 6.1, 6.2, and 6.4
	F. All communities need to include information on the types of BMPs to be used to improve stormwater quality and quantity and the maintenance schedule for the BMPs.	Section 3.2 - Policies 3.1, 3.2, 3.7 and Section 7.4
	G. All communities need to include a wetland management plan or a process and timeline to prepare a plan. At a minimum, the wetland management plan should incorporate a function and value assessment for wetlands. Other items to address in the plan include the pretreatment of stormwater prior to discharge into all wetland types, and the use of native vegetation as buffers for high quality wetlands. Buffers should be consistent with the functions and values identified in the plan.	Section 3.2 - Policies 5.1, 5.2, 5.3, Section 4
	H. Developed and developing communities that are a Phase II NPDES MS4 permit community need to include information on how the community is meeting the permit conditions for required SWPPP:	--
	i. Public education and outreach	Section 3.2 - Policy 3.10, Section 7.3
	ii. Public participation/involvement	Section 3.2 - Policy 3.10, Section 7.3.3
	iii. Illicit discharge detection and elimination	Section 3.2 - Policy 3.8
	iv. Construction site runoff control	Section 3.2 - Policy 3.3 and 6.7
	v. Post-construction runoff control	Section 3.2 - Policy 3.3
	vi. Pollution prevention/good housekeeping.	Section 3.2 - Policy 3.7
	vii. Activities planned to be undertaken along with numerical goals, strategies, and timelines	Section 7.9
	viii. Funding source for the various required activities.	Section 7.6
	I. Developed and developing communities which are required to revise their SWPPP to include the required nondegradation information as part of their NPDES MS4 permit need to summarize or integrate the nondegradation information into the LWMP.	Section 3.2 - Policies 1.2 and 6.1, Section 5.6.1, Section 5.7
9. Amendment procedures:		
	Each local plan must include year the plan extends to and establishes the process by which amendments may be made.	Section 7.7

## Surface Water Goals and Policies

### **GOAL: MANAGE SURFACE AND GROUNDWATER RESOURCES USING APPROACHES THAT MEET OR EXCEED REGULATORY REQUIREMENTS.**

**POLICY 7.22** The City will meet, or if required, exceed the adopted surface and groundwater protection and management (including karst-sensitive areas) standards and requirements of the jurisdictional WMO, as well as those adopted by the Metropolitan Council and the State of Minnesota, including the Total Maximum Daily Load (TMDL) program and the National Pollutant Discharge Elimination System (NPDES) Phase 2 requirements.

The City will comply with the Lower St. Croix Watershed Management Organization's current Plan (adopted June, 2005) and with the current rules (adopted February 2008) for those areas of the City within the LSCWMO jurisdiction. The LSCWMO rules are attached in Appendix F. The City will comply with the South Washington Watershed District's updated Plan (adopted by the SWWD in November 2007) and the Standards Manual when it is finalized. As per past discussion and agreement with the SWWD, however, the City will administer the runoff volume control requirements and wetland impacts in regional stormwater conveyance corridors according to Policies 6.1-6.2 and 5.4, respectively, of this Plan.

**POLICY 7.23** The City is committed to achieving the goal of nondegradation to area water resources. Upon MPCA approval of the City's Nondegradation Review, the City will implement the revisions to the City's Storm Water Pollution Prevention Program (SWPPP) to address nondegradation, as approved.

### **GOAL: PROVIDE ADEQUATE FLOOD PROTECTION FOR**

### **RESIDENTS AND STRUCTURES AND PROTECT THE INTEGRITY OF CONVEYANCE CHANNELS AND STORMWATER DETENTION AREAS.**

**POLICY 7.24** Adopt appropriate precipitation events for design of system components.

Storm sewers will be sized/designed using the intensity-duration-frequency curves presented in the MnDOT Drainage Manual for the 5-year 24-hour precipitation event. Lake, natural pond/wetland, and detention pond high water levels will be based on a 6.3-inch 24-hour type II distribution rainfall event.

**POLICY 7.25** Establish peak flow limits to avoid increases in downstream rates caused by development and protect channel integrity.

At a minimum, peak flow rates after development shall not exceed pre-development peak flow rates for the critical 1-year, 2-year, 10-year, and 100-year recurrence interval precipitation events. More restrictive rate control criteria may be required in order to protect the integrity of downstream conveyance channels. Both the SWWD and LSCWMO provide guidance as to the acceptable runoff parameters for characterizing an existing condition, particularly for agricultural runoff. The City adopts the defined parameters of the jurisdictional Watershed Management Organization (WMO).

### **GOAL: PURSUE THE REDUCTION OF TOTAL PHOSPHORUS (TP) AND TOTAL SUSPENDED SOLIDS (TSS) LOADING TO WATER BODIES BY COMPLIANCE, MUNICIPAL MANAGEMENT ACTIVITIES, AND PUBLIC EDUCATION.**

**POLICY 7.26** Encourage the incorporation of

acceptable Low Impact Development (LID) techniques into future development.

**POLICY 7.27** The City will require that new development projects include Minimum Best Management Practices (BMPs) that at a minimum achieve post-development reductions in TP and TSS by 50% and 80%, respectively.

**POLICY 7.28** Comply with the NPDES Phase II program administered by the Minnesota Pollution Control Agency (MPCA).

**POLICY 7.29** The City will continue to be actively engaged in stormwater inspection, operation and maintenance, and repair of the stormwater system on a day-to-day basis. The City will follow a formal inspection, cleaning, and repair schedule.

**POLICY 7.30** The City will actively implement an ongoing public education program directed primarily at City residents. Its objectives are to reduce phosphorus and sediment loadings to water bodies.

**GOAL: CLASSIFY AND EFFECTIVELY MANAGE WATER BODIES IN THE COMMUNITY TO ACHIEVE WATERSHED MANAGEMENT ORGANIZATION, STATE, AND FEDERAL REGULATORY AGENCY STANDARDS.**

**POLICY 7.31** The City requires adequate pretreatment of stormwater runoff from development and redevelopment activities prior to discharge into all water bodies.

**GOAL: CLASSIFY AND MANAGE WETLANDS IN THE COMMUNITY.**

**POLICY 7.32** The City will assess the function and value of wetlands. Approximately two-thirds of the wetlands within the City were assessed as part of an effort by the South Washington Watershed District in 1998. The inventory data associated with that assessment will be used by the City to guide management of those wetlands. The City shall establish a schedule for completing a function and value assessment for the remaining wetland complexes in the City (approximately 40, located in the eastern third of the City). That schedule will be phased so that the assessments are completed before subdivision of the affected areas occurs.

**POLICY 7.33** The City will develop and apply wetland buffer standards.

Wetland buffer zones are required on all public and private property which abuts water body. The City will adopt the applicable wetland buffer standards of the jurisdictional WMO, or where no standards exist, will establish minimum buffer widths and types based on wetland size, function, and value (see Chapter 4). The buffer standards will be applied to wetlands within parcels that are the subject of new development activity that must be approved by the City, or in accordance with the rules of the jurisdictional WMO.

**POLICY 7.34** The City will administer the overall wetland protection and preservation programs.

The City will act as the Local Government Unit (LGU) for administration of the Wetland Conservation Act (WCA) of 1991 and all subsequent amendments in all portions of the City. This will include the application of officially adopted wetland protection standards promulgated



through the WCA, NPDES MS4 permit, and the watershed management organizations covering the City as they relate to:

- wetland impact sequencing
- pre-treatment of stormwater prior to discharge to wetlands
- wetland replacement

The City will uphold the objective of no net loss in wetland functions and values within the City and comply with the most current WCA regulations for mitigation and acreage requirements for any filling, draining, or excavation of a wetland.

**GOAL: REGULATE NEW DEVELOPMENT AND REDEVELOPMENT ACTIVITIES.**

**POLICY 7.35** The City will comply with watershed authority and NPDES Construction Permit standards for management of stormwater runoff for all development activity disturbing 1 acre or more of land.

For areas of the City within the Lower St. Croix Watershed Management Organization (LSCWMO), the City will comply with LSCWMO standards for runoff volume reduction and stormwater treatment as presented in their Rules and Regulations adopted February 13, 2008 and effective June 1, 2008. For areas of the City within the South Washington Watershed District (SWWD), the City will comply with runoff volume reduction and stormwater treatment as presented in SWWD Plan adopted November 2007, except that in place of the variable area-specific volume control requirements, the City shall apply a uniform volume control requirement equal to infiltrating one inch of runoff from new impervious areas of a development.



Where meeting the standards referred to above is not adequate to meet the nondegradation requirements of the City's MS4 permit, the City will require additional controls in order to meet those MS4 permit requirements.

For re-development projects, the volume control standard will apply to new impervious area, which is the difference between the total impervious area of the site before the re-development activity and total impervious area for the post-re-development condition.

Where regional facilities are used to manage stormwater from development activity, the regional facilities will be constructed and operational prior to development.

**POLICY 7.36** Where infiltration to fully meet the volume control measure is not desirable or is impossible, an Alternative Sequencing procedure will be applied to achieve compliance.

Based on guidance from the watershed authorities, the MN Department of Health, and the State of Minnesota Stormwater Manual, the City will not allow infiltration practices:

- For runoff from fueling and vehicle maintenance facilities
- Within HSG D type soils
- Within 100 feet of a private well, within the emergency response zone for a wellhead protection area
- Within 50 feet of a septic tank or drain field
- On areas with less than 3 feet of vertical separation from the bottom of the infiltration system to the elevation of the seasonal high groundwater elevation or top of non-karst bedrock
- Within 300 feet of an identified sinkhole or other karst feature

At the discretion of the City Engineer, infiltration practices may not be allowed:

- Within a vulnerable (very high, high, or moderate vulnerability) Drinking Water Supply Area
- For runoff from a Potential Stormwater Hotspot (PSH) as defined in the State of Minnesota Stormwater Manual (2005)
- In a known or suspected karst-sensitive area

For areas within the jurisdiction of the Lower St. Croix Watershed Management Organization, the Alternative Compliance Sequencing procedure outlined in the LSCWMO rules adopted in February 2008 will be followed. For areas outside of the LSCWMO, the following Alternative Compliance Sequencing will be followed:

- The applicant will provide documentation for why infiltration is not feasible or allowable.
- The applicant will reduce impervious surface

associated with the proposed action to the maximum extent practical.

- The applicant will use to the maximum extent practical filtration and biofiltration practices, using an underdrain and an impermeable liner, that are sized to meet the volume control requirement for the site. The MN Stormwater Manual will be used as the definitive guide in designing and installing the filtration/biofiltration feature. If the applicant can show that the full volume of runoff for the appropriate volume control standard is filtered, the volume control requirement will be deemed to have been met. Other alternative BMPs will also be considered by the City if the applicant can demonstrate equivalency with the City's requirement.

If the applicant has followed the Alternative Sequencing procedure above and the full runoff volume control standard is still not met, the applicant will pay a cash dedication as a last resort. The procedure for calculating the appropriate cash dedication amount is presented in Section 5.4 of this Plan and the revenue from cash dedications will be ear-marked exclusively for water quality or runoff volume reduction improvements in the City.

**POLICY 7.37** Soil decompaction – The City encourages the practice of re-establishing the native infiltrative capacity of soils upon completion of mass grading activities. During the development review process, the City will recommend that soil decompaction, by means of deep ripping to a depth of at least 18 inches, be incorporated into site restoration activities. The volume control benefit provided by the deep ripping activity can be applied toward the City's volume control requirement, per the methodology outlined in the SWWD Standards



Manual.

**POLICY 7.38** Development pays for itself – Storm drainage system financing shall be by trunk area assessments against benefiting properties and storm sewer facilities. All new developments shall be required to pay the prorated cost to dedicate land and construct a stormwater treatment facility meeting City requirements.

**POLICY 7.39** Additional treatment can be required to protect downstream priority water bodies and/or meet jurisdictional WMO requirements.

The City may require, as a condition of approval to develop vacant land or redevelop existing sites, the construction by the developer of additional treatment features (to include ponds) or installation of appropriate best management practices over and above that required under Policy 7.35-7.36. This may be required even when existing improvements or ponds already are in place. The City can require these practices when it is necessary to protect the water quality of downstream priority water bodies. The City shall apply these requirements if necessary in order to meet the phosphorus load targets for Gables Lake, Ravine Park Lake and the Mississippi River as outlined in the South Washington Watershed District Plan (2007) and for O’Conner’s Creek and Lake as outlined in the Lower St. Croix Watershed management organization Plan (2005).

**POLICY 7.40** Control erosion at construction sites – The City requires that applications for new or redevelopment activity include in their applications for City review, a SWPPP as required under the NPDES construction permit in effect at the time of review. Construction sites will

be inspected to ensure compliance with the existing erosion and sediment control ordinance, jurisdictional WMO requirements, and with the construction site permit under NPDES Phase II rules administered by the MPCA. Inspections are performed weekly during the construction period. A plan review process and a financial security instrument are the primary instruments used to establish a basis for compliance.

Erosion and sediment control best management practices as outlined in “Protecting Water Quality in Urban Areas – Best Management Practices for Minnesota” by the MPCA (2000) will be required and must be shown on required submittals to the City for approval. Any street sweeping conducted by the City to remove erosional debris from streets will be charged to the owner of the property.

#### **NPDES PHASE II MS4 PERMIT**

In 2003, the Minnesota Pollution Control Agency (MPCA) required the City to submit an National Pollutant Discharge Elimination System (NPDES) Permit Application to minimize the discharge of stormwater runoff pollutants and authorize stormwater discharge from the City’s Municipal Separate Storm Sewer System (MS4).

The MPCA also required the City to prepare and submit a Stormwater Pollution Prevention Program (SWPPP). The SWPPP identifies a combination of stormwater Best Management Practices (BMPs), including education, maintenance, control techniques, system design and engineering methods, and such other practices, both existing and planned, determined appropriate to meet the NPDES Permit requirements.

## Surface Water Management Highlights

The Cottage Grove SWPPP includes 37 BMPs in the following categories or Minimum Control Measures:

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

Each year of the five-year permit cycle, the City must conduct an Annual Public Meeting and submit an Annual Report to the MPCA which summarizes:

- The status of compliance with permit conditions;
- Assessment of the appropriateness of the BMPs;
- Progress towards achieving the measurable goals for each of the minimum control measures;
- Stormwater activities planned for the next reporting cycle;
- A change in any BMP or measurable goals for any of the minimum control measures; and
- A notice that the City is relying on another entity to satisfy some of the Permit obligations (if applicable).

The primary goal of the MS4 program is to restore the integrity of waters of the state through management and treatment of urban stormwater runoff. As part of the permit, MS4 communities must develop a SWPPP that details the use of appropriate BMPs. The BMPs listed in the SWPPP are a legally enforceable part of the Permit. The City must complete the tasks and milestones to remain authorized to discharge stormwater into waters of the state. A copy of the most current version of the City's SWPPP can be found posted on their website: [www.cottage-grove.org](http://www.cottage-grove.org).

### **NONDEGRADATION REPORTING**

Appendix D of the revised MS4 permit addresses nondegradation requirements for stormwater management. This aspect of the permit imposes additional requirements on thirty MS4 permittees to complete a nondegradation report before revising their SWPPP. The City of Cottage Grove is one of the thirty cities identified by MPCA to which these requirements apply. The following is a list of the submittal components of the overall nondegradation review, as required by the MPCA:

- Loading assessment
- Nondegradation report
- Proposed SWPPP modifications to address nondegradation
- Public and local water authority comments on the proposed SWPPP modifications to address nondegradation, with a record of decision on the comments
- Application to modify the permit

Based on the MS4 permit adopted by the MPCA in February 2006, the City of Cottage Grove submitted its nondegradation plan along with any modifications to its SWPPP to the MPCA for review and approval on February 1, 2008. The City is committed to the goal of nondegradation to area water resources. Upon MPCA approval of the City's Nondegradation Review, the City will implement the revisions to the City's SWPPP to address nondegradation, as approved.

### **TOTAL MAXIMUM DAILY LOADS AND IMPAIRED WATERS**

Three waterbodies in Cottage Grove are listed on the state



impaired waters list, namely: the Mississippi River (Rock Island RR bridge to Lock and Dam #2), Ravine Park Lake, and the unnamed stream upstream and downstream of Ravine Park Lake. Known as the 303(d) list from the applicable section of the federal Clean Water Act, these waters are ones that do not currently meet their designated use due to the impact of a particular pollutant or stressor. If monitoring and assessment indicate that a waterbody is impaired by one or more pollutants, it is placed on the list. At some point a strategy would be developed that would lead to attainment of the applicable water quality standard.

The process of developing this strategy is commonly known as the Total Maximum Daily Load (TMDL) process and involves the following phases:

1. Assessment and listing
2. TMDL study
3. Implementation plan development and implementation
4. Monitoring of the effectiveness of implementation efforts

At this time, TMDL studies have not begun for any of the impaired waters in Cottage Grove. As the tributary watersheds for Ravine Park Lake and the unnamed stream upstream and downstream of this lake extend into adjacent communities, the City may request the SWWD to take the lead (with the City participating as needed) or co-facilitate with the City on the completion and implementation of TMDL studies for these two waterbodies.

The Mississippi River impairment identified in Cottage Grove has regional implications and potentially major implications for Cottage Grove. The City will cooperate with lead

agencies. Part of this involvement will be aimed at assuring due acknowledgement and consideration is granted the City for its past efforts to control urban nonpoint source inputs to the impaired water.

### **WETLAND MANAGEMENT**

To meet Met Council requirements for the 2008 Comprehensive Plan Updates, the city needs to establish a procedure for completing a function and value assessment of all non-assessed wetlands, either through a complete inventory of all remaining wetlands or via a phased approach. With a phased approach, the completion of the wetland function and value assessment process will be driven by development, with the process occurring in conjunction with development. Depending on the timeline for expansion into the undeveloped areas of Cottage Grove, the City will likely take a phased approach of assessing the remaining non-inventoried wetlands in these areas as development activity is occurring.

As the assessment of the remaining non-inventoried wetlands proceeds, the City may want to coordinate efforts with the SWWD or LSCWMO. It should be noted that the LSCWMO has jurisdiction over most of the remaining non-inventoried wetlands within the city, and is considering completing an assessment within the next 3 years. All future wetland function and value assessments will be done in accordance with the methods outlined in Minnesota Routine Assessment Method Version 3.1 (MnRAM), or the most current version at the time of the assessment.

### **ASSESSMENT OF PROBLEMS AND CORRECTIVE ACTIONS**



Sections 4, 5, and 6 in the Cottage Grove SWMP assess the City's current wetland and surface water management programs, identifying problems and challenges involving these programs as identified by the City, local WMOs, and other agencies. Cottage Grove acknowledges the surface water management challenges ahead and that these challenges will test the City's financial and technical resources.

The implementation section (Section 7) of the SWMP provides possible corrective actions to address the problems and challenges identified. Section 7 includes specific items related to the City's assessments, as well as ongoing maintenance items such as those related to Cottage Grove's NPDES Phase II MS4 permit. The implementation items fall into the following categories:

#### **REGULATORY ADMINISTRATIVE RESPONSIBILITIES**

This section describes the City's regulatory responsibilities to effectively administer the following:

- Erosion and sediment control program
- Preliminary and final platting process
- Floodplain management
- Shoreland ordinance

#### **EDUCATION**

Directed primarily at water quality improvement, this section identifies surface water management educational opportunities for City staff and City residents. This section also outlines how the City's surface water management standards and policies will be disseminated to the development community.

#### **OPERATION AND MAINTENANCE**

This section identifies the City's ongoing operation and maintenance commitments to effectively manage Cottage Grove's surface water management system.

#### **SYSTEM COSTS AND FINANCING MECHANISMS**

To fund the measures identified above, this section identifies how the City finances various types of maintenance and improvement activities associated with surface water management.

#### **SYSTEM IMPROVEMENT PROJECTS**

From the existing surface water management problems identified in previous sections, the SWMP includes a prioritized list of system improvement projects to address these problems. The items included on this list will be used as a reference for particular projects and activities specific to surface water management to be included in the capital improvement planning process.



**AMENDMENT PROCEDURES**

The SWMP is intended to extend through the year 2018. For the plan to remain dynamic, an avenue must be available to implement new information, ideas, methods, standards, management practices and any other changes that may affect the intent and/or results of the SWMP. The amendment procedure for the SWMP is presented below:

**REQUEST FOR AMENDMENT**

Written request for plan amendment is submitted to City staff. The request shall outline the need for the amendment as well as additional materials that the City will need to consider before making its decision.

**STAFF REVIEW OF AMENDMENT**

A decision is made as to the validity of the request. Three options exist: 1) reject the amendment, 2) accept the amendment as a minor issue, with minor issues collectively added to the plan at a later date, or 3) accept the amendment as a major issue, with major issues requiring an immediate amendment. In acting on an amendment request, City staff shall recommend to City Council whether or not a public hearing is warranted.

**COUNCIL CONSIDERATION**

The amendment and the need for a public hearing shall be considered at a regular or special Council meeting. Staff recommendations should be considered before decisions on appropriate action(s) are made.

**PUBLIC HEARING AND COUNCIL**

This step allows for public input based on public interest. Council shall determine when the public hearing should occur in the process. Based on the public hearing, the City Council could approve the amendment.

**WATERSHED MANAGEMENT ORGANIZATION APPROVAL**

All proposed amendments must be reviewed by the watershed management organizations prior to final adoption of the amendments.

**COUNCIL ADOPTION**

Final action on an amendment, following approval by the watershed management organizations, is City Council adoption. However, prior to the adoption, an additional public hearing could be held to review the plan changes and notify the appropriate stakeholders.

**MAJOR SURFACE WATER MANAGEMENT STANDARD CHANGES**

A number of current surface water management standards have been updated by standards in the SWMP. Some of these updates are considered "major changes" from current City standards, and are identified as follows:

**RUNOFF VOLUME MANAGEMENT**

In coordination with the local WMOs having jurisdiction in Cottage Grove, the City has developed a runoff volume control standard to address the commitment to nondegradation of receiving waters. This standard requires that 1-inch of runoff from all new impervious surfaces be infiltrated, or in cases where the city has identified exceptions to infiltration, that the appropriate alternative sequencing procedure is followed, as outlined by the SWMP.

**WETLAND MANAGEMENT**

The SWMP modifies current City standards to incorporate the wetland management standards of the local WMO's, as necessary. For wetlands within the jurisdictional boundary of the SWWD, wetland management standards include

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water quality, water quantity, buffer width, and mitigation requirements based on the assigned SWWD wetland management classification of a given wetland. For wetlands within the jurisdictional boundary of the LSCWMO, the City's wetland management standards will conform to those of the LSCWMO.

#### **DESIGN STORM REQUIREMENTS**

To comply with the current design storm requirements of the SWWD, the City revised its current 100-year design storm rainfall depth from 6.0 inches in 24-hours to 6.3 inches in 24 hours.

#### **WATERBODY CLASSIFICATIONS AND MANAGEMENT STANDARDS**

To comply with the requirements of the SWWD, the City adopted the waterbody classifications and corresponding water quality management standards as identified in the SWWD Watershed Management Plan.

#### **GROUNDWATER MANAGEMENT**

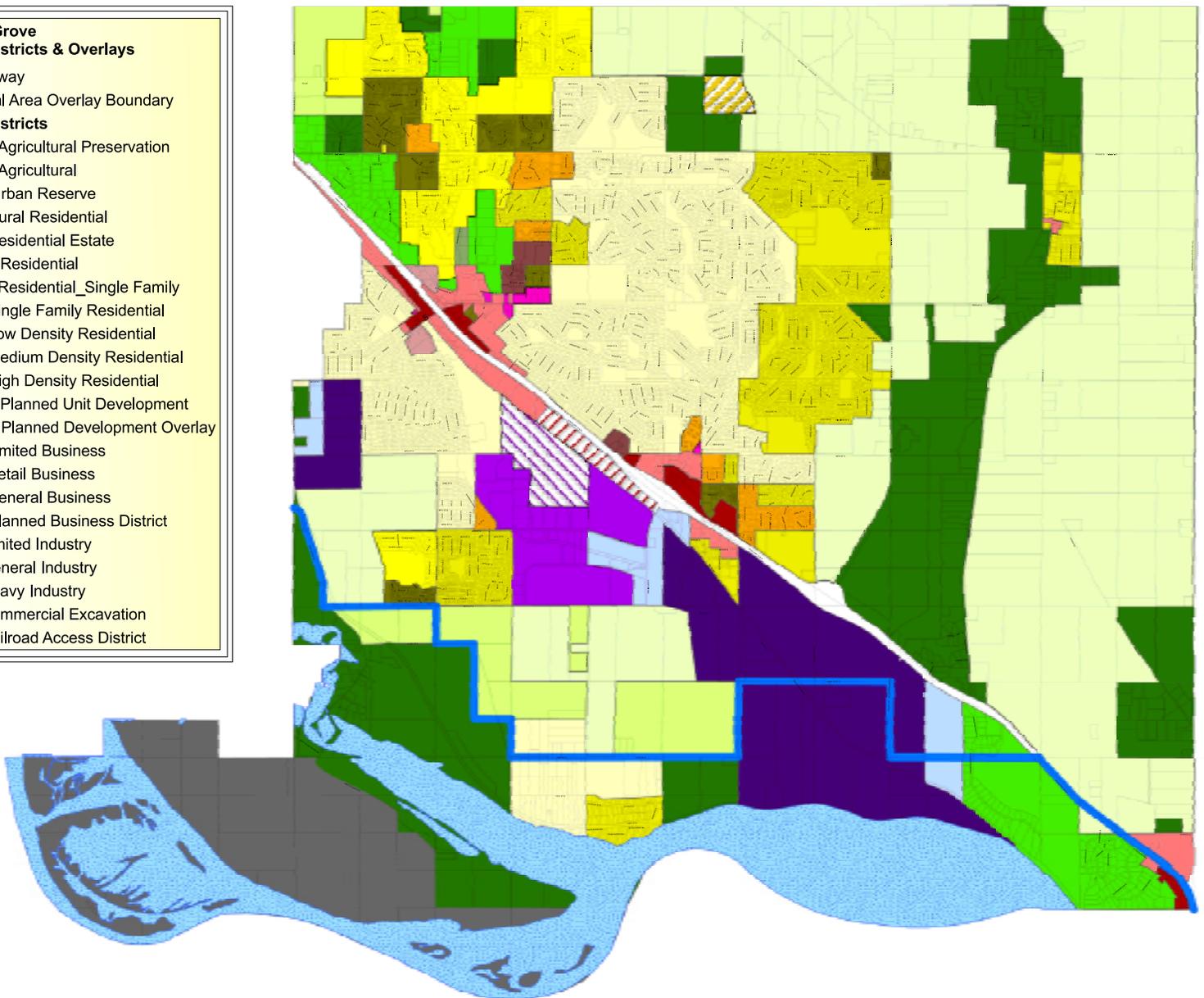
The SWMP incorporates guidance from the MPCA, the Minnesota Department of Health, the City's Wellhead Protection Plan, and the LSCWMO regarding management efforts to protect groundwater resources in Cottage Grove, particularly in karst-sensitive areas. This guidance translates into management policies that:

- restrict the use of infiltration in certain areas,
- require specific investigative measures when siting regional stormwater ponds in karst-sensitive areas, and
- seek to identify and investigate active karst-features in Cottage Grove.



**Cottage Grove  
Zoning Districts & Overlays**

-  Floodway
-  Critical Area Overlay Boundary
- Zoning Districts**
-  AG1- Agricultural Preservation
-  AG2- Agricultural
-  UR- Urban Reserve
-  R1- Rural Residential
-  R2- Residential Estate
-  R2.5- Residential
-  R2A- Residential\_Single Family
-  R3- Single Family Residential
-  R4- Low Density Residential
-  R5- Medium Density Residential
-  R6- High Density Residential
-  PUD- Planned Unit Development
-  PDO- Planned Development Overlay
-  B1- Limited Business
-  B2- Retail Business
-  B3- General Business
-  PB- Planned Business District
-  I1- Limited Industry
-  I2- General Industry
-  I3- Heavy Industry
-  I4- Commercial Excavation
-  I5- Railroad Access District



**Cottage Grove Zoning Map**

