

Growing Greener, Getting Leaner: Land Use in the Twin Cities Region

Key findings

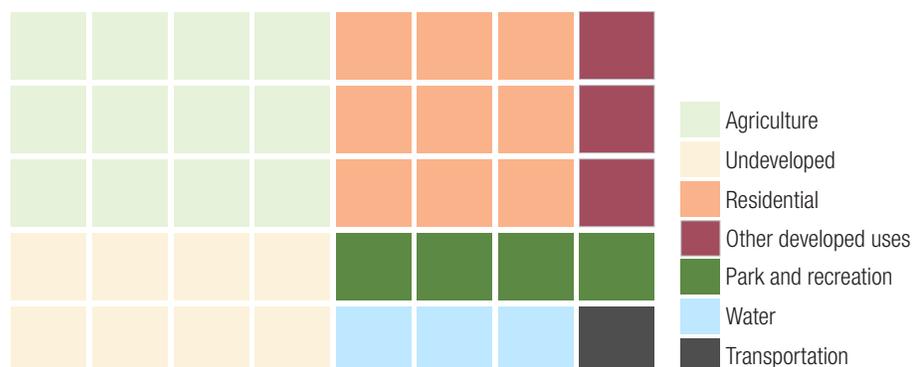
Every year the Twin Cities region develops land to meet the residential and employment needs of its growing population. About every five years Council research generates a snapshot of existing land use by interpreting and classifying region-wide aerial photography. By tracking land use changes, the Council and local planners can better visualize development trends and anticipate future growth needs.

Our focus	What is the region's current mix of land uses?	How has the region's land use changed since 2010?	How have development patterns changed?
Our findings	<p>Nearly half the region's total area is used for agriculture or is undeveloped as of 2016. An additional third of the region is developed, primarily for residential uses. One in every 10 acres is for parks and recreational use. Overall development (all uses) has slowed down compared with previous land use inventories.</p>	<p>The Twin Cities region now has the most park and recreation acreage in its history. The preservation of agricultural land ensures opportunities will remain long-term. New development, especially for residential purposes, is mostly occurring on previously undeveloped land and at higher densities.</p>	<p>The region is "doing more with less" in that land consumption to accommodate new population and household growth has required less acreage compared with previous years and has not resulted in net losses of other land use types, like agricultural land.</p>

The Twin Cities region's current land use

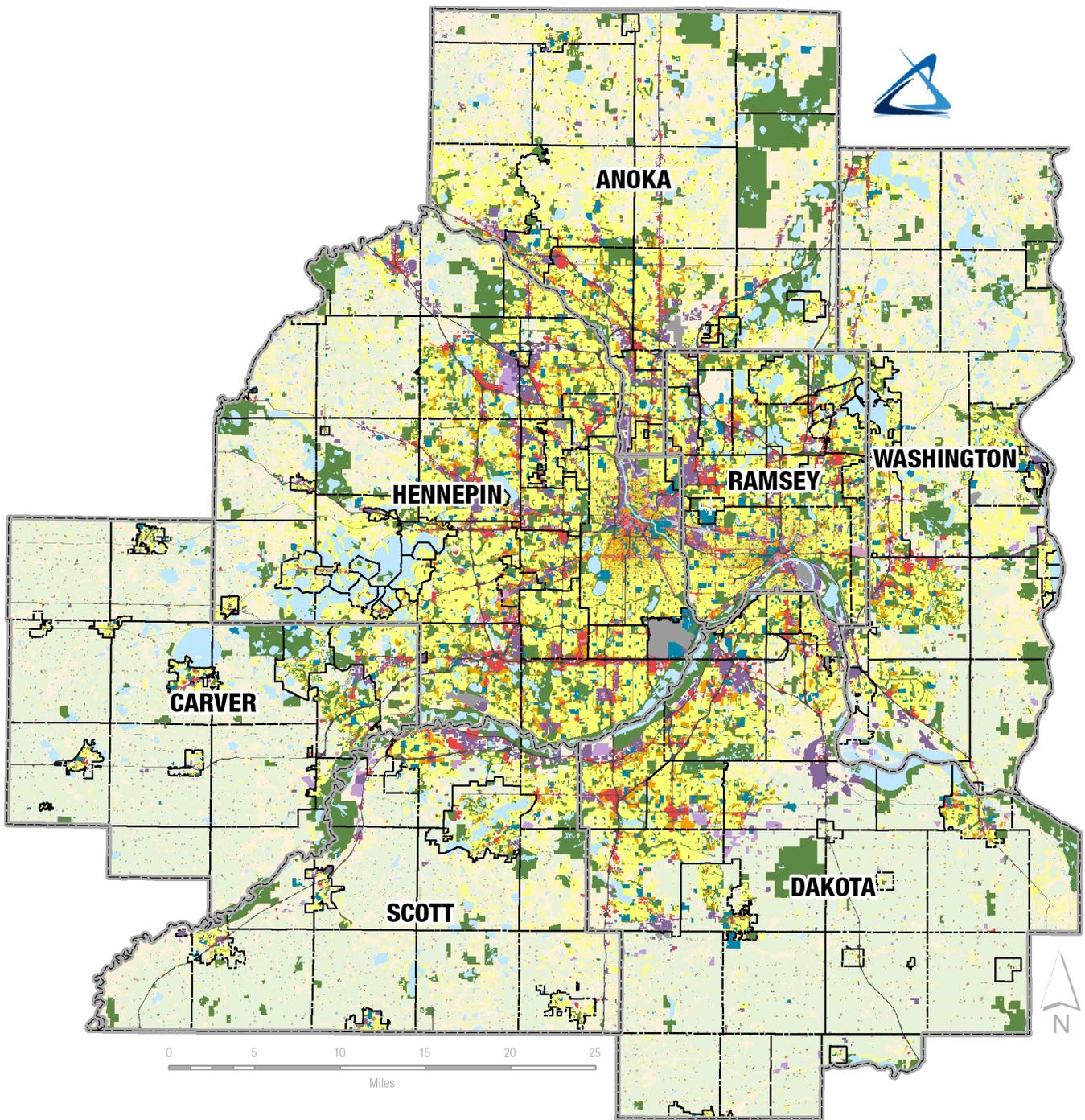
The Twin Cities region is approximately 1.9 million acres—nearly the size of Puerto Rico. Together, agricultural uses and undeveloped land are 981,000 acres, about half (52%) of the region's total area. Developed uses¹, including residential, commercial, industrial, institutional, and major highways, cover 593,000 acres or 31% of the region's area in 2016 (of all developed land, residential uses account for 72%). Nearly 11% of the Twin Cities region is park and recreational use, and water an additional 6.5%. Transportation infrastructure (airports, major roadways and railroads) are 2% of the region's area at 40,000 acres.

FIGURE 1. SNAPSHOT—GENERALIZED LAND USE IN THE TWIN CITIES REGION, 2016



Source: Metropolitan Council's 2016 Generalized Land Use Inventory; view and download at metrocouncil.org/data.

FIGURE 2. GENERALIZED LAND USE IN THE TWIN CITIES REGION, 2016



- | | | |
|--|---|---|
| Single Family Residential | Mixed Use—
Residential, Industrial, Commercial | Agriculture |
| Multifamily Residential | Extractive—
Gravel Pit or Quarry | Farmstead |
| Commercial | Park, Recreation or Preservation Area | Airport or Airstrip |
| Industrial or Utility | Undeveloped | Major Vehicular Rights of Way |
| Institutional | Water | Multitrack Railway |

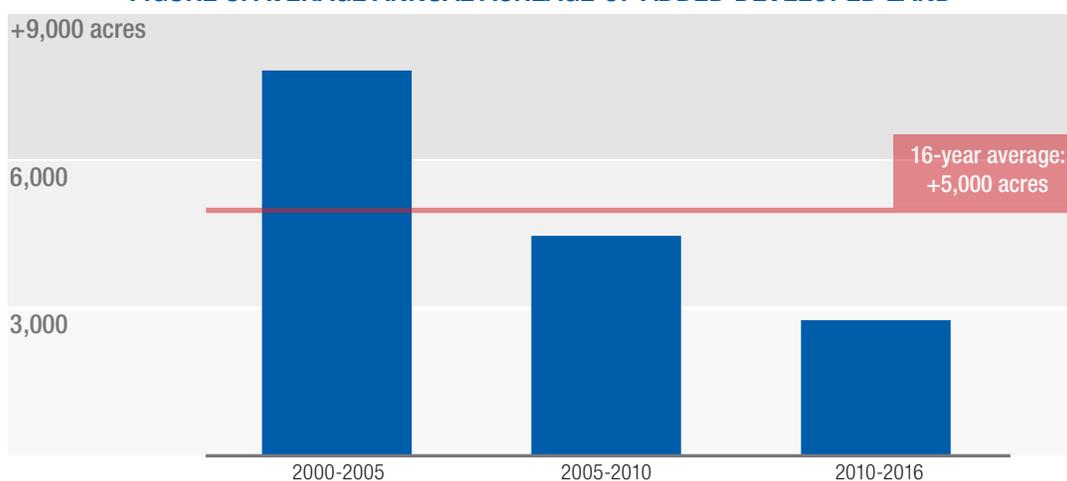
Source: Metropolitan Council's 2016 Generalized Land Use Inventory; view and download at metrocouncil.org/data.

As the tools and methods used to complete the region's generalized land use inventory become more sophisticated over time, our data too become more accurate and refined. However, this also means that comparisons between land use inventories must be interpreted with care. With that caveat, we offer two noteworthy trends identified in the 2016 land use inventory: 1) between gains in park and recreation land and agricultural preservation, the region is "getting greener," and 2) development, especially for residential uses, is more frequently occurring on undeveloped land and accommodating more households on smaller footprints—thus, the region is "getting leaner."

Overall land development slowed down in 2016

Since the 2010 Land Use Inventory, the total quantity of developed land in the Twin Cities region increased by 17,500 acres. This translates into an average yearly increase of 2,900 acres, less than the average yearly increase of 4,500 acres observed between 2005 and 2010 and significantly below the 7,500 net developed acres per year added between 2000 and 2005 (Figure 3). From 2000 to 2005, the region added 37,000 acres in developed land, an area the size of the city of Minneapolis; from 2005 to 2010, 23,000 acres, an area the size of the city of Plymouth; from 2010 to 2016 (a six-year time period), 17,500 acres, an area the city of Medina. Had the region continued to develop land at the pace of growth between 2000 and 2005, the net developed land in the region would have added acreage larger than the city of Bloomington on top of what we now see today.

FIGURE 3. AVERAGE ANNUAL ACREAGE OF ADDED DEVELOPED LAND



Source: Metropolitan Council's Generalized Land Use Inventories; view and download at metro council.org/data.

Seven in every ten developed acres in the Twin Cities region are occupied by residential uses, with single family detached housing alone accounting for six of every ten developed acres. Since 2010, the region added 16,000 acres of land used for single family detached housing, representing 92% of the growth in developed land from 2010 to 2016.

Between 2010 and 2016, less than one in twelve net new residential acres was in multifamily or townhomes. This is a significant change in land consumption patterns from previous land use inventories: in the past two land use inventories, roughly one in five net new residential acres was in multifamily or attached residential development. This suggests that the 27,000 single family detached units added between 2010 and 2016 are consuming a higher share of land (that is, built at lower densities) while the nearly 40,000 new units of multifamily and attached housing construction built over the same period are being built at higher densities or are replacing previous multifamily uses.

Residential land is not only the major component of regional growth but also a catalyst for additional development. From 2010 to 2016, the Twin Cities region added only 2,100 acres of commercial, industrial, institutional, and other developed nonresidential land, compared with 7,500 acres added from 2005 to 2010 and 10,600 acres added from 2000 to 2005. Despite \$9 billion in nonresidential construction (not including investments in new highways or railways), land in nonresidential developed uses grew only 1.3% in the six years since 2010, compared with 4.8% from 2005 to 2010. This suggests that a significant portion of investment and development in these sectors is redevelopment that repurposes existing land.

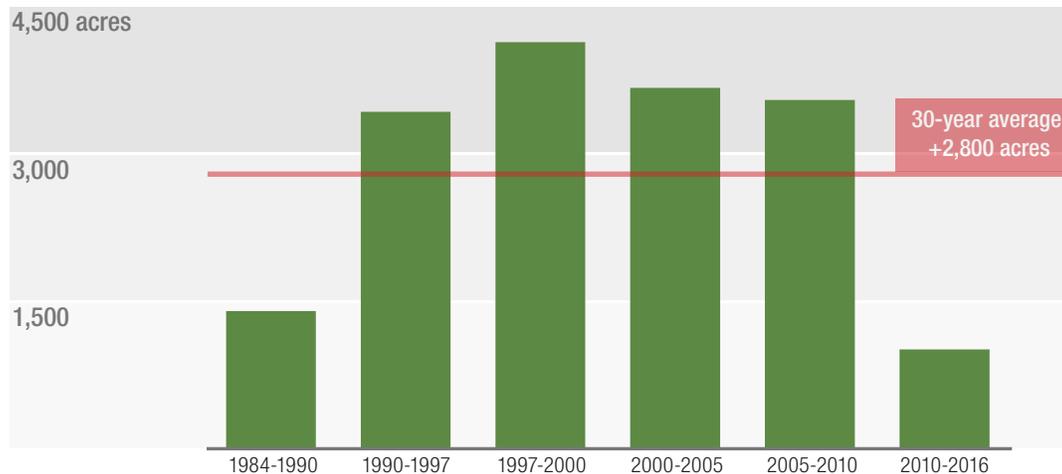
The greening region: a new milestone in parks and recreational land

Over the last six years, the Twin Cities region added just over 6,000 acres in park and recreation uses for a total of 206,000 acres, 10% of the region's total area. The state, regional parks agencies, and local governments are continuing to designate land for parks and recreational uses, helping the Twin Cities region retain its reputation as one of the greenest urban areas in the country.

While there has never been this much land in parks and recreational uses in the region, this annual increase of only 1,000 acres per year is a significant drop from the average of 3,600 acres per year seen across the previous two decades (1990 to 2010) as well as the 1,400 acres per year seen during the second half of the 1980s (Figure 4). With this slowdown in the growth of new parks and recreational land, the region also saw its first drop in park land per resident to 67.6 acres per 1,000 residents in 2016, a decline from 70.0 acres per 1,000 residents in 2010. Nonetheless, 2016's total is nearly 10% higher than the 61.8 acres per 1,000 residents seen in 2000.

Between 2010 and 2016, the region saw a net loss of 833 acres that had previously been categorized as golf course. One recent example of this redevelopment is Parkview Golf Club in Eagan, an 80-acre site that was converted to residential housing. To date, 97 single family detached units have been permitted (with a total of 175 homes planned).²

FIGURE 4. AVERAGE ANNUAL ACREAGE OF ADDED PARKS AND RECREATION LAND



Source: Metropolitan Council's Generalized Land Use Inventories; view and download at metro council.org/data.

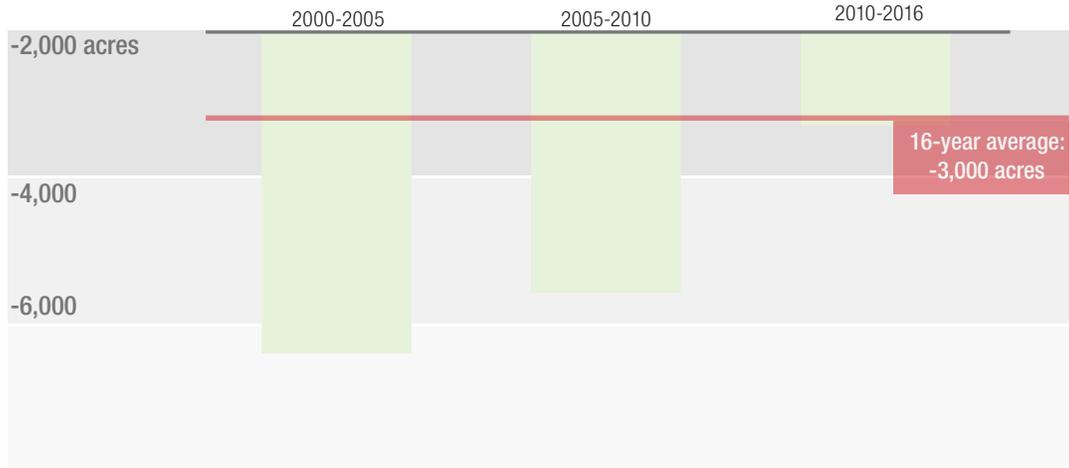
Preserving opportunities for agriculture in the region

Nearly three in every ten acres in the Twin Cities region were categorized as active agricultural uses in 2016—that is, land with visual evidence of active agricultural cultivation. In 2010, over 568,000 acres were classified as agricultural; by 2016, 20,160 acres were in other uses (including undeveloped land). Sixty-five percent of lost agricultural land became undeveloped land, 15% became residential, and 7% became parkland. However, because land that had been in other uses became agricultural over that same period, the net loss in agricultural acreage was only 7,600 acres or 1.3%. A net loss of 1,270 acres per year is by far the slowest loss of agricultural land since the Council began tracking agricultural uses separate from vacant and undeveloped land (Figure 5). Between 2000 and 2005, the region lost 4,370 acres of agricultural land per year; between 2005 and 2010, 3,550 acres per year.

Fifty-four percent of the region's agricultural land is in townships designated as Agricultural by *Thrive MSP 2040*.³ Land in the Agricultural Community Designation is planned and zoned for long-term agricultural use (many of these areas are enrolled in the Metropolitan Agricultural Preserves and Green Acres Programs). According to Metropolitan Council policy, the maximum allowable residential density in the agricultural area is one housing unit per 40 acres. Another 25% of the region's agricultural land is in the Diversified Rural Community Designation, and is planned and zoned for urbanized development sometime after 2040 or long-term rural uses, including agriculture. According to Metropolitan Council policy, the maximum allowable residential density in the Diversified Rural area is four housing units per 40 acres. As a result of these policy initiatives to protect agricultural land, this land is likely to remain in agricultural uses for the long term.

Thirteen percent of the region’s agricultural land is in the Suburban Edge and the Emerging Suburban Edge, Community Designations for places that are transitioning into urbanized levels of development. According to Metropolitan Council forecasts, Suburban Edge and Emerging Suburban Edge communities will house 46% of the region’s net household growth between 2010 and 2040. As a result, agricultural land in these areas is the most likely to convert to developed uses.

FIGURE 5. AVERAGE ANNUAL ACREAGE OF AGRICULTURAL LAND LOST



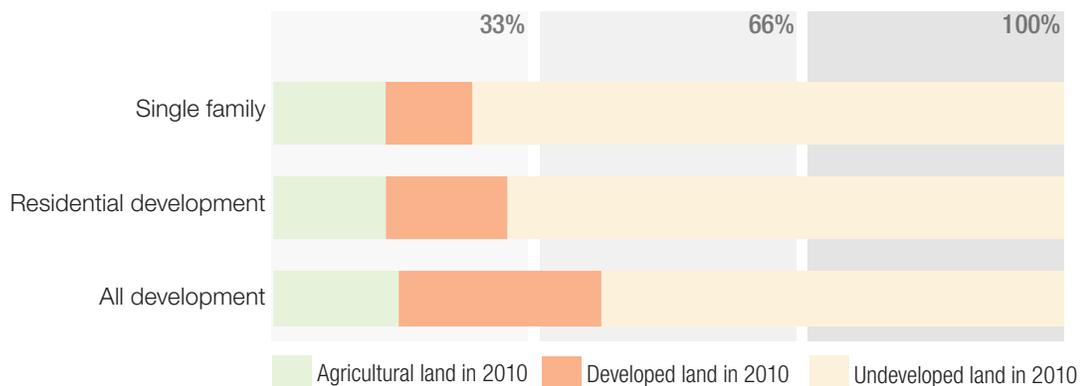
Source: Metropolitan Council’s Generalized Land Use Inventories; view and download at metro council.org/data.

New development is taking place on previously undeveloped land

Over one in five acres in the region—421,000 acres—is undeveloped land. In 2010, 436,400 acres were classified as undeveloped; by 2016, 36,760 acres were in other uses. Forty-one percent of undeveloped land was developed into residential uses, 28% returned to agricultural uses, and 17% became parkland. Just as we have seen a decline in the rate of loss of agricultural land, we have also seen a decline in the rate of loss of undeveloped land. Because land that had been in other uses became undeveloped over that same period, the net loss in undeveloped acreage was only 15,600 acres or 3.6%. This annual average rate of only 2,600 acres of net loss per year is by far the slowest loss of undeveloped land since we began tracking undeveloped uses separate from agricultural land; from 2000 to 2005, the region lost 4,600 acres of undeveloped land per year, from 2005 to 2010, 6,900 acres per year.

New development over the last six years was most likely to occur on land that was undeveloped in 2010 (Figure 6). Fifty-nine percent of land that changed to a developed use was on land categorized as undeveloped in 2010. For new residential uses, 71% of acres were undeveloped in 2010, increasing to 75% for newly-developed single family uses. Only one in seven acres developed as residential (or single-family residential alone) was on land that was previously agricultural. This indicates that future residential development is more likely to occur on today’s undeveloped land rather than today’s agricultural land. Overall, a quarter of land that changed uses was on land that had been developed in 2010.

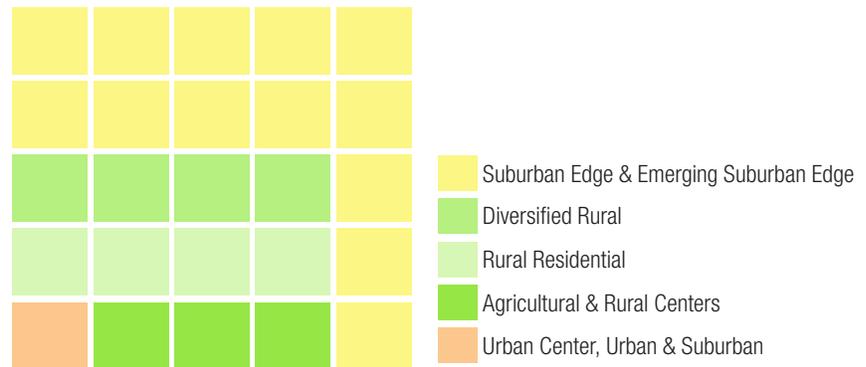
FIGURE 6. WHERE NEW LAND DEVELOPMENT OCCURRED IN 2016



Source: Metropolitan Council’s 2010 and 2016 Generalized Land Use Inventories; view and download at metro council.org/data.

Half of the net new developed land in the Twin Cities region from the last six years is in Suburban Edge and Emerging Suburban Edge communities—suburban areas that are rapidly growing and transitioning from undeveloped and rural to developed and urbanized (Figure 7). Nearly one in six net new developed acres is in Rural Residential communities, a development pattern characterized by large lots without urban infrastructure such as centralized wastewater treatment. Together, the Community Designations of Urban Center, Urban, and Suburban added only 5% of the region’s net new developed acres between 2010 and 2016.

FIGURE 7. NET LAND DEVELOPMENT BY COMMUNITY DESIGNATION

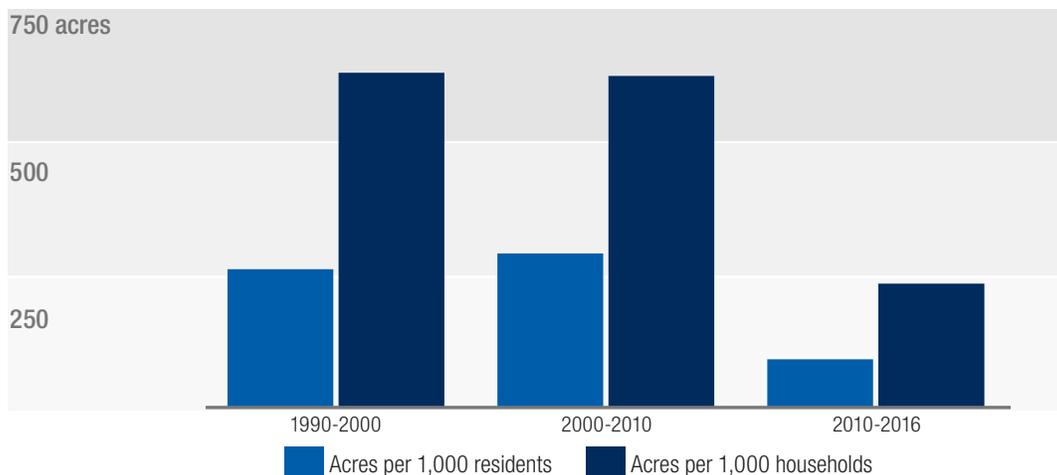


Source: Metropolitan Council's 2016 Generalized Land Use Inventory; view and download at metro council.org/data.
 Read Thrive MSP 2040's chapter on Community Designations here [\[PDF\]](#) or see a full-sized map of Community Designations [\[PDF\]](#).

Population and household growth is now supported by smaller footprints of development

The 2016 Land Use Inventory demonstrates that the last six years of development may represent a pivot in the region’s patterns of land consumption to meet the needs of new household and population. Over the last six years, the Twin Cities region used less developed land to accommodate its population and household growth than in previous years. From 2010 to 2016, the region added over 191,000 new residents and nearly 75,000 new households yet added only 17,500 developed acres. Combining these three measures, the footprint of developed land of the region grew by 91 acres per 1,000 new residents or 234 acres per 1,000 new households (Figure 8). This is a considerably smaller footprint compared with the previous decade (2000 to 2010) when the region added 291 acres per 1,000 new residents or 626 acres per 1,000 new households—more than three times the relative rate of land consumption seen since 2010.

FIGURE 8. LAND CONSUMPTION RATES



Source: Metropolitan Council's 2000, 2010, and 2016 Generalized Land Use Inventories; view and download at metro council.org/data.

While developed land continues to expand, the Twin Cities region is seeing more existing uses of land to accommodate population and household growth with a smaller footprint. Driving this reversal in land consumption trends is development that is more central, more urban, and more likely to be on previously developed land than in previous decades. With demographic growth among residents in their 20s and 30s as well as retirees, the region has seen more demand for housing in central, connected locations, and the market has responded accordingly.

About our generalized land inventory

This MetroStats uses data from the Generalized Land Use dataset created by the Metropolitan Council every five to seven years. We interpret land use data from aerial photography and other source data including county parcel data and assessor's information. Historical data are available on our website [\[LINK\]](#).

The 24 use categories are intended to represent the current land use – not planned use, tax classifications, or natural resources. (Alternative representations are available elsewhere, e.g., Metropolitan Council's Planned Land Use data or the Department of Natural Resources Minnesota Land Cover Classification System.) Over the years, the Council has refined its classifications and definitions; the 2016 classifications are consistent with those used since 2000.

Aerial photography was taken in April 2016. We anticipate doing the next aerial photography in April 2020 to coincide with the decennial Census.

Endnotes

¹ Developed uses includes all Residential categories (Single-Family Detached, Single-Family Attached, Multifamily, Farmsteads, Seasonal/Vacation and Manufactured Housing Parks), Commercial (Retail, Office), Mixed Use (Mixed Use Residential, Mixed Use Industrial, and Mixed Use Commercial), Industrial (Industrial and Utility, Extractive), Institutional, Major Roadways & Railways, and Airports.

² <http://www.twincities.com/2012/10/11/eagan-met-council-oks-plan-to-turn-golf-course-into-residential-development>

³ See the regional development guide, *Thrive MSP 2040*, for a detailed description of Community Designations [\[LINK\]](#).

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