CHAPTER 3
GROWTH AND LAND USE

This chapter considers existing land use characteristics in Gothenburg and projects the amount of land needed to accommodate the city's projected 2025 population of 4,079. It also identifies areas for future growth in the city, taking into account the community goals and Development Principles outlined in the previous chapter. This chapter will establish development policies that will guide future land use decisions in the city.

EXISTING LAND USE CHARACTERISTICS

This section examines the land use characteristics and trends affecting the amount of land needed to accommodate future development in Gothenburg.

Map 3.1a and Table 3.1 summarize current land uses in Gothenburg and the surrounding area based on a 2006 field survey completed by RDG Planning & Design. Map 3.1b shows a closer look at Gothenburg's existing land uses. Table 3.2 compares Gothenburg's land use distribution with those of Cozad, Schuyler, Ogallala, and Plattsmouth, Nebraska, communities of comparable size or proximity. Tables 3.3 and 3.4 provide a historical comparison of land use for Gothenburg between 1994 and the recent 2006 survey. While there were some differences in the way information was gathered and tabulated, it is possible to draw some general conclusions about changes in the city's land use pattern and distribution over the past decade.

The character of development can be summarized into four major categories including:

RESIDENTIAL USES

- Residential development is the second largest use of land in Gothenburg. Approximately 355.4 acres, or a fifth of the city's total land, is residential. About 90% of the housing units are single-family, 4% are multi-family, 2.5% are senior living, 2% are mobile homes, 1% are rural residences, and 0.5% are duplexes.

- Gothenburg has a lower percentage of land in residential use than Cozad, Schuyler, Ogallala, and Plattsmouth. Gothenburg's smaller percentage of residential land use is strongly attributed to the vast amount of industrial land annexed in the southeast area of the city. Proportionately, Gothenburg does not have a similar development pattern as compared to other communities.

- Over the past decade Gothenburg has seen some growth in residential land uses. Recent single-family development has occurred in the northeast area of the community and along Avenue A. The total developed acres for residential use between 1994 and 2006 showed a decline. However, the decline is likely the result of the method for gathering, recording and calculating data, and not a reflection of the actual change. The 1994 Plan does not include the single-family homes being developed in the northeast area along 25th and 26th Streets of the city.

COMMERCIAL USES

- Commercial development in Gothenburg is mostly service-oriented. Financial and auto-oriented service account for the bulk of commercial uses. Commercial development in the downtown is a mix of retail and office uses. Restaurants, auto sales and auto-oriented services are located along Lake Avenue, south of

TABLE 3.1: GOTHENBURG'S LAND USE DISTRIBUTION, 2006

	City of Gothenburg			Jurisdiction	
LAND USE CATEGORY	ACRES	% OF DEVELOPED LAND	ACRES PER 100 PEOPLE	ACRES	% OF DEVELOPED LAND
RESIDENTIAL	355.4	22.30%	9.82	156.3	25.50%
Rural Residential	5	0.30%	0.14	149.4	24.40%
Single-Family	314.1	19.70%	8.68	-	0.00%
Duplex	1.1	0.10%	0.03	-	0.00%
Multi-Family	13.5	0.80%	0.37	-	0.00%
Mobile Home	13.8	0.90%	0.38	6.9	1.10%
Senior Housing	7.9	0.50%	0.22	-	0.00%
COMMERCIAL	86.9	5.50%	2.4	9.4	1.50%
Office	4.2	0.30%	0.12	-	0.00%
Retail and General Commercial	17	1.10%	0.47	-	0.00%
Restaurant / Entertainment	15.9	1.00%	0.44	-	
Service	26.9	1.70%	0.74	-	
Commercial Recreation	5	0.30%	0.14	8.2	
Auto Services	17.9	1.10%	0.49	1.2	0.20%
INDUSTRIAL	515.86	32.40%	14.25	407.04	66.40%
General Industrial	482.96	30.30%	13.35	391.94	64.00%
Lt. Industrial/ Warehousing	32.9	2.10%	0.91	15.1	2.50%
CIVIC	290.1	18.20%	8.02	39.9	6.50%
School	19	1.20%	0.53	2.1	0.30%
Public Facilities and Utilities	58.7	3.70%	1.62	4.9	0.80%
Other Civic Uses	131.9	8.30%	3.64	32.9	5.40%
Parks and Rec.	80.5	5.00%	2.22	-	0.00%
TRANSPORTATION	346.2	21.70%	9.57	-	0.00%
Road Right-of-Way	295.2	18.50%	8.16	-	0.00%
Railroad Right-of-Way	51	3.20%	1.41	-	0.00%
TOTAL DEVELOPED LAND	1,594.46	100.00%	44.06	612.64	100.00%
AGRICULTURE AND OPEN SPACE	459		12.68	7,208.10	
VACANT URBAN LAND	20.7		0.57		
TOTAL AREA	2,074.16		57.31	7,820.74	

Source: RDG Planning & Design, 2006

TABLE 3.2: COMPARATIVE LAND USE - GOTHENBURG AND SIMILAR SIZED COMMUNITIES

	% OF DEVELOPED AREA				
	GOTHENBURG	COZAD	SCHUYLER	OGALLALA	PLATTS-MOUTH
	2006	1997	2003	2001	2003
RESIDENTIAL	22.3%	36.3%	34.0%	26.7%	47.0%
COMMERCIAL	5.5%	5.6%	3.7%	7.2%	5.0%
INDUSTRIAL	32.4%	12.6%	1.9%	5.7%	2.0%
CIVIC	13.1%	6.2%	12.9%	10.5%	10.0%
PARKS/RECREATION	5.0%	3.3%	14.2%	4.4%	7.0%
TRANSPORTATION	21.7%	36.1%	33.9%	45.5%	29.0%
TOTAL DEV. AREA	100.0%	100.0%	100.0%	100.0%	100.0%

	GOTHENBURG	COZAD	SCHUYLER	OGALLALA	PLATTS-MOUTH
	2006	1997	2003	2001	2003
RESIDENTIAL	6.62	7.59	9.34	10.57	9.13
COMMERCIAL	1.62	1.33	1.02	2.85	0.98
INDUSTRIAL	9.6	2.98	0.52	2.26	0.47
CIVIC	3.9	1.5	3.35	4.18	1.91
PARKS/RECREATION	1.5	0.79	3.89	1.75	1.46
TRANSPORTATION	6.44	8.54	9.32	18.03	5.62
TOTAL DEV. AREA	28.89	23.65	27.45	39.64	19.57

Source: RDG Planning & Design, 2006; The Cozad Plan, 1997; The Schuyler Plan, 2003; Ogallala Plan, 2001; Plattsmouth Plan, 2003

TABLE 3.3: COMPARATIVE LAND USE IN GOTHENBURG 1994-2002

LAND USE CATEGORY	ACRES		% OF DEVELOPED AREA		ACRES/100 PEOPLE*	
	1994	2006	1994	2006	1994	2006
RESIDENTIAL	355.4	355.4	33.73%	22.29%	10.62	6.62
COMMERCIAL	37.2	86.9	3.53%	5.45%	1.11	1.62
INDUSTRIAL	126.7	515.9	12.02%	32.35%	3.79	9.6
CIVIC	226.6	209.6	21.50%	13.15%	6.77	3.9
PARKS/RECREATION		80.5	0.00%	5.05%	0	1.5
TRANSPORTATION	307.9	346.2	29.22%	21.71%	9.2	6.45
TOTAL DEVELOPED AREA	1,053.80	1,594.50	100.00%	100.00%	26.01	29.69
VACANT & AG	405	479.7				
TOTAL CITY AREA	1,458.80	2,074.20				

Source: Gothenburg Plan, 1994, RDG Planning & Design, 2006

the railroad tracks. Commercial development along Highway 30 is mostly auto-oriented, while development along Highway 47 caters to traffic entering from Interstate 80. Commercial uses near Interstate 80 provide direct services to motorists, consisting mostly of hotels and auto-oriented businesses.

- Proportion of commercial development in Gothenburg is comparable to Cozad, Schuyler, Ogallala and Plattsmouth. Although the percent of developed area between Cozad and Gothenburg is comparable, Gothenburg has more acres per 100 people than Cozad. In other words, Gothenburg has a greater proportion of land used for commercial services than Cozad.

- Gothenburg has a greater amount of commercial development in 2006 than in 1994. The increased commercial development includes the expansion of the city's jurisdiction east to include commercial development along Highway 30.

INDUSTRIAL USES

- Industrial development is generally located to major routes of traffic. Industrial uses along the railroad corridor have direct access to the Union Pacific line, while industrial south of the railroad have strong access to Interstate 80. Industrial uses north of the railroad tracks are located near Highway 30.

- Industrial uses are increasing in the southeast. Renewable Agriculture Energy (RAE) is developing an ethanol plant, which will add jobs and attract additional services. A seed company is developing in the southeast, as well. The area of the new plant is included in the total calculation for industrial uses.

- Industrial land is the largest single land use in the city, growing by 300% from 1994 to 2006. Industrial uses accounted for 504 acres in 2006, up from 127 acres in 1994. New general industrial uses are located north of 2nd Ave, along 4th Street, and in the southeast.

TABLE 3.4: URBAN LAND CONSUMPTION FOR PRINCIPAL USES, 1994-2003 (ACRES)

LAND USE CATEGORY	1994	2006	CHANGE	ANNUAL LAND CONSUMPTION
RESIDENTIAL	355	355	0	0
COMMERCIAL	37	87	49.7	3.11
INDUSTRIAL	127	516	389.16	24.32
CIVIC	227	210	-17	-1.06
PARKS/RECREATION	-	81	80.5	5.03
TRANSPORTATION	308	346	38.3	2.39
TOTAL DEVELOPED AREA	1,054	1,594	540.66	33.79
VACANT & AG	405	480	74.7	4.67
TOTAL CITY AREA	1,459	2,074	615.36	38.46

Source: Gothenburg Plan, 1994, RDG Planning & Design, 2006

CIVIC/PARKS AND RECREATION USE

- Gothenburg has a similar proportion of civic and recreational land to comparable cities. The combination of the municipal airport and Lake Helen shows Gothenburg edging over Cozad. However, Schuyler, Ogallala, and Plattsmouth have more acres per person of parkland than Gothenburg. Parks account for 80 acres, public facilities and utilities account is 48 acres, the school campus is 21 acres, while the airport is 111.

- The amount of parkland increased during the last decade. The 1994 Plan identifies parks in the civic category, while this plan identifies parks in its own category. Total acres for civic and park uses in 2006 is 268.2, an increase of 18% from 1994. The annexation of the ballfields likely contributed to the growth. The amount and quality of park and recreation facilities is an important factor in overall community quality and will be further analyzed in Chapter 5 "A Recreation Lifestyle."

POPULATION AND GROWTH CONTEXT

1. Residential Land Use Projections

Population and development projections help to guide forecasts of land consumption through 2025. Table 1.6 in Chapter 1 "A Profile of Gothenburg," indicates that Gothenburg should reach a population of approximately 3.785 by 2010 and 4,079 by 2025. Table 3.5 presents the housing demand through the planning period utilizing these projections. This analysis is based on the following assumptions:

- To project annual demand, the number of units needed in a given year (number of households plus projected vacancy rate) is compared with the number of units available during that year (housing supply during the year less the units that leave the housing supply and must be replaced). Twenty-year demands are based on multiples of the five-year demand.

- Household size in Gothenburg is expected to gradually rise over the next twenty years from 2.42 to 2.48. It is likely that the level could begin to increase after 2010 as the baby boomers children move into their child bearing years, however, at 2.42/2.48 people per household Gothenburg is at a moderate level comparable to the state level of 2.49.

- The vacancy rate is expected to decline over the next decades as Gothenburg's economic development activities attract population growth. Housing demand projections assume a vacancy rate declining from 6.5% in 2005 to 6.1% by 2025.

- The projection model assumes a replacement need of 20 units per decade, compensating for housing lost to demolition, redevelopment, or conversion to other uses. This rate is comparable to other communities.

TABLE 3.5: PROJECTED HOUSING DEVELOPMENT DEMAND

	2005	2005-2010	2010-2020	2020-2025	TOTAL
POPULATION AT THE END OF PERIOD	3,692	3,785	3,979	4,079	
HOUSEHOLD POPULATION AT END OF PERIOD	3,580	3,670	3,858	3,955	
AVERAGE PEOPLE/HOUSEHOLD	2.42	2.44	2.47	2.48	
HOUSEHOLD DEMAND AT END OF PERIOD	1,479	1,507	1,565	1,595	
PROJECTED VACANCY RATE	6.50%	6.40%	6.20%	6.10%	
UNIT NEEDS AT END OF PERIOD		1,610	1,669	1,698	
REPLACEMENT NEED		6	20	10	36
CUMULATIVE NEED		36	78	40	154
AVERAGE ANNUAL CONSTRUCTION		7	8	8	8

Source: RDG Planning & Design

TABLE 3.6: REQUIRED RESIDENTIAL LAND 2000-2025

	% OF DEMAND	UNITS	GROSS DENSITY (DU/A)	LAND NEEDS	DESIGNATED LAND (X2)
2005-2010					
SINGLE FAMILY DETACHED	70%	25	3	8.4	17
SINGLE FAMILY ATTACHED	10%	4	6	0.6	1
MULTI-FAMILY	20%	7	12	0.6	1
TOTAL	100%	36		9.6	19
2010-2020					
SINGLE FAMILY DEATTACHED	70%	55	3	18.2	36
SINGLE FAMILY ATTACHED	10%	8	6	1.3	3
MULTI-FAMILY	20%	16	12	1.3	3
TOTAL	100%	78		20.8	42
2020-2025					
SINGLE FAMILY DETACHED	70%	28	3	9.3	19
SINGLE FAMILY ATTACHED	10%	4	6	0.7	1
MULTI-FAMILY	20%	8	12	0.7	1
TOTAL	100%	40		10.7	21
TOTAL 2000-2025		**154**		**41**	**82**

Source: RDG Planning & Design

- In 2000, about 70% of Gothenburg's housing units were owner occupied (Table 1.13). While single-family detached units will remain dominant for new construction, future housing trends suggest that:

- Higher-density housing forms that maintain single-family characteristics (single-family attached and townhouse configurations) will grow in popularity, accommodating an aging "baby-boomer" and empty-nest population.

- A portion of affordable housing will be in townhouse and multi-family configurations.

- Mobile homes will become a smaller component of Gothenburg's housing supply. Manufactured housing on permanent foundations is categorized as single-family housing.

The projection in Table 3.5 indicates a cumulative demand for 154 units in Gothenburg between 2005 and 2025. At 8 units annually, this rate is slightly higher than that experienced between 1996 and 2005 (6 units annually) but a realistic goal. These projections are used to estimate the amount of land needed to accommodate residential growth during the planning period. Table 1.5 in Chapter One provides an overview of construction activity between 1995 and 2006.

Based on desirable occupancy standards, it is projected that approximately 70% of the new units will be single-family deattached, 10% will be single-family attached and 20% will be multi-family. The city's current owner to renter occupancy is split 74/26.

On average, three single-family detached units will require one acre of land, six single-family attached units will require an acre, and the average gross density of multi-family development will be 12 units to an acre. As a standard, the plan recommends that land provided for residential development over a 20-year period be equal to twice the area that new growth actually needs. This is necessary to preserve competitive land pricing and provide consumer choice.
Based on these assumptions, Table 3.6 presents the amount of land that will be required for additional development.

It is anticipated that the city will absorb about 2.0 acres of residential land each year, for a total of 41 acres by 2025. Using the rule of designating land at a rate of two times the "hard demand," it is suggested that 82 acres be reserved for residential development over the next 20 years. The actual development concept outlined later in this document identifies areas in which this potential development should occur.

2. Commercial Land Use Projections

Because demand for commercial services is expected to continue in Gothenburg, accommodating future population growth must be a significant part of the city's

economic development strategy. Although this plan does not include a comprehensive retail market analysis, it is important to provide adequate commercial space to meet future market needs. It is also important not to allocate too much land for commercial development, which could restrict growth of other land uses.

Three methods can be used to help project commercial land needs:

- A population proportion. This method relates commercial growth to population projections. It assumes that the absolute amount of commercial land per 100 people will remain relatively constant and that new commercial development will grow in proportion to population growth.

- Residential use proportion. This assumes a constant relationship between the amount of land used for residential and commercial purposes, thereby relating commercial growth rates directly to residential development rates.

- A straight-line trend analysis, assumes that the amount of land absorbed annually in the past will continue into the future. A weakness in this method is its assumption that the last 13 years is a good predictor of future needs.

Table 3.7 compares the results of these three methods. Two of the three projection

TABLE 3.7: ESTIMATED COMMERCIAL LAND REQUIREMENTS, 2000-2020

	2000	2010	2020	2025	CONVERSION NEED	DESIGNATED LAND (X1.5)
POPULATION PROPORTION METHOD						
PROJECTED POPULATION	3,619	3,785	3,979	4,079		
COMMERCIAL USE /100 RES.	2.4	2.4	2.4	2.4		
PROJECTED COMMERCIAL USE (ACRES)	86.9	90.85	95.49	97.9	11	**16.5**
RESIDENTIAL USE PROPORTION METHOD						
RESIDENTIAL LAND (ACRES)	355.4	365	385.8	396.47		
COMMERCIAL/ RESIDENTIAL RATIO	0.244	0.244	0.244	0.244		
PROJECTED COMMERCIAL USE (ACRES)	86.9	89.25	94.33	96.94	10.04	**15.06**
ABSORPTION TREND METHOD						
ANNUAL ABSORPTION	3.8	3.8	3.8			
NEW COMMERCIAL LAND (ACRES)		19	38	19	28.5	**42.75**

Source: RDG Planning & Design, 2006

methods (population proportion and residential use proportion) suggest a need for 10 to 11 acres of commercial land during the next twenty years. The absorption trend method shows a significant variation, showing a need for 29 acres. The trend method considers the existing commercial development annexed by the city as new commercial, so it is not as reliable as the other two models. Gothenburg is above the regional (Nebraska and Iowa) average of 1.6 acres per 100 residents, experiencing a rate of 2.4 acres per 100 residents. This would account for only new commercial construction and not for additional commercial operations in existing vacant sites. In order to provide alternative sites, the land use plan should designate 1.5 times the hard demand for commercial land. Thus, for planning purposes the city should designate at least 17 acres of land for future commercial development.

3. Industrial Development/ Business Park

The need for industrial land is not directly related to population growth, making it much more difficult to predict. A single major corporate decision can dramatically increase (or decrease) the projected industrial demand in a community. In addition, a decision by the city to pursue industrial development aggressively can affect industrial land needs.

However, the projection methods used to predict commercial demand may also be used to approximate industrial needs. A straight-line trend analysis is a poor measure of demand for industrial acres and is not used, because of the reasons stated previously. Major industrial development may develop outside the city limits, therefore, the projection models are applied to all industrial land in Gothenburg's jurisdiction.

TABLE 3.8: ESTIMATED INDUSTRIAL LAND REQUIREMENTS, 2000-2020

	2000	2010	2020	2025	CONVERSION NEED	DESIGNATED LAND (X3)
POPULATION PROPORTION METHOD						
PROJECTED POPULATION	3,619	3,785	3,979	4,079		
INDUSTRIAL USE/100 RES.	6.65	6.65	6.65	6.65		
PROJECTED INDUSTRIAL USE (ACRES)	240.66	251.72	264.59	271.27	30.61	91.82
RESIDENTIAL USE PROPORTION METHOD						
RESIDENTIAL LAND (ACRES)	355.4	365	385.8	396.47		
INDUSTRIAL/ RESIDENTIAL RATIO	1.451	1.451	1.451	1.451		
PROJECTED INDUSTRIAL USE (ACRES)	515.86	529.79	559.99	575.47	59.61	178.82

Source: RDG Planning & Design

Table 3.8 below calculates additional industrial land needs within the city. The population proportion uses a 6.65 ratio for acres of industrial land to every one-hundred residents. The ratio, 6.65 is derived by extracting the acreage for the ethanol site (275) from total industrial land in the city (515.86) and dividing that result by the number of people per 100 in the City (3,619/100=36.19). This ratio provides a better projection for land requirements. The equation appears as follows: (Total industrial acreage – Ethanol Site) ÷ 36.19 = 6.65

Based on increasing population and residential use proportion methods described above, Gothenburg should absorb between 30 and 60 acres of new industrial land. In order to provide maximum flexibility, the land use plan should designate about three times the "hard demand" for industrial use. Under this assumption Gothenburg should provide between 90 and 180 acres of industrial and business park land.

ENVIRONMENTAL & PHYSICAL CONDITIONS

Development areas in the jurisdiction should be defined on the basis of their suitability for development and the presence or absence of major natural resources and features. Those areas that posses the greatest environmental sensitivity or most important assets should be preserved, while at the same time rewarding landowners (and developers) for their preservation. Major features to consider when thinking about the character of land include floodplains, wetlands, topography, and basement suitability.

Floodplain

The following subsections inventories hydrological conditions and constraints in the Gothenburg planning jurisdiction. These features include flooding frequency classification, FEMA Flood Insurance Rate Map, and wetlands. Generally, future development should avoid locating within areas prone to flooding.

Flooding Frequency Class: Flooding is the temporary inundation of an area caused by overflowing streams or by runoff from adjacent slopes. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in marshes and swamps are considered ponding rather than flooding. Flooding frequency class is the number o f times flooding occurs over a period of time and is expressed as a class. Flooding Frequency Classes are based on the interpretation of soil properties and other evidence gathered during soil survey field work. Map 3.2 shows the frequency of flooding near Gothenburg.

- None: Flooding is not probable, a near 0% chance of flooding in any year or less than 1 time in 500 years.
- Very Rare: Flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1% in any year.
- Rare: Flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1- 5% in any year.

- Occasional: Flooding occurs infrequently under normal weather conditions. The chance of flooding is 5-50% in any year.
- Frequent: Flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50% in any year but is less than 50% in all month in any year.
- Very Frequent: Flooding is likely to occur very often under normal weather conditions. The chance of flooding is more than 50% in all months of any given year.

FEMA Flood Insurance Rate Map: Map 3.3 references the areas designated for flooding by the FEMA FIRM (Effective January 3, 1990), which is for use in administering the National Flood Insurance Program; it does not necessarily identify all planimetric features outside of Special Flood Hazard Area or all areas subject to flooding, particularly from local drainage sources of small size. Map 3.3 is not a substitute for the official FEMA FIRM.

Reservoirs, Lakes, Ponds, and Wetlands: Standing bodies of water and wetlands, as identified in the most current National Wetlands Inventory (NWI) occur along North Platte River and North Platte Channel. The largest standing body of water is Lake Helen. Map 3.4 identifies wetlands, ponds, lakes and reservoirs in the Gothenburg vicinity.

NWI was developed by the U.S. Fish and Wildlife Service and provided by the Nebraska Department of Natural Resources. They do not show all wetlands since the maps are derived from aerial photo interpretation with varying limitations due to scale, photo quality, inventory techniques, and other factors. NWI maps are generalized in most cases. Persons intending to engage involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, and local agencies concerning specified agency regulatory programs.

Topography

Map 3.5, 3.6 and Map 3.7 examines significant topographic features in Gothenburg's planning jurisdiction. Examining topography helps delineate surface features like peaks, valleys, bluffs, and depressions as well as derive other information about the landscape such as slope. Topography features are examined by:

Contour Map: Map 3.5 identifies discrete elevation values. Data provided in this map helps identify the land's slope. Contour lines tend to hug each other in the northwest, representing steeper slopes than other areas of the map.

Slopes. Map 3.6 identifies slopes for Gothenburg as little, gentle, moderate and steep. Slope is measured as the amount of elevation change over a horizontal distance. Steep slopes are found near Wild Horse Golf Course. This peak elevation digresses moderately to the east, where lower hills emerge, and rapidly to the south until the Platte River plain is present. A majority of Gothenburg's jurisdiction falls within this

river plain. Within the corporate limits this plain begins at approximately 19th Street and continues south throughout the rest of the city. Just north of 19th Street is a subtle bluff that separates the two dominant land forms (alluvium plain and aeolian hills) of the region. Moderate slopes are near the resource extraction, located south of I-80, and near the bluff region, located north of 19th Street. The following percentages categorize the condition of the slope.

- 0-5% (Little or None): These lands are relatively flat and have no limitations on development.
- 5-10% (Gentle): These areas have subtle gradient changes and have minimal limitations on development. Land is suitable for development.
- 10-15% (Moderate): These lands require significant site preparation for development. Generally, these lands are more appropriate for residential uses, while commercial and industrial developments require larger sites.
- 15% and Higher (Steep): Steeply sloped sites can increase the potential for water runoff, erosion and landslides that can cause damage to structures and flooding. Generally, sites with steep slopes are not feasible for development without significant site design or structural reinforcement.

Digital Elevation Model (DEM): DEM's can be used as source data for digital orthophotos, and as layers in geographic information systems, for earth science analysis. DEM's can also serve as tools for volumetric analysis, for site location of towers, or for drainage basin delineation. Data was collected as part of the National Mapping Program and provided by the Nebraska Department of Natural Resources in work-share agreement with the U.S. Geological Survey. Map 3.7 shows the highpoint of the Gothenburg area to be near the Wild Horse Golf Course and the low lying areas near the Platte River.

Septic Tank Absorption Fields

Map 3.8 shows areas unsuitable for septic tank development. Generally, the City of Gothenburg should require future development on the periphery of the developed area to connect to city services. Rating class terms indicate the extent that soils are limited by all of the soil features that affect these uses. Data for developing the map is derived form the USDA Natural Resources Conservation Service. Areas are classified into the following categories:

- "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.
- "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.
- "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

DEVELOPMENT PRINCIPLES AND THE LAND USE PLAN

A Community For All

This section presents land use strategies that will enable Gothenburg to plan successfully for projected growth and respond both to the pressures of internal land use change and to external developments. Overall development patterns should reinforce the functional and aesthetic values and traditions of the community, even as new development extends into the surrounding landscape. New development should generously accommodate pedestrian and vehicular mobility. In addition, Gothenburg's growth program should take maximum advantage of existing resources and community characteristics.

In light of growth trends, development projections, and community assets, Gothenburg's growth program should:

- Designate growth areas for residential development, designed to provide the appropriate amount of land for urban conversion.
- Use existing subdivision plats and infrastructure investments as first priorities toward meeting the city's development needs and objectives.
- Encourage residential growth patterns that are affordable to a range of incomes.
- Ensure that new development maintains continuity and linkages among neighborhoods.
- Encourage adequate commercial growth to respond to potential market needs in Gothenburg.
- Provide adequate land to support economic development efforts that capitalize on Gothenburg's historical, educational and environmental attractions, and transportation access.
- Prevent or discourage uncontrolled development that can siphon energy and investment away from already established areas without adding to the city's net economy.
- Use Gothenburg's special city assets and features to best advantage in framing the character of existing and new neighborhoods.

The components of this program include:

- **USE OF SMART GROWTH TECHNIQUES**
- **RESIDENTIAL GROWTH CENTERS**
- **COMMERCIAL AND INDUSTRIAL OPPORTUNITIES**
- **A COHESIVE GROWTH PATTERN**
- **DOWNTOWN DEVELOPMENT**
- **PRE-PLANNED MAJOR STREETS**
- **A LINKED GREENWAY/TRAIL SYSTEM**
- **FRAMEWORK FOR DECISION-MAKING**
- **AN ANNEXATION POLICY**

USE OF SMART GROWTH TECHNIQUES

"Smart growth" has become a trendy phrase accepted by the developer and regulator alike. As is often the case, the concept means different things to different people. In the context of the Gothenburg Plan, smart growth represents a variety of techniques that allow a community to accommodate the development that the market produces, but to manage it in a way that maintains order, efficiency, and unity. Smart growth balances developers' and communities' perspectives on environmental sensitivity, economic efficiency, and enhancement of community and civic life. The goal of smart growth is to implement land development principles that are profitable for developers while being community-oriented, environmentally sensitive, and fiscally responsible. Smart growth principles do not oppose cars and roads, tell people where or how to live, or discourage growth. Practical principles applied to smart growth visions will ensure that development and protection of public and environmental interests are congruent. The smart growth principles guiding the Gothenburg Plan are as follows:

Encourage a Distinctive Community with a Sense of Place

- Promote development that reflects the character of the community.
- Build cohesiveness among residents and maintain a community identity that creates a sense of membership.
- Create physically attractive atmosphere for prospective homeowners and businesses.

Any growth concept for Gothenburg has to promote development that reflects the character of the community and maintains a sense of structure and connectedness. Identity features include the downtown, Lake Avenue and significant tree canopy, Lake Helen, traditional neighborhoods, and a connected street pattern. Using these features and developing others that acknowledge a sense of connectedness between new and old areas will ensure the city grows in a unified manner.

Mix Land Uses

- Diversify activity in neighborhoods.
- Locate a variety of uses near one another, allowing for alternatives to automobile travel.

The principle of mixed land uses is central to smart growth. A development pattern that encourages a mix of land uses provides a diversity of activities. It promotes vitality, the perception of security, and the use of public spaces. A variety of uses can also reduce the distances that people must travel by car to conduct their daily lives. A mixed land use pattern also encourages a variety of housing types. Even in new projects, the development of housing above what would otherwise be single-story, single office and commercial establishments adds vitality to business areas and increases the economic yield on property. More communities are finding that by mixing land uses neighborhoods are more attractive to workers considering quality of life criteria in

their housing decisions. This principle applies to contemporary development as well as to historic, special use districts. Mixing uses in Gothenburg may be best suited for development near downtown.

Make Full and Efficient Use of Urban Services

- Use public infrastructure efficiently and avoid development that prevents or discourages extension of urban services into appropriate areas.
- Develop contiguous to existing urban development.
- Encourage compact development patterns.

Smart development principles demand efficient use of existing and future public infrastructure. As Gothenburg grows, it will be called on to extend water and sewer lines. Historically, Gothenburg has extended infrastructure in an efficient manner resulting in a contiguous development pattern. However, development along Avenue M and 27th Street could hem the future expansion of streets to the east. It is essential that substantial infrastructure investment continue to be optimally efficient and beneficial to the community. Otherwise serious economic penalties and costlier urban investments will result.

Create Housing Opportunities and Choices

- Develop housing in different design configurations, reflecting the needs of a diverse population.
- Encourage housing affordable to a variety of income levels, integrating different housing types into the community.
- Consider multi-use buildings that integrate housing into business environments.

Most of Gothenburg's housing stock is single-family homes. No single type of housing can meet the needs of today's diverse households, and a growing community should provide a range of housing choices for its citizens. These might include attached owner-occupied housing for empty-nesters; moderately priced units to help young families build equity in the community; smaller lot single-family development in innovative design settings, "standard" single-family development, and high-end estate homes. Attached housing can mean single-family units on separate lots, duplexes, or townhouses. Residential development may also be incorporated into mixed-use projects to reduce separations between living places and activity centers. Gothenburg should be a community of opportunities for people at all stages of life and allow households to find their niche in the community.

Create a Walkable Community

- Ensure that all areas of the community are accessible by a network of sidewalks and trails.
- Locate key activity centers within walking distance of residential areas.
- Design streets so that traffic moves at speeds that allow for pedestrian activity.

Only within the last 50 to 60 years has community design moved away from a premise of pedestrian access. Today's development is more auto-dependent, with street patterns that can make pedestrian movement unsafe. In a truly walkable community, neighborhood commercial services, schools, and other activity centers are located within a five- to ten-minute walking distance of housing. Walkable communities also encourage social interaction and expand transportation options. The pattern and design of development should serve a range of users including pedestrians and bicyclists, as well as motorists, moving them around the community in a convenient and efficient manner.

Decisions regarding vehicular travel also affect a community's walkability. A good transportation network uses special design techniques to ensure that street traffic is consistent with pedestrian safety, which is important when linking the college to commercial and civic destinations around the community.

Conserve the Community's Natural Resources

- Preserve open space, farmland, and critical environmental areas.
- Sustain special ecosystems for natural habitat and recreation.

By preserving open spaces, communities can ensure an adequate balance between the built and natural environment. Open spaces improves the quality of a community. They provide important community spaces, habitat for plants and animals, recreational opportunities, and places of natural beauty. It is also important to preserve environmentally sensitive areas such as floodplains in order to prevent adverse environmental impacts. Applying smart-growth principles to the Gothenburg Plan encourages the incorporation of water bodies, wetlands, parkland, and farmland into the city's overall growth concept. Good development practices encourage the preservation of these features while permitting developers and landowners a reasonable yield on their property.

Diversify Transportation Modes

- Provide linked and connected street systems, dispersing traffic and providing alternatives to the use of major streets.
- Design streets so that traffic moves through neighborhoods at appropriate speeds.
- Make walking and bicycling viable, attractive alternatives to driving.

Many communities have begun to realize a need for a wider range of transportation options. A completely auto-dependent urban pattern limits access of such groups as young people and seniors to features of a growing community. As Gothenburg grows, distances between major features will become greater. This increase in physical size should not limit access. Techniques allowing residents to move more freely include better coordination of land use with transportation, multi-modal streets that accommodate all forms of transportation, and greater connectivity within the street network.

A good system keeps neighborhoods connected while routing heavy regional traffic around residential areas. It ensures a continuum of streets, including inter neighborhood collectors that serve local traffic needs without requiring drivers to use major arterials. It uses design techniques to ensure that traffic speeds conform to surrounding land uses and safety conditions. In Gothenburg, a good system will connect neighborhoods to each other, to the downtown area, and to recreational facilities.

Achieve Stakeholder Collaboration in Development Decisions and Provide Smart Growth Tools

- Provide land development guidelines that promote smart growth.
- Establish a process that encourages collaboration among all stakeholders.
- Institute a development review process that encourages, rather than obstructs, innovative development.

Zoning and subdivision guidelines, as well as the development review process, should offer flexibility and encourage performance review rather than mere compliance with arbitrary numbers. These measures will promote an appropriate mix of land uses, traditional neighborhood developments, and good street system design.

Further growth can continue Gothenburg's tradition as a pleasant place to live and work. However, this development must accommodate the community as well as developers. Ideas developed by the community through strategic planning and the implementation of smart growth principles laid out in this section will build stronger and more productive communication and facilitate implementation of the Gothenburg Plan.

RESIDENTIAL GROWTH CENTERS

Gothenburg's future residential growth should be directed toward the north, northeast and northwest areas of Gothenburg.

Numerous factors guide residential development within Gothenburg. The area south of the railroad tracks are dominated by the Platte River, floodplain, Interstate 80, and canal irrigation. Some residential development exists in the south area; however, there is a limited growth opportunity as it is surrounding by industrial uses.

Future residential development towards the northwest and northeast would have easy access to municipal services and adjoin existing residential neighborhoods. Expanding housing to the northwest and northeast would compliment the existing structure of the City and provide adequate space for growth, as well.

North Development Area

The North development area is associated mostly with extending north/south streets into developing areas. These street extensions are dependent on houses along the north side of 27th Street not obstructing these extensions.

- An Inter connected Street System. Development of the area should complement and be connected to the adjacent neighborhood streets. Existing east/west streets should extend into the development area. New construction should occur with access to north/south routes. Generally, the area is flat and is possible to extend the city's grid pattern.

- A Variety of Housing. The northwest corner of 27th Street and Avenue M could be a location for new multi-family housing located across the street from existing multi-family housing.

- Park and Open Space. Interconnected open space areas should connect neighborhoods and link into the city wide trail systems. These open space areas could include:
  - A greenway along the canal. Developing a trail along the Gothenburg Canal will contribute to a citywide trail system and connect residents of the development area to Lake Helen.

Northwest Gothenburg Development Area

The Northwest development area is located west of Tail Race Canal. This area could develop by the extension of 16th and 20th Streets. The area north of 20th Streets rises up to overlook the community, making it a desirable location for new housing development. The area also has access to the city's street grid from the east and could tie into the proposed truck route on the west. Components of the area include:

- Drainageway. Development that does not account for proper stormwater management in this area will likely overload the city's existing storm sewer system or create places of standing water. Protecting the drainageway that runs through this area, along with adequate stormwater retention/detention will be an essential component to developing this area. Generally, the area slopes south to 20th Street where it becomes more flat. Drainage could then be directed to the existing storm sewer along 2nd Avenue.

  Stormwater management in this area can include what have been termed "best management practices." These practices usually address both the quantity and quality of runoff from developed sites. Techniques include conservation easements, stream and wetland management and restoration, riparian buffers, inclusion of open space and greenways, reduction in impervious coverage, and the use of conservation subdivisions. Conservation subdivisions involve site planning and design approaches that preserve existing natural areas and utilize natural drainage and detention measures for stormwater management.

- An Interconnected Street System. Proper street development should move traffic and provide alternatives to the city's existing collector system, and can also assist in stormwater management. By creating a local street system that follows the

contours of the area the street system can work as a terracing system that slows storm water run-off into the drainageway at the bottom of the basin.

The street system should also avoid overloading the city's existing collector system. 16th and 20th Streets could become major east/west collectors through this neighborhood as smaller local streets connect into the system, possibly imitating the grid pattern or designed to the contours of the slope.

- A Variety of Housing. The Northwest growth area should offer a variety of housing densities. The southern portion of the site, with easy access to municipal services and closer proximity to Highway 30 could develop with smaller lots. At a lower cost these smaller lots could cater to more affordable housing and first time home buyers. The area could utilize Tax Increment Financing (TIF), which could be used by the city to bring down development costs related to infrastructure improvements.

  To the north of 20th Street where the land slopes up, larger lot homes could be developed. The top of the ridge would be left open providing more seclusion to the larger lots to the north and a greenway link within the development. Depending on the size of the lots and the density of the area, homes could be on individual septic systems; however, it may be possible to extend sanitary sewers from Avenue A to this development area. An average lot size smaller than 2 to 3 acres should require municipal sewer service.

- Park and Open Space. Interconnected open space areas should connect neighborhoods and link into the city wide trail systems. These open space areas could include:

  - A greenway along the truck route. A trail should be developed in sequence with the development of the truck route. A parallel trail to the truck route improves the appearance of the corridor and provides space for recreation. Transportation Enhancement funds could be used for both projects. Developing the trail prior to other development can be used as an incentive for attracting new development.
  - A greenway following 17th Street alignment. The greenway would provide residents space for recreation and establish a buffer between residential and industrial uses.
  - A buffered drainageway. The Tail Race drainageway should be buffered with an open space area to provide additional storm water management. The drainage corridor could also provide trail access along the Tail Race.

Northeast Development Area

The Northeast development area is associated mostly with extending east/west streets into undeveloped areas. These street extensions are dependent on houses along the eastside of Avenue M not obstructing these extensions.

- An Inter connected Street System. Development of the area should complement and be connected to the adjacent neighborhood streets. Existing east/west streets should extend into the development area. New construction should occur with access to east/west routes, and be cohesive with adjacent neighborhoods. Generally, the area is flat making extension of the city's grid pattern possible.

- A Variety of Housing. The Northeast growth area should offer a variety of housing densities. The area could utilize Tax Increment Financing (TIF), which could be used by the city to bring down development costs related to infrastructure improvements.

COMMERCIAL AND INDUSTRIAL GROWTH OPPORTUNITIES

Gothenburg should provide attractive sites for future commercial and industrial development.

Gothenburg should continue to afford additional employment opportunities to those who reside in the city as well as residents of the surrounding area. The Development Concept for Gothenburg suggests that commercial development should continue to focus on the downtown, along Highway 30, at the Interstate 80 interchange, along Lake Avenue (south of the railroad tracks) at key intersections. Commercial and industrial development in Gothenburg should be characterized by:

Major Commercial

Major Commercial can accommodate larger commercial and office uses, as well as, medium to high-density residential development. These areas can accommodate major commercial development that serves the community and even regional markets. Highway 30 and Lake Avenue developments are the best examples of Major Commercial in Gothenburg.

The Highway 30 corridor is a linear mixed use corridor of commercial and industrial destinations. Identifying the corridor's future role and character will require further evaluation in a more in-depth study. This should occur before additional viaducts are completed. Components could include a greening of the corridor, traffic calming, and a mixture of commercial uses.

The Lake Avenue corridor south of the railroad tracks is also a linear mixed use corridor. The path between this commercial corridor and downtown is interfered by the railroad crossing. The appearance of this corridor should be enhanced to reflect elements of the downtown streetscape.

Mixed Use Centers

Traditional land use planning and zoning is sometimes described as "Euclidean", derived from the famous Supreme Court case of Ambler Real Estate vs. Village of

Euclid that upheld the constitutionality of zoning. Euclidean zoning establishes single-use districts, defining locations for residential, commercial, and industrial uses. Recent planning philosophy has sometimes attacked single-use land planning and zoning as stultifying, creating inflexible and uninteresting cities and towns. This approach is also not reflective of the city's traditional development pattern.

In some situations, single-use planning and zoning policy remains appropriate. Property owners often rely on zoning for a measure of security -- the knowledge that incompatible uses cannot easily be established next to them without due public process. However, contemporary land development frequently involves mixing of uses. Furthermore, it is difficult to predict with accuracy the specific future of a parcel of land. Therefore, land use policy should reflect both changes in development practice and the need for flexibility by defining ranges of permitted uses within specific areas, based on their location in the city and the nature of surrounding access systems. These ranges of uses in many cases have similar impacts on traffic, neighborhood character, and the urban environment.

The Development Concept includes two mixed use districts. Land use patterns and market trends in these areas are too complex to be able to predict single uses with certainty. Rather, mixed use districts provide a range of uses, developed according to specific standards for parking, scale, and pedestrian access.

Downtown Mixed Use

Office uses and vacancies in the downtown indicate a shift away from the retail center it was 30 years ago to a service center with more unique commercial opportunities. Although the downtown is unlikely to be the retail hub it once was it can still be a viable commercial center that attracts both local and regional visitors. The future success of the downtown will depend on identifying opportunities and creating an interesting public environment. Possible approaches to these issues are discussed in detail in Chapter 8 "Downtown Gothenburg".

Neighborhood Mixed Use

Neighborhood Mixed Use (NMU) provides neighborhood activity centers that include limited commercial services, offices, and possibly medium to high-density residential development. Neighborhood mixed use centers are located at major street intersections or along arterials on sites that are linked directly into the fabric of their residential areas. NMU areas often provide neighborhood retail and commercial services. These land use designations can provide a good transition between the low-impact commercial services adjacent to owner-occupied housing. The Development Concept identifies the NMU areas for the following areas:

- Intersection of 1st Street and Highway 47.
- Proposed intersection of truck route and Lake Avenue (Highway 47).

Industrial Development

Industrial development in Gothenburg has strong associations to transportation systems, including Highway 30, Highway 47, Union Pacific railroad and Interstate 80. Future industrial uses should consider their proximity to these transportation systems. Industrial uses in Gothenburg could be clustered by their intensity, whereas a warehouse is a less intensive use than a manufacturing plant. Gothenburg's future industrial needs are characterized by the following:

Southwest Development Area

Along the proposed truck and industrial routes are substantial areas for future development. The existing development along 1st Street is primarily industrial uses. Good transportation access and visibility make it a prime location for industrial business park development. This area could include office and flex uses, which have offices on one side and distribution or warehousing on the other. Special attention should be given to the design and appearance of all new commercial and industrial development areas. High-quality landscaping and sign standards should be implemented to create quality business environments without burdening individual businesses.

Southeast Development Area

The southeast development area is located east of Cottonwood Drive and south of the railroad to the North Platte Channel. During the development of this plan, Gothenburg annexed land to incorporate a new ethanol plant. The site will require new access routes from the railroad and street network.

- An Interconnected Street System. The extension of 1st Street to the proposed ethanol plant will provide a connection to Highway 47. By upgrading 1st Street to a new truck route, it would become a viaduct over the railroad tracks and have access to Highway 30 and Highway 47, north of the city. Land adjacent to 1st Street could be eligible for future industrial development.

  Avenue M could become a truck route, as well, extending over (viaduct) the railroad tracks to connect to 1st Street.

- Community Services. The area is adjacent to the city's sewer treatment plant and existing industrial and large scale commercial developments. These surrounding land uses create an environment that is more conducive to business park and industrial developments.

West Development Area

The west development area is located along Highway 30. High-quality landscaping and sign standards should be implemented to improve the personality of the Highway through town. Industrial uses should be less-intensive and respect the neighboring development.

A COHESIVE GROWTH PATTERN

Gothenburg's development pattern should protect both areas for future growth and the rural character of the city's jurisdiction.

Map 3.9 Development Concept, identifies the growth areas outlined above but also identifies important land use patterns. Map 3.10 shows the Future Land Use for Gothenburg and extraterritorial district. These include:

- The Core of the City – the existing urbanized area. Appropriate policies in this area are based on neighborhood conservation and include housing rehabilitation, infill development on vacant sites, redevelopment of underused sites, and completion of supporting public projects.

  Gothenburg has a strong housing stock with few vacant lots. Existing housing programs have facilitated housing rehabilitation and should continue to do so. When possible any vacant lots should be utilized for new development. These sites have access to existing city services and provide established neighborhoods.

- Urban Development Areas. As outlined above these areas correspond to the projected land needs for the city through 2025. Large –lot rural estate development lacking full urban services, which have become increasingly common in rural Nebraska, should not occur within these areas.

- Open/Agricultural Areas. These areas include the portions of the city's jurisdiction that should be primarily maintained in agricultural or open space use. Within this area is the North Platte Channel where development should continue to be discouraged. The drainageway should act as a southern greenway providing recreational opportunities when appropriate.

New development in Gothenburg should be focused in those areas designated by the Development Concept and Future Land Use Plan. A disciplined approach of this nature will ensure cost-effective, efficient land use patterns that maximize the benefits of development to the community. Additionally, development should occur within the context of the transportation and open space framework proposed by the Plan.

DOWNTOWN DEVELOPMENT

This section proposes an innovative development program for the city's vital town center, a distinctive place that remains an active mixed use center, and connection to Highway 30. This chapter analyzes this subarea, and presents a multi-faceted development program that includes the public environment, redevelopment opportunities, and management strategies designed to improve the areas. It is designed to create opportunities for additional business, and to improve the functioning and financial success of the area. Map 3.11 illustrates the concept for developing downtown, while the narrative below describes the concept in more detail.

Recommendations and policies for Downtown Gothenburg include:

[1] The West Gateway Entrance into downtown could be established at 10th Street and Avenue D near the Sun Theater. The gateway could be designed with iconic symbols (tubes of light) mounted in a median with pavers and ornamental landscaping. The gateway announces the arrival to the district and directs motorists to the downtown core. The west gateway could be complimented with an east gateway feature, thereby creating a bookend to the downtown.

[2] A New Parking Lot could be developed across from the Sun Theater and behind the grocery store to provide parking space for patrons during the day for the grocery store and parking space for the theater during the evening. The availability of downtown parking is important to the district. Parking in Gothenburg is provided in both private and public lots and along the district streets. Most of the streets provide diagonal parking. Gothenburg generally provides an adequate supply of parking to meet its current demand; however, there is often a perception issue that downtowns must overcome. This is the perception that if parking is not available directly in front of one's destination, a lack of parking exists. While the district is highly dependent upon its on-street parking to provide a well-distributed parking supply, this should be continually evaluated.

[3] Future Fire Department Addition may occur as the demand for community services increase with growth or as development happens within the district of the rural fire department. The Development Concept considers the space for the addition, in the event that such an expansion is needed.

[4] A New Commercial Site is designated along 10th Street near the entrance to downtown from the viaduct. The commercial site will need to access to the rear of the building and provide parking in the alley.

[5] The East Gateway Entrance into downtown could be established at 10th Street near the viaduct. The gateway could be designed with iconic symbols (tubes of light) mounted in a median with pavers and ornamental landscaping. The gateway announces the arrival to the district and directs motorists to the downtown core. The west gateway

could be complimented with an west gateway feature, thereby creating a bookend to the downtown.

[6] The East Gateway Landscaping opposite of the gateway entrance cues the motorists that they are arriving to an important intersection and directs them to the downtown. The landscaping should be formal balanced with stone, pavers, signage and plants. Landscaping could extend to follow the path of the viaduct. Property acquisition may be necessary to implement.

[7] A Landscaping Yard could be designed following the viaduct. As motorists arrive to the base of the viaduct, their initial impression is of the surrounding land. A beautiful landscaped yard would act as a front "doormat" to the northside of Gothenburg and to the commercial core.

[8] A New Alleyway could be developed to allow motorists and pedestrians to access the 8th and 10th Street. Currently, 9th Street dead ends near the viaduct. Creating an alley would allow greater access to businesses near the viaduct and improve circulation.

[9] A Vertical Downtown Monument could signify the arrival to Downtown Gothenburg. The monument could rise above the apex of the viaduct and attract the eye of motorists traveling by and to downtown. The monument could be tube illuminated with light and

[10] A New Commercial Site could be developed along the east edge of 9th Street. The site could be oriented to the new vertical monument and have parking along its eastern edge. The roof of the building could be designed to be appealing to motorists traveling along the viaduct. A green roof could be developed to communicate the community's value for the environment.

[11] A New Avenue could be established to provide additional parking spaces on the east edge of downtown. The street transforms the cul-de-sac at 9th Street to a new avenue lined with parking spaces.

[12] A Downtown Fountain located mid-block on 9th Street between Lake Avenue and Avenue F marks the alley entrance to the redevelopment project on the 800 block. The water feature should attract the eye of the passerby and convey a sense of activity and movement in the downtown. The water feature could also be the point of origin for a shallow canal leading to a larger pool within a plaza. The canal directs the pedestrian to the new development and creates a stronger link between the new and historical development.

[13] Pedestrian Dual-Use Alley is an improved alleyway with pavers or stained concrete and pedestrian lighting. The alleyway experiences a lot of pedestrian traffic; however the design and function of the alleyway is for vehicles. The alleyway could be enhanced to appeal to pedestrians while continuing to allow vehicle traffic.

[14] The Mid-Block Crossing in the alleyway creates a dedicated space for pedestrians to cross Lake Avenue, rather than meandering around parked vehicles. Mid-crossings decrease the distance the pedestrian travels across the street, thereby improving safety, and providing a visual cue for vehicles to slow down.

[15] A Landscaped Garden between the grocery store and bank on 9th Street would enhance the edge of the sidewalk, framing the pedestrian path and creating a passive space near the bank drive-thru.

[16] On-street angled parking could be developed along Avenue D, providing additional stalls and convenient access to neighboring businesses. The parking lot adjacent to City Hall could be redesigned to provide an additional row of parking along the street. Currently, the state highway designation and constrained right-of-way restricts Avenue D to parallel parking, which limits the amount of parking directly in front of businesses. As additional viaducts are developed, state designations could change.

[17] A Future Police Department Addition could be constructed to City Hall to provide sufficient space for personnel and daily operations.

[18] A Performance Square along Lake Avenue would provide public open space for community events and performances. The Square could be designed to allow a performance platform and seating space.

[19] Co-op Department Store. The role of the average Midwestern downtown has changed dramatically over the past 50 years. As retail has been drawn away from many downtowns to large retail centers, what were once thriving commercial retail hubs are now often centers of office and service oriented businesses. Competition from regional markets like North Platte and Lexington, mean that Gothenburg's downtown must define itself in new ways with a piece of that mix including retail development. The prices and diversity of choices in the larger markets and large retail stores makes it difficult for the traditional downtown retail store to compete. A number of communities in Wyoming, Nevada and Montana have chosen to take retail development into their own hands, shifting the risk away from a single store owner. These communities have formed small community-owned department stores. Through the sale of stocks, funds are raised to open the department stores and disperse the risk. The locally operated stores can focus on the needs of the community, providing clothing, luggage, and bedding or whatever is of particular demand in that community. Many of these communities including Powell, Wyoming (25 miles from Cody) and Torrington, Wyoming (32 miles from Scottsbluff) are similarly situated to regional retail markets as Gothenburg is to North Platte and Lexington.

[20] The Mid-Block Crossing in the alleyway creates a dedicated space for pedestrians to cross 9th Street, rather than meandering around parked vehicles. Mid-crossings decrease the distance the pedestrian travels across the street, thereby improving safety, and providing a visual cue for vehicles to slow down.

[21] Landscape Buffer to Railroad will strengthen the relationship between the railroad and the community. Coniferous trees bounding the northern edge of the Union Pacific railroad create a buffer between the railroad and adjacent uses. In North Platte, trees are planted between the railroad and residential areas to minimize the effects of the railroad yard.

[22] A Signalized Intersection at Lake Avenue and Highway 30 would control traffic circulation through the intersection safely. A signalized intersection would also setoff Lake Avenue as a major entrance to downtown. Motorists tend to drive through Gothenburg without being aware that they have passed the central business district.

[23] A New Retail business building could be developed at the intersection of Lake Avenue and Highway 30. The design of the building should be oriented to the intersection, improving the appearance of the intersection and inviting visitors to enter downtown. The building should be multi-level and provide access to the rear plaza. The first floor of the building should be retail, while upper stories could be office or residential uses.

[24] A Downtown Café or Restaurant with outdoor seating facing the proposed plaza. This space should generate foot traffic and encourage use of the plaza.

[25] Pond/Skating Rink Plaza should be designed in the redevelopment project, creating public gathering space. The Plaza should be a shallow pool that creates a unique setting for outdoor seating and performance.

[26] A Community Recreation/Youth Center could be developed in the downtown to provide activity space for youth. The building should be multi-level, creating zones for activities. The structure should be designed in a way to coincide with the character of the structures in downtown, utilizing brick and large windows.

[27] Landscape Buffer to Railroad will strengthen the relationship between the railroad and the community. Coniferous trees bounding the northern edge of the Union Pacific railroad create a buffer between the railroad and adjacent uses. In North Platte, trees are planted between the railroad and residential areas to minimize the effects of the railroad yard.

PRE-PLANNED MAJOR STREETS

Gothenburg's future streets should be designated ahead of development and dedicated as growth occurs.

In smaller communities residential and commercial development occurs on an incremental, project-by-project basis. As a result, projects provide for their own internal circulation needs, but often neglect the cross connections and linkages necessary to create an integrated transportation network. This type of street layout can also be confusing to individuals who are unfamiliar with the community.

The circulation network that connects different neighborhoods together cannot be left to develop by chance. It is both the city and planning commission's charge to evaluate each project in relation to the broader land use plan and transportation system. As projects are designed, the collector routes prescribed by the Plan should be reserved and rights-of-way should be dedicated. While actual alignments of the collector network may differ somewhat from those proposed in this plan, the general structure should be preserved. In some cases, the city may pre-develop a street segment to create necessary linkages.

Map 3.4, the Transportation Concept, defines the alignments of arterial streets, which carry regional traffic, and collector streets, which link neighborhoods together. These are defined in order to ensure that corridors and linkages are maintained as development occurs. Chapter 4 of the Plan discusses these connections in detail.

Viaduct Opportunities

The proposed viaducts on the west and east areas of town creates opportunities and challenges. The proximity of this viaduct is vital to the city's economic development interests. Routing the viaducts miles to the west or east of the city will truly create a bypass of the city making it nearly impossible to pull traffic off of the routes and into the community. The City should evaluate both viaduct options and determine the most feasible and beneficial routes to proceed with first.

Major Street Development Opportunities

- A new truck route that begins in southwest area of Gothenburg at 1st Street and continues west then curving north over the railroad tracks (viaduct option 1) to connect to Lake Avenue, north of 27th Street.
- A new industrial road that begins at 1st Street and continues east to the proposed ethanol plant.
- A new industrial road that extends M Street south over the railroad tracks (viaduct option 2) to intersect 1st Street.
- Extension of 4th Street east to the proposed industrial road.
- Extension of 16th and 20th Streets to the proposed truck route.
- A new "rearage" road parallel to Highway 47 north of 27th Street would allow future development to occur north of the Gothenburg Canal.

A LINKED GREENWAY/TRAIL SYSTEM

Gothenburg's neighborhoods, activity centers, and major open spaces should be linked by a comprehensive and continuous greenway and trail system that serves both transportation and recreational purposes.

Incorporation of on- and off-street trails into all areas of the city is also an important component of future development in Gothenburg. The segments of the system that traverse the city's future growth areas should be designated in advance and incorporated into individual project design. The trail and greenway options are depicted in Map 5.3

and are described in detail in Chapter 5 of the Plan. Gothenburg's future trails and greenways should include:

- Completion of the city-wide trail system. The city has a looped trail system within Lake Helen Park. This concept should extend throughout the entire community.
- Canal Greenway. The canals provide an open space area that is already being utilized for drainage to the Platte River. Future trails could develop parallel to the canals and help connect areas of the community.
- An interior trail system. A system of on-street trails and signed shared routes should connect the city's outer loop trail and community destinations such as the downtown, schools and parks.

FRAMEWORK FOR DECISION-MAKING

Gothenburg's future land use map and policies should provide both guidance and flexibility to decision makers in the land use process.

Gothenburg's future land use plan provides a development vision for the city that guides participants in the process of community building. However, it cannot anticipate the details of every rezoning application. Therefore, the plan should not be considered a lot-by-lot prescription for land use. Rather, it provides a context in which city administrative officials, the Planning Commission, and the City Council can make logical decisions, in accordance with the Plan's overall principles.

The land use plan establishes a number of categories, some calling for single primary uses and others encouraging mixed uses (downtown for example). Two tables are included in this section to help approving agencies interpret the plan's basic principles. Table 3.9 defines the proposed categories and establishes criteria for their application. Table 3.10 is a land use compatibility guide that assesses the relationships between adjacent land uses and offers a contextual basis for review of land use proposals. These tables comprise a framework for decisions that are both flexible and consistent with the plan's objectives.

Land Use Compatibility

Some of the most difficult issues in plan implementation arise at boundaries where more intensive uses are proposed adjacent to less intensive uses. Table 3.10 provides a land use compatibility guide, assessing the relationships between existing land uses and providing a basis for review of proposals based on their geographic context.

TABLE 3.9: LAND USE PLAN CATEGORIES AND USE CRITERIA

Land Use Category	Use Characteristics	Features and Location Criteria
Agriculture and	• Generally in agricultural or open space use.	• These areas should remain in primary agricultural use. Urban encroachment, including large lot subdivisions, should be discouraged.
Open Space	• Agriculture will remain the principal use during the planning period. • Extension of urban services is unlikely in the foreseeable future.	• Primary uses through the planning period will remain agricultural. • Typical zoning would be AG.
Rural Residential	• Restrictive land uses, emphasizing housing and open space. • Civic uses may be allowed with special use permission.	• Includes area that have developed to low densities, but utilize conventional subdivision techniques. • Applies to areas where conventional large lot subdivisions have been established. • Most houses use individual wastewater systems. • Gross densities will generally be less than one unit per acre. • Typical zoning would be AG.
Single Family	• Restrictive land uses, emphasizing single-family detached development, although unconventional forms (townhouses) may be permitted with special review.	• Primary use within residential growth centers.
(Low-Density) Residential	• Civic uses are generally allowed, with special permission for higher intensity uses.	• Applies to established neighborhoods that have diverse housing types, and to developing areas that incorporate a mix of development. • Developments should generally have articulated scale and maintain identity of individual units. • Should be insulated from adverse environmental effects, including noise, smell, air pollution, and light pollution. • Should provide a framework of streets and open spaces. • Typical densities range from 1 to 6 units per acre. • Typical zoning would be R-1 or R-2.
Multi-family	• Allows multi-family and compatible civic uses.	• Locate at sites with access to major amenities or activity centers.
(High Density) Residential	• Allows integration of limited office and convenience commercial within primarily residential areas.	• Should be integrated into the fabric of nearby residential areas, while avoiding adverse traffic and visual impacts on low-density uses. • Traffic should have direct access to collector or arterial streets to avoid overloading local streets. • Requires Planned Development designation when developed near lower intensity uses or in mixed use developments. • Developments should avoid creation of compounds. • Attractive landscape standards should be applied. • Typical density more than of 10 units per acre. • Typical Zoning would be R-3.

TABLE 3.9: LAND USE PLAN CATEGORIES AND USE CRITERIA

Land Use Category	Use Characteristics	Features and Location Criteria
Mobile Homes	• Accommodates mobile homes that are not classified under state law as "manufactured housing."	• Develop in projects with adequate size to provide full services.
	• Single-family, small lot settings within planned mobile home parks.	• Tend to locate in complexes, but should include linkages to other aspects of the community. • Typical maximum density is 8 units per acre. • Should occur within Mobile Home Planned Park Districts. • Typical zoning would be R-4.
Neighborhood Commercial	• Includes higher density residential development and a range of low-impact commercial uses, providing a variety of neighborhood services.	• Should be located at intersections of major arterial or collector streets.
	• Includes low to moderate building and impervious coverage.	• Applies to the existing Main Street and 7th Street corridors.
	• May include limited office development.	• Should avoid a "four corners" configuration, except when planned as a district. •Development should emphasize pedestrian scale and relationships among businesses. • Uses should be limited in terms of operational effects. • Good landscaping and restrictive signage standards should be maintained. • Good pedestrian/bicycle connections should be provided into surrounding areas. • The dominance of automobiles should be moderated by project design. • Typical zoning would be a modified C-2 to allow for residential.
Downtown Mixed Use	• Includes mix of uses, primarily commercial, office, upper level residential, and warehousing/industrial uses.	• Establishes mixed use pattern in the traditional city center.
	• Primary focus of major civic uses, including government, cultural services, and other civic facilities.	• Recognizes current development patterns without permitting undesirable land uses. • District may expand with development of appropriately designed adjacent projects. • New projects should respect pedestrian scale and design patterns and setbacks within the overall district. • Historic preservation is a significant value. •Typical zoning would be C-1.

TABLE 3.9: LAND USE PLAN CATEGORIES AND USE CRITERIA

Land Use Category	Use Characteristics	Features and Location Criteria
Major Commercial	• Includes a wide variety of commercial uses, some of which can have significant external effects. • Accommodates auto-related commercial uses.	• Should be located along arterials or other major streets, and in areas that are relatively isolated from residential, parks, and other vulnerable uses. • Traffic systems should provide alternative routes and good internal traffic flow. •Negative effects on surrounding residential areas should be limited by location and buffering • Activities with potentially negative visual effects should occur within buildings. • Development should maintain a reasonable amount of landscaping, focused in front setbacks and common boundaries with lower-intensity uses. •Typical zoning would be C-2
Business Park/ Limited Industrial	• Limited industrial provides for uses that do not generate noticeable external effects. •Business parks may combine office and light industrial/research uses.	• Limited industrial uses may be located near office, commercial and, with appropriate development standards, some residential areas. • Strict control over signage, landscaping and design is necessary near to low intensity uses. • A new district for business parks, including office and office/distribution uses with good development and signage standards should be implemented. •Typical zoning is I-1.
General Industrial	• Permits a range of industrial enterprises, including those with significant external effects.	• General industrial sites should be well-buffered from less intensive use. • Sites should have direct access to major regional transportation facilities; routes should bypass residential or commercial areas. • Developments with major external effects should be subject to Planned Development review. • Typical zoning is I-2.
Civic	• Includes schools, churches, libraries, and other public facilities that act as centers of community activity.	• May be permitted in a number of different areas, including residential areas. • Individual review of proposals requires an assessment of operating characteristics, project design, and traffic management. • Variable zoning.
Public Facilities and Utilities	• Includes facilities with industrial operating characteristics, including public utilities, maintenance facilities, and public works yards.	• Industrial operating characteristics should be controlled according to same standards as industrial uses. • When possible, should generally be located in industrial areas. • Variable zoning.

TABLE 3.10: LAND USE AND COMPATIBILITY MATRIX

	RURAL RES.	LOW-DENSITY RES.	MOBILE HOME	HIGH DENSITY	NEIGH-BOR-HOOD COMM.	DOWN-TOWN	MAJOR COMM.	BUSINESS PARK	GENERAL IND.	CIVIC	PUBLIC FACILI-TIES
RURAL RESIDENTIAL (< 1 UNIT/ACRE)	-	5	2	2	3	2	1	1	1	4	2
LOW-DENSITY RESIDENTIAL (1-6 UNITS/ACRE)	5	-	3	3	3	3	2	1	1	4	2
MOBILE HOME (6-10 UNITS/ACRE)	2	3	-	5	4	3	3	2	2	4	2
HIGH DENSITY RESIDEN-TIAL (>10 UNITS/ACRE)	2	3	5	-	5	5	3	2	1	4	2
MIXED USE 1	3	3	4	5	-	5	3	4	3	4	4
DOWNTOWN	2	3	3	5	5	-	4	3	2	4	2
MAJOR COMMERCIAL	1	2	3	3	3	4	-	4	3	3	4
BUSINESS PARK/ LIGHT INDUSTRIAL	1	1	2	2	4	3	4	-	4	2	4
GENERAL INDUSTRIAL	1	1	2	1	3	2	3	4	-	1	5
CIVIC	4	4	4	4	4	4	3	2	1	-	2
UTILITIES	2	2	2	2	4	2	4	4	5	2	-

Compatibility Rating Key

5: The proposed use is identical to existing land uses or completely compatible. Development should be designed consistent with good planning practice.

4: The proposed use is basically compatible with the existing adjacent use. Traffic from higher intensity uses should be directed away from lower intensity uses. Building elements and scale should be consistent with surrounding development.

3: The proposed use may have potential conflicts with existing adjacent uses that may be resolved or minimized through project design. Traffic and other external effects should be directed away from lower-intensity uses. Landscaping, buffering, and screening should be employed to minimize negative effects. A Planned Unit Development may be advisable.

2: The proposed use has significant conflicts with the pre-existing adjacent use. Major effects must be strongly mitigated to prevent impact on adjacent uses. A Planned Unit Development is required in all cases to assess project impact and define development design.

1: The proposed use is incompatible with adjacent land uses. Any development proposal requires a Planned Unit Development and extensive documentation to prove that external effects are fully mitigated. In general, proposed uses with this level of conflict will not be permitted.

AN ANNEXATION POLICY

Gothenburg should implement an annexation policy incorporating areas that are experiencing development, meet state statutory requirements as urban in nature, and meet one or more criteria for incorporation into the city. The city should work with Dawson County to ensure consistent development standards for areas currently outside of Gothenburg's jurisdiction, but likely to be incorporated into the planning area during the next twenty years.

The city should establish an annexation policy that at the least incorporates the following criteria:

- A*reas with Significant Pre-existing Development.* Areas outside the city that already have substantial commercial, office, or industrial development are logical candidates for annexation. In addition, existing residential areas developed to urban densities (generally higher than 2 units per acre) should be considered for potential annexation. Much of Gothenburg's urban development is already within the city's corporate limits.

- *A Positive Cost Benefit Analysis.* The economic benefits of annexation, including projected tax revenues, should compensate for the additional cost of extending services to newly annexed areas. The city's review policy for annexation should include the following information:

- Estimated cost impact and timetable for providing municipal services.
- The method by which the city plans to finance the extension and maintenance of municipal services.
- A map showing the area proposed for annexation, the current city boundaries, the proposed boundaries of the city after the annexation, and the general land use pattern in the proposed annexation area.
- Identification of tax revenues from existing and probable future development in areas considered for annexation.
- Calculation of the added annual operating costs for urban services, including public safety, recreation, and utility services, offered within newly annexed areas.
- The analysis should be structured as a ten-year operating statement. Generally, areas that reach an accrued break-even point meet an economic criterion for annexation.

- *Public Services.* In many cases public service issues can provide compelling reasons for annexation. Areas for consideration should include:

- Parcels that are surrounded by the city limits. In these situations, city service may offer enhanced public safety service with improved emergency response times.
- Areas served by municipal infrastructure.
- Areas to be served in the short-term by planned improvements, including trunk sewer lines and lift stations.