The City of Duluth is 43,300 acres (67.3 square miles) in size, and 23 miles from southwest to northeast (or from west to east, to be consistent with local nomenclature) along the shores of Lake Superior.¹ At its widest the City extends seven miles from Lake Superior up the ridge to the north, at its narrowest it is less than a mile wide. The typical width is 3 miles.

Land use patterns in the City of Duluth reflect many of the physical characteristics of the region, which includes Lake Superior, 42 stream corridors and the St. Louis River, bluffs and steep slopes, and thin soil cover. Land uses take advantage of harbor access, level areas and shallow slopes for development, stream corridors as physical boundaries, and in the design of some transportation infrastructure to minimize the challenges of topography. However, a number of examples also demonstrate that existing land use patterns challenge the City's topography and physical layout. In many instances, street patterns challenge steep slopes and harsh climatic conditions, development had pushed stream corridors underground, and buildings are located in difficult building sites in order to capture the tremendous viewshed.

City of Duluth Land Use Inventory

In 2001 the City conducted an inventory of land uses within its boundaries assembling the information in the Department of Planning & Development's geographic information system (GIS) database. The GIS database is not organized on a parcel basis (a very expensive and time-consuming process), although the City is in the process of developing a parcel database. The land use database groups parcels into areas (polygons) of similar land use, rather than treating each parcel separately. The assessment of land uses was based on a combination of aerial and satellite photo analysis, ground-truthing of photo data, and ultimately combining the GIS mapping with existing GIS mapping conducted by the Minnesota departments of Transportation and Natural Resources, selected parcel maps created by other planning entities, and other data.

The resulting land use database thus presents a clear picture of land use patterns on a city-wide or neighborhood-wide basis, but is more limited for detailed site or parcel-by-parcel analysis. The land use database categories are presented in Figure LU-1. Figures LU-2, LU-3, and LU-4 on the following pages present the existing land use patterns for Duluth's west, central, and east areas, respectively.

Existing Land Use Profile City of Duluth Land Use Inventory



¹ Acreage figures from GIS data provided by the City's GIS department and Planning Department.

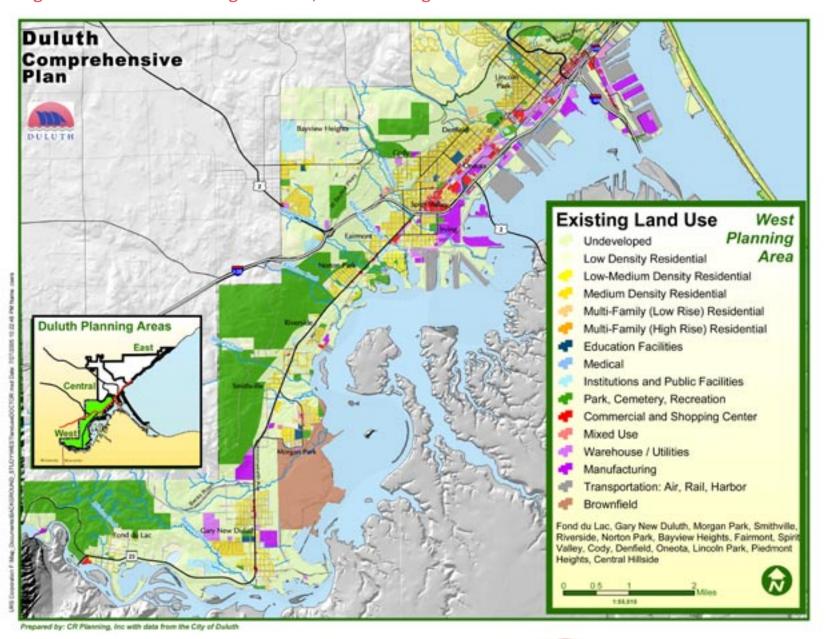
City of Duluth Land Use Inventory

Figure LU-1: Land Use Database Categories

Land Use Categories	Description
RESIDENTIAL	
Low-Density Residential	Single and two-family housing at a density between 0 and 2 units/acre.
Low-Medium-Density Residential	Single and two-family housing at a density between 2 and 6 units/acre.
Medium-Density Residential	Single and two-family housing at a density greater than 6 units/acre.
Multi-Family (Low-Rise) Residential	Housing for three or more family units on a single parcel in structures 3 stories or less.
Multi-Family (High-Rise) Residential	Housing for three or more family units on a single parcel in structures four stories or greater.
COMMERCIAL	
Commercial and Shopping Center	Areas for which the primary functions involves the sale of goods and/or services and office uses. This includes large single-owner multi-tenant shopping centers and malls, both buildings and parking lots.
Mixed Use	Commercial uses that have incorporated in the same parcel other non-commercial uses, such as apartments above a store.
INDUSTRIAL	
Warehouse and Distribution	Those buildings and premises used for the storage and/or distribution of goods awaiting further processing or sale to retailers. This category includes warehouses, and wholesalers, electric substations, reservoirs and other utility buildings, and outdoor material storage.
Manufacturing	Those buildings on premises that are devoted to the manufacture of products.
PUBLIC	
Medical and Related Facilities	Medical facilities that provide inpatient care and outpatient services and associated parking facilities. This includes clinics and long-term nursing-care facilities. This does not include dentist and chiropractic offices, which are included in the commercial land use categories.
Educational	Any public or private, primary, secondary or college education institutional grounds. Includes buildings, playground, athletic fields, roads, parking lots and lawns.
Institutions and Public Facilities	Public buildings and government offices, fairgrounds, military facilities, prisons and jails, performance centers, orphanages, group homes, museums, churches, service organizations, and community clubs.
OPEN SPACE	
Parks, Recreation, and Cemeteries	Public and private outdoor recreational areas including playgrounds, community gardens, picnic facilities, trails, golf courses, and natural areas. Not all property in this category is publicly owned. This category also includes cemeteries.
Undeveloped	Private or public lands with no structures. This includes vacant lots not owned by an adjacent property.
TRANSPORTATION	
Harbor	Land uses related to the shipping of goods over water including grain elevators, bulk storage facilities and warehouses related to water-borne transportation. This also includes marinas.
Airports	Airport facilities including terminals, hangars, runways, and airport owned buffers.
Railroad yards	Railroad yards and associated buildings.
Roads, Highways, Streets	All designated federal, state, county, and city roads



Figure LU-2: Duluth Existing Land Use, West Planning Area



City of Duluth Land Use Inventory

Figure LU-3: Duluth Existing Land Use, Central Planning Area

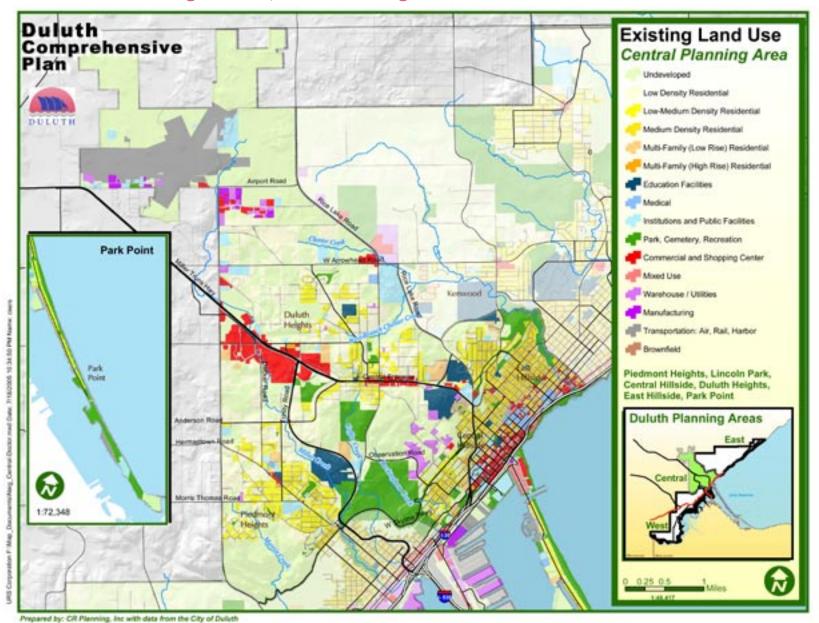
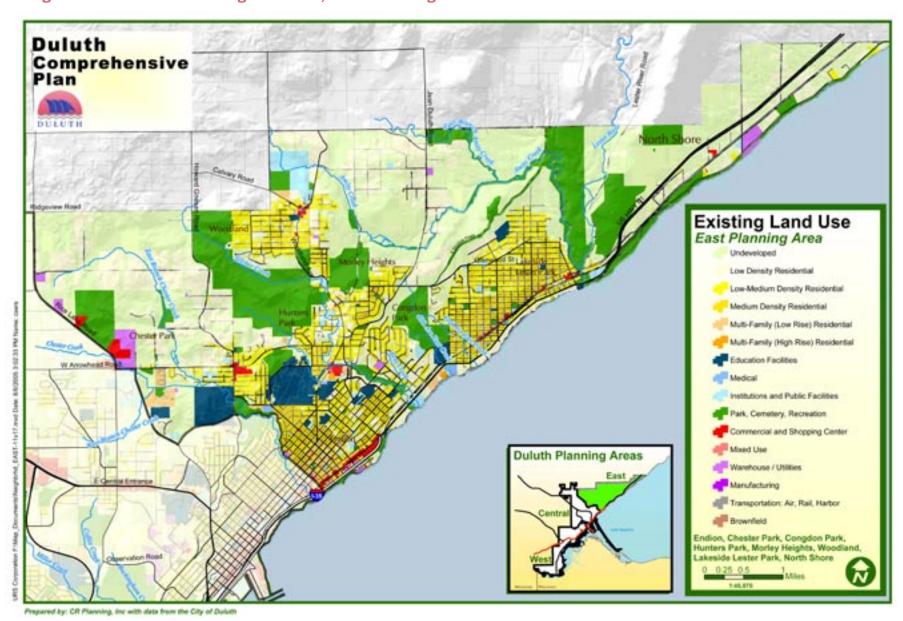


Figure LU-4: Duluth Existing Land Use, East Planning Area



2006 City of Duluth Comprehensive Plan



Existing Land Use ProfileResidential Uses

Residential Uses

As of 2002 the City of Duluth had approximately 22,000 single family homes and 4,000 rental structures.² Residential land uses account for 9,766 acres, almost 23% of the City's area.³ The vast majority of developed residential land is low density and low-to-medium density housing which includes most of Duluth's single family homes, with densities no higher than 6 units per acre. High density housing (high-rise multi-family buildings) comprise a tiny portion of the city's land base, and accounts for only about 5,000 of the city's 37,000 total housing units.

Most of the City (83%, or 36,000 acres) is zoned for residential development.⁴ Much of the land zoned for residential housing is, however, unsuitable for most development or currently too expensive to develop. The Planning & Development Department estimated the amount of developable residential land in its 2002 report, Analysis of Housing Development Sites. City staff took the total undeveloped land and combined areas zoned residential, removed wetlands, flood zones, areas with 12% or greater slope, and excluded areas farther than 1,000 feet from an existing sewered area. Under these parameters, the City would have 3,071 acres, or about seven percent of its total area, and 8.5 percent of residentially zoned land, available for new residential development.

The report did not attempt to identify redevelopment sites, rezoning opportunities, or building techniques that would allow construction in excluded areas. The analysis was also constrained by the existing zoning code district definitions, which are primarily single use districts. A number of land use types and development concepts that have been little used in Duluth could change the results of this analysis. Examples include mixed use developments that allow residential development on land zoned for other uses, concepts such as clustering to increase density in environmentally sensitive areas, and transfer of development rights from more difficult or environmentally valuable areas to areas more well-suited to valuable development.

Figure LU-5: Duluth Residential Land Uses, 2002

Residential	Acres	Percent
Low-Density Residential	4,900	11.3%
Low-Medium Density Residential	2,633	6.1%
Medium-Density Residential	1,729	4.0%
Multi-Family (Low-Rise) Residential	467	1.1%
Multi-Family (High-Rise) Residential	37	0.1%
Total Residential	9,766	22.6%

Source: Analysis of Housing Development Sites, 2002

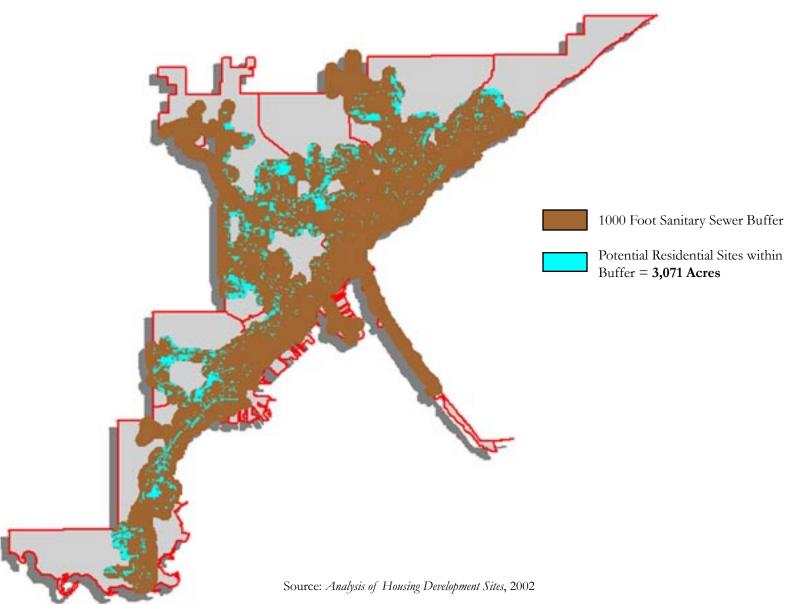
⁴ Analysis of Housing Development Sites, p. 4



² Analysis of Housing Development Sites, Planning & Development Dept., October, 2002

³ City land use GIS database

Figure LU-6: Duluth Residentially Zoned Land Available for New Development, 2002



Existing Land Use Profile Commercial Uses

Commercial Uses

About 2 percent of Duluth's land area is in commercial and office uses⁵, which cover about 817 acres. The primary commercial district was historically along the Lake Superior shoreline in what is now the downtown and Canal Park area. Smaller commercial districts grew up in separate townsites that were ultimately absorbed into the City of Duluth by the late 1800's, and in the 'company towns' created along Duluth's western port areas.

In more recent years a second major commercial area has developed "on the hill" in the form of a series of shopping centers anchored by Miller Hill Mall. The Miller Hill commercial area is now the largest contiguous commercial area in Duluth. The Canal Park and adjacent downtown area is more geared to tourist traffic, but the Miller Hill area is a significant regional commercial facility in its own right. Additional commercial development in the vicinity of the Duluth Airport also serves commuter traffic and residents in adjacent communities.

One category of commercial land use not typically found in Duluth is "mixed use." A mixed use area typically includes not only commercial but also other categories of land use, such as residential, civic, and sometimes light industrial. A mixed use pattern has been demonstrated to decrease the number of short automobile trips, increase pedestrian travel, and use infrastructure more efficiently. Only a very small amount of Duluth's commercial land uses are considered mixed use primarily in the downtown and Canal Park area.

Figure LU-7: Duluth Commercial Land Uses, 2002

Commercial	Acres	Percent
Strip Commercial, Shopping Centers	765	1.8%
Mixed Use	85	0.2%
Total Commercial	850	2.0%

Source: Analysis of Housing Development Sites, 2002

Figure LU-8: Duluth Industrial Land Uses, 2002

Industrial	Acres	Percent
Manufacturing	528	1.2%
Warehouse and Distribution	623	1.4%
Brownfield (US Steel site only)	696	1.6%
Total Industrial	1,846	4.3%

Source: Analysis of Housing Development Sites, 2002

Industrial Uses

Over four percent of Duluth's land area is in current or former industrial land uses. These include manufacturing sites, warehouses and distribution centers, and currently inactive brownfield areas - land that is contaminated or is suspected of being contaminated such that additional development or investment is essentially precluded. Nearly 700 acres (or 1.5% of Duluth's land area) are part of a large brownfield - the site formerly occupied by US Steel operations. More than 200 acres of additional brownfield areas include the former U.S. Air Force Base, the USX Cement Plant site, the DWP and BN railroad yard sites, the Interlaken Superfund site, and the Clyde Iron site.⁶

⁶ Comprehensive Plan Component: Industrial Land & Brownfield Analysis, Department of Planning & Development, April, 2003, p. 17



⁵ GIS analysis based on 2001 land use classifications.

Existing Land Use Profile Industrial Uses

Industrial and manufacturing areas initially developed along the harbor where flat terrain and access to shipping (both rail and boats) existed. Water-oriented industrial uses (primarily industries that require access to the harbor's shipping infrastructure) remain a primary industrial use in these areas. The industrial land uses eventually expanded up the St. Louis River to the Morgan Park area where US Steel established a facility.

Additional industrial land uses, and ongoing new industrial investment, can be found in the Port Authority's Airpark industrial park and in other areas adjacent to the airport. One of the City's fastest growing industries, small airplane manufacturer Cirrus Design Corporation, is rapidly expanding its facilities adjacent to the airport. Cirrus and other companies' industrial investment are making the airport area the fastest growing industrial area in the City.

The City Planning & Development Department analyzed the land available for industrial expansion and presented those results in a 2003 report, Industrial Land & Brownfield Analysis. While the City has approximately 1,100 acres of existing industrial land, approximately 11 percent, or 4,711 acres, of Duluth's land is zoned expressly to permit industrial land uses (see Figure LU-9). As with the above-described residential analysis, the City's reductive analysis estimated how much of the land zoned for industrial uses is reasonably developable. The analysis excluded from industrial-zoned land all wetlands, floodplains, currently developed land, and land more than 1,000 feet from the City's wastewater system. The remaining industrial land totals 1,039 acres, or 2.4 percent of the City's land base, and 22% of the City's industrially-zoned land.

The City's Business Development Office identified additional constraints relating to the size of available lots, site configuration, and parcel ownership, as well as brownfield limitations, that dramatically reduces the available acreage. The Business Development Office, in 2002, only listed 113 acres of land in its industrial site inventory.⁸

As with the residential land analysis, the industrial land analysis does not consider redevelopment or rezoning options, or contingencies for using land beyond 1000 feet of sewer infrastructure. Some redevelopment is being investigated, such as a redevelopment of the Clyde Iron site, or has started since the 2003 analysis, such as the expansion of Cirrus Design into the U.S. Air Force brownfield site. Additional opportunities may be available for creative industrial investments that will allow mixed use development, strategic rezoning of land not currently zoned industrial, and mitigation of environmental or infrastructural limitations of some sites.

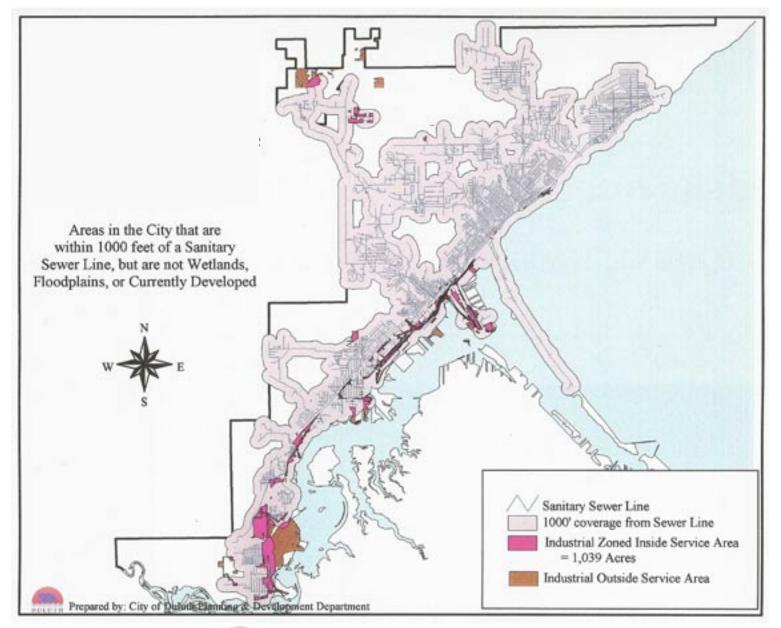


⁷ Comprehensive Plan Component: Industrial Land & Brownfield Analysis, Department of Planning & Development, April, 2003

⁸ Ibid, p. 8

Existing Land Use Profile Industrial Uses

Figure LU-9: Duluth Industrially Zoned Land Available for Development, 2002



Public and Civic Institutional Uses

Public and civic institutional land uses (such as education, medical, and government) account for less than 3 percent of the City's land area (under the currently calculated land use classifications). Major educational use areas include the University of Minnesota Duluth campus, St. Scholastica College, Lake Superior College, and three high school campuses. Governmental uses include the St. Louis County Courthouse and other County buildings downtown, as well as City administrative and utility buildings and sites.

While medical facilities occupy a tiny land area compared to the City as a while, much of the medical land use area is in the medical district adjacent to the downtown. The medical and health care industry, centered in the medical district, is a major employer and a growing industry. The historic campus area does not easily accommodate growth, but expansion into the surrounding neighborhood reduces the viability of existing housing. Various stakeholders and planning efforts have advanced proposals for addressing some of these dilemmas, including recommendations of the recently completed Knight Charrette (July, 2005).

The University of Minnesota Duluth, the largest educational land use in the City, is creating a new Master Plan for investment, expansion, and revitalization. Enrollment at the University, and at the two other major college campuses, is increasing. The need for state of the art facilities and the necessity of addressing increasing enrollments creates potential land use conflicts with surrounding neighborhoods and challenges for transportation infrastructure.

Transportation

Transportation land uses include harbor piers, ships and other land areas, airport areas, rail yards, and roads. Nearly 6,000 acres is occupied by transportation uses (almost 14% of the total land area in Duluth). Approximately 4,500 acres (over 10% of land area in Duluth) is occupied solely by roadways. Transportation land uses do not include parking areas, which are generally designated as accessory land uses to the commercial, civic, industrial, or residential uses they serve.

Figure LU-10: Duluth Public and Civic Institution Land Uses, 2002

Public and Civic Institution	Acres	Percent
Medical and Related Facilities	82	0.2%
Educational	787	1.8%
Civic and other public facilities	342	0.8%
Total Civic Facilities	977	2.3%

Source: Analysis of Housing Development, 2002

Figure LU-11: Duluth Transportation Land Uses, 2002

Transportation	Acres	Percent
Harbor	571	1.3%
Airports	746	1.7%
Railroad Yards	140	0.3%
Roadways	4,513	10.4%
Total Transportation	5,970	13.8%

Source: Analysis of Housing Development, 2002



⁹ City GIS land use database

Existing Land Use Profile Transportation

Harbor transportation land uses are also a small percentage of total land use, but support what was the traditional economic backbone of the Duluth – its port facilities. Port facilities are managed by the Port Authority, a governing authority independent of the City or the State and supported by fees and revenues from shipping and transportation operations. The Arrowhead Regional Development Commission (ARDC) is in the process of completing a long-range Port Plan that identifies specific goals for land uses in the Port area. These include how to retain shipping infrastructure and channels in the face of growing interest in harbor redevelopment for non-shipping land uses (residential, commercial, and recreational), and mitigating environmental risks associated with historic contamination and future industrial activity.

As noted in the Port Plan (July 2005), much of the harbor's transportation land uses are located on land that is actually fill areas extending into Lake Superior. Fill areas in navigable waters are governed under the Public Trust Doctrine that requires such lands to be used consistent with the purposes for which the waterways themselves are held in trust for the public.¹⁰ Water-oriented transportation infrastructure is a legally acknowledged public use for such lands.¹¹ Proposed changes to the land use of fill areas must be evaluated in light of the Public Trust Doctrine.

The airport similarly supports significant industrial activity in the City. Land for the airport was originally purchased by the City of Duluth from St. Louis County in 1926, and constructed with two runways. Later, the airport included permanent facilities for the United States Air Force, which have since been phased out, but the Minnesota National Guard continues to operate facilities at the airport. The airport is managed by the Duluth Airport Authority, a quasi-public entity. The Authority is funded independently of the City of Duluth, and offers a variety of general aviation services, including regularly scheduled commercial flights. Ongoing airport operations, planned service or land use expansions, and long-term growth in this transportation mode present another land use issue to be addressed in the Comprehensive Plan.

¹² Duluth Airport Authority website, http://www.duluthairport.com/history/txt.html



¹⁰ Draft Duluth Port Land Use Plan, ARDC, July, 2005, p. 20

¹¹ Id., p. 21

Parks and Recreation Uses

Parks and Recreation Uses

Park and recreational uses include several distinct types of land uses. The land use inventory includes formal publicly-owned park areas, designated trails, and cemeteries (as a type of open space). Almost 7,200 acres (16.6% of Duluth's total land area) are identified as having a park, recreation, or open space use.

A considerable amount of additional land effectively serves a recreation or open space purpose, including tax forfeit lands, private undeveloped lands, and lightly developed or private open space areas. Similar to most northern Minnesota counties, Duluth has a substantial amount of tax forfeit land, and substantial areas of undeveloped or lightly-developed private lands that have historically served multiple purposes, including recreational and scenic land uses (additional discussion of the tax forfeit lands may be found in the next section). The recreational use of these lands is tacitly recognized in a number of planning documents dating back to the 1930s, but the City has adopted few official policy statements over the decades that clarify what is to be recreational and what is held in reserve for development. Determining the preferred extent of recreational and open space lands, and codifying these decisions, is a major challenge for the Comprehensive Plan process.

Undeveloped Land

The biggest single land use category in the City of Duluth is undeveloped land. Thirty-six percent (approximately 15,700 acres) of all land in Duluth is considered 'undeveloped' based on the City's 2001 land use inventory (this does not include the former US Steel site, which is no longer "developed", but is not available until further site remediation.) These 'undeveloped' lands include lands in both private and public ownership. The public ownership land include several categories of land, but are primarily tax-forfeit lands owned by the State of Minnesota, administered by St. Louis County, and sometimes designated as recreation or open space land in City studies and documents. Undeveloped lands are typically zoned residential, although some are also designated on the zoning maps as recreational. Undeveloped lands include much of the area in the city with development limitations such as wetlands and steep slopes, but also include large tracts that could be developed.

Many other cities have large undeveloped areas. However, those areas are generally annexed in anticipation of ultimate development or for the purpose of creating an urban reserve, or for other purposes such as maintaining boundaries in anticipation of annexation by another city (as happened when Hermantown incorporated, transforming a township into a city and



Existing Land Use Profile Undeveloped Land

State of Minnesota Tax Forfeit Land Management Statute

It is the general policy of this state to encourage the best use of tax-forfeited lands, recognizing that some lands in public ownership should be retained and managed for public benefits while other lands should be returned to private ownership. Parcels of land becoming the property of the state in trust under law declaring the forfeiture of lands to the state for taxes must be classified by the county board of the county in which the parcels lie as conservation or nonconservation. In making the classification the board shall consider the present use of adjacent lands, the productivity of the soil, the character of forest or other growth, accessibility of lands to established roads, schools, and other public services, their peculiar suitability or desirability for particular uses and the suitability of the forest resources on the land for multiple use, sustained yield management. The classification, furthermore, must encourage and foster a mode of land utilization that will facilitate the economical and adequate provision of transportation, roads, water supply, drainage, sanitation, education, and recreation; facilitate reduction of governmental expenditures; conserve and develop the natural resources; and foster and develop agriculture and other industries in the districts and places best suited to them.

2003 Minnesota Statutes, Chapter 282, subd.. 1 precluding annexation by the City of Duluth). In contrast, the large areas of undeveloped land in Duluth are an artifact of Duluth's topography, other environmental barriers to development, and the boom and bust of the early 20th century.

Tax forfeit reserve areas

Unlike other cities of its size, Duluth has a large amount of tax-forfeit land. Almost 40% of the total land in public ownership (city, county, state, school district) is state-owned tax forfeit land under the management of St. Louis County, or approximately 7,200 acres.¹³ Much of this land has been tax-forfeit since the 1930s or earlier. The land use history and designated management of tax-forfeit land is somewhat murky and unsettled.

Tax forfeit lands are owned by the State of Minnesota and managed by St. Louis County consistent with Minnesota Statutes Chapter 282. As stipulated in Chapter 282, the County must classify all such lands as "conservation" or "nonconservation" land (see accompanying text box). Over 6,000 acres of tax forfeit land in Duluth has been designated conservation. For tax forfeit land lying in a municipality, the statute requires that the county and city work together in determining how to best manage the land, provided all other statutory requirements are met:

If the lands are located within the boundaries of an . . . incorporated municipality, the classification or reclassification and sale must first be approved by the . . . governing body of the municipality in which the lands are located. Minnesota Statutes Chapter 282 subd. ¹⁵

The statute also allows the county to convey to the city lands that meet certain public purpose goals.

The commissioner of revenue may convey by deed in the name of the state a tract of tax-forfeited land held in trust in favor of the taxing districts to a governmental subdivision for an authorized public use, if an application is submitted to the commissioner which includes a statement of facts as to the use to be made of the tract and the need therefor and the recommendation of the county board.

¹⁵ Analysis of Housing Development Sites, Planning & Development Department, pg 15.

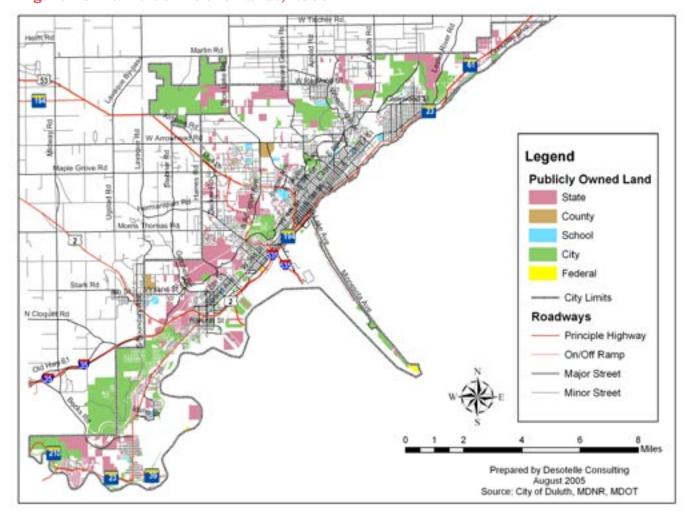


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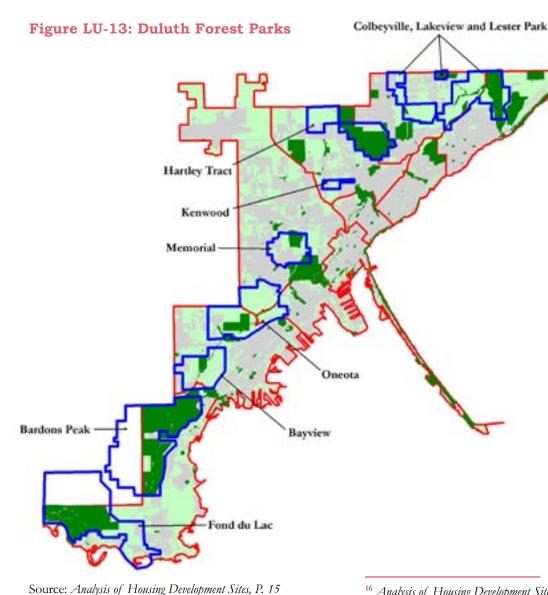
¹³ State/Tax Forfeited and Other Public Land in Duluth, Public meeting handout developed by the Planning & Development Department, March, 2005.
¹⁴ Id.

In 2002, the St. Louis County Board endorsed an opinion that tax-forfeit lands cannot be held in conservation indefinitely. The City has been in the process of evaluating tax forfeit land and categorizing the desired land use, including preservation or recreation, purchase for redevelopment, and sale by the County to the highest bidder. This process has not been completed, and negotiations between Duluth and St. Louis County are continuing.

Figure LU-12: Duluth Public Lands, 2005



Undeveloped Land



The map in Figure LU-12 shows the publicly owned lands in the City of Duluth. Virtually all the land owned by the State of Minnesota is tax forfeit land. As can be seen in the map, the State and the City own approximately equivalent amount of land, and between the two account for 95% of public lands. Almost 50% of the publicly owned land in Duluth is tax forfeit land. Most of the City-owned land is parkland, although it also includes the airport.

Forest parks

One of the tools that the City of Duluth created in the 1930's to manage tax forfeit land was the designation of municipal "forest parks." ¹⁵ As noted in City staff's 2002 report, Analysis of Housing Development Sites, the forest parks were established in the 1930's "to help the City manage its vast rolls of tax forfeited property." The report further notes the following:

> If a property in one of these areas returned to the State of Minnesota due to the nonpayment of taxes then the City would request that the land not be resold, but that it would be retained for a future public purpose (p. 15).

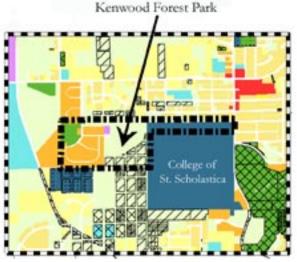
¹⁷ Skyline Parkway Corridor Management Plan, August 2003, pg 34



¹⁶ Analysis of Housing Development Sites, 2002

Undeveloped Land

Figure LU-14: Kenwood Forest Park Ownership and Land Use, 2001





School District

State of MN

Source:



After the designation of the forest parks, however, few of the forest park areas saw new tax forfeitures. In the 75 years since this designation, many privately-owned parcels within the forest park areas have been developed or partially developed. Tax forfeit land in forest parks has been used for a variety of public purposes, including creation of Capehart Air Force Housing.¹⁶

Forest Parks are also referred to in some City Planning documents as "Tax Forfeit Reserve Areas" and as "Memorial Forests" in other documents, although it is not clear whether these areas are geographically identical to the Forest Parks.¹⁷

The designations of Forest Park, memorial forest, or greenbelt, do not, however, reflect the land uses within the areas, and are not regulatory districts. Other than the original policy of how to manage new tax forfeit lands, no management plan or adopted policies appear to be associated with the forest park designation.

The ten designated forest park areas within the City borders, two of which extend into adjacent townships or municipalities, are identified on Figure LU-13.

The borders of the Forest Parks have been mapped, but the borders are not coincident with publicly-owned land parcels. Land within the Forest Park boundaries includes a variety of types of land ownership. Land ownership can be private, public, or owned by a non-profit entity. Figure LU-14 shows the 2001 land uses and public ownership patters within the Kenwood Forest Park. Very little of the Kenwood Forest Park is public land, and only one small parcel is a designated park. Some forested tax-forfeit parcels lie within and adjacent to the forest park area. Significant portions of the forest park are, however, undeveloped private land with existing forest cover (classified either as undeveloped land or as undeveloped land on the St. Scholastica campus).

In contrast, other forest parks have significantly greater areas of land that are publicly-owned or designated park. The Bardons Peak Forest Park in the west area of Duluth is primarily in park and recreation land uses.¹⁸ One thousand eight hundred acres of tax forfeit and private parcels inside this forest park, and incorporating existing City-owned parkland, were recently permanently protected under the Duluth Natural Areas Program.

Of the publicly-owned parcels, land is used for city-designated parks (i.e. Mission Creek Park within the Fond du Lac Forest Park, Hartley Park within the Hartley Tract Forest Park), nonpark city ownership, and state ownership (in the form of tax forfeit status). Non-profit, or

¹⁸ Duluth GIS Land use database

Existing Land Use ProfileComprehensive Plan Issues

non-governmental organizations (NGOs) also own land within forest park areas, Examples of NGO ownership or control include educational institutions such as Lake Superior College and the College of St. Scholastica , the Spirit Mountain Recreation Area, and the Hawk Ridge Nature Reserve.

Existing Land Use - Comprehensive Plan Issues

Cities evolve as a mix of land uses that work in synergy to sustain neighborhoods, businesses, and the public realm. Protecting private investment in homes and businesses, natural systems, recreation areas, and public and civic activities requires the correct balance of market and regulatory choices. Comprehensive plan priorities must not only identify expansion, development, and redevelopment areas for each type of land use that make up a city, but must address how these land uses fit together, and provide a reasonable set of implementation strategies. A number of land use challenges face the City as it puts together its Comprehensive Plan:

- Mixed use development, when properly created and maintained, uses infrastructure more efficiently and creates a diversity of activities that sustain neighborhoods. To what extent can the City promote mixed use development that creates synergies and avoids segregating and isolating land uses? The Plan can provide guidance on appropriate areas for mixed use development and redevelopment, and on the strategy priorities for encouraging mixed use.
- The amount of industrial land readily available for development is significantly smaller than most cities of Duluth's size. Brownfield redevelopment would greatly expand options, but fiscal and risk constraints limit the City's ability to speculatively clean up contaminated sites. To what extent can new industrial development create sufficient tax base to justify redevelopment efforts? What models exist that can bring industrial investment into a mixed land use setting, rather than the traditional isolation of industrial land uses? The Comprehensive Plan can identify new potential solutions to old land use dilemmas as well as directing priorities to meet a variety of land use goals.
- Specific institutions that play a vital role in Duluth's economy and quality of life are regularly engaged in planning for improvements and expansions. These land uses include Duluth's three largest higher educational facilities, the medical institutions centered in and around the medical district, the Port Authority, the Airport Authority, Spirit Mountain Recreation Area, and other entities. Assessing these entities' plans and balancing their goals with the land use goals of the larger community is a primary challenge for the Comprehensive Plan process.



Existing Land Use Profile Comprehensive Plan Issues

- Much of Duluth's de facto 'greenbelt' is an artifact of circumstance rather than choice. The forest parks were an early attempt to create policy that allowed for a coordinated integration of public land and open space into the development pattern. Subsequent City policy failed to clearly memorialize a coordinated and planned effort, or to identify land uses consistent with a public purpose. The Comprehensive Plan can create priorities for connecting public areas, ensuring that private development enhances natural systems and recreational opportunities, and enabling development that connects people to the City's natural beauty.
- Most of the City's generous land base is zoned for residential development. Yet topography and infrastructure costs limit the viability of many areas for new residential development. The Plan can direct development and redevelopment opportunities to minimize expensive new infrastructure, start to revitalize areas suffering from disinvestments, and confront the services cost/tax base dilemma facing the City.

