



**LOSING GROUND:
LAND CONSUMPTION IN THE
CHICAGO REGION, 1900-1998**



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LOSING GROUND:

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SUMMARY OF FINDINGS

Openlands Project, a Chicago-based non-profit organization devoted to preserving and protecting public lands since 1963, initiated the Strategic Open Lands at Risk Mapping Project (SOLAR), to document the rapid and increasing rate of land consumption in the greater Chicago area. **LOSING GROUND**, the first phase of the project, demonstrates how land consumption patterns in a 13-county region stretching from Kenosha, Wisconsin to Michigan City, Indiana have altered the landscape at three key periods in its development:

- 1900, when the railroad system was virtually complete and the initial pattern of land use set;
- 1950, when the automobile had established itself as part of the attainable American Dream; and
- 1990, after four decades of superhighways.

LOSING GROUND presents the most comprehensive, accurate and current picture of developed land throughout the region ever compiled to date. Its unique set of data culled from a wide variety of sources enables Chicago area residents, for the first time, to accurately analyze past trends and establish a base-line map for projecting future development trends.

LOSING GROUND reports three key findings.

- **Uncoordinated development has created a regional footprint that now spans three states and replaces once-distinct communities with placeless sprawl.**

We typically think of the Chicago region as comprised of the city, suburban Cook County, and the collar counties of DuPage, Kane, Lake, McHenry, and Will. Indeed, the Illinois Legislature designated this

six-county area as the region for planning purposes when it established the Northeastern Illinois Planning Commission in 1956. At that time, most of the collar counties were primarily rural—suburban expansion was just getting underway—and the cities and towns of nearby Wisconsin and Indiana remained distinctly outside the Chicago region. Today, with suburban Cook and DuPage Counties virtually built-out, urban development now spans a 13-county area in which Walworth and Kenosha County residents are linked to Lake County, Illinois; DuPage, Kane, and Will counties spill over into Kendall and Grundy; and once remote LaPorte county defines the new outer edge of urban development.

- **Modern transportation systems have a tendency to promote a formless and ever expanding urban landscape.**

Until the 1950s, urban development patterns were fixed by a railroad system that linked distinct towns with densely populated Chicago along well-defined vectors. The automobile era gave people more mobility and, for the first time, provided opportunities for residential and other development outside of existing town boundaries. At first, road systems followed and filled in vectors established by the railroads, creating a finger-like pattern of development radiating out from a central urban core. Though towns along each vector were linked more closely, vast amounts of open space still separated the vectors. By the era of the superhighways, however, automobile travel had permitted development in all directions at once, filling in farmland and other open areas with a formless suburban sprawl.

- **Per capita land consumption is increasing at faster and faster rates.**

Until the past decade or so, undisturbed natural areas remained wedged between towns throughout the metropolitan area, and the appearance of farmland clearly signaled when one had left city for country, suburban for rural area. Urbanization has been consuming farmland since the beginning of the century, but suburban sprawl is depleting rural areas at ever-increasing rates. For example, in 1950, when Chicago's population peaked, farmland still accounted for one-third of Cook County's

landmass. By 1969, when Cook County's population peaked (but Chicago's had already declined by 7%), farmland represented only 15.6% of the county's land area. But by 1992, after more than 20 years of declining population in both the city and surrounding county, land consumed by development had increased and farmland had diminished by another 44%, leaving it at only 7% of Cook County's land area. This loss of farmland has been replicated in DuPage County, which has only 8.2% of its land remaining in agriculture as of the last census of agriculture. The amount of farmland remaining in Lake County (IL) resembles that of DuPage in the late 1970s; the next census of agriculture may reveal similar patterns of loss in McHenry, Kane, and Will counties.

INTRODUCTION

When mainstream publications such as *Newsweek* (May 1995) and *US News and World Report* (April and June 1998) carry articles on the subject of urban sprawl, we may safely conclude that sprawl isn't just for policy wonks anymore. "With effects ranging from global warming to destruction of wildlife habitat, racial polarization to the loss of farmland, the decline of cities and the erosion of community, sprawl is quickly elbowing its way into the center stage of American politics," (Bollier and Daly). Indeed, long after Oregon blazed the trail of growth management by adopting an urban growth boundary (1972), more conservative states such as New Jersey, Maryland, and Ohio are actively trying to put a halt to the disintegration of their urban and rural communities alike. The "smart growth" movement calls for new ways of managing the multi-layered decision-making processes that have led to an undifferentiated urbanized mass. The conversation has even reached anti-government constituencies, such as that of Arizona State Senator Mark Spitzer, who dubs the slow-growthers outside Phoenix "Range Rover Republicans," (Chicago Tribune, July 28, 1998).

Strategic Open Lands at Risk Mapping Project (SOLAR)

Openlands Project, a Chicago-based non-profit organization devoted to preserving and protecting public lands since 1963, initiated the Strategic Open Lands at Risk Mapping Project (SOLAR), to document the rapid and increasing rate of land consumption in the greater Chicago area. **LOSING GROUND**, the first phase of this project, demonstrates how land consumption patterns in a 13-county region stretching from Kenosha, Wisconsin to LaPorte, Indiana have altered the landscape at three key periods in its development: 1900, when the railroad system was virtually complete and the initial pattern of land use set; 1950, when the automobile had established itself as part of the attainable American Dream; and 1990, after four decades of superhighways.

The second SOLAR report, to be released later this year, will present a map of the region depicting land expected to develop during the next decade, along with land likely to be consumed by development over the next 30 years. It will feature a county-by-county overview of development practices, and highlight key

LOSING GROUND: Land Consumption in the Chicago Region, 1900-1998

Openlands Project

page 5

areas of particular natural resource value threatened by development. The project will establish a base-year "report card", which can be used in the future to track whether or not there has been progress toward saving resources. It will also propose a series of policy objectives to stop the region's cavalier waste of natural, human and cultural resources.

Losing Ground

LOSING GROUND presents the most comprehensive, accurate and current picture of developed land throughout the region ever compiled to date. Its unique set of data enables us, for the first time, to accurately analyze past trends and establish a base-line map for projecting future development trends.

Preparing the map entailed compiling geographic and population data from several sources, both print and electronic, then geocoding it to an Arc-View geographic information system (GIS). GIS allows for meshing data with specific geographic features, and for performing various analyses on the mapped areas. Data sources include: US Census of Population, 1900; USGS map series, 1948-55; ESRI Street 96, US Census TIGER 92; Delome Atlas 98; Rand McNally Atlas 95; Northeastern Illinois Planning Commission Greenways Plan, 1992; Southeast Wisconsin Regional Planning Commission 1994; DuPage County Department of Planning and Development, 1998; and Department of Planning and Development, Lake County, Illinois.

The approach used to prepare these maps and reports will enable Openlands Project to conduct future reviews to determine whether identified trends continue unabated and what impact future conservation and sensible growth measures will have on the region.

Land Consumption in the Chicago Region, 1900-1998

The Burnham and Bennett Plan of Chicago (1909) describes Chicago as the metropolis of the middle west, the area throughout which "Chicago newspapers circulate, and Chicago banks hold the banking reserves; that in Chicago are the chief offices of the large industrial enterprises, and the market for their products," (p. 33-34). The plan notes that "while the influence of Chicago extends throughout a domain larger than any European country except Russia, there exist between this city and outlying towns within a certain radius vital and

almost organic relations. The steam and the trolley railways and the automobile have opened to the city workers all varieties of life, and have made possible to a large proportion of the people a habitation amid what might be healthful and attractive surroundings," (p. 34).

The **LOSING GROUND** map provides a clear depiction of this 1900 metropolis: Chicago, in deep purple, stretches south to north more than twice its east-west diameter, forming a distinct land mass that hugs Lake Michigan on its eastern boundary. By 1900, the city's borders were nearly fixed, and the population had grown to nearly 1,700,000 in less than 70 years. Stretching outward in clear lines to the north, northwest, west, southwest, and southeast are the rail lines, along with numerous towns and villages of differing sizes (noted by the size of the dots), also represented in purple. The north and northwest rails link a continuous line of towns into Wisconsin, and southeast to Hammond, Hobart, and Valparaiso, Indiana. The commuter suburbs cluster to the north, west, and southwest, and most of the remaining towns lie within reach of the market, news, and banking influence described by Burnham and Bennett. The spaces between towns and suburbs remained green, either farms or undisturbed natural areas.

The 1950 picture (violet) depicts the early automobile era (Conzen), during which time population growth and land consumption patterns generally followed lines laid down by the earlier railroad era and filled in the spaces between towns and villages. This pattern is especially evident along the north shore of Lake Michigan, the western suburbs of Cook County into DuPage, and to a somewhat lesser extent southwest. In addition, vast areas developed in southern Cook County and northwest Indiana, largely as a result of the expansion of the steel industry in South Chicago and Indiana during the first half of the century.

After 1950, the era of superhighways (pale lavender) reflects an entirely different pattern of land use and consumption. No longer tethered to the rail lines, the individual and his or her car can meander freely off the interstates and tollways, aided by widely spaced arterial streets connecting directly to local subdivision streets. Local streets link with the cul-de-sacs that form the web of post-war suburbs, consuming more land per housing unit, and costing more public dollars to install and maintain. Development now spreads in all directions creating an undifferentiated urban scene that stretches for miles and in which city limit markers are little more than reminders of a bygone era.

In this period, land consumption becomes disconnected from population growth. While the region's population grew by 48% between 1950 and 1995, land coverage increased by 165%. Most of this population growth occurred during the period between 1950 and 1970. Between 1970 and 1990 regional population growth was almost nil — a mere 4%. However, in the next five years, from 1990 to 1995, population grew another 4%. From 1970 to 1990, there has been sprawl without significant population growth. Land consumption trends have begun to accelerate during the 1990s as real regional growth has resumed. The second SOLAR report will map development pressure areas throughout the 13-county region.

Farmland and rural culture are among the biggest casualties in the outward expansion of urban development. Although urbanization has been consuming farmland since the beginning of the century, suburban sprawl is now depleting rural areas at ever-increasing rates. For example, in 1950, when Chicago's population peaked, farmland still accounted for one-third of Cook County's landmass. By 1969, when Cook County's population peaked (but Chicago's had already declined by 7%), farmland represented only 15.6% of the county's land area. But by 1992, after more than 20 years of declining population in both the city and surrounding county, land consumed by development had increased and farmland had diminished by another 44%, leaving it at only 7% of Cook County's land area. This loss of farmland has been replicated in DuPage, which has only 8.2% of its land remaining in agriculture as of the last census of agriculture. The amount of farmland remaining in Lake County (IL) resembles that of DuPage in the late 1970s; the next census of agriculture may reveal similar patterns of loss in McHenry, Kane, and Will counties.

Table 1 provides a trend analysis of the decrease in farmland for the eight Illinois counties in the study area. Summary information is provided for the entire project area, including the Wisconsin and Indiana counties, in **Table 2**. **Table 3** illustrates the growth and decline of Chicago's population, while suburban counties continued to expand. (Lake County, Indiana saw a decline from 1970 to 1990, primarily due to employment losses at the major steel mills; that decline appears to be reversing itself.) While sprawl is clearly consuming land in the farthest outposts of the region, agriculture still remains a major land use in these counties. The next census of agriculture, which is to be released in late 1998, should provide the base year for analyzing the loss of farmland there.

TABLE 1 — ILLINOIS COUNTIES AND FARMLAND 1900-1992

	Cook	DuPage	Grundy	Kane	Kendall	Lake	McHenry	Will	TOTAL
Total County Land Area (acres)	597,120	220,800	277,120	337,280	207,360	291,200	396,800	540,160	2,867,840
Land in farms 1900	407,043	195,193	252,257	311,470	200,850	259,544	369,225	502,331	2,499,813
%of total	68.2	88.4	91	92.3	96.9	89.1	93.1	93	87.2%
Land in farms 1950	202,444	129,519	251,683	297,119	195,227	173,100	345,259	433,416	1,898,378
%change 1900-50	-50.3	-33.6	-0.2	-4.6	-2.8	-33.4	-6.5	-13.7	-24.1%
Land in farms 1969	92,883	71,202	235,663	275,228	187,218	110,669	289,656	393,460	1,655,979
% change 1950-69	-54.1	-45	-6.4	-7.4	-4.1	-36.1	-16.1	-9.2	-12.8%
Land in farms 1982	49,482	32,560	228,168	240,011	186,139	92,135	270,244	353,300	1,452,039
%change 1969-82	-46.7	-54.3	-3.2	-12.8	-0.6	-16.7	-6.7	-10.2	-12.3%
Land in farms 1992	40,917	18,206	225,506	203,590	178,222	73,142	249,240	325,227	1,314,050
% change 1982-92	-17.3	-44.1	-1.2	-15.2	-4.3	-20.6	-7.8	-7.9	-9.5%
% change 1950-92	-79.8	-85.9	-10.4	-31.5	-8.7	-57.7	-27.8	-25	-30.8%

LOSING GROUND: Land Consumption in the Chicago Region, 1900-1998

Openlands Project

page 9

TABLE 2 — PROJECT AREA AND FARMLAND, 1992 (ACRES)														
	Cook	DuPage	Grund	Kane	Kendall	Lake, IL	McHenry	Will	Kenosha	Walworth	Lake, IN	Porter	LaPorte	TOTAL Land Area (acres)
Total County Land Area	597,120	220,800	277,120	337,280	207,360	291,200	396,800	540,160	178,164	368,956	318,820	267,600	389,820	4,391,200
Total Farm Land Area	40,917	18,206	225,506	203,590	178,222	73,142	249,240	325,227	102,371	247,015	144,305	142,500	267,700	2,219,933
% Farm Land 1992	6.9%	8.2%	81.4%	60.4%	85.9%	25.1%	62.8%	60.2%	57.5%	66.9%	45.3%	53.3%	68.7%	50.6%

LOSING GROUND: Land Consumption in the Chicago Region, 1900-1998

Openlands Project

page 10

TABLE 3 — REGIONAL POPULATION 1900-1995															
	Cook	Chicago	DuPage	Grundy	Kane	Kendall	Lake	McHenry	Will	Kenosha	Walworth	Lake, IN	LaPorte	Porter	Total Region
1900	1,838,735	1,698,575	28,196	24,136	78,792	11,467	34,504	29,759	74,764	21,707	29,259	37,892	45,797	19,175	2,274,183
1910	2,405,233	2,185,283	33,432	24,162	91,862	10,777	55,058	32,509	84,731	32,909	29,614	82,864	38,386	20,540	2,942,077
1920	3,053,017	2,701,705	42,120	18,580	99,499	10,074	74,285	33,164	92,911	51,284	29,327	159,957	50,443	20,256	3,734,917
1930	3,982,123	3,376,438	91,998	18,678	125,327	10,555	104,387	35,079	110,732	63,277	31,058	261,310	60,490	22,821	4,917,835
1940	4,063,342	3,396,808	103,480	18,398	130,206	11,105	121,094	37,311	114,210	63,505	33,103	293,195	63,660	27,836	5,080,445
1950	4,508,792	3,620,962	154,599	19,217	150,388	12,115	179,097	50,656	134,336	72,238	41,584	368,152	76,808	40,076	5,808,058
1960	5,129,725	3,550,404	313,459	22,350	208,246	17,540	293,656	84,210	191,617	100,615	52,368	513,269	95,111	60,279	7,082,445
1970	5,492,369	3,369,357	491,882	26,535	251,005	26,374	382,638	111,555	249,498	117,917	63,444	546,253	105,342	87,114	7,951,926
1980	5,253,655	3,005,720	658,835	30,582	278,405	37,202	440,372	147,897	324,460	123,137	71,507	522,965	108,632	119,816	8,117,465
1990	5,105,067	2,783,726	781,666	32,337	317,471	39,413	516,418	183,241	357,313	128,181	75,000	475,594	107,066	128,932	8,247,699
1995	5,136,877	2,721,547	853,458	35,159	359,950	45,398	572,431	224,677	413,479	139,938	82,045	479,339	109,080	144,084	8,595,915

LOSING GROUND: Land Consumption in the Chicago Region, 1900-1998

Openlands' Project

page 11

Sprawl also has bred traffic congestion, but additional expressway construction has worsened the region's transportation problems by extending the reach of suburbia and generating more sprawl. Between 1980 and 1995 vehicle miles traveled increased by 50% in the six Illinois counties that comprise the Primary Statistical Area while the population grew by 6.4%. While a larger work force, dual-worker households, and an older population as a whole are factors in the increase, more suburb-to-suburb commuting accounts for a significant share of the increase as do non-work trips — more shopping trips because the convenience store is not within a convenient walk; more "play-date" trips, because children cannot walk from one neighborhood to another, more trips overall, simply because the daily tasks of living in a dispersed pattern require getting in an automobile to get anywhere.

COUNTY BY COUNTY ANALYSIS

Cook County

During the early automobile era, considerable growth took place surrounding Chicago's borders in each direction, then stretching along the rail lines, filling in spaces between the 19th Century towns. The "spoke" pattern remains clear, despite the tremendous growth in population. (Cook County, including Chicago, grew from 1,838,735 people in 1900 to 4,508,792 in 1950, an increase of 145%; Chicago itself expanded from 1,698,575 in 1900 to 3,620,962 in 1950, its peak population, which represents an increase of 113%).

The superhighway era provides an "end-state" picture of Cook County: space between towns has filled in, leaving fringes only at the far northwest, southwest, and southern ends. Suburban Cook illustrates true sprawl: land consumption without real growth. Chicago's population declined after 1950 and Cook County as a whole started losing population after 1970. Considering that farmland decreased from 1950 to 1969 by 54%, and another 56% by 1992, the waste verges on tragic. Cook County is fully built-out; infill and redevelopment, including neighborhood re-population in Chicago, will provide the only development options.

DuPage County

DuPage County's growth during the first half of the century followed the initial pattern of railroad suburbs, forming two nearly parallel swaths east to west. Population growth from 28,196 in 1900 to 154,599 in 1950 is indeed dramatic (448%), but it has continued unabated each decade. During the period 1950 to 1960, population increased 103%; between 1950 and 1995, DuPage grew by 552%. Farmland and other vacant land are rapidly disappearing: from 1900 to 1950, the county lost 33.6% of its farmed areas, while between 1950 and 1992 (the most recent Census of Agriculture), farmland declined by another 86%. With only 8.2% of its land in farms as of 1992, DuPage County is nearly as urbanized as Cook, yet with a population density of only 3.86 persons/acre gross (1995), compared with Cook's 8.6 persons/acre gross (including Chicago).

Lake County, Illinois

While Waukegan developed as a satellite city with an active port function, Highland Park and Lake Forest first emerged as summer resort towns. With improved commuter service, they developed into year-round suburbs by the

early 20th century. During the early automobile era, growth continued to follow and connect the historic railroad towns. However, as Waukegan itself expanded, it followed a suburban rather than urban model. Strip commercial development helped prompt the evacuation of downtown, which accelerated during the 1970s. The city of Zion was built during the first decade of the century, taking development almost to the Wisconsin border in a contiguous line. The northwest communities began as resorts but with year-round residents taking hold by the 1960s and beyond. Lake County has experienced continuous population growth each decade, with the period from 1950 to 1960 representing the largest-- 64%. Lake County lost nearly 58% of its farmland from 1950 to 1992; however, while sprawl is prevalent through much of the south-central portion of the county, the lack of sanitary sewers in the west-central and north-central areas has allowed for nearly 25% of the county to remain in agriculture.

Will County

Joliet functioned not as a suburb, but as a satellite city to Chicago, well into the 1950s. Joliet, along with other older centers such as Lockport, Braidwood, and Peotone, appear as distinct towns in 1900, each along a rail line, and each remote from the others. Joliet experienced suburbanization by 1950, and other growth areas remained compact and distinct. The current picture of Will County illustrates the early "bleeding" effects of suburban sprawl: clustered development appears on the boundaries adjacent to DuPage County, where Naperville has spilled over, and along the southwestern corner of Cook, where Matteson has grown westward. But many more disconnected areas appear, waiting to be filled in by more low-density housing and commercial centers.

McHenry County

Similar to Kane County, McHenry County at the turn of the century was primarily a farming region, with several significant market towns connected by rail to Chicago. Suburban development took place during the early automobile era, especially around Crystal Lake, which also has a commuter rail station. The picture of superhighway era growth is one of sprawl, with much discontinuous development occurring in the eastern half of the county, but especially around Crystal Lake. Farmland remains a major land use, but increasing prices reflect the demand for more housing on the fringe.

Kane County

Kane County in 1900 consisted of a string of small cities along the Fox River, most established around the same time as Chicago, with a few rural crossroad

communities in the west. Elgin and Aurora each developed as satellite cities, maintaining their own distinct economies, but linked to Chicago by market functions. The 1950 picture continues to reflect a clear demarcation between town and country, with growth occurring primarily around Aurora and Elgin. Although Kane's population increased by 91% during this period, cities remained distinct and separate from one another. The current picture is one of new development continuing around the traditional centers, but also diverging into new settlements in the central portion of the county. Satellite cities have become part of the suburban scene.

Kendall County

While Yorkville, the county seat, expanded somewhat, Kendall County clearly remained outside the expanse of suburban sprawl until recently. Most of its suburban growth reflects the beginning expansion outward from DuPage and Kane Counties.

Grundy County

The map depicts virtually no additional land consumption in Grundy County from 1900 to 1950, and indeed, Grundy lost population after 1910 and did not return to that level until 1970. Grundy experienced early town growth during the period of construction of the Illinois and Michigan Canal (1833-48); its 20th Century decline reflects population shifts from rural to urban areas. The superhighway era is changing the rural character of Grundy County, with the familiar pattern of sprawl emerging on the outskirts of Morris and Coal City, and the northeastern corner receiving spillover from Will County.

Kenosha County

The city of Kenosha, much like Waukegan, developed as a manufacturing and port city, connected to Chicago by rail. During the early automobile era, development largely expanded the city's area, but also extended southward along the shore of Lake Michigan. Resort communities emerged in the west, generally around lakes. Superhighway era growth has expanded the city of Kenosha's sphere, with new commercial development erupting along I-94. New residential growth is occurring near the state line, with Lake County being the largest employment destination of Kenosha County residents.

Walworth County

Walworth County's primary attraction and connection to the Chicago area has been its lakes, particularly Lakes Geneva and Delavan. These resort

communities are rapidly becoming commuter suburbs, if not to Chicago, then to major suburban employment centers, such as Schaumburg and Vernon Hills.

Lake County, Indiana

Although Whiting, East Chicago, and Hammond developed as 19th century commuter rail suburbs, Gary, the county's largest city, virtually exploded into a major industrial city after the turn of the century. The entire northern portion of the county, following the shores of Lake Michigan and the rail lines, grew steadily during the early automobile era. Population growth and land consumption portray a sprawl pattern early on. More recently, suburban sprawl has extended south from Gary, reflecting a pattern of white flight. Additional development has extended outward from Crown Point and Hobart.

Porter County

Valparaiso remained virtually the only city in Porter County well into the early automobile era, with the rest of the county primarily in agriculture. The effects of the superhighway era came late — primarily during the 1990s—and have led to clusters of low-density growth along the lakeshore, but also in discontinuous patches in the northern half of the county.

LaPorte County

Michigan City developed as a commuter suburb and resort town, well established by 1900, while the city of LaPorte remained a distinct manufacturing town and county seat. The early automobile era left the county nearly unchanged, with suburban sprawl emerging only during the past few years.

CONCLUSION

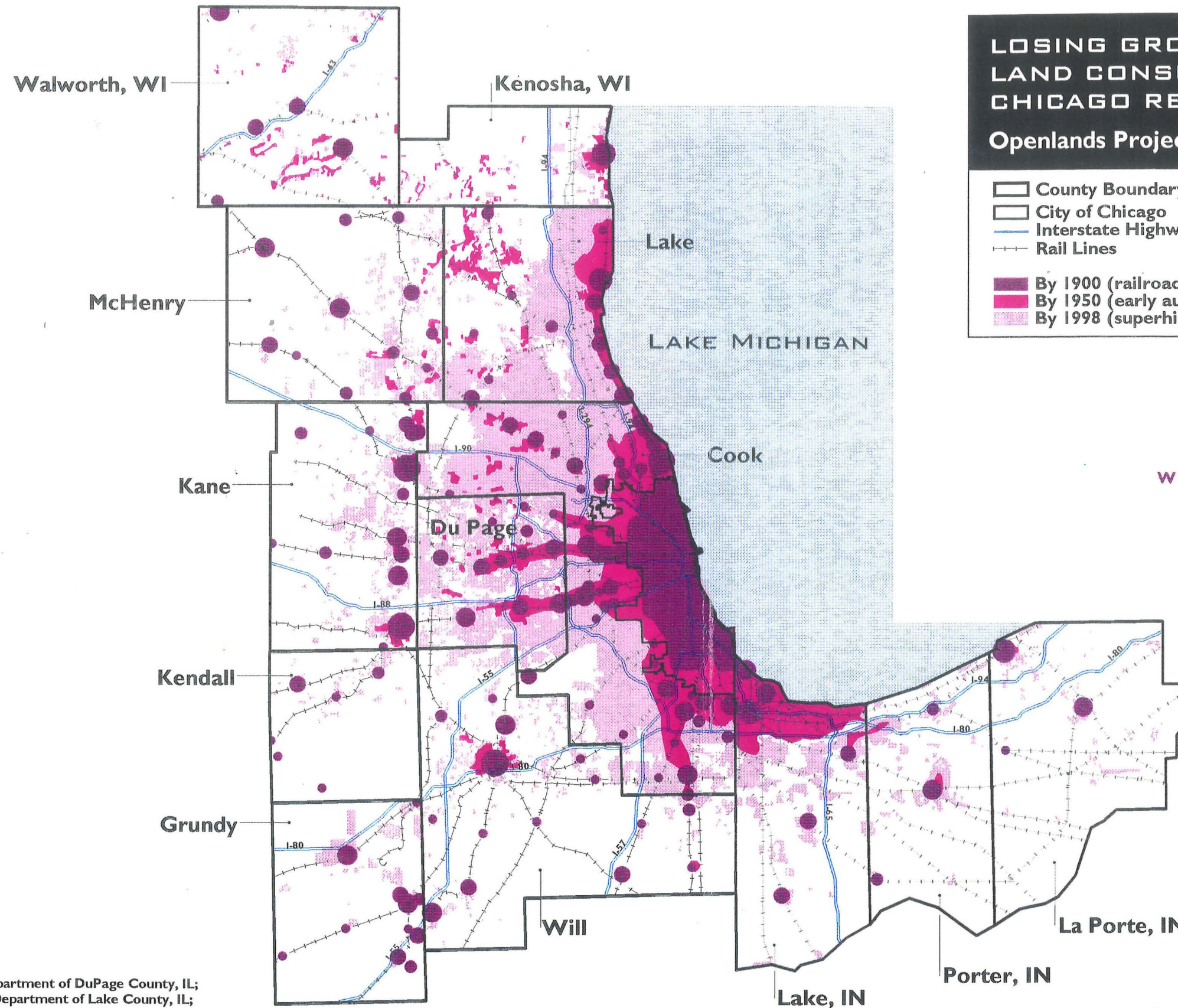
During the past half-century suburban land coverage in the Chicago region has continued to expand even as regional population growth has slowed to a near halt. This suburban expansion occurred while Chicago and Cook County's populations have shrunk. Densities have diminished, resulting in a blur between suburbs and rural farming centers, while continuing to pull people from the long-established city center and inner suburban ring.

The final report of the Strategic Open Lands at Risk Mapping Project will illustrate land under development pressure during the next decades and analyze what these pressures mean to both urban areas and natural resource-rich lands. This map and study will provide the basis by which Openlands Project may conduct periodic updates and learn whether land consumption trends are continuing or whether decision-makers have intervened to foster a more sensible growth pattern.

LOSING GROUND: LAND CONSUMPTION IN THE CHICAGO REGION, 1900-1998

Openlands Project

-  County Boundary
-  City of Chicago
-  Interstate Highway
-  Rail Lines
-  By 1900 (railroads in place)
-  By 1950 (early automobile era)
-  By 1998 (superhighway era)



Data Sources:
NIPC; SWRPC; Planning Department of DuPage County, IL;
Planning and Development Department of Lake County, IL;
U.S. Census TIGER Files; U.S.G.S. Topographic Maps;
ESRI; Delorme Atlas; Rand McNally Atlas; Focus Groups.

Prepared By: Metro Chicago Information Center

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Project Advisory Group

- Environmental Law and Policy Center
- Metropolitan Planning Council
- Center for Neighborhood Technology
- American Lung Association of Metropolitan Chicago
- Sierra Club
- Lake Forest Open Lands Association
- Conservation Foundation
- Lake County Conservation Alliance
- McHenry County Defenders
- Business and Professional People for the Public Interest
- Chicagoland Bicycle Federation
- The Nature Conservancy
- American Farmland Trust

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