

COUNTY OVERVIEW

OVERVIEW

Ramsey County is centrally located in the Minneapolis-Saint Paul metropolitan region and is home to striking landscapes, a diverse population, and is the heart of Minnesota's state government. More than 550,000 Minnesotans make their homes in Ramsey County, about 10 percent of the state's residents. 18 cities and 1 township comprise the county. Saint Paul is the largest city and is known for its walkable neighborhoods, the state capitol, and expansive views of the Mississippi River Valley. The city is a hub for transportation, health care, education and government. The 17 suburban municipalities to the north are nestled amongst lakes and wetlands. Regionally important colleges, retail hubs and corporate campuses help define suburban Ramsey County. The diversity of Ramsey County's landscape and population is one of the region's greatest strengths.

The Ramsey County Parks & Recreation system encompasses nearly 8,000 acres consisting of six regional parks including a family aquatic center and nature center, six regional trail corridors, nine county parks, nine protected open space sites, 13 indoor ice arenas and five golf courses.

There are seven hospitals located within Ramsey County including Regions Hospital, a Level I Trauma Center for both adults and children. The County is also headquarters for Fairview Health System, which operates four hospitals, 14 clinics, medical transportation and a variety of other outpatient services. Additional health systems with hospitals or clinics within the County include: HealthPartners, Allina Health, and Children's Hospitals and Clinics of Minnesota. There are five community health clinics that provide medical, dental and mental health services to primarily low-income, uninsured or under-insured residents: Face-to-Face Health and Counseling Service, Family Tree, Open Cities Health Center, Minnesota Community Care and United Family Medicine.

Ramsey County was established on October 27, 1849, one of the original counties of the Minnesota Territory. It is the most densely populated and racially diverse county in Minnesota, and has the highest percentage of residents living in poverty among all Twin Cities metro area counties.

GOVERNMENT STRUCTURE

A seven-member elected Board of Commissioners governs Ramsey County. Commissioners are responsible for authorizing resolutions, adopting the annual budget, appointing committees, hiring a County Manager, and serving as the legislatively mandated Community Health Board (CHB). The County Manager is responsible for carrying out the policies and resolutions of the Board of Commissioners, for overseeing the day-to-day operations of the County and for appointing the heads of the County's departments.

The County Attorney and Sheriff are also elected officials.

In 1990, Ramsey County citizens voted to become the first and only Home Rule Charter County in Minnesota. Adopted in 1992, the charter authorizes more autonomy to Ramsey County for local governance.

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*More than 550,000
Minnesotans make their
home in Ramsey County.*

POPULATION TRENDS



Ramsey County is the most densely populated county in Minnesota and is expected to grow by over 77,000 individuals by 2030.

Ramsey County's strength is in the diversity of its residents. Historically, the region was important to Native American peoples for thousands of years as they used the waterways for transportation and food and to develop an extensive trade relationship with other native peoples. By the 1600s, the main group of people living in present-day Ramsey County was the Dakota/Lakota Oyate people. Some of Ramsey County's early settlers were French-Canadian immigrants, many of whom were fur traders. During territorial days, English and Irish people hailing from the northeastern United States moved into the area, soon to be followed by thousands of Germans, Swedes and Norwegians. By 1900, Italian and Mexican immigrants followed the Swedes into Saint Paul's Swede Hollow and West Side. The local African-American population grew slowly in the 19th century to about 10 percent of the county's population, where it remains today. Since 1975, Ramsey County's Latino, Hmong, Vietnamese, Somali and Karen populations have grown from nearly zero to among the highest concentrations of these nationalities in the U.S. Today, Ramsey County's residents can trace their heritage from almost every country in the world, making it a diverse and vibrant place to live.

POPULATION

Ramsey County is the most densely populated county in Minnesota¹ and is expected to grow by over 77,000 individuals by 2030. Over time, Ramsey County residents will become much more racially and ethnically diverse. By 2040, the population is expected to grow to 655,144 with over half being people of color.²

Youth and diversity go hand in hand in Ramsey County resulting from higher birth rates among Asian, Hispanic/Latino and African-American residents and population growth from international migration. Smaller households, and single person households are another growing population trend experienced by both widowed seniors and in young adults who are delaying marriage and choosing to have less children or remain childless. Households with foreign-born adults are an exception to this rule; they are more likely to live in larger households with more children and more working adults.³

Population growth is occurring quite evenly across Ramsey County; however, changes in household demographics differ by city. Saint Paul is the largest city in Ramsey County and the most densely populated. North Oaks and Vadnais Heights are most affected by an aging population. In North Oaks, the proportion of older adults has increased since 2000.¹ Aging baby boomers and lengthening life-spans are major factors there. These areas with aging populations may lead to more seniors living alone, more social isolation, more senior health concerns, and increased mortality.⁴ In other areas, the proportion of adults is declining, such as in Saint Paul (-8 percent) and Gem Lake (-14 percent).¹

During the early 2000s Ramsey County experienced population loss due to domestic migration, but that has been changing. Ramsey County has an opportunity to continue this growth trend through domestic migration or by retaining local young adults to meet employment needs.⁵

POPULATION TRENDS

More than half of Minnesota’s population resides in the seven-county Twin Cities metropolitan area. Ramsey County is a fully-developed urban center that has the second largest county population in Minnesota and the smallest land area. According to the U.S. Census, Ramsey County’s population reached 546,317 as of 2017*. It is the most fully-developed and densely populated county in the state, as well as one of the most diverse. Twenty-three percent were children under the age of 17 years; 12% were ages 18-24 years; 27% were ages 24-44 years; 26% were ages 45-64 years; and 12% of the county’s population were aged 65 years old and over.⁶

Ramsey County is the second most populated county in Minnesota. Population growth is occurring relatively evenly across the county; however, changes in household demographics differ by city.



POPULATION PROJECTIONS

The seven-county Metro area is projected to gain 893,000 people over the next three decades. Projected growth rates, 9-10% per decade, are below the historic growth rates of 15% per decade in the 1980’s-1990’s. Natural population growth (births outpacing deaths) will account for over two-thirds of the total population growth from 2010-2040.



Younger residents in Ramsey County are the most racially and ethnically diverse living generation. Older residents are living longer and increasingly isolated.

Ramsey County Population by Sex, 2016



Source: 2012-2016 American Community Survey 5-Year Estimates. U.S. Census Bureau Website: <https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>. Accessed January 11, 2018.

POPULATION TRENDS

2010 CENSUS AND 2017 ESTIMATES FOR POPULATION AND HOUSEHOLD NUMBERS

| | Population | | Households | |
|------------------------|----------------|----------------|----------------|----------------|
| | 2010 Census | 2017 Estimate | 2010 Census | 2017 Estimate |
| Arden Hills | 9,552 | 9,969 | 2,957 | 3,211 |
| Falcon Heights | 5,321 | 5,436 | 2,131 | 2,163 |
| Gem Lake | 393 | 447 | 155 | 166 |
| Lauderdale | 2,379 | 2,426 | 1,130 | 1,148 |
| Little Canada | 9,773 | 10,120 | 4,393 | 4,528 |
| Maplewood | 38,018 | 40,084 | 14,882 | 15,530 |
| Mounds View | 12,155 | 13,327 | 4,954 | 5,211 |
| New Brighton | 21,456 | 22,875 | 8,915 | 9,444 |
| North Oaks | 4,469 | 5,215 | 1,746 | 1,975 |
| North St. Paul | 11,460 | 12,099 | 4,615 | 4,784 |
| Roseville | 33,660 | 35,987 | 14,623 | 15,267 |
| St. Anthony (part) | 3,070 | 3,756 | 1,638 | 1,873 |
| Saint Paul | 285,068 | 309,180 | 111,001 | 117,745 |
| Shoreview | 25,043 | 26,447 | 10,402 | 11,004 |
| Vadnais Heights | 12,302 | 12,704 | 5,066 | 5,381 |
| White Bear Township | 10,949 | 10,951 | 4,261 | 4,334 |
| White Bear Lake (part) | 23,394 | 25,109 | 9,747 | 10,271 |
| Ramsey County | 508,640 | 546,132 | 202,616 | 214,035 |

Source: U.S. Census Bureau, 2010 and Metropolitan Council estimates as of April 1, 2017. Published July, 2018. [https://metrocouncil.org/Data-and-Maps/Publications-And-Resources/Files-and-reports/2017-Population-Estimates-\(Final,-July-2018\)-\(1\).aspx](https://metrocouncil.org/Data-and-Maps/Publications-And-Resources/Files-and-reports/2017-Population-Estimates-(Final,-July-2018)-(1).aspx) Accessed July 2018.

IMMIGRATION & GROWING DIVERSITY

POPULATIONS OF COLOR

Ramsey County is rapidly becoming more diverse. As recently as 1990, less than 14% of the county was made up of persons of color, including Black/African Americans, American Indians, Asian Americans, and Hispanic/Latinos. By 2000, people of color made up 17% of our population, and today, 1 in 3 (36.5%) residents in Ramsey County is a person of color.¹

Birth rates are higher among families of color and American Indians than for White families, contributing to increasing racial diversity. Populations of color are projected to represent more than half the county's total population by 2040. The other one-third of the increase will result from migration—mostly international immigration from all continents.⁷ Residents aged 65 and older will continue representing about 15 to 16 percent of total population, given current trends.

CHANGE IN DISTRIBUTION OF PEOPLE OF COLOR OVER TIME

In 2010, people of color comprised 24% of the Twin Cities 7-county metro population. By 2040, the Metropolitan Council projects that 43% of residents will be persons of color.¹

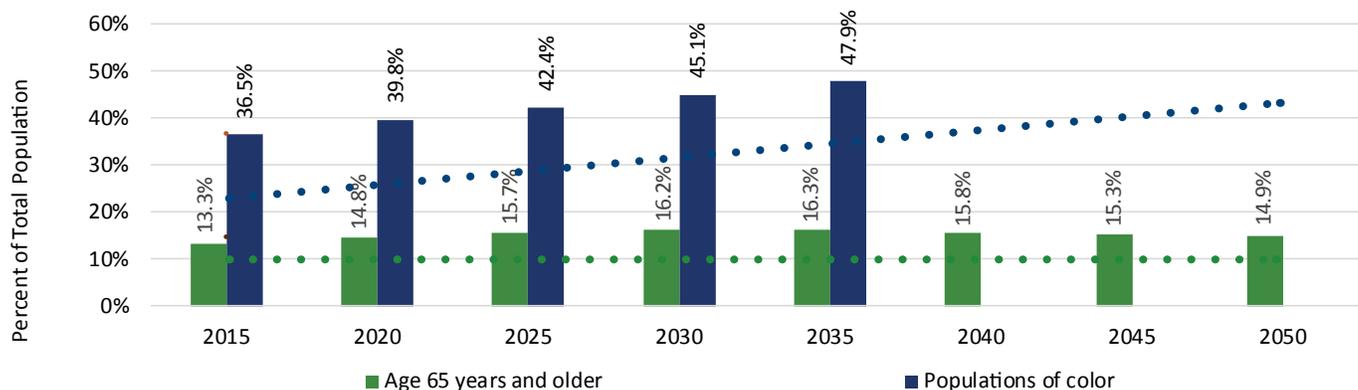
In 2040, the Minneapolis-Saint Paul workforce will reflect the diversity seen today in the region's elementary schools. The population of color will more than double, up from 676,000 in 2010 to 1,613,000 in 2040, while the White, non-Hispanic population will decrease by 2%. The region's Hispanic population is expected to nearly triple (from 168,000 in 2010 to 479,000 in 2040), and both the Black/African-American and Asian populations will more than double (from 234,000 in 2010 to 492,000 in 2040 and from 274,000 in 2010 to 642,000 in 2040).¹

Migration dynamics are the major factor in this demographic transition. People moving from the Minneapolis-Saint Paul area to other parts of the nation (domestic out-migration) are mostly White non-Hispanic and older (retirees). In contrast, the region's gain of international immigrants is predominantly people of color, mostly people in their 20s, often immigrating with children.¹

IMMIGRANTS AND REFUGEES

The Twin Cities metro area will continue to be an immigration gateway throughout the next 30-year period, and immigration will substantially advance the region's diversity. Of the expected international immigrants, 83% will be people of color, from all continents; the remaining 17% will be White, non-Hispanic.¹

Population Growth Among Residents of Color and Seniors, Ramsey County



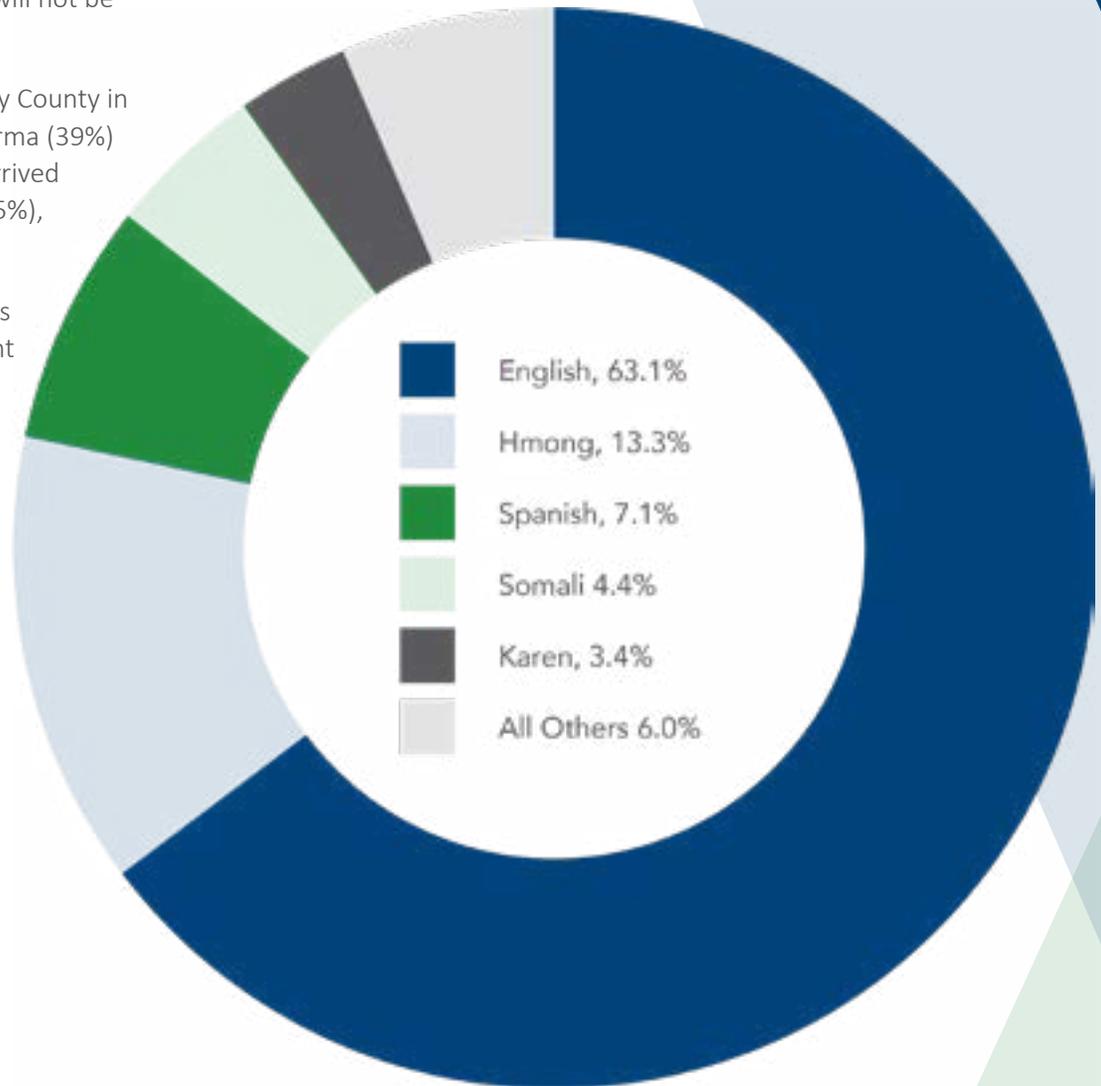
Source: Our Projections. Minnesota State Demographic Center Website. <https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>. Accessed June 12, 2018.

IMMIGRATION & GROWING DIVERSITY

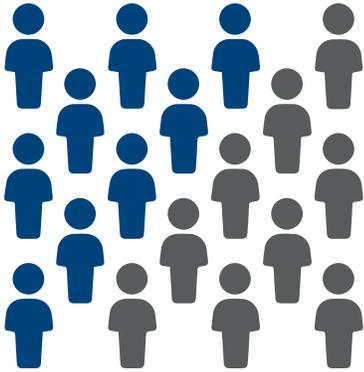
The primary language spoken in the home is not a direct indication of immigrant status, however it may suggest that students or their parents are recent immigrants. It also provides information on students' likelihood of having to navigate the education system through two or more languages. Data on primary language spoken in the home is collected through a survey that is separate from all other education data each year so that students will not be identified by this information.¹

Most refugees arriving to Ramsey County in the past ten years were from Burma (39%) and Laos (33%, most of whom arrived in 2004), followed by Somalia (15%), Ethiopia (9%) and Bhutan (4%).¹

But in 2012, preliminary numbers published by the U.S. Department of State show that the mix of refugee arrivals is continuing to change. Ramsey County welcomed many more refugees from Burma which made up 72% of all arrivals followed by refugees from Somalia (12% of arrivals), Bhutan (9%), Ethiopia (4%) and Iraq (3%).²



AGING, INCOME & EDUCATION



Nearly half of the 65 and older population live in the metropolitan area.



2013 median household income in Ramsey County was \$56,104 compared with the U.S. median of \$53,889.



The county is home to more colleges and universities than any other county in Minnesota.

AGING POPULATION

According to the 2010 U.S. Census, there are 683,121 people age 65 and older living in Minnesota which represents 13% of the state's population. Nearly half of the 65 and older population live in the metropolitan area. Senior citizens in the metro are more likely to live in older developed suburbs rather than suburban communities or the central cities.⁸

Ramsey County's population reached 508,640 in 2010, and 12.2% of them were senior citizens 65 years and older.⁹ By 2015, it is projected that 14% of Ramsey County residents will be 65 years or older. The number is projected to continue to grow until 2040 as the baby boom generation ages.^{1,10}

In 2010, nearly 52,000 (8.3%) Minnesotans age 65 and older were living in poverty. For single adults, this means having an income at or below \$10,458; for couples, poverty was defined as an income of \$13,194 or below.¹

There are racial/ethnic inequalities among income among the elderly. Black/African Americans make up 3% of Ramsey County seniors, but 6% of those who are living in poverty. Likewise, Asian Americans make up 2.6% of Ramsey County seniors, but they are 13% of elderly in poverty.²

INCOME

Income in Ramsey County is above the U.S. median.

- 2016 median household income in Ramsey County was \$56,104 compared with the U.S. median of \$53,889.
- About 11.4 percent of families live below the poverty level; nationally 11.3 percent of families are below poverty.

EDUCATION

Ramsey County has a well-educated population.

- Of people 25 and over, 16 percent of the population has a graduate or professional degree; the national rate is 11.2 percent.
- About 40.4 percent of county residents have a bachelor's or higher degree; 90 percent have completed high school. The national rates are 29.8 percent and 86.7 percent, respectively.
- The county is home to more colleges and universities than any other county in Minnesota.

EMPLOYMENT

JOBS

Ramsey County is a major employment center that draws people from surrounding counties to fill the need for employees.

In 2014, there were 330,627 people employed in Ramsey County. This is more than the number of Ramsey County residents in the labor force (283,043).

Ramsey County's unemployment rate is consistently below national and state rates. In 2016, the average unemployment rate nationally was 4.9 percent, Minnesota 3.9 percent and Ramsey County 3.6 percent.

TOP EMPLOYERS

As of 2016, there were more than 13,500 employers in Ramsey County. According to the United States Census Bureau, the largest employers in the county, by number of people employed:

- Medtronic
- University of Minnesota
- State of Minnesota
- 3M Company
- Land O'Lakes
- HealthEast/St. John's Hospital
- Independent School District #625
- Regions Hospital
- Ramsey County
- United Hospital (Saint Paul)



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GENERAL HEALTH STATUS

Measuring the general health status of a community often includes asking people directly. Self-assessed health status measures how a person perceives his or her health— usually with a rating scale such as excellent, very good, good, fair, or poor. Self-assessed health status has been validated as a useful indicator of health and is one method to characterize the burden of disabilities and chronic diseases in a population.^{11,12}

The Behavioral Risk Factor Surveillance System (BRFSS) and the Metro SHAPE provide self-reported data that offer a picture of the general health status of local residents. The County Health Rankings combine self-reported health status and other benchmarks within a subjective system of weighted measurements in an attempt to compare and rank health status of counties within each state.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

The Behavioral Risk Factor Surveillance System (BRFSS) is the world’s largest, on-going health survey system, tracking health conditions and risk behaviors in the U.S. yearly since 1984. BRFSS data can be used to identify emerging health problems, establish and track health objectives, and develop and evaluate public health policies and programs.¹³

METRO SHAPE SURVEY

The Metro Survey of the Health of All the Population and the Environment, or Metro SHAPE was a regional, coordinated public health surveillance effort in the metro region of Minnesota. The random sample population survey was conducted to provide county-specific data on health risk behaviors and the overall health status of adult residents in six metro area counties- Carver, Dakota, Hennepin, Ramsey, Scott, and Washington and three metro area cities – Bloomington, Minneapolis, and Saint Paul.

The survey methodology was drawn from existing literature supportive of address-based mail surveys with a push-to-web option. This “web + mail” methodology, or mailing a request to complete the survey online followed by a later request to respond by mail, has shown to obtain response rates slightly lower compared to mail-only methods. The households were randomly selected from each of the sampling stratum according to the sampling fractions described above.

A total of 58,486 households (excluding group homes) were randomly selected. The second stage of random sampling was to randomly select adults within the household. This was accomplished by asking the adult with the next birthday to complete the survey. The overall response rate was 22%.¹⁴

There are over 90 tables of fascinating data created from this survey that are available on the Ramsey County website. This data source as well as the ones described above, are cited often in the Data Analysis and Trends section of this report, and the indicators there will explore some of the finer details. Below is one glimpse of a big picture perspective.

Survey participants were asked:

In general, would you say your health is . . . excellent, very good, good, fair, or poor?

Among all Ramsey County respondents, 18.1% rated their health as excellent, 41.3% as very good, 29.8% as good, 8.5% as fair and 2.3% rated their health as poor. These are good results generally, but looking deeper, there are disturbing disparities.

People with lower household income (<200% of federal poverty level) were four times as likely to rate their health as “fair” or “poor”. People with a high school diploma or less reported their health as “fair” or “poor” much more often than other residents. Residents with graduate or professional degrees reported they were in “excellent” health more often than any other demographic group.

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People with lower household income were four times as likely to rate their health as “fair” or “poor”.

WATER, WEATHER, AND AIR

WATER

Aquifers (water-bearing geologic formations) provide approximately two-thirds of the water consumed in the Twin Cities and serve the needs of about 1.6 million people.¹ The Twin Cities is unique among major metropolitan areas because it rests on top of a bowl-shaped series of aquifers in a system that does not extend far beyond the region's boundaries. This unique geologic situation provides the ability and responsibility for managing much of our own groundwater resource.¹ Groundwater is located beneath the surface of the earth, stored in and flowing through pores, fractures, and cavities below the surface. Surface water enters the ground to "recharge" aquifers, and groundwater discharges to the surface to supply some streams, lakes and rivers. Both groundwater and surface water provide the public's water in Ramsey County.

There are 9 municipal water suppliers in Ramsey County (Mounds View, New Brighton, North St. Paul, St. Anthony, Saint Paul Regional Water System, Shoreview, Vadnais Heights, White Bear Lake and White Bear Township), as well as non-municipal water suppliers associated with several manufactured home parks, nursing homes or housing developments. There are 60 wells located throughout the county that provide the groundwater portion of public water supplies.

A portion of Ramsey County is covered by a "special well construction area" that has restrictions on well drilling due to groundwater contamination associated with the Twin Cities Army Ammunition Plant. The county also has several Drinking Water Supply Management Areas with several smaller areas of vulnerability suggesting the likelihood that a source within that area may contaminate a public water supply.¹

Clean and safe drinking water is important for health. The Minnesota Department of Health is responsible for the implementation and enforcement of the federal Safe Drinking Water Act passed by Congress in 1974 which sets health and safety standards for public drinking water.²

WATER QUALITY: NITRATE IN GROUNDWATER

Nitrate is a common contaminant found in many wells in Minnesota. Natural levels of nitrate in Minnesota groundwater are usually quite low, however, where sources of nitrate such as fertilizers, animal waste, or human sewage are concentrated near the ground surface, nitrate may seep down and contaminate the groundwater. Nitrate contamination of a well is often regarded as a first sign of deteriorating groundwater quality. Infants under six months of age are susceptible to nitrate poisoning.¹

Nitrate concentrations less than 1 mg/L are primarily due to natural processes. Nitrate concentrations in the range of 1-3 mg/L are transitional and may or may not represent human-caused nitrate sources. Nitrate concentrations in the range of 3 to 9 mg/L are elevated and probably originate from human activities. Nitrate concentrations greater than 10 mg/L exceed the state and federal drinking water standards.²

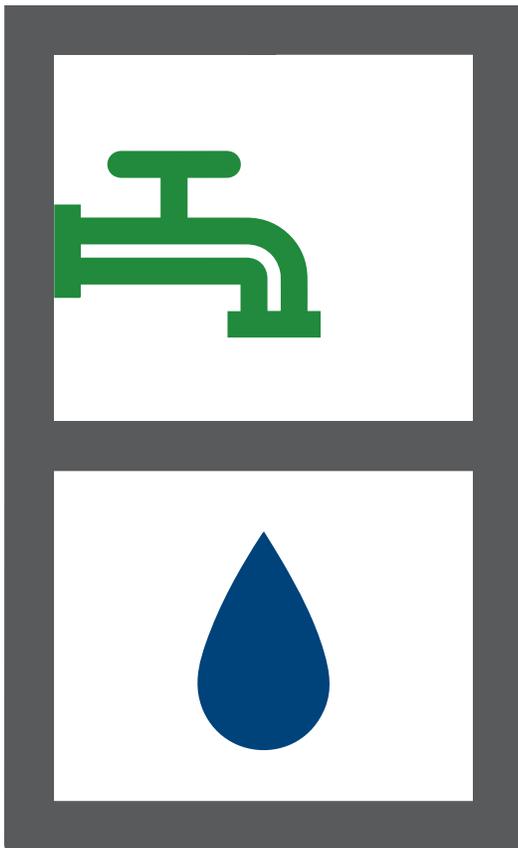
The Minnesota Department of Health developed nitrate probability ranking maps for a number of counties.³ The maps identify areas with high, moderate, and low sensitivity to contaminant sources.

While the sensitivity of groundwater throughout most of Ramsey County is high to very high, estimated nitrate loading is low-moderate or low almost everywhere. Only 2% of the county is identified as being at high-risk, with low to moderate nitrate probability rankings over 90% of the county.

WATER, WEATHER & AIR



There are **27,000** unused wells in the county.



Approximately **300** wells per year are sealed in the county.¹

WATER QUALITY: WATER WELLS

Water wells are installed when public water supplies are unavailable. Historically, private water wells were used throughout Ramsey County but most have been replaced with a public water supply. In the City of North Oaks, municipal water is not available and most people rely entirely on groundwater from private wells.

According to the Ramsey Conservation District, there are about 27,000 unused wells in the county.¹ Both unused wells and active wells if improperly constructed and maintained, have the potential to carry contaminants to the aquifer. Wells that have been abandoned or have been left in disrepair pose a greater risk than wells that are currently in use. Proper sealing of abandoned wells is the key strategy to reduce this risk but can be expensive. State grants to the Ramsey Conservation District have provided funds for limited sealing. Approximately 300 wells per year are sealed in the county.¹

WATER QUALITY: SUBSURFACE SEWAGE TREATMENT SYSTEMS

For properties that cannot have access to municipal sewer systems, subsurface sewage treatment systems (SSTS), commonly known as septic systems, are the only convenient alternative. When these systems are properly installed and maintained they pose very little risk to the public. Poorly maintained or improperly installed systems increase the possibility of contaminants leaking onto the land surface or into groundwater.¹ The Minnesota Pollution Control Agency regulates subsurface sewage treatment systems.

There are 1,743 subsurface sewage treatment systems in Ramsey County.² Most cities in Ramsey County have an ordinance pertaining to subsurface sewage treatment systems, and about one-third prohibit the installation of these systems.

WATER, WEATHER & AIR

WEATHER AND CLIMATE TRENDS

Weather is defined as short-term (minutes to months) changes in atmosphere including temperature, humidity and precipitation.¹ High dew points along with high air temperatures can lead to dangerous heat events. Local heavy precipitation events can lead to flooding or drought. Climate describes long-term patterns of weather in a specific area.¹

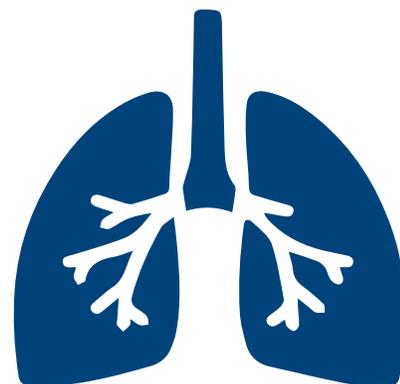
HEALTH RISKS OF CLIMATE CHANGE INCLUDE:²

- Decreased air quality
- Changes in the distribution and incidence of vector-borne diseases that are currently endemic to the tropics and subtropics (e.g., dengue and Chagas disease)
- Groundwater contamination
- Development of warm-water pathogens
- Reduced water supply for drinking and recreation
- Drought
- Minnesota and Ramsey County are experiencing a pattern of climate change evidenced by:
 - » The average temperature is rising.
 - » The average number of days with a high dew point may be increasing.
 - » The character of precipitation is changing.^{3,4}

AIR QUALITY: SMALL PARTICULATE MATTER

Fine particles can be inhaled deeply into the lungs and accumulate in the respiratory system where they can cause heart attacks, acute and chronic bronchitis, asthma episodes, reduced lung function and increased respiratory illness in young children. Some evidence suggests that exposure to fine particles may cause lung cancer.¹

Particulate matter with a diameter less than 10 microns (known as PM₁₀) has been regulated since 1971. In 1997, standards were set for fine particles with an aerodynamic diameter less than 2.5 microns (known as PM_{2.5}).



Air pollution affects lung and respiratory health.

WATER, WEATHER, AND AIR

The Environmental Protection Agency sets national air quality standards and the Minnesota Pollution Control Agency is responsible for their implementation and enforcement in Minnesota.

The Minnesota Pollution Control Agency issues an air quality alert when fine particle concentrations reach the “unhealthy for sensitive groups” category. Each year, Ramsey County experiences several days that exceed the national ambient air quality standards for PM2.5. Over time, the number of “good” days has increased, while the number of “moderate and higher” days has been decreasing, indicating improving air quality. However, year to year differences in meteorology can cause the number of alert days (Unhealthy for Sensitive Groups and higher) to vary from year to year.²

Annual average air concentrations of PM2.5 have shown improvements since 2002 while air quality related to 24-hour levels of PM2.5 appears to be steady, having not significantly improved since 2002.

Most directly-emitted PM2.5 pollutants in Ramsey County are from mobile and “area” sources, which are challenging to control and regulate. On-road mobile sources, both from gasoline and diesel, account for approximately 27% of the direct PM2.5 emissions in the county. Of all the area sources, residential wood burning accounts for roughly 25% of directly-emitted PM2.5 pollution.²

AIR QUALITY: OZONE

Ozone is found in two regions of the earth’s atmosphere – at ground level and in the upper regions of the atmosphere. While upper atmospheric ozone forms a protective layer from the sun’s harmful rays, ground level ozone is the primary component of smog.

Breathing air containing elevated ozone concentrations can reduce lung function, aggravating asthma or other existing respiratory conditions. Ozone exposure has also been associated with increases in respiratory infection, medicine use by asthmatics, doctor and emergency room visits and hospital admissions. Ozone exposure may also contribute to premature death in people with heart and lung disease.¹ In addition, repeated exposure to low levels of ozone damages vegetation, trees and crops, leading to increased susceptibility to disease, damaged foliage, and reduced yields.²

Ozone concentrations tend to be highest just outside urban areas since pollutants emitted in urban centers actually destroy ground-level ozone. As a result, the Minnesota Pollution Control Agency does not monitor directly in urban centers such as Minneapolis and Saint Paul, but in surrounding suburban areas.

The Minnesota Pollution Control Agency issues an air quality alert when the 8-hour ozone concentration reaches the “unhealthy for sensitive groups” range.³



27%

of emissions come from on-road mobile sources, both from gasoline and diesel.

WATER, WEATHER & AIR

AIR QUALITY: FORMALDEHYDE AND BENZENE

Toxic air contaminants, or “air toxics,” is the name of a category of hundreds of chemicals that cause or are suspected of causing cancer or other serious health problems. Many are difficult to measure; others rapidly change or combine with other chemicals in the air.¹

The Minnesota Pollution Control Agency monitors and compares concentrations of air toxics to health benchmarks. Unlike the federal ambient air standards, health benchmarks are guidelines rather than enforceable standards.

The Minnesota Pollution Control Agency monitors 3 types of air toxics, 56 volatile organic compounds, 7 carbonyl compounds, and 15 metals. Of these, only a few are near their health benchmarks. They include compounds such as benzene, carbon tetrachloride, formaldehyde, manganese and arsenic.

Formaldehyde has been identified as a priority air toxic.¹ It causes eye and respiratory irritation at low levels and is also a carcinogen. It has many sources, including direct emissions from combustion and vegetation, and other pollutants which break down in the air, creating formaldehyde, especially in the summer. Formaldehyde levels for Ramsey County are collected at two locations: the Public Health Department’s Juenemann Building at 555 Cedar and Harding High School. At both sites, formaldehyde levels are above the health benchmark.

Benzene is primarily a concern due to its potential to cause leukemia.¹ The major source of benzene is vehicle fuel with some emissions resulting from residential wood and open burning. Benzene concentrations have gone down dramatically since 1995 due to decreased levels of benzene in fuel, better containment of gasoline fumes at gas stations, and cleaner burning vehicles. At both monitoring locations in Ramsey County, benzene concentrations are below the inhalation health benchmark.

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ROADS, HIGHWAYS & BRIDGES

ROADS

Transportation systems support all aspects of Minnesota's economy and quality of life. Ramsey County partners with the Minnesota Department of Transportation (MnDOT) and local communities to maintain Minnesota's transportation assets in sound condition and preserve maximum traffic flow. Transportation infrastructure faces constant deterioration due to heavy use, age and weather. MnDOT regularly monitors and measures the physical condition of pavements to extend pavement life; good preventative maintenance minimizes life cycle costs by avoiding having to prematurely rebuild roads.¹ MnDOT's pavement engineers identify the most cost-effective treatment for every segment of road to help achieve the twin objectives of smooth ride and maximum service life.

The percentage of pavement on the state highway system with a poor ride quality is increasing. Compared to other states, Minnesota's interstates are ranked 44 out of 50 for this measure, 50 being the worst for pavement poor ride quality.¹⁵

HIGHWAYS

The Minnesota Department of Transportation monitors travel speed constantly on most routes. Annually, it measures the percentage of the 324-mile system that is congested on an average weekday rush hour. Congestion is defined as traffic that falls below 45 mph in weekday peak periods (6-9 a.m. and 2-7 p.m.).

The percent of urban freeway miles congested in the Twin Cities metropolitan area has remained relatively constant over the past decade, ranging from 17.3% to 21.5%. During the same time frame, the number of measured miles did not significantly increase. Compared to a selection of 31 similar metropolitan areas across the nation, the Twin Cities is the seventh most congested. It should be noted that other factors also contribute to system congestion such as system size, land use densities, transit availability, and other variables.

Methods of mitigating freeway congestion include: relieving bottlenecks, adding highway lanes, developing cost-effective transit options, I-394 MnPass, incident clearance, traveler information signs and services, managing demand, and other traffic management strategies. It is anticipated that approximately \$3 billion is needed over the next 25 years to expand and reconstruct portions of the Twin Cities area highway system.¹⁶

BRIDGES

Ramsey County partners with the Minnesota Department of Transportation (MnDOT) and local communities to plan, develop and construct road and bridge projects. As of 2010, Minnesota had 13,068 highway bridges with approximately 320 located in Ramsey County.¹

The percent of Ramsey County bridges classified as deficient or obsolete is on a downward trend (from 30% in 2001 to 22% in 2009) while statewide the percent has decreased slightly from 14% to 12% in the same time period.¹⁷

Preserving bridges is one of MnDOT's highest statewide priorities. Once bridges deteriorate to the point of "structurally deficient," costly and sometimes premature replacement may be necessary. MnDOT conducts regular inspections and cost-effective preventative maintenance to extend bridge life.¹

Most bridges are designed to last almost 50 years. The average age of bridges in the U.S. is 42 years; Minnesota's average is 35.2 years (2008 data). The number of "structurally deficient" bridges is virtually guaranteed to increase over time as the number of bridges in Minnesota older than 50 years increases, from 2,864 in 2010 to a predicted 11,473 in 2050.¹⁸

ENDNOTES

- ¹ Population, Housing Units, Area, and Density: 2010 Census. Fact Finder. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed July 2018.
- ² Our Projections. Minnesota State Demographic Center. <https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>. Accessed July 2018.
- ³ MetroStats: Exploring regional issues that matter. Metropolitan Council. <https://metro council.org/getattachment/90332712-90b9-42b1-81b6-bfc698408f35/>. Accessed July 2018.
- ⁴ Henderson T. Growing number of people living solo can pose challenges. Stateline. 2014. <http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2014/09/11/growing-number-of-people-living-solo-can-pose-challenges>. Published September 11, 2014. Accessed July 2018.
- ⁵ Brower S. Minnesota on the move: Examining migration patterns. Minnesota Compass. 2015. <http://www.mncompass.org/trends/insights/2015-01-01-migration-patterns>. Accessed July 2018.
- ⁶ U.S. Census Bureau. (2010).
- ⁷ Metropolitan Council. (2012). Metro Stats. What lies ahead: Population, household, and employment forecasts to 2040. Retrieved from: http://stats.metc.state.mn.us/stats/pdf/MetroStats_Forecasts.pdf.
- ⁸ Metropolitan Council. (2011). Metro Stats. What the 2010 census tells us about the Twin Cities region, part II. Retrieved from: http://stats.metc.state.mn.us/stats/pdf/MetroStats_Census2010.pdf.
- ⁹ U.S. Census Bureau. (2010). Retrieved from: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.
- ¹⁰ Minnesota Department of Administration, Office of Geographic and Demographic Analysis, State Demographic Center. (2012). Projections - Population and characteristics of the future. Retrieved from: <http://www.demography.state.mn.us/projections.html>.
- ¹¹ Idler E, Benyamini Y. Self-rated health and mortality: A review of 28 studies. *J Health Soc Behav.* 1997;38(1):21-37.
- ¹² Robert Wood Johnson Foundation & University of Wisconsin Population Health Institute. (2013). County health rankings and roadmaps. Retrieved from: <http://www.countyhealthrankings.org/app#/minnesota/2013/ramsey/county/outcomes/overall/snapshot/by-rank>.
- ¹³ Centers for Disease Control and Prevention. (2011). Behavioral Risk Factor Surveillance System. Retrieved from: <http://apps.nccd.cdc.gov/brfss/>.
- ¹⁴ Saint Paul – Ramsey County Public Health. Metro SHAPE Ramsey County Data Book 2014. <https://www.ramseycounty.us/your-government/open-government/research-data/public-health-data>.
- ¹⁵ Minnesota Department of Transportation. (2011). Annual Minnesota transportation performance report 2011. Retrieved from: http://www.dot.state.mn.us/measures/pdf/2011_Performance_Report_HiRes_11-29-12.pdf.
- ¹⁶ Minnesota Department of Transportation. (2011). Annual Minnesota transportation performance report 2011. Retrieved from: http://www.dot.state.mn.us/measures/pdf/2011_Performance_Report_HiRes_11-29-12.pdf.
- ¹⁷ Minnesota Department of Transportation. (2011). Annual Minnesota transportation performance report 2011. Retrieved from: http://www.dot.state.mn.us/measures/pdf/2011_Performance_Report_HiRes_11-29-12.pdf.
- ¹⁸ Transportation for America. (2011). The fix we're in for: the state of Minnesota's bridges. Retrieved from: <http://t4america.org/resources/bridges/>.