ON TO 2050 plan update indicators appendix

September 2022 draft

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Introduction

This document contains the details of the ON TO 2050 plan update indicators, which serve as benchmarks for monitoring the progress of plan implementation. Where possible, each plan recommendation is tracked by one or more indicators. Indicator target values for the years 2025 and 2050 have been specified to quantify actual plan progress and to track how well the region is achieving its goals in both the near and long term. The targets should not be viewed as projections or forecasts, but rather as optimistic outcomes that are achievable with the successful implementation of ON TO 2050.

This report documents all the indicators and targets used in the ON TO 2050 plan update. Most are unchanged from the original ON TO 2050 indicators adopted in 2018, although several have required some modifications to their data source, methodology, and/or targets.

Plan update indicator refinement process

Since the adoption of ON TO 2050, CMAP has continued to track the indicators over time as new data became available. However, challenges arose for updating certain indicators due to data unavailability, retroactive revisions to baseline data, and changes to methodology. As part of the plan update process, CMAP carefully reviewed each of the indicators to identify the issues and made the necessary adjustments to data sources, analysis procedures, and/or targets for the problematic indicators to ensure that they can continue to be updated. All these changes are described in detail under "plan update revisions" in the indicator-specific tables that form the bulk of this document. The "preventable hospitalizations by race and ethnicity" indicator that was included in ON TO 2050 has been eliminated because CMAP was never able to obtain the necessary data. No new indicators have been added.

Document layout

The remainder of the report is divided into sections that correspond to the five chapters of ON TO 2050. Each section includes a discussion of the indicators that relate primarily to that chapter (although several indicators are related to topics in multiple chapters).

The discussion for each indicator includes a summary of its relevance to the plan's recommendations, a description of the data sources and methodology used to calculate it, target values for the near term (2025) and the long term (2050), and a brief discussion of the indicator's status in relation to the original ON TO 2050 indicator. Some indicators also have an "inclusive growth perspective" that reports the indicator's values by race and ethnicity or within economically disconnected areas (EDAs, areas with concentrations of both low-income households and persons of color or limited English proficiency population) and disinvested areas (predominantly nonresidential places with struggling local economies). This additional detail will help CMAP track progress on inclusive growth. These "inclusive growth perspectives" also function as secondary indicators.

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A final section details the set of secondary indicators that will supplement the information provided by the core indicators. Many of these specifically focus on the theme of inclusive growth. The secondary indicators do not have target values but were chosen to help tell a more complete story and address data gaps in the core indicators.

For a comprehensive list of all ON TO 2050 indicators, please refer to the table of contents.

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Community indicators

Share of post-2015 development occurring in infill supportive areas

Indicator	This indicator uses the Northeastern Illinois Development Database (NDD) to measure the cumulative share of development that occurs in the region's highly and partially infill supportive areas (with any overlapping conservation areas excluded). This measure addresses a critical element of ON TO 2050: encouraging development in existing communities where infrastructure to support it is already in place, while also avoiding the expansion of new infrastructure with long-term maintenance costs. For this indicator, the term "development" is used in a general sense to include both new development and redevelopment of existing uses. Residential and non-residential development will be tracked separately. **Related recommendations:** Target infill, infrastructure, and natural area investments; invest in disinvested areas
Methodology	This indicator will track the share of new residential units and the share of new non-residential square footage that occurs in highly and partially infill supportive areas. The 2015 infill supportiveness index was created based on existing land cover, population, employment, and road density. Existing development and infrastructure were identified, focusing on four major indicators: developed area, road infrastructure, housing density, and employment density. The index highlights parts of the region that are best able to support infill development. For this indicator, the infill supportiveness index will be modified to exclude any portions of the highly and partially infill supportive areas that are also covered by the ON TO 2050 conservation areas layer, which identifies key natural resources that are priorities for conservation. The 2015 infill supportiveness index and conservation areas layer will be held constant over the life of the plan as a way to measure infill supportive development using a control geography representing areas with existing infrastructure in place. The following map shows the conservation areas layer and the portions of the infill supportive areas that will be used as the basis for identifying infill supportive developments.

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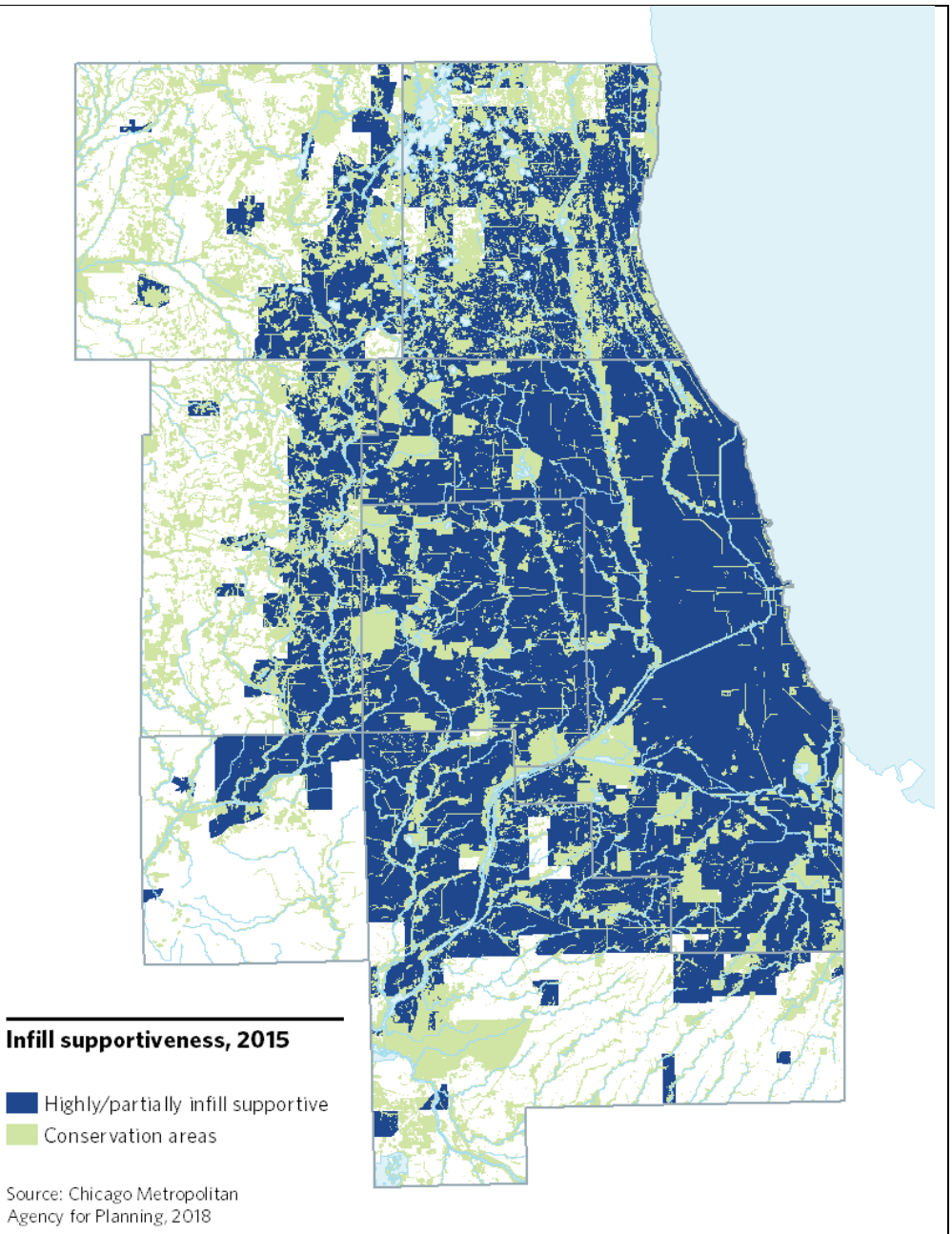

The NDD tracks all significant development and redevelopment in the seven-county region. Developments must meet one of the following criteria to be included in the NDD:

- Consume at least once acre of land, OR
- Consist of at least 10 residential units, OR
- Consist of at least 10,000 square feet of non-residential space

The NDD covers new construction, renovations with a change in land use (e.g., commercial to residential), and expansions of existing uses (e.g.,

	school additions). In general, if a development results in a change of population or employment, it is included in the NDD. The database does not include individual homes that may meet the above criteria unless they are part of a larger development; renovations where there is no change in land use; or condominium conversion of existing rental buildings.
Targets	Due to the disparate nature of residential and non-residential development, separate target values and units of measurement will be used to track the progress of each development type. Reporting residential development in terms of units and non-residential development in terms of square footage is the industry standard; there is no simple method to develop an equivalency between the two. Targets are based on recent trends in residential and non-residential development and consider forecasted growth in housing units and jobs in the Chicago metropolitan region. 80 percent of residential developments and 84 percent of non-residential developments from 2000 to 2015 occurred within highly and partially infill supportive areas. Since 2016, 80 percent of residential developments and 78 percent of non-residential developments that have either been completed or approved and are expected to be completed by 2025 are within highly and partially infill supportive areas. The 2025 residential and non-residential targets reflect a near-term share of development in highly and partially infill supportive areas that is the greater of the 2000-2015 (completed) and 2016-2025 (expected and completed) rates, rounded to the nearest 5 percent. The 2050 targets assume that trend will be sustained in the long term by promoting strategies supportive of infill development. All targets reflect forecasted infill development and assume implementation of ON TO 2050's infill-related strategies. **Residential development** **2025:** 80 percent or more of new residential units developed since 2015 located within highly and partially infill supportive areas **2050:** 80 percent or more of new residential units developed since 2015 located within highly and partially infill supportive areas **Non-residential development** **2025:** 85 percent or more of non-residential square footage developed since 2015 located within highly and partially infill supportive areas

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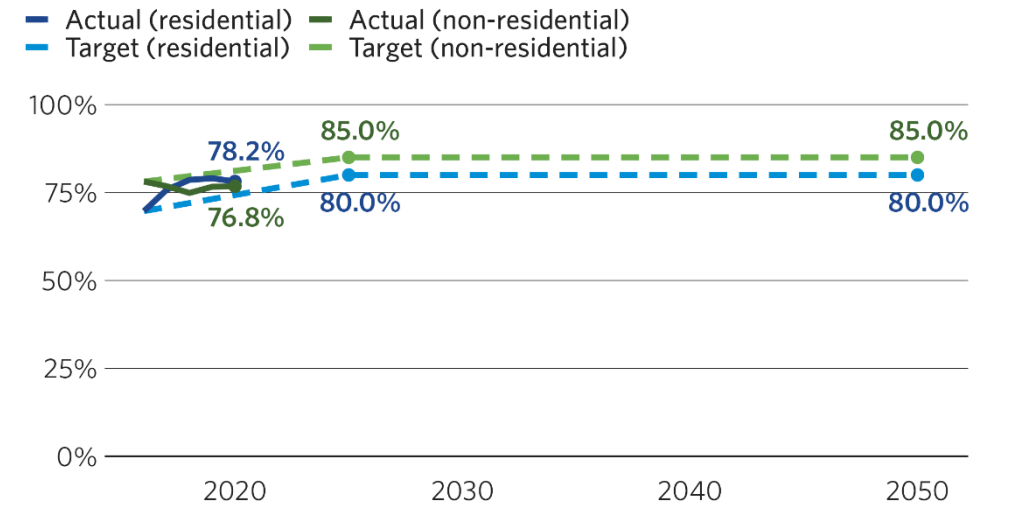
	2050: 85 percent or more of non-residential square footage developed since 2015 located within highly and partially infill supportive areas **Share of post-2015 development occurring in infill supportive areas** 
Inclusive growth perspective	Infill development and land use patterns are crucial to promoting economic growth in many economically disconnected and disinvested areas and in connecting the region's economically disconnected and disinvested area residents to economic opportunity. As a secondary indicator, ON TO 2050 tracks the share of new infill development occurring in economically disconnected and disinvested areas. In 2010, approximately 37 percent of the region's housing units and 30 percent of its non-residential square footage were located in economically disconnected or disinvested areas. However, economically disconnected and disinvested areas accounted for only 15 percent of new infill residential units and 21 percent of new infill non-residential square footage between 2000 and 2015. CMAP recommends increased infill development in economically disconnected and disinvested areas to increase efficient use of limited resources and help these communities grow.

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	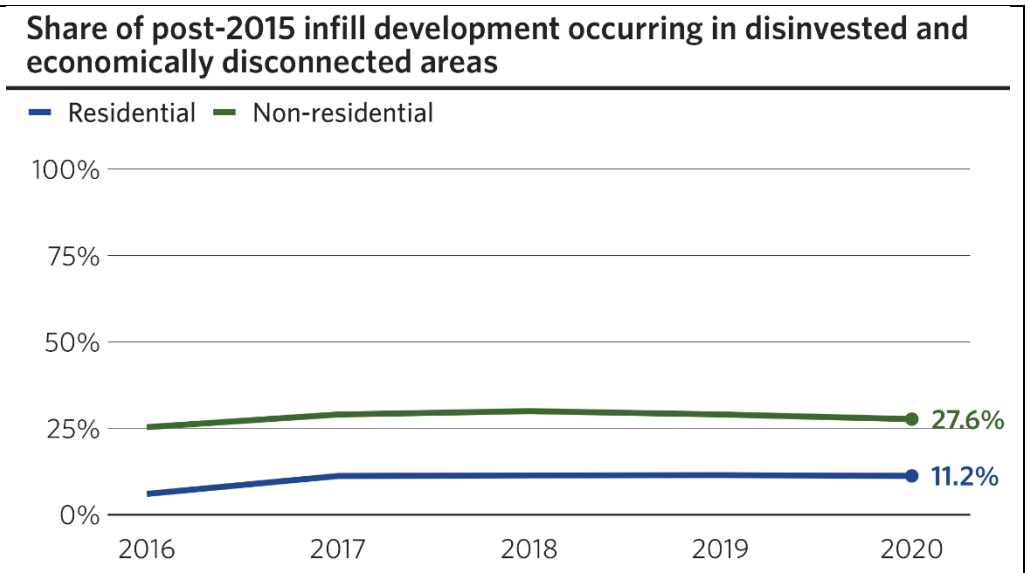
Plan Update revisions	This indicator is based on data from CMAP's Northeastern Illinois Development Database (NDD). When the original analysis was done for ON TO 2050, the database query used by staff was inadvertently including developments that were completed, but whose completion year was not entered into the database and therefore may have been completed outside of the time period of interest. This error was not discovered until after ON TO 2050's adoption, but has been corrected for the Plan Update. The change in the baseline data has made the original residential targets obsolete, although the non-residential targets have been maintained. Whereas the original indicator's targets were set by calculating the *average* share of infill supportive developments from 2000-2015 (completed) and 2016-2025 (completed or expected), staff propose to instead use the *maximum* of the two for the revised targets. Residential development has had a relatively steady infill supportive share (around 80%) since 2000. Non-residential development had a lower infill supportive share in 2016-2025 (78%) than in 2000-2015 (84%), likely due to the recent construction of large warehousing and distribution facilities at the edges of the region.

Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Households

Indicator	This measure estimates the share of household income spent on housing and transportation (H+T) costs for moderate- and low-income households. For analysis purposes, any household with an income below 80 percent of the regional median family income are defined as low- and moderate-income. Data are from the Consumer Expenditure Survey (CES), which the

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	U.S. Bureau of Labor Statistics (BLS) conducts annually. The survey collects information on household income and expenditures, including those for housing and transportation. Data are reported for the Chicago-Naperville-Elgin, IL-IN-WI Metropolitan Statistical Area (MSA). **Related recommendations:** Match regional and local housing supply with the types that residents want; leverage the transportation network to promote inclusive growth (mobility).
Methodology	In order to account for inflation in both incomes and spending, "low- and moderate-income households" are defined as those whose income is below 80 percent of the regional median family income. An upper bound of 80 percent of the regional family income was chosen to match the top "moderate income" threshold used by the U.S. Department of Housing and Urban Development (HUD) for a number of its programs, including public housing, Housing Choice Vouchers, and the Community Development Block Grant program (although HUD sets different thresholds depending on the number of people in a household). For each analysis year, the regional median income is estimated using a grouped frequency distribution based on American Community Survey (ACS) five-year data for the seven-county region. This measure is calculated using public-use microdata (PUMD) files from the CES. While the PUMD allows greater in-depth analysis of expenditure data, certain caveats exist when using the data and comparing results to the published summaries on the BLS website. As with many surveys, masking values are used for certain data items when specific criteria are met in order to protect survey respondents' privacy. BLS' own data do not incorporate this imputed, top-coded, or suppressed data. Those missing data points are compensated through weighting mechanisms calculated by the BLS that are unavailable to the public. In addition, while the PUMD allow for detailed statistical analyses for specific variables, such analyses may have high margins of error because the survey responses are weighted to be statistically valid at the national level and not necessarily at the regional level.
Targets	Staff reviewed regional affordability trends using this methodology since 2009, along with trends in overall housing affordability since 2000. The number of cost-burdened households (i.e., households paying more than 30 percent of their income on housing costs) has increased by more than 10 percentage points for both owners and renters. From 2009 to 2015, the combined H+T metric ranged from 60 to 67 percent, driven heavily by low- and moderate-income households spending a greater share of income on transportation costs. The 2025 target represents a near-term return to the

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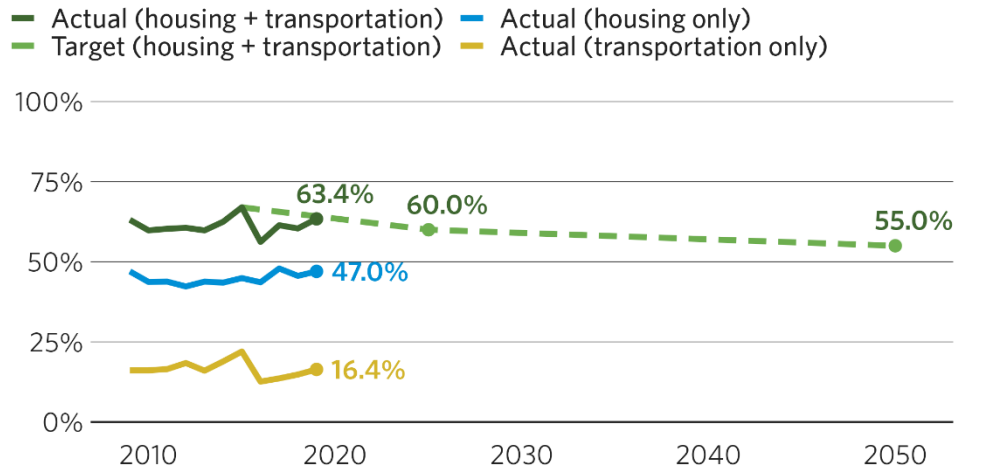
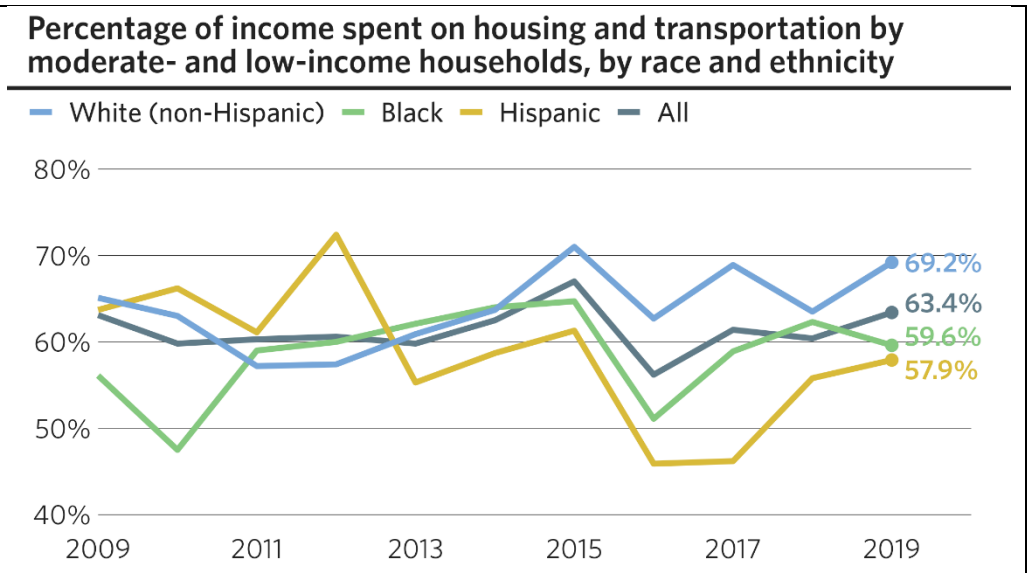
	2009-2015 low of 60 percent (from 2013). The 2050 target represents a continued decrease from the 2025 target, taking into account the range in which this metric has historically fluctuated, the policies of ON TO 2050, and the share of households expected to live outside of highly infill supportive areas. **2025:** 60 percent or less of income spent on housing and transportation by moderate- and low-income residents. **2050:** 55 percent or less of income spent on housing and transportation by moderate- and low-income residents. **Percentage of income spent on housing and transportation by moderate- and low-income households** 
Inclusive growth perspective	As a secondary indicator to this core indicator, ON TO 2050 tracks the share of household income spent on housing and transportation costs for moderate- and low-income households by race and ethnicity. On average, Black and white households have seen increases in the share of household income spent on housing and transportation costs since 2009. Hispanic households have seen an overall decrease in that time, although they have also seen increases since 2016. Data for other racial and ethnic households, including Asian households, are not shown here due to small sample size.

	
Plan Update revisions	This indicator has not been modified.

Population and Jobs Located in Highly Walkable Areas

Indicator	ON TO 2050 places a high priority on supporting development of compact, walkable communities to help meet increasing demand for these places, support transit, and improve mobility. This indicator tracks the percentages of the region's population and jobs located in areas with "high" or "very high" walkability. To assess walkability, CMAP created an index that considers multiple factors contributing to walkability: nearby amenities, block length, intersection density, population and employment densities, tree canopy cover, bicycle or pedestrian fatalities and serious injuries, and sidewalk coverage. **Related recommendations:** Support development of compact, walkable communities; make transit more competitive (mobility).
Methodology	The walkability layer is a localized metric that takes into account the number and types of amenities reachable on foot in 30 minutes, average block length, intersection density, population and employment densities, tree canopy cover, and the number of bicycle or pedestrian fatalities and serious injuries in a given subzone. Subzones with scores above 50 are considered to have "high" walkability, and those with scores above 100 are considered to have "very high" walkability. This indicator tracks the percentages of the entire region's population and jobs that are located within these subzones.

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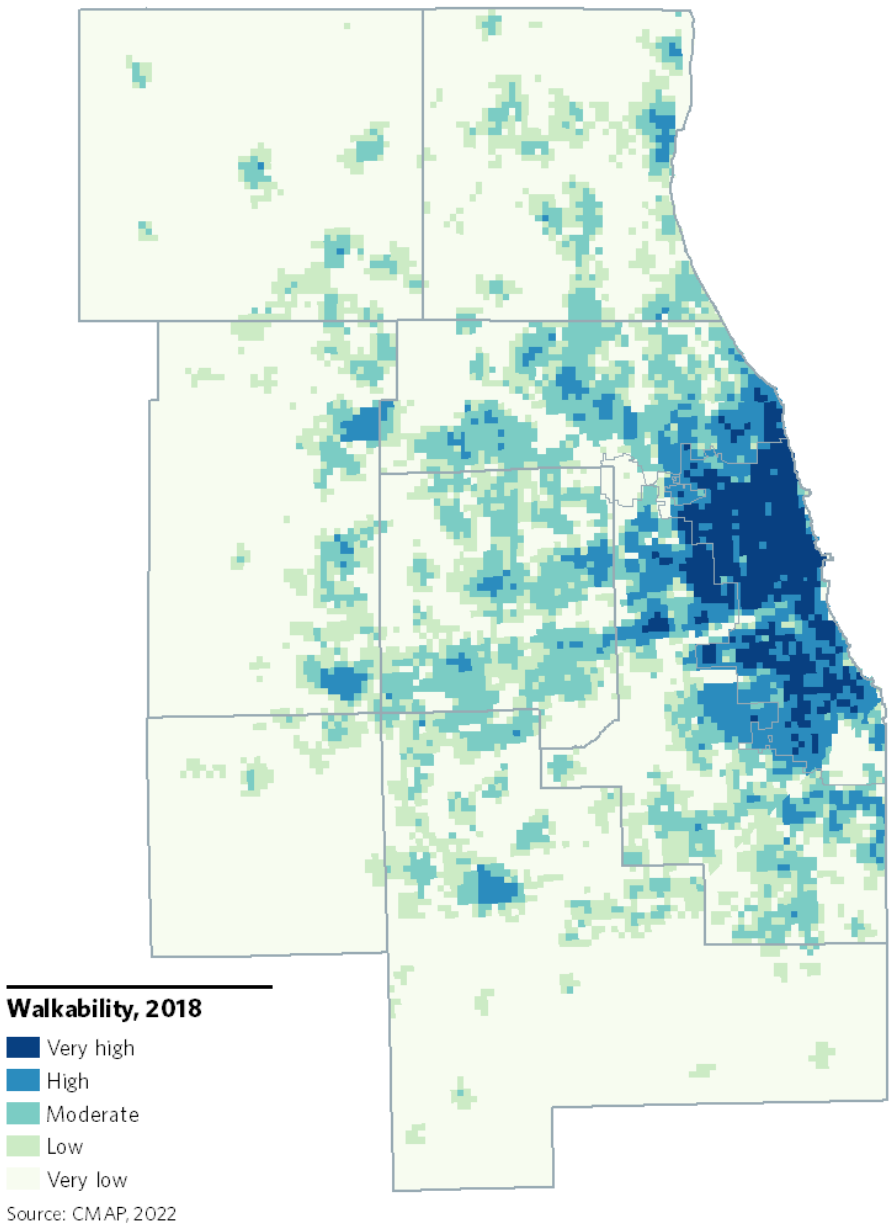
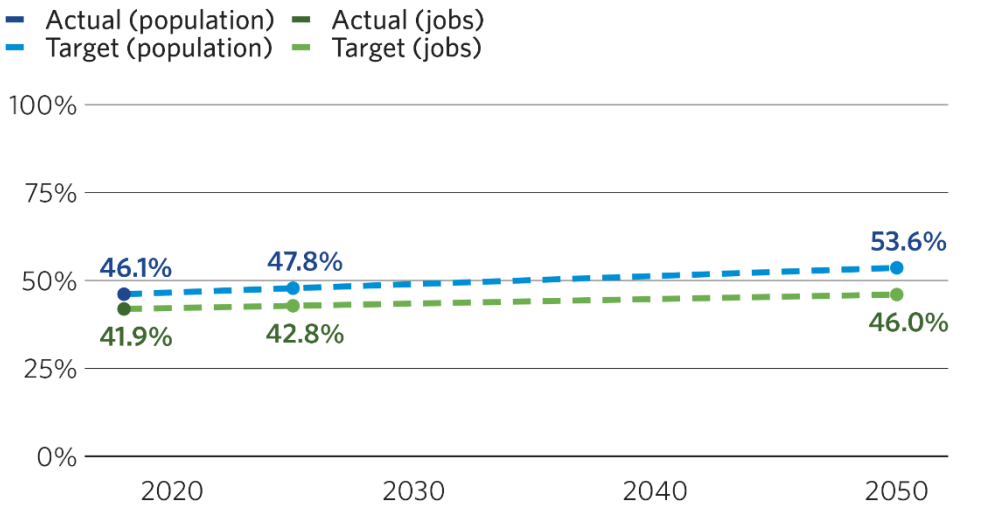
	
Targets	To increase walkability, targeted investments are required to make areas with “moderate” walkability more walkable, thereby shifting them into the “high” category. Such investments could include filling the gaps in sidewalk coverage, greater transit frequency and connectivity, improved pedestrian and bicyclist facilities, increased tree canopy cover, and a greater number or variety of amenities. Densification of population and jobs would also help communities to become more walkable. The 2050 targets assume that the top quartile of currently “moderately” walkable subzones (ranked by their respective walkability scores) can reach

	"high" walkability by 2050 with targeted investments. These subzones account for approximately 2.5 percent of the region's land area, and are concentrated in suburban communities. The 2025 targets were derived from a straight-line interpolation between the 2018 and 2050 values. **2025:** At least 42.8 percent of jobs and 47.8 percent of population located in areas of "high" or "very high" walkability **2050:** At least 46.0 percent of jobs and 53.6 percent of population located in areas of "high" or "very high" walkability **Share of population and jobs in highly walkable areas** 
Plan Update revisions	When ON TO 2050 was adopted, the walkability index did not include a sidewalk coverage factor due to a lack of available data at the regional scale. Since then, CMAP has developed a regional sidewalk inventory that indicates the presence or absence of sidewalks on every road in the region. The walkability index methodology has been updated to include sidewalk coverage as a major factor. This resulted in a change to the indicator's baseline data. Additionally, the targets were informed by the ON TO 2050 socioeconomic forecast – specifically, how future population and jobs will be distributed throughout the region – and have been revised to take into account not only the updated baseline data, but also the revised socioeconomic forecast.

Environment Indicators

Acres of Impervious Area

Indicator	This indicator measures the total number of acres of impervious surfaces in the region; it is the entire amount of hard surface (such as buildings, sidewalks and streets) in the landscape. Imperviousness is an important environmental indicator because it is negatively associated with various measures of the biological health and physical integrity of surface waters. **Related recommendation:** Protect and enhance the integrity of aquatic systems.
Methodology	This indicator's data comes from the National Land Cover Database (NLCD) imperviousness dataset, published every two to three years by the U.S. Geological Survey (USGS). The dataset is based on satellite imagery and reports the percentage of impervious cover for each raster cell, each of which is a 30-meter square. Acres of impervious cover are a straightforward calculation (raster cell percent imperviousness multiplied by area, then summed for the whole region).
Targets	CMAP's regional socioeconomic forecast projects that households and jobs will each grow by approximately 12 percent over 2010 levels by 2025, and by approximately 26 percent over 2010 levels by 2050. The target methodology assumes that growth in impervious cover will slow from the current rate as the region's population and employment density increase through infill and reinvestment. The 2025 target for impervious acreage represents a growth rate in impervious cover from 2010 equal to 60 percent of the rate of household and job growth over the same period (i.e., a 7 percent increase in acreage over 2010). The 2050 target represents growth in impervious cover from 2010 equal to 50 percent of the rate of household and job growth over the same period (i.e., a 13 percent increase in acreage over 2010). While the targets show growth in total impervious acreage, they represent a continual decline in the region's impervious area on a per-household, per-capita, and per-job basis. **2025:** 650,000 acres or less of impervious area **2050:** 685,000 acres or less of impervious area

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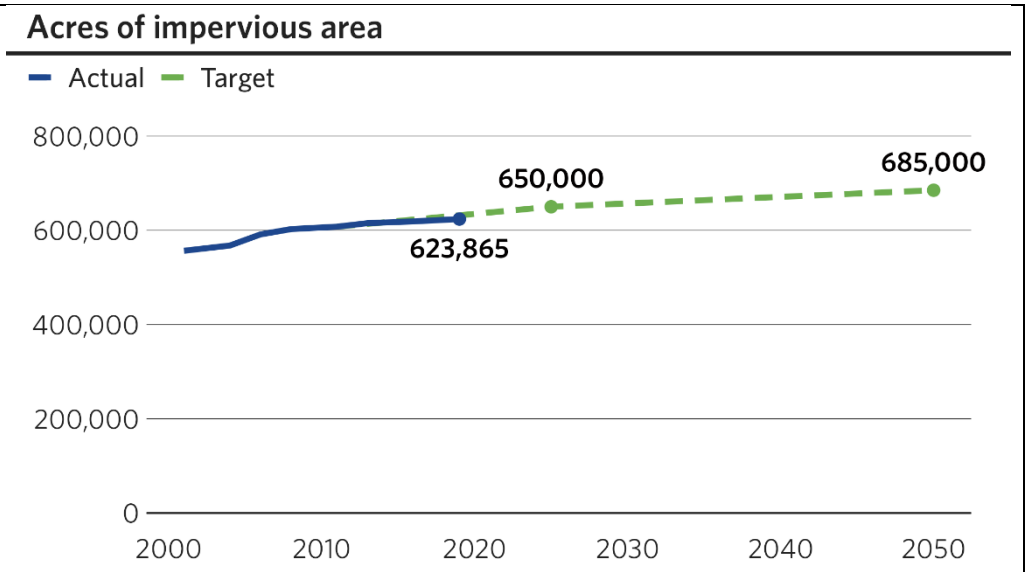
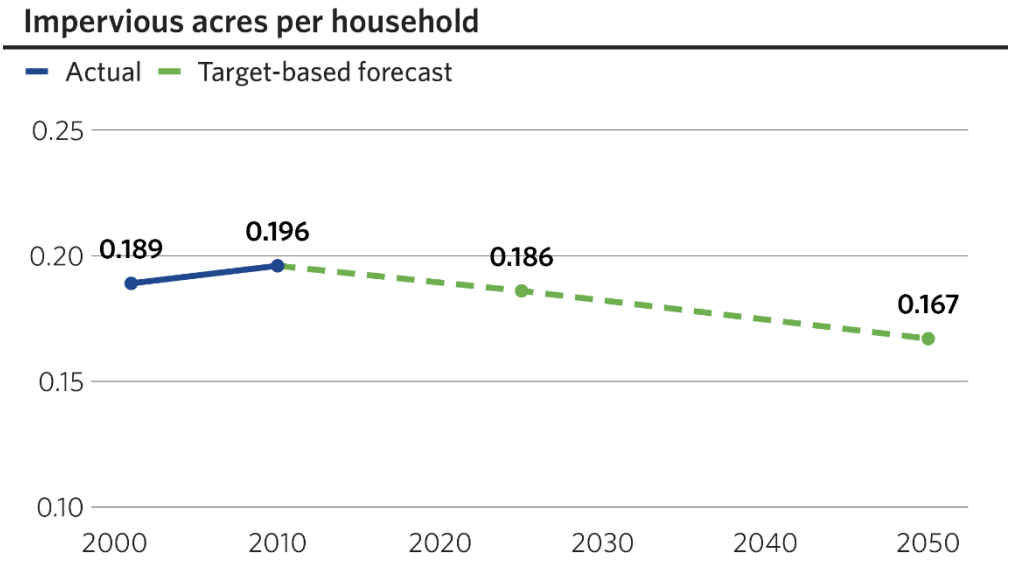


The following chart shows how the impervious acreage targets translate to a per-household rate, based on forecasted numbers of households from the ON TO 2050 Plan Update socioeconomic forecast. While growth in impervious acreage has recently outpaced growth in households, the targets would reflect a reversal of this trend.



Plan Update revisions	The NLCD imperviousness data dates to 2001 and has historically been updated every five years. With the most recent update including 2019 data, USGS significantly revised their methodology for calculating percent imperviousness. They have retroactively updated all imperviousness data from 2001 through 2016 to be consistent with the latest methodology. They

	have also increased the frequency of data updates from every five years to every two to three years. The change in methodology has resulted in an across-the-board increase in CMAP's calculations of impervious area: the older version of the data used for ON TO 2050 showed 555,536 acres of impervious area in the CMAP region in 2011, compared to 607,649 acres in the revised 2011 data. This is an increase of 52,113 acres, or 9.4%, due purely to USGS' methodological changes. This major increase in the baseline data has made the targets established in ON TO 2050 obsolete; in fact, the 2019 data shows that we have already surpassed the original 2025 target of 605,000 acres of impervious area. The targets have been updated by applying the original target-setting methodology to the revised NLCD data and socioeconomic forecast.

Regional Land in Watersheds Below 25 Percent Impervious Coverage

Indicator	This indicator tracks the change in impervious surface by watershed catchment throughout the region as an indicator of health and integrity of aquatic resources. Specifically, it tracks the total percentage of the region's land area located in catchments with 25 percent or less impervious coverage. Many of the region's water resources are not meeting all goals of the Clean Water Act, and many waterbodies—especially small headwater streams—have not yet been assessed. Given this lack of data, this indicator uses the impervious cover model to understand watershed health and water quality. Research has shown that small watersheds with less than 10 percent impervious cover tend to be associated with healthy streams. Further increases of impervious cover (up to 25 percent) can lead to impacted streams that could be restored with intervention. Small watersheds with increases in impervious coverage (up to 60 percent) are considered non-supporting, and when impervious coverage exceeds 60 percent, full restoration of urban drainage systems to pre-development habitat quality may not be possible. **Related recommendation:** Protect and enhance the integrity of aquatic systems.
Methodology	Using the NLCD and the U.S. Environmental Protection Agency's National Hydrography Dataset Plus (NHDPlusV2), the percent imperviousness of each small watershed catchment in the CMAP region (with median and mean

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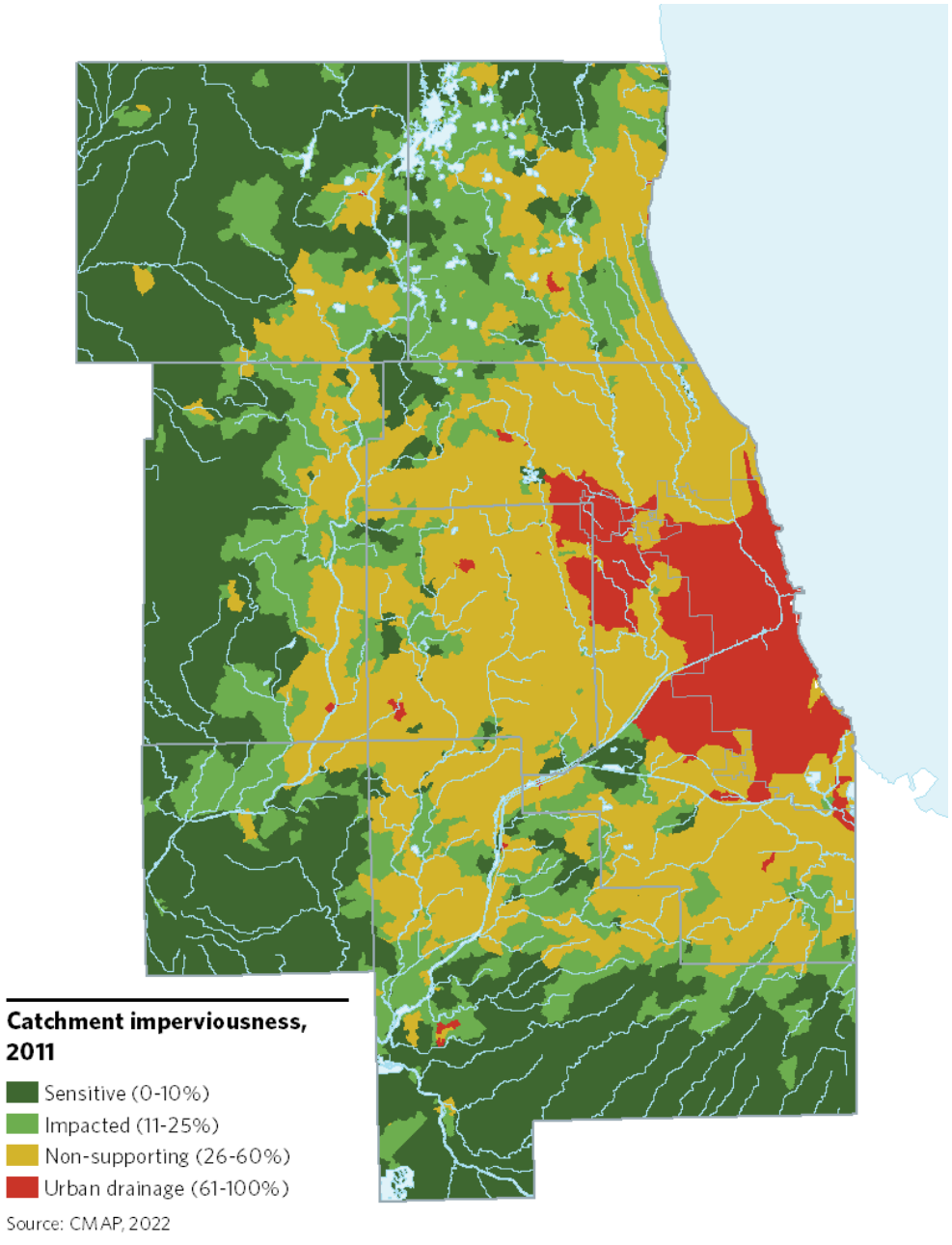
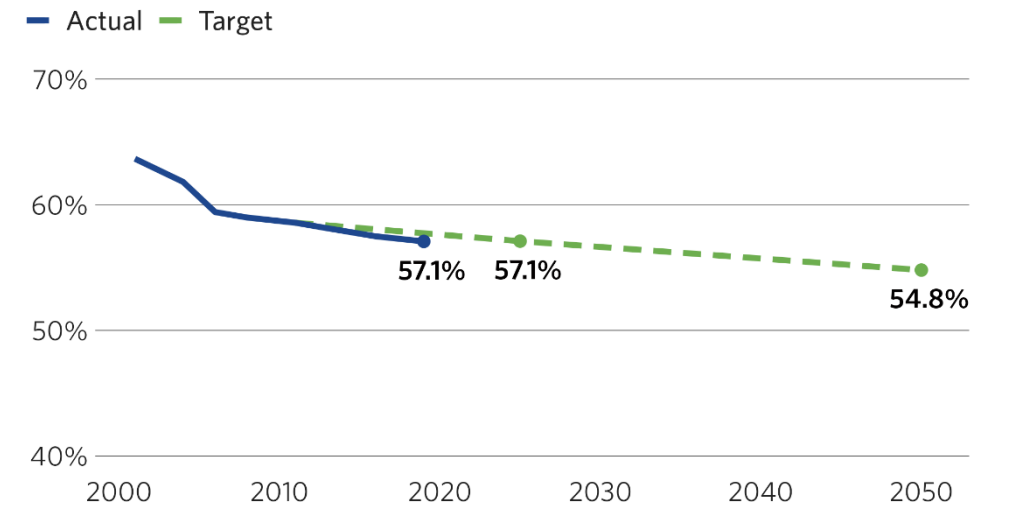
areas of 406 and 890 acres, respectively) can be calculated and categorized into four groupings. The map below shows catchments in the region divided into the following groups (the first two of which combine to form the basis of this indicator):

- Sensitive: 0-10 percent impervious
- Impacted: 11-25 percent impervious
- Non-supporting: 26-60 percent impervious
- Urban drainage: 61-100 percent impervious



Targets	Using NLCD imperviousness data from 2001-11, past trends were analyzed to understand the recent decline in the proportion of the region in the sensitive and impacted categories. Reflecting the policy goal of maintaining as many watershed catchments in the sensitive and impacted categories as possible, the target methodology assumes that growth in impervious cover will slow as the region's population and employment density increase through infill and reinvestment. Specifically, the indicator assumes the rate of change for each category will continue at 60 percent of the 2001-11 rate through 2025, and 50 percent of the 2001-11 rate from 2025 until 2050. (These are the same rates as overall impervious acreage increases from the *Acres of Impervious Area* indicator targets, p. 16.) **2025:** 57.1 percent or more of region's land in watersheds below 25 percent impervious **2050:** 54.8 percent or more of region's land in watersheds below 25 percent impervious **Share of region's land in watersheds below 25 percent impervious** 
Plan Update revisions	This indicator relies on the same imperviousness data as *Acres of Impervious Area* (p. 16) and has seen a similar shift in its baseline data due to the retroactive methodological changes made by USGS. As a point of comparison, the original data used for ON TO 2050 showed that 61.2% of the region's land was in watersheds whose percent imperviousness was 25% or lower. The revised 2011 data, by contrast, shows 58.6% of the region's land in such watersheds — a difference of roughly 68,000 acres. The targets have been updated by applying the original target-setting methodology to the revised NLCD data.

Water Demand

Indicator	This indicator tracks total daily water demand, as well as per capita demand for residential water use. Total water demand includes water that is withdrawn, treated, and delivered to residential, industrial, commercial, governmental, and institutional users via public supply water systems, as well as industrial and commercial wells. Assessing long-range forecasted demands can inform the region on the sufficiency of water supply and encourage actions that conserve water, protect supply, and/or pursue alternative drinking water sources. **Related recommendation:** Coordinate and conserve shared water supply resources.
Methodology	Water demand data, in millions of gallons used daily, is provided to CMAP directly by the Illinois State Water Survey (ISWS) each year. Public water supply systems are maintained by municipalities, sub-regional authorities, or private companies. Private wells may serve industrial enterprises, commercial businesses, and park and golf course irrigation. Per capita values for residential water use will be based on the population served by the public supply water systems and not the entire population of the region, as a small portion of the region's population (less than 4 percent) receives water from private wells and is termed self-supplied domestic sources.
Targets	This indicator has two sets of targets -- one measuring total daily water demand, and one measuring daily residential water demand on a per capita basis. Per capita measurement allows for an examination of water conservation as an increase in total demand due to population or industrial growth can mask gains in conservation. At the same time, it is important to examine total demand because potable water is a finite resource and growth in our region is expected to increase the demand for water in 2050 above the current level of consumption. <u>Total daily water demand</u> **2025:** 1,129 million gallons of water used daily **2050:** 1,150 million gallons of water used daily

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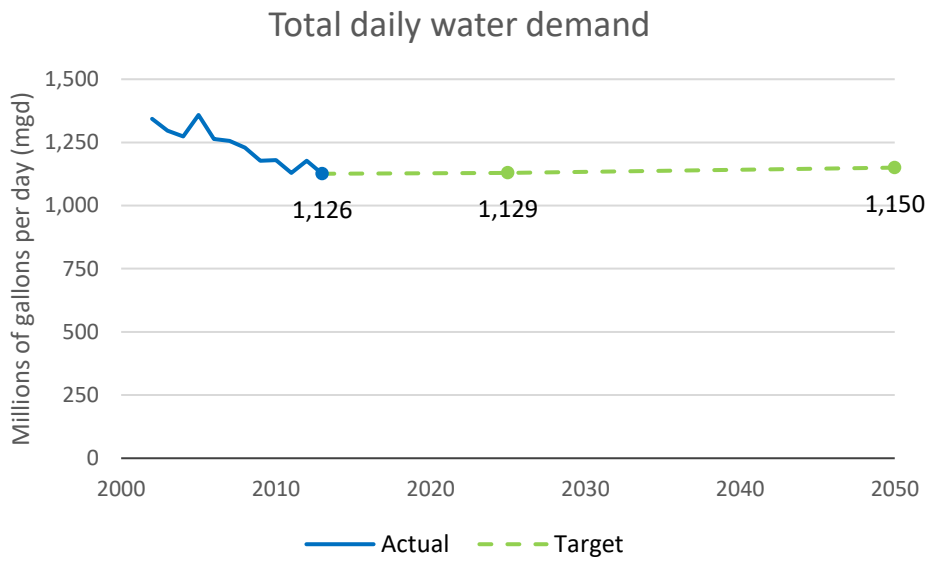
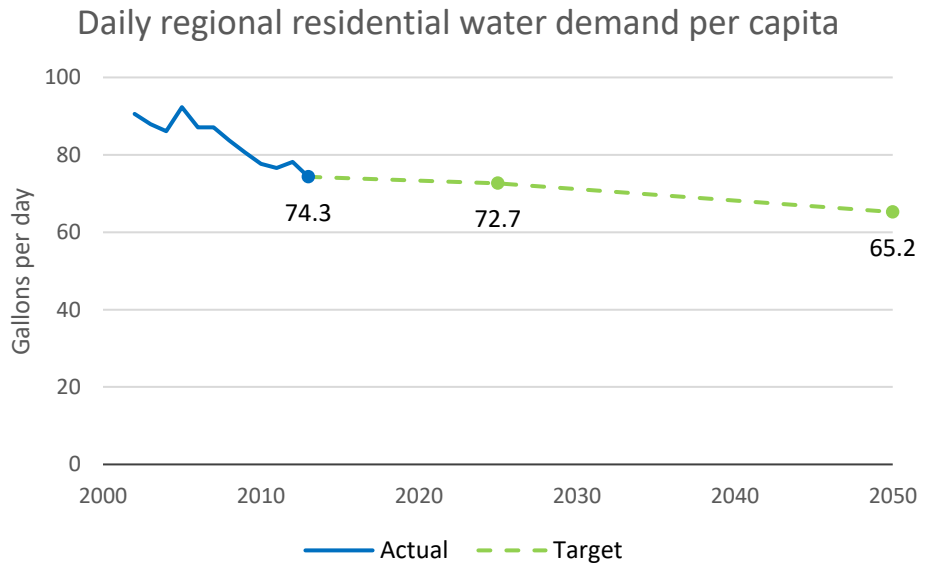


Daily regional residential water demand per capita

2025: 72.7 gallons of water used daily per capita

2050: 65.2 gallons of water used daily per capita



Plan Update revisions	CMAP is in the process of updating the water demand forecast with more advanced techniques than were used in the original ON TO 2050 versions, and these new forecasts will likely prompt a change of the indicator's targets.

	Since CMAP is still awaiting some revised baseline data from ISWS, and since the water demand forecasts are still under development, it is currently unclear how much the updated baseline data and targets will deviate from the original ON TO 2050 indicator. The water demand indicator and targets will be updated when the water demand forecasts are complete.

Greenhouse Gas Emissions

Indicator	This indicator measures the total amount of greenhouse gas (GHG) emissions produced in the CMAP region. GHG emissions are calculated using the International Council for Local Environment Initiatives (ICLEI) Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) BASIC methodology, which includes all emission from buildings, solid waste, wastewater, and intraregional transportation. Emissions are reported in million metric tons of carbon dioxide equivalent ($MMTCO_2e$). **Related recommendation:** Intensify climate mitigation efforts.
Methodology	The GHG inventory is conducted every five years using the GPC Basic methodology. Due to irregularities caused by the COVID-19 pandemic and subsequent stay-at-home orders, the most recent inventory was conducted for calendar year 2019, rather than 2020. This inventory also includes emissions from takeoffs and landings at Midway and O'Hare international airports for the first time. Total emissions are calculated at the regional and county level, with the City of Chicago and Suburban Cook County separated for more detailed analysis. More information about GPC protocols is available online from ICLEI.[1]
Targets	Since GO TO 2040 (the precursor to ON TO 2050), CMAP has been committed to a "stabilization pathway" that would limit global temperature rise to below 2° Celsius (3.6° Fahrenheit). This pathway would require the region to reduce its greenhouse gas emissions by at least 80 percent, relative to 2019 levels, by the year 2050. **2025:** 93.66 $MMTCO_2e$ or less **2050:** 26.09 $MMTCO_2e$ or less

[1] ICLEI – Local Governments for Sustainability, "The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC)," http://old.iclei.org/activities/agendas/low-carbon-city/gpc.html.

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	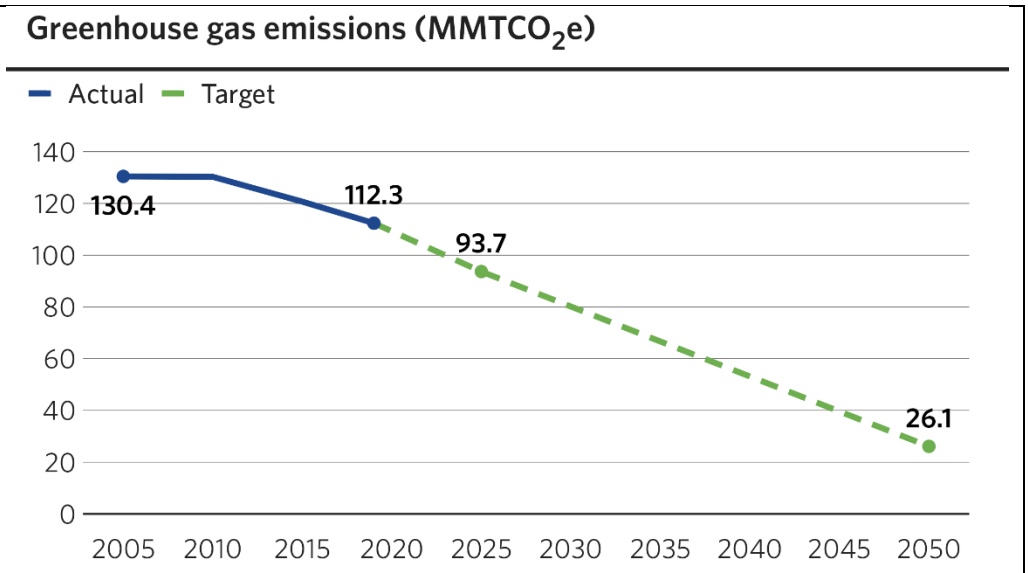
Plan Update revisions	In ON TO 2050, this indicator's data and targets were based on the 2015 regional greenhouse gas inventory. The 2019 regional greenhouse gas emissions inventory used a modified methodology to capture some additional emissions that were not included in the past. Specifically, it included a new, region-specific emissions factor for electricity consumed in northeastern Illinois. (The prior inventory did not accurately capture the large proportion of electricity provided by nuclear generation plants within the ComEd service area.) Additionally, the 2019 inventory included emissions data from takeoffs and landings at Midway and O'Hare international airports. Finally, it used MOVES3, the newest iteration of the EPA's transportation modeling software, to calculate on road and nonroad emissions. The updated inventory provides retroactive estimates for 2010 and 2015 emissions that are more comparable to the 2019 data.

Acres of Conserved Land

Indicator	This indicator measures the total number of acres in the region used for land and water preservation (i.e., forest preserves, natural areas, and conservation easements). This measure does not include acres of recreational parkland in the region, land used for golf courses, unprotected farmland, or land used for historic preservation. **Related recommendation:** Integrate land preservation into strategic growth efforts.
Methodology	Information on preserved open space is gathered from each county's forest preserve district, CMAP's Land Use Inventory and the National Conservation Easement Database. The National Conservation Easement Database is a

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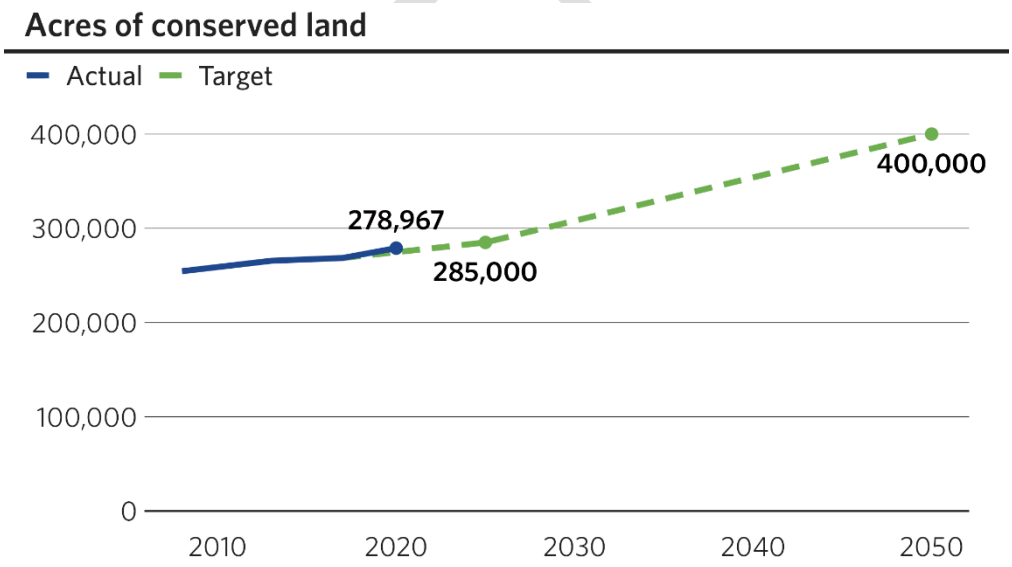
	regularly updated geospatial dataset maintained by the Trust for Public Land and Ducks Unlimited. Each time the CMAP Land Use Inventory is updated, its "open space, primarily conservation (code 3300)" parcels are combined with the other datasets from the county forest preserve districts and NCED, using data as close in time to the Land Use Inventory as possible. Once these datasets have all been merged, total acreage is calculated.
Targets	The 2025 target was developed by continuing a straight-line increase in acres of open space in the region based on the rate of land conservation from 2008 to 2017. The 2050 target matches the long-term target from GO TO 2040. **2025:** 285,000 acres or more of conserved land **2050:** 400,000 acres or more of conserved land 
Plan Update revisions	This indicator has not been modified.

Access to Parks

Indicator	This indicator measures per capita access to parks based on geographic proximity to recreational open space. Values are reported as the percentage of the regional population with access to at least four acres of parkland per 1,000 residents and at least 10 acres per 1,000 residents. Generally, the four-

	acre standard is appropriate for denser communities, while the 10-acre standard is intended for less-dense areas. **Related recommendations:** Improve natural resources through the redevelopment process; Target infill, infrastructure, and natural area investments (Community).
Methodology	The data for this indicator come from the CMAP land use inventory (most recently 2015) and the U.S. Census (2015 population estimates). Park access is tracked at the subzone level. A subzone's population is considered to have access to any park acreage within a half-mile radius of the subzone's centroid, and additionally to any park acreage in "community parks" (larger than 35 acres) within a one-mile radius. A subzone's population only has access to park acres that fall within these radii (i.e., if a portion of a large park falls within the radius, only the acres of that portion are counted). Each acre of parkland is then divided by the total population with access to it (from all nearby subzones), and then each of those subzones is allocated a share of that acreage by multiplying its population by that park's acres-per-person value. The population of each subzone with 4+ or 10+ cumulative acres of parkland per 1,000 residents are then aggregated to determine the region's total access to parks.
Targets	For ON TO 2050, CMAP estimated the percentage of the population that could gain access to four or 10 acres per 1,000 residents by strategically targeting currently vacant land (defined in the CMAP Land Use Inventory as "land in an undeveloped state, with no agricultural activities nor protection as open space") for conversion to parks in areas currently below these park access thresholds. With an optimal conversion of some of the region's vacant land into parks, it would be possible for 65 percent of the population to have access to four or more acres of parkland per 1,000 residents, and for 40 percent to have access to 10 or more. While CMAP does not advocate for converting all vacant land to parks, this number provides a useful "ballpark" estimate for what is possible. This is an ambitious goal, but not unattainable, as land use changes during the next 35 years may reduce the land needed for transportation and utility corridors, while changes in precipitation patterns may increase the demand for open space providing stormwater management. Once these 2050 targets were identified, a straight-line projection was used to determine interim targets for 2025. <u>Four or more acres per 1,000 residents</u> **2025:** 49 percent or more of region's population **2050:** 65 percent or more of region's population

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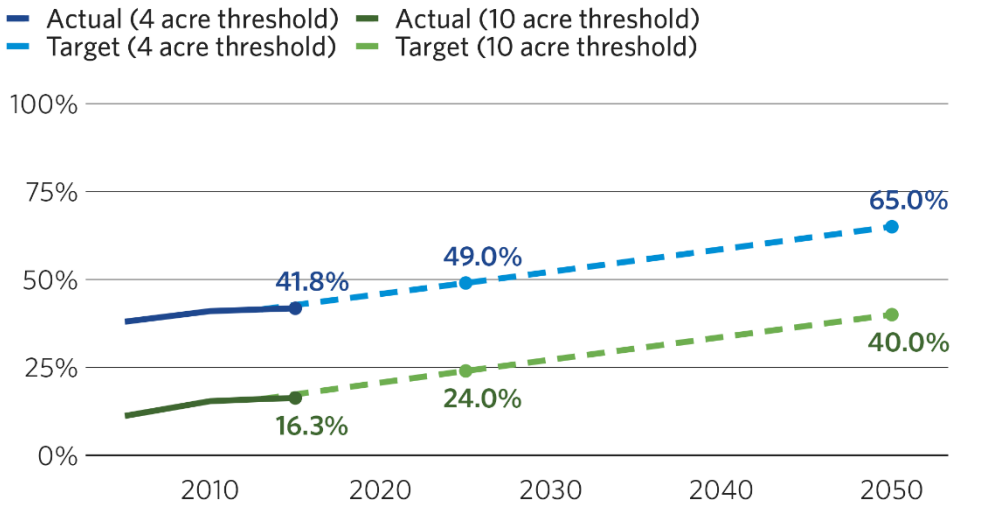
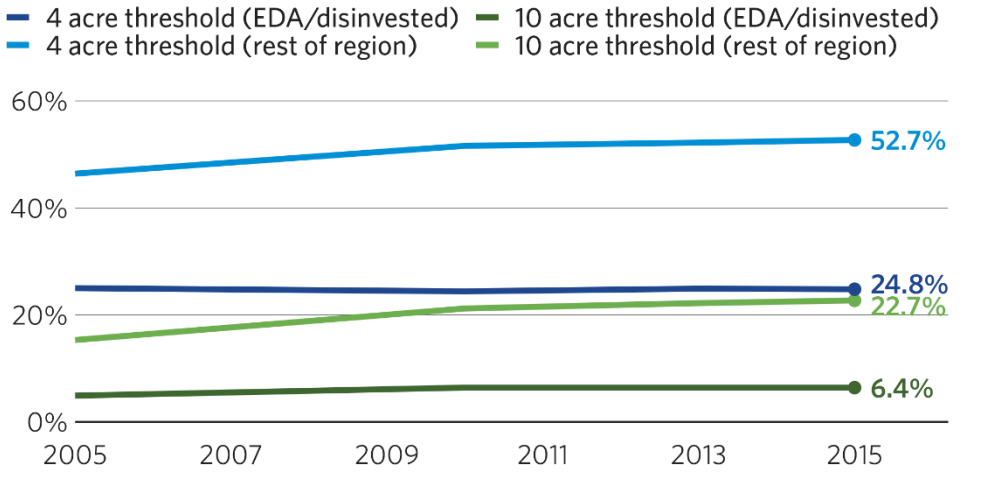
	<u>Ten or more acres per 1,000 residents</u> **2025:** 24 percent or more of region's population **2050:** 40 percent or more of region's population **Share of population above park access thresholds** 
Inclusive growth perspective	As a secondary indicator to this core indicator, ON TO 2050 will track access to parks for residents in disinvested and economically disconnected areas. Disparities exist in access to parks between residents in economically disconnected and disinvested areas and those in the remaining parts of the region. Residents in economically disconnected and disinvested areas have lower access to parks regardless of development density. **Share of population above park access thresholds (disinvested and economically disconnected areas vs. the rest of the region)** 

Plan Update revisions	This indicator has not been modified, although the secondary inclusive growth indicator has been renamed for accuracy. It was originally called "access to parks in economically disconnected areas" and is now "access to parks in disinvested and economically disconnected areas."

Acres of Farmland Used to Harvest Produce for Direct Human Consumption

Indicator	This indicator tracks the total number of farmland acres in the region that support food for direct human consumption. The U.S. Department of Agriculture defines "direct consumption" as the totals found in these categories: orchards, peanuts, potatoes, sweet potatoes, and vegetables. This data excludes community gardens and other entities not counted in the Census of Agriculture. **Related recommendation:** Integrate land preservation into strategic growth efforts.
Methodology	The data for this indicator is from the U.S. Census of Agriculture, which the U.S. Department of Agriculture conducts every five years. The most recent completed census is 2017. The acreage total for the region is the sum of the per-county acreage from Table 29 (Vegetables, Potatoes, and Melons Harvest for Sale) and Table 30 (Land in Orchards). The acreage totals may be slightly below the true number because the Census does not report acreage totals for counties where there are few enough farms that reporting acreage would result in disclosing data for individual farms.
Targets	The goal for this indicator is for the acreage of farmland used to harvest produce for direct human consumption to increase at the same rate originally targeted by the GO TO 2040 Plan Update: a 75 percent increase by 2040. Because ON TO 2050's policy goals for this topic are unchanged and no new data is available for this indicator, the new targets reflect the same annual rate of increase as those in the GO TO 2040 Plan Update. The chart below shows a decline in the number of acres in the region used to harvest produce for direct human consumption from 1997 through 2012, although it rebounded slightly by 2017. Achieving the 2050 goal will increase the number of acres used for this purpose to a level comparable to that seen in the year 2002 by 2040. The 2025 goals reflect a straight-line increase from 2012 conditions to hit that 2040 target, while the 2050 goal reflects a slightly higher, rounder target than continuing the straight-line increase would produce.

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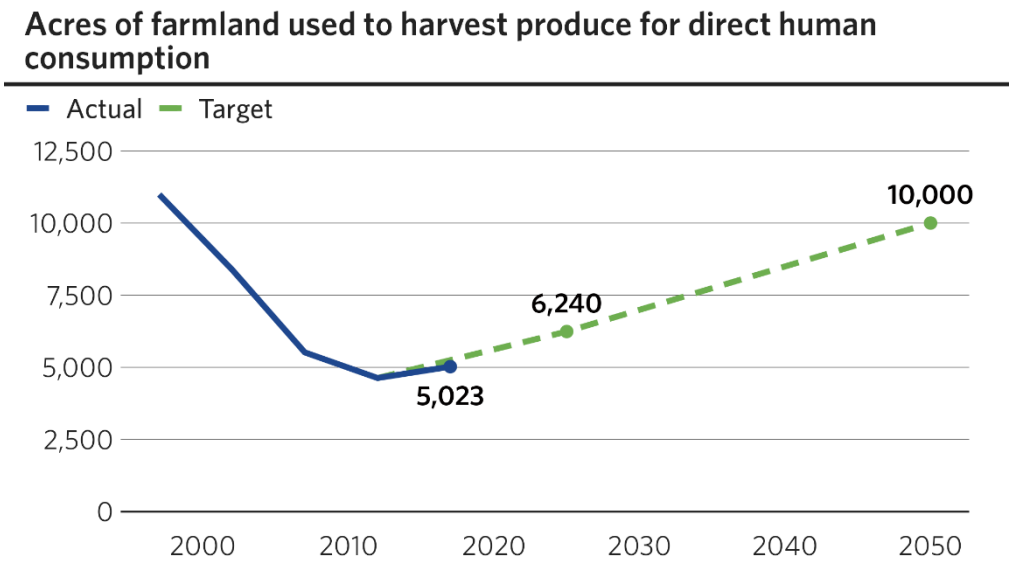
	2025: 6,240 acres or more of farmland used to harvest produce for direct human consumption **2050:** 10,000 acres or more of farmland used to harvest produce for direct human consumption 
Plan Update revisions	This indicator has not been modified.

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Prosperity Indicators

Educational Attainment

Indicator	This measure reports the proportion of residents in the Chicago region aged 25 and older who hold at least an associate's degree. Higher levels of educational attainment create benefits for both individuals and regional economies. As residents receive additional postsecondary education, they can generally expect increased median earnings and a decreased likelihood of joblessness. On a regional scale, these trends translate to lower unemployment rates and greater economic output. The inclusion of associate's degrees in this measure helps to highlight the important role community colleges play in improving education and workforce development and reflects the significance of "middle-skill" jobs in our regional economy. **Related recommendation:** Prioritize pathways for upward economic mobility.
Methodology	Data come from the U.S. Census Bureau's annual American Community Survey (ACS). The ACS reports educational attainment data as raw counts of county residents aged 25 or older holding particular levels of education (e.g., high school diploma, some college but no degree, associate's degree, bachelor's degree, and graduate or professional degree). The proportion of residents in metropolitan Chicago holding an associate's degree or higher is then calculated by adding the appropriate counts for the seven counties of the CMAP region and dividing the sum by the total seven-county population age 25 or older.
Targets	In 2019, 48.0 percent of the regional population aged 25 and older held an associate's degree or higher, exceeding the national average of 40.6 percent. Data from the ACS show that higher education levels are generally on the rise, in the region and nationwide. Between 2009-14, the proportion of the region's residents holding an associate's degree or higher increased by an average of 0.59 percentage points per year, ahead of the national average of 0.51 percentage points per year. The targets reflect a continuation of that growth rate through 2050. **2025:** 50.2 percent or more of the region's population (aged 25 and older) with at least an associate's degree **2050:** 64.9 percent or more of the region's population (aged 25 and older) with at least an associate's degree

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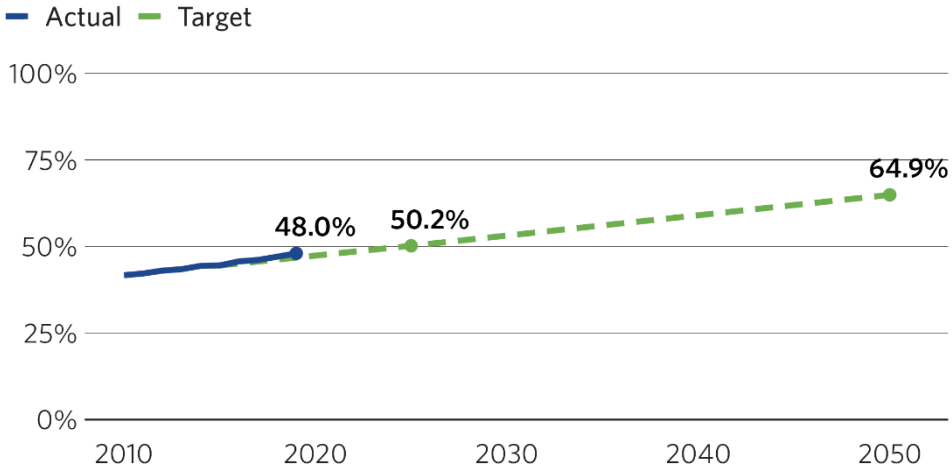
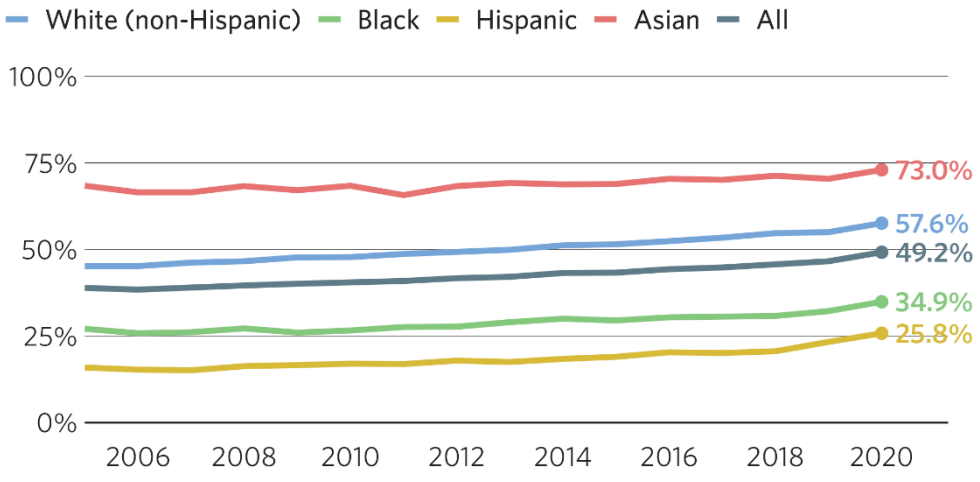
	Percent of population (age 25 and over) with an associate's degree or higher 
Inclusive growth perspective	As a secondary indicator, ON TO 2050 also tracks the proportion of residents in the Chicago region aged 25 and older with at least an associate's degree, by race and ethnicity. Disparate outcomes exist across races and ethnicities in educational attainment. Black and Hispanic residents have educational attainment rates lower than the regional average and significantly lower than Asian and white residents, although all have seen increases in educational attainment in recent years. **Percent of population (age 25 and over) with an associate's degree or higher, by race and ethnicity** 
Plan Update revisions	This indicator has not been modified.

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Workforce Participation

Indicator	This indicator tracks the percentage of the regional population (aged 20-64) that is either working or actively looking for work. An increase in workforce participation is generally viewed as a positive indicator of regional economic opportunity. Increased participation suggests a decrease in the number of discouraged workers — individuals who are able to work but currently unemployed, and who have not searched for employment in the last four weeks due to a lack of suitable options or a lack of success through previous job applications. However, workforce participation is a complex measure because it tracks the number of both employed and unemployed persons currently looking for work. Thus, an increase in unemployment can register as an increase in workforce participation. Similarly, decreases in workforce participation may be due to an increase in the number of discouraged job seekers, or to an increase in the number of people choosing to retire early or leave the workforce for other reasons. Even with these caveats, an increase in workforce participation is generally indicative of a healthy economy. **Related recommendation:** Conduct regional planning for human capital.
Methodology	Data come from the U.S. Census Bureau's annual American Community Survey (ACS). The data are available at the county level and have been combined into a regional measure using a population-weighted average.
Targets	The Chicago region experienced a 0.6 percentage point decrease in its workforce participation rate between 2010 and 2015, despite the region's recovery from the 2007-09 recession. Among peer metropolitan areas, fluctuations in workforce participation rates tend to mirror each other, suggesting that macroeconomic factors contribute heavily to such trends. The goal established in ON TO 2050 is for the Chicago region is to return to its previous 10-year high of an 80.9 percent workforce participation rate by 2025 and then maintain this steady annual growth rate of 0.1 percentage points through 2050. As of 2020, the workforce participation rate was 81.1 percent, surpassing the 2025 target. The COVID-19 pandemic and its economic fallout led to extraordinary labor market displacement and volatility, amid business closures and public health restrictions to curb the spread of the virus. The lasting impacts of the COVID-19 pandemic remain to be seen. The recovery so far has been marked by both low unemployment and (anecdotally) decisions not to participate in the labor force due to early retirements, the

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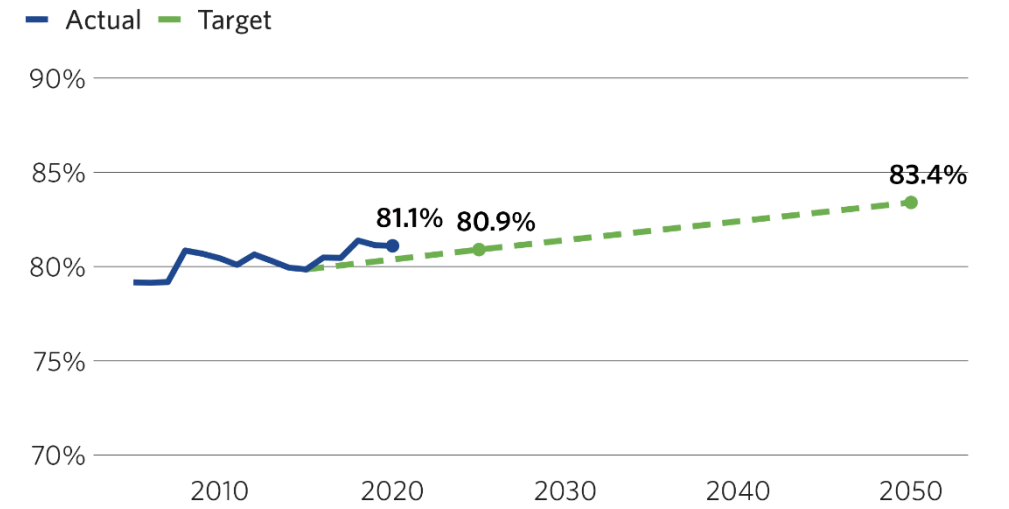
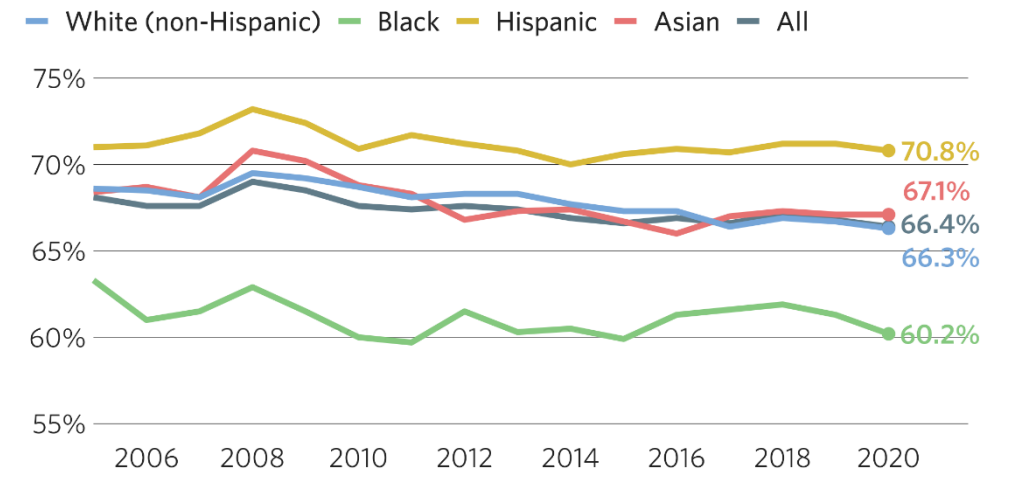
	cost of family care, or other economic and quality of life factors. The targets reflect the aim to maintain the region's robust, longer-term trajectory. **2025:** Regional workforce participation rate of at least 80.9 percent **2050:** Regional workforce participation rate of at least 83.4 percent **Workforce participation rate (ages 20-64)** 
Inclusive growth perspective	As a secondary indicator, ON TO 2050 also tracks the workforce participation rate of the population in the Chicago metropolitan statistical area aged 16 and older, by race and ethnicity. Demographic groups participate in the workforce at differing rates. Workforce participation among Black residents is significantly lower rates than average, while it is significantly higher among Hispanic workers. **Workforce participation rate (ages 16 and older), by race and ethnicity** 

Plan Update revisions	This indicator has not been modified.

Employment in STEM Occupations

Indicator	This indicator tracks employment in science, technology, engineering, and mathematics (STEM) fields in the seven-county Chicago region. The demands of many professions are becoming increasingly complex as technology drives innovation and growth in today's economy. Workers employed in STEM occupations play a significant role in fostering new ideas that lead to economic growth. Yet growth in STEM occupations in the Chicago region has lagged behind STEM growth in peer regions. **Related recommendation:** Support the region's traded clusters.
Methodology	Data comes from the Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages (QCEW). Annual QCEW data are used to estimate employment in science, technology, engineering, and mathematics fields in the seven-county CMAP region. Data can be sourced directly from the BLS or from Economic Modeling Specialists International for ease of use. The occupations specified for this indicator reflect the STEM occupations as defined by the federal Standard Occupational Classification (SOC) Policy Committee in 2010.[2]
Targets	The Chicago region experienced a 0.12 percentage point increase in the share of STEM occupations between 2010 and 2017. Despite the Chicago region's diverse industry mix and exceptional education and research institutions, regional STEM employment closely mirrors that of the U.S. overall. In 2017, 12.5 percent of workers in the Chicago region filled positions in STEM occupations, compared with 12.7 percent nationwide. However, regional STEM employment lags behind other peer metropolitan areas, such as Boston, New York, and Washington, D.C. From 2010 to 2017, the share of STEM employment in the Chicago region grew by an average of 0.017 percentage points annually. Targets are based on the goal to double the region's annual growth rate to 0.034 percentage points per year through 2025, and then to maintain robust STEM activity by matching the U.S. annual growth rate of 0.024 percentage points per year. **2025:** 12.8 percent or more of region's jobs in STEM occupations **2050:** 13.4 percent or more of region's jobs in STEM occupations

[2] U.S. Bureau of Labor Statistics, "An Overview of Employment and Wages in Science, Technology, Engineering, and Math (STEM) Groups," April 2014, https://www.bls.gov/opub/btn/volume-3/an-overview-of-employment.htm.

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	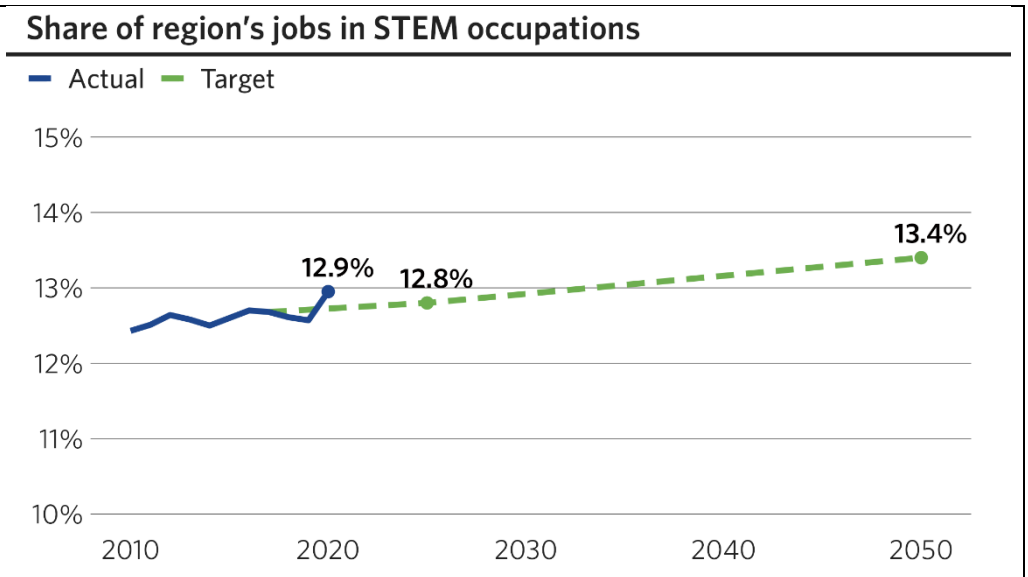
Plan Update revisions	This indicator has not been modified.

Venture Capital Funding

Indicator	This indicator measures the State of Illinois' share of total U.S. venture capital (VC) deals. Innovation in new goods, services, processes, and technologies drives economic growth. Some of these innovations reach the commercial market through new business startups. These newly created firms can face substantial costs for researching, developing, and marketing new products or services. In these instances, investors can support high-risk, potentially high-growth startup companies through venture capital funding. Venture capital therefore plays an important role in the business startup process by providing support to businesses before they are financially sustainable or able to access traditional funding streams. Such investments tend to finance innovative ideas and companies in high-growth sectors. **Related recommendation:** Pursue regional economic development.
Methodology	Data are published in the quarterly PitchBook-NVCA Venture Monitor report. The data used for this indicator represent a "best guess" of venture capital activity by region and state. Venture Monitor tracks data specifically for the Chicago-Naperville-Elgin, IL-IN-WI combined statistical area (CSA) somewhat inconsistently, depending on whether the region was in the top 10 CSAs by deal flow for a given quarter. Since most of the venture capital funding in the state flows to the region, this indicator is based on state-level data, which is consistently reported.

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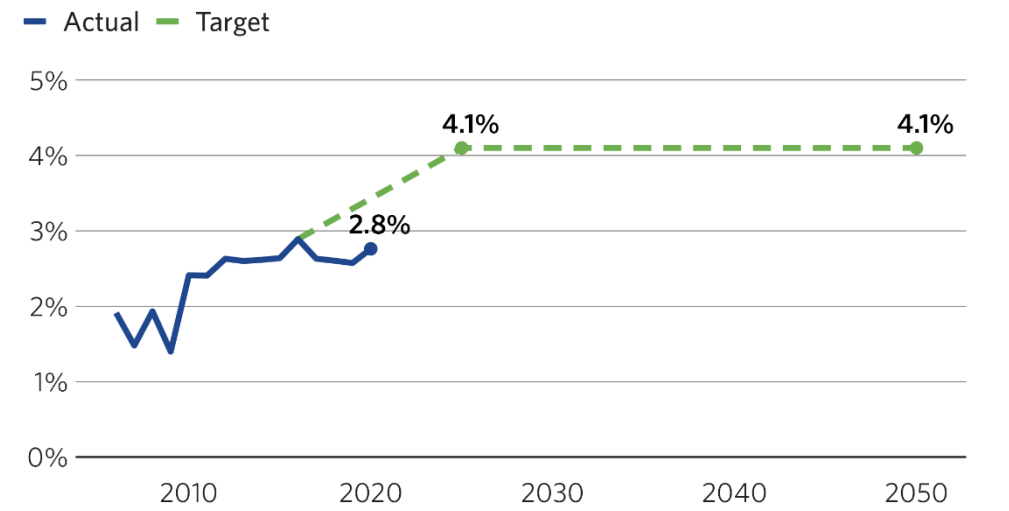
Targets	Since the mid-1990s, the state of Illinois has accounted for 1-3 percent of all VC deals in the U.S. Trends show that the Great Lakes region (defined as Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) is accounting for an increasing proportion of total VC deals; however, Illinois' proportion of deals has not kept pace. From 2002 to 2016, the Great Lakes region's share of national VC deals grew by an average of 0.13 percentage points per year. The goal between now and 2025 is to increase the number of VC deals in the state such that Illinois' share of total U.S. VC deals matches that Great Lakes growth rate. This growth would mirror the increases seen by peer regions such as Northern California and New York. Because venture capital deal-making is partially driven by industry mix, the goal for the Chicago region will be to reach 4.1 percent of all VC deals nationwide by 2025, and then maintain this level of robust investment activity and availability into 2050. **2025:** Illinois accounts for at least 4.1 percent of all U.S. venture capital deals **2050:** Illinois continues to account for at least 4.1 percent of all U.S. venture capital deals **Illinois' share of U.S. venture capital deals** 
Plan Update revisions	This indicator was originally based on data in the MoneyTree report, produced by CB Insights and published quarterly by PwC. Unfortunately, PwC discontinued publication following the Q1, 2021 edition. CMAP has identified an alternative data source, the PitchBook-NVCA Venture Monitor, which serves as an authoritative quarterly report on venture capital activity nationally. Like similar sources on private companies or their funding rounds, the report's underlying dataset relies on reported and projected data. This can result in potential challenges like reporting delays, voluntary or selective reporting bias, or an under-coverage of some sectors, business types, and

	geographies. The data used for this indicator therefore represent a best guess and a snapshot in time of venture capital activity. Differences in methodologies and reporting bases in the alternative data source result in across-the-board increases in the estimated number and dollar amount of venture capital deals in Illinois over the past two decades. However, the state's share of U.S. figures remains largely consistent, with approximately 2.7% of deals and 1.9% of dollar amounts nationally in 2020. The targets have been revised to reflect trends in the PitchBook-NVCA Venture Monitor's Great Lakes region (defined as Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) as well as the updated baseline data. This Great Lakes region has grown more slowly as a share of national activity (0.13 percentage points per year) than original estimates based on the MoneyTree report (0.3 percentage points), resulting in lower but still robust targets for the Chicago region.

Patenting Activity

Indicator	This indicator tracks the total number of utility patents (for "any novel, non-obvious, and useful machine, article of manufacture, composition of matter or process") issued to residents and businesses in the Chicago region by the U.S. Patent and Trademark Office (USPTO). High levels of patenting generally indicate a talented regional workforce and businesses with a strong capacity to conduct research and development. These ideas can generate significant value. Prior analysis has found that U.S. workers in industries with higher-than-average levels of intellectual property and patenting earn significantly more than those in other industries do, despite no significant difference in education levels. At the same time, the invention of new products and services enhances the competitiveness of our region's industries. Patents can play a special role in encouraging innovation by granting inventors exclusive rights to use or license an invention for a set period of time. These rights help businesses capitalize on their investments in research and development and provide a competitive edge in the marketplace. **Related recommendation:** Enhance economic innovation.
Methodology	USPTO provides data on U.S. utility patents issued annually via the PatentsView data platform. Data represents the 14-county Chicago metropolitan statistical area. According to USPTO, utility patents may be granted "to anyone who invents or discovers any new or useful process, machine, article of manufacture, or composition of matter, or any new or useful improvement thereof." CMAP attributes patenting activity to metropolitan areas based on the home or business address of the first-

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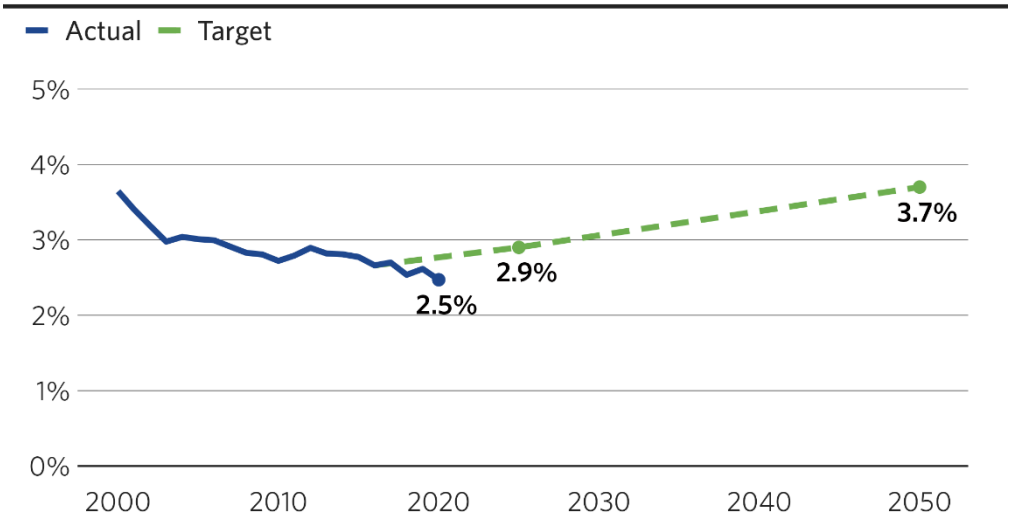
	named or primary inventor to reflect the most likely location for related research and development. Data and analysis for this indicator focus exclusively on "utility patents," referred to throughout simply as patents.
Targets	This indicator's targets are specified as a percentage of total U.S. patents. This allows benchmark comparisons between the Chicago region, peer regions, and national trends. In 2016 the Chicago MSA accounted for 2.9 percent of the U.S. population, but only 2.7 percent of total patent output originating in the U.S. The goal for 2025 is for the region to increase its patent output to match its 2016 "fair share" of patent output equivalent to its population share (2.9 percent). The top 25 most populous metro areas accounted for 42.4 percent of the U.S. population and 53.6 percent of the nation's patents in 2016. In other words, they produced 26 percent more than their "fair share" of patents. The goal for 2050 is for our region to match the patent output rate of the top 25 metropolitan areas and to have a patent output share that is 26 percent more than the region's share of national population. **2025:** 2.9 percent or more of U.S. origin patents issued in northeastern Illinois. This is equivalent to our region's current "fair share" of patents (i.e., a patent output share/population share ratio equal to 1.00). **2050:** 3.7 percent or more of U.S. origin patents issued in northeastern Illinois. This represents the goal of achieving 26 percent more than our region's current "fair share" of patent output (i.e., a patent output share/population share equal to 1.26). **Region's share of U.S. origin utility patents** 

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Plan Update revisions	This indicator has not been modified.

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Mobility Indicators

Percentage of Highway Pavement in "Not Acceptable" Condition

Indicator	Maintaining the existing transportation network and improving state of good repair are substantive priorities of ON TO 2050. Pavement condition provides a good measure of user experience of the facility and is also an indicator of the region's level of reinvestment in existing infrastructure. This indicator measures the percentage of roadway miles in the region under IDOT's jurisdiction that are in "not acceptable" condition. It includes National Highway System (NHS) and some non-NHS roadways. **Related recommendation:** Enhance the region's approach to transportation programming.
Methodology	Pavement condition, measured in the Condition Rating Survey (CRS), comes from the 2020 Illinois Roadway Information System (IRIS) public file. The roadway miles are broken down by facility type and CRS rating. Following IDOT's Transportation Asset Management Plan (TAMP), a CRS value of below 5.5 for Interstates and 5.0 for other NHS and non-NHS routes indicates pavement in "not acceptable" condition. IDOT selected these CRS values because they represent the threshold at which preservation treatments are no longer cost effective.
Targets	Current (2020) CRS data indicate that 10.2% of the NHS and roadways under IDOT jurisdiction are in "not acceptable" condition. Pavement condition had been improving, but recently that trend has been reversed with pavement condition getting worse, especially on the interstate system with the mileage in "not acceptable" condition jumping from 0.1 percent of Interstate miles in 2017 to 11.4 percent of Interstate miles in 2020. The pavement target was developed based on the review of the available historic data, trends, and current pavement condition. IDOT's commitment to asset management and actively incorporating more pavement preservation into its program. Pavement preservation will allow for roads to stay in "acceptable" condition for longer and be more cost efficient in the long term. The additional funding that will be available through the passage of the Rebuild Illinois Capital Plan and the Infrastructure Investment and Jobs Act will play a significant role in improving asset condition. **2025:** 8.8 percent or less of IDOT-jurisdiction roadway miles in "not acceptable" condition

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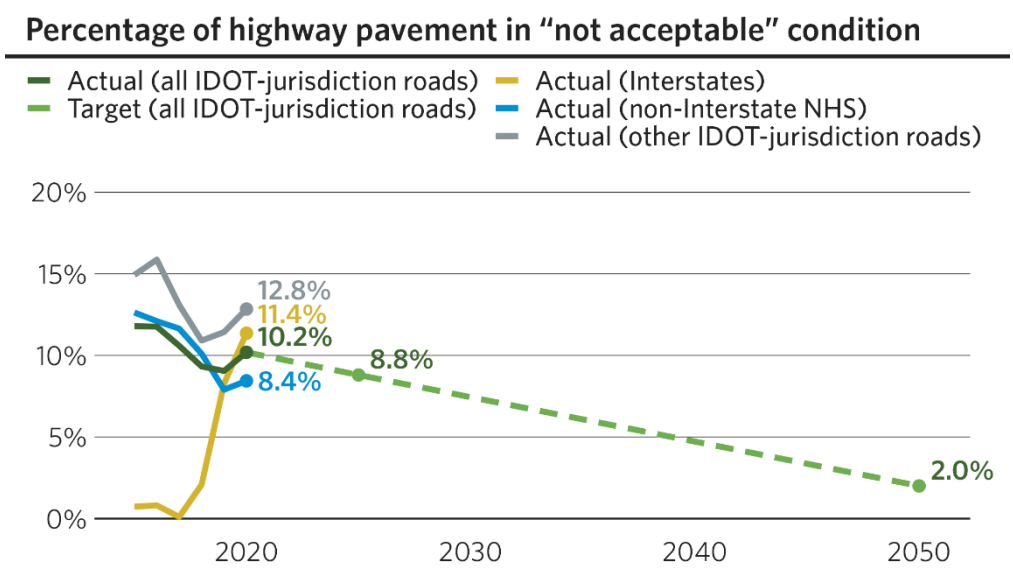
	2050: 2.0 percent or less of IDOT-jurisdiction roadway miles in "not acceptable" condition 
Plan Update revisions	This indicator was originally based on a federal performance measure for which CMAP is required to track and establish near-term targets, but which only covered roadways in the NHS. It has been updated to provide a more complete assessment of the region's pavement condition by including *all* roads under IDOT jurisdiction (which includes the NHS roads that were previously tracked). The measure has also been updated to use IDOT's Condition Rating Survey (CRS) classification of pavement condition, which classifies pavement as being in either "acceptable" or "not acceptable" condition. The baseline data and targets have both been updated to reflect the change in roadway coverage and pavement condition rating methodology.

Percentage of Highway Bridge Area in "Poor" Condition

Indicator	Like pavement condition, tracking bridge condition helps measure the region's progress on improving the existing transportation system. This indicator measures the percentage of the region's bridge deck area in "poor" condition. While a "poor" classification is the lowest condition rating for a bridge, it should be noted that it does not necessarily mean that a specific bridge is unsafe. **Related recommendation:** Enhance the region's approach to transportation programming.

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Methodology	Data come from the Federal Highway Administration's (FHWA) annual National Bridge Inventory (NBI). NBI data is available for all bridges that carry NHS routes and that are over 20 feet in length. Bridge conditions ratings are identified through a scheduled inspection process, and are identified as requiring significant maintenance, rehabilitation, or replacement. Note that prior to 2018, the NBI used the term "structurally deficient." This term was redefined in accordance with the Pavement and Bridge Condition Performance Measures final rule, to align with the new MAP-21 "poor" condition federal standard.
Targets	Current (2020) NBI data indicate that 14.2 percent of the region's bridge deck area was classified as being in "poor" condition, which is the highest percentage since 2003. Over the last decade, the measure has fluctuated between 9.3 and 14.2 percent, but since the average NHS bridge in the CMAP region was built in 1971, more old bridges can be expected to lapse into the "poor" condition every year. The targets were developed based on a review of historical trends, average bridge characteristics, and consideration of the potential new bridges with high quality deck area. The 2025 and 2050 targets call for a continuation of the long-term rates of improvement, and adequate funding levels that allow for the continuation of timely bridge maintenance programs. IDOT's commitment to asset condition and incorporating bridge preservation work will help extend the life cycle of bridges and keep them in "good" or "fair" condition longer. Like pavement, with the passage of the Rebuild Illinois Capital Plan and the Infrastructure Investment and Jobs Act, bridge condition is expected to improve with all the new funding available to implementers. **2025:** 12.3 percent or less of bridge deck area in "poor" condition **2050:** 3.0 percent or less of bridge deck area in "poor" condition

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	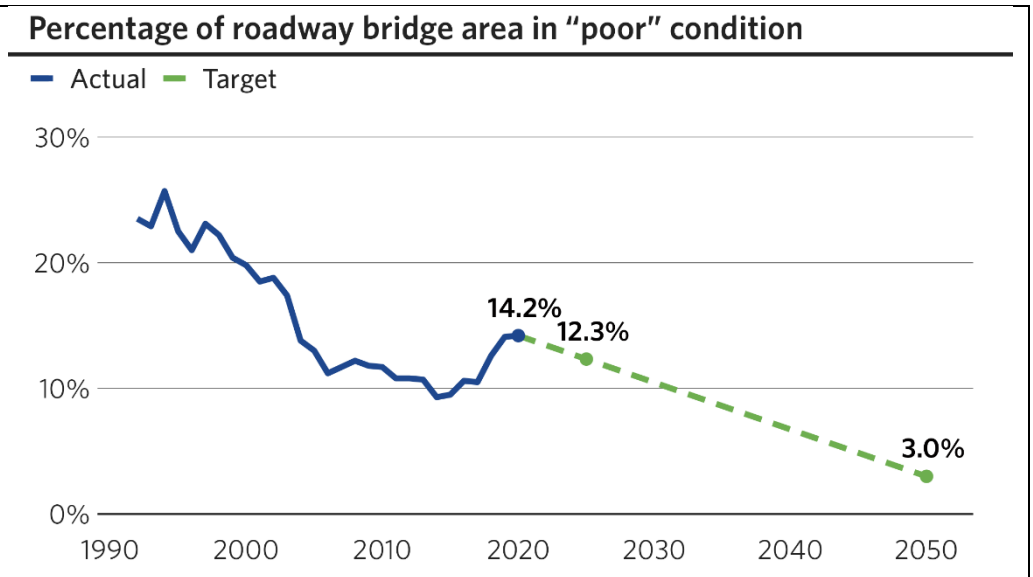
Plan Update revisions	This indicator was originally based on a federal performance measure that CMAP is required to track and establish near-term targets for. It has been updated to capture the condition of the region's infrastructure more fully by including all 3,015 bridges in the region, rather than only the 1,375 National Highway System (NHS) bridges included in the federal measure. The revised measure does not include culverts. The baseline data and targets have both been updated to reflect the change in roadway coverage.

Transit Asset State of Good Repair

Indicator	Maintaining the existing transportation network and improving state of good repair are substantive priorities of ON TO 2050. In particular, recent investment in the transit system has been insufficient to keep system condition from declining. **Related recommendation:** Enhance the region's approach to transportation programming. ***(a) Percentage of fixed-route buses that have met or exceeded their useful life*** This measures the percent of active revenue public transit buses that have exceeded their useful life. This represents the number of vehicles that have reached an age where maintenance cost and vehicle performance issues are likely to increase. **This measure is also a federally required performance measure.**

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Methodology	A snapshot of the active vehicle fleet is reported each year to the National Transit Database (NTD), including the year of manufacture. Note that a useful life benchmark (ULB) of 12 years is used for Pace and 12-15 years for Chicago Transit Authority (CTA) based on agency priorities and operating conditions. **Number of active buses (2020) reaching ULB, by year**

Year reaching ULB	CTA buses	Pace buses
2013		1
2015		44
2016	103	
2017	111	53
2018		3
2019		102
2020	332	38
2021	237	25
2022	443	58
2023	226	6
2025		90
2026	18	37
2027		76
2028	84	90
2029	94	172
2030	184	11
2031	147	
2032	6	91
2033	25	
Total	**2,010**	**897**

Targets	State, federal, and transit agency capital programs can result in large purchases of new vehicles, which then reach their ULB at the same time. By 2025, 47 percent of Pace's and 72 percent of CTA's current bus fleet will have reached their ULB. As of 2020, 20.7 percent of buses have exceeded their useful life. Financial projections for ON TO 2050 include funding being directed toward reducing the state of good repair backlog. This would result in an improvement in bus condition to 7.0 percent of buses beyond their useful life in 2050. **2025:** 8.0 percent or fewer buses exceed their useful life benchmark **2050:** 7.0 percent or fewer buses exceed their useful life benchmark

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	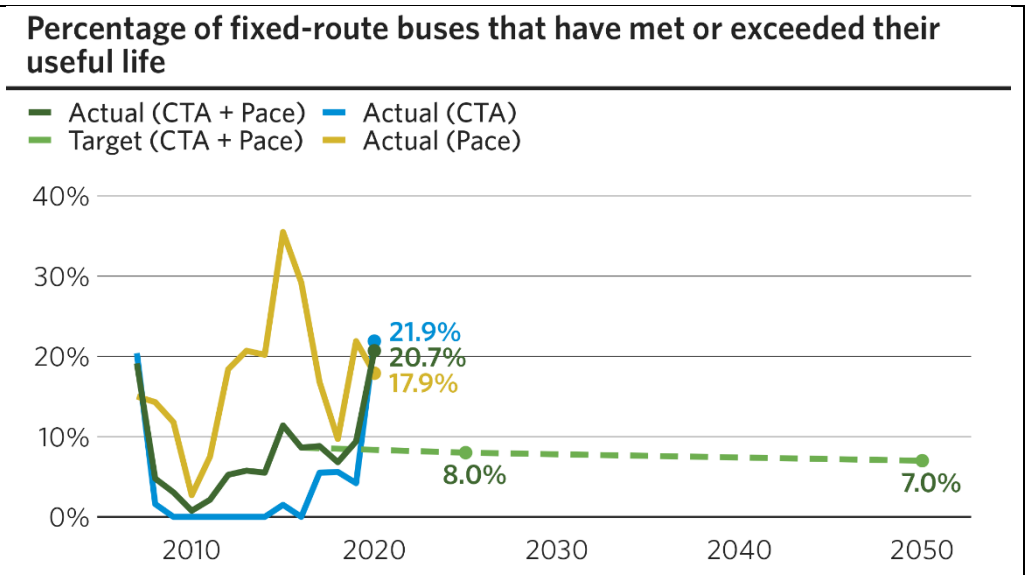
Plan Update revisions	This indicator has not been modified.

Indicator	***(b) Percentage of rail vehicles that have met or exceeded their useful life*** This measures the percent of active revenue public transit rail vehicles that have exceeded their useful life. This represents the number of vehicles that have reached an age where maintenance cost and vehicle performance issues are likely to increase. **This measure is also a federally required performance measure.**
Methodology	A snapshot of the active vehicle fleet is reported each year to the National Transit Database (NTD), including the year of manufacture. The CTA plans for rail vehicles to be used for 34 years, while Metra plans for 30 years of useful life. This does not include non-revenue equipment such as maintenance vehicles.
Targets	State, federal, and transit agency capital programs can result in large purchases of new vehicles, which then reach their ULB at the same time. Currently 16.9 percent of rail vehicles are beyond their ULB. Financial projections for ON TO 2050 include funding being directed toward reducing the state of good repair backlog. These targets are consistent with that plan. **2025:** 16.1 percent or fewer rail vehicles exceed their useful life benchmark **2050:** 14.1 percent or fewer rail vehicles exceed their useful life benchmark

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	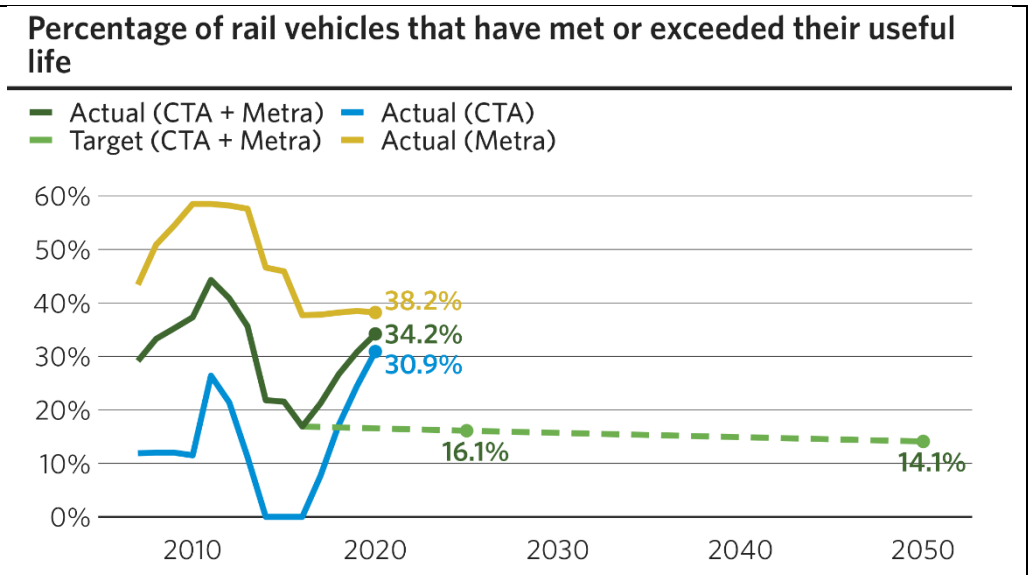
Plan Update revisions	This indicator has not been modified.

Indicator	***(c) Percentage of directional rail route miles with track performance restrictions*** This indicator measures the percent of transit rail track with performance restrictions. The CTA refers to these as "slow zones," where trains are required to operate at slower than normal speeds. This could be the result of construction, power systems, signals, or other issues. Elimination of slow zones can help to make transit more competitive by decreasing travel times and improving reliability. **This measure is also a federally required performance measure**.
Methodology	Starting in 2017, this data is available in the National Transit Database maintained by the FTA. The annual performance measure for Infrastructure is an average of each month's performance restriction at 9:00 AM local time on the first Wednesday of each month.
Targets	Slow zones have a number of root causes. For example, trains reduce speed to protect workers in construction zones. The rail system may always have some level of speed restrictions for safety around construction and unexpected events. Improvements in transit asset management and system reconstruction can help minimize slow zones. Financial projections for ON TO 2050 include funding being directed toward reducing the state of good repair backlog. These targets are consistent with that plan. **2025:** 3.5 percent of track or less with performance restrictions

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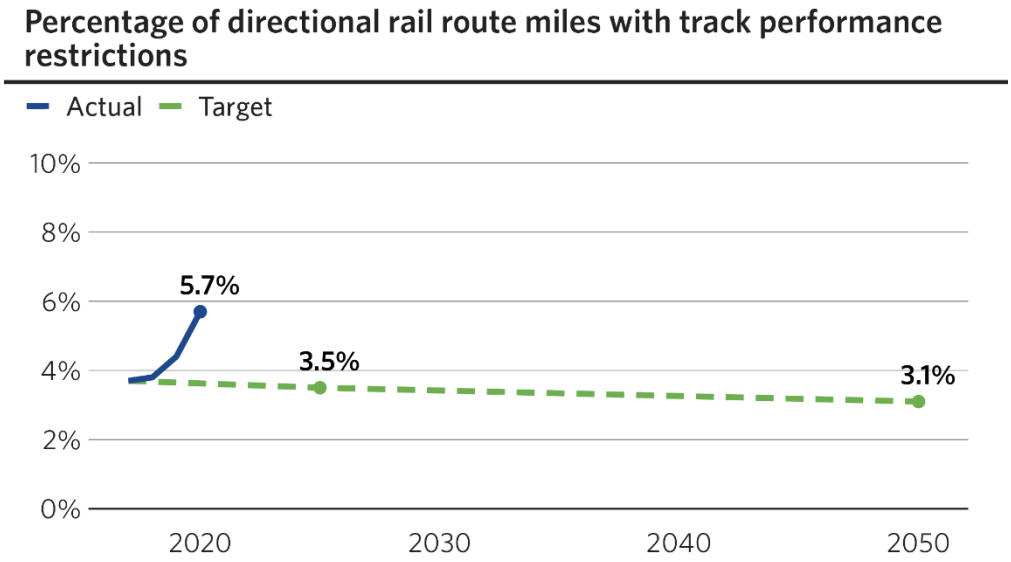
	2050: 3.0 percent of track or less with performance restrictions 
Plan Update revisions	This indicator has not been modified.

Average Congested Hours of Weekday Travel for Limited Access Highways

Indicator	Congestion has negative effects on the regional economy (in terms of wasted time) and air quality (in terms of additional emissions). This indicator measures how long the region's expressways are congested during weekday travel on average. "Congested hours" is defined as the number of hours each weekday that travelers could travel at least 10 percent faster in free-flow conditions. **Related recommendation:** Build regionally significant projects.
Methodology	This indicator is calculated using 5-minute, non-holiday weekday vehicle probe (travel time) data from FHWA's National Performance Measurement Research Data Set (NPMRDS).
Targets	The goal for 2050 is to attain a one hour, 20-minute reduction in the average number of hours per weekday that the region's expressways are congested. The short-term goal for 2025 is to keep the same duration of average weekday congestion as 2017: 5.33 hours. The short-term goal reflects the fact that there are not many capital improvements that will be completed on the expressway system by 2025. Additionally, it could take a number of years before new vehicle technology has fully penetrated the market. The lower congestion goal in 2050 reflects anticipated new vehicle technology, capital improvements to the transportation network, and the implementation of

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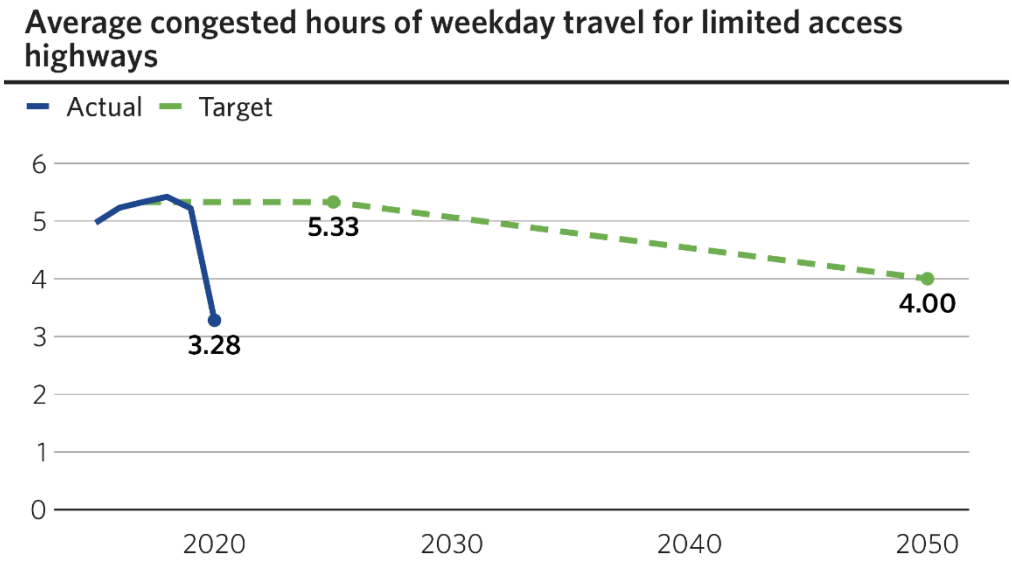
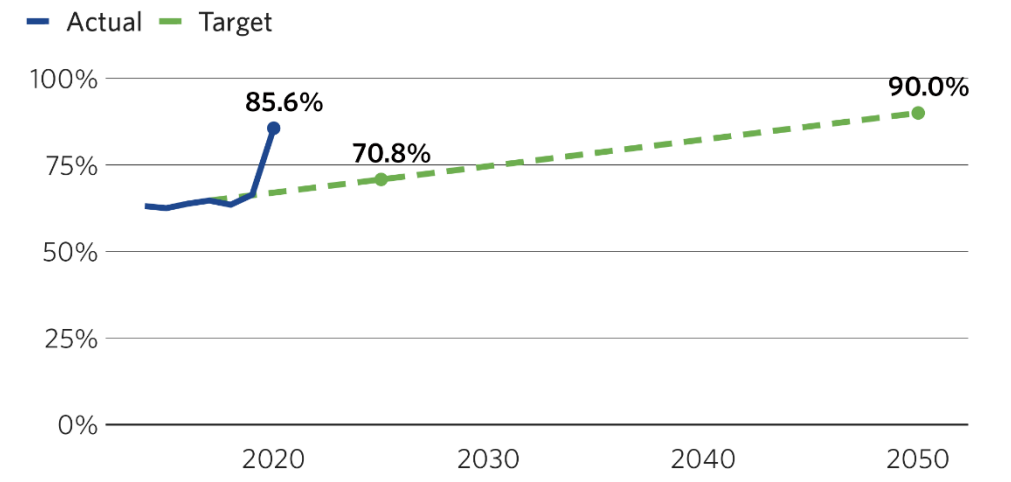
	operational strategies like congestion pricing, incident management, and truck delivery times to address congestion. **2025:** 5.33 hours or less of congestion **2050:** 4.00 hours or less of congestion 
Plan Update revisions	This indicator has not been modified.

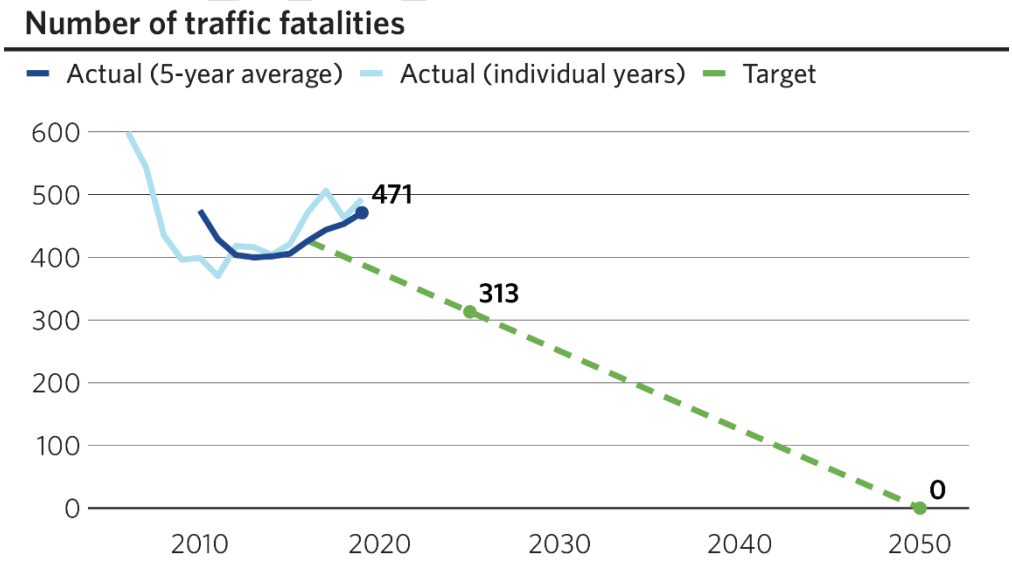
Percentage of Person-Miles Traveled on the Interstate System with Reliable Travel Time

Indicator	Unreliable travel times on these critical roads requires their users to budget extra time to ensure they arrive at their destinations on time. This increases commutes, limits movement of goods, and otherwise reduces quality of life and economic efficiency. The Level of Travel Time Reliability (LOTTR) is defined as the ratio of the longer travel times (80th percentile) to a "normal" travel time (50th percentile). The measure is the percentage of person-miles traveled on the region's Interstate system that meet this definition of reliability. Using person-miles rather than vehicle-miles gives equal weight to all individuals using the roads. **This measure is also a federally required performance measure.** **Related recommendation:** Harness technology to improve travel and anticipate future impacts.
Methodology	This measure is based on data from FHWA's NPMRDS or equivalent. Speed and volume data are collected in 15-minute intervals between 6 a.m. and 8

	p.m. local time. Person-miles are calculated by combining traffic volumes and vehicle occupancy data.
Targets	Operations programs that, for example, improve incident management or implement advanced traffic management, could result in short term improvement despite the lack of new projects on the system. Regionally significant projects, travel demand management, and vehicle technology are expected to improve reliability over the long term, despite increasing population. This improvement could be limited by an increase of severe weather events. A 2050 target of 90 percent was set based on the results of CMAP's own travel modeling analyses of strategies to improve reliability. Full reliability can never be achieved due to uncontrollable factors like weather. **2025:** 70.8 percent or more of person-miles traveled on the interstate system are reliable **2050:** 90.0 percent or more of person-miles traveled on the interstate system are reliable **Percentage of person-miles traveled on the Interstate system with reliable travel time** 
Plan Update revisions	This indicator has not been modified.

Number of Traffic Fatalities

Indicator	Ensuring a safer transportation system – for all modes – is a growing priority for the nation and region. ON TO 2050 offers strategies to improve safety for drivers, bicyclists, and pedestrians. To track progress, this measure tracks the five-year rolling average of the number of fatalities in the CMAP region on all

	public roads. This includes all motor vehicle fatalities and any pedestrians and cyclists involved. After declining for several decades, traffic fatality rates began increasing again in 2010, likely due to a combination of increased driving during the economic recovery and the rise of distracted driving fueled by smartphone usage. **This measure is also a federally required performance measure.** **Related recommendation:** Improve travel safety.
Methodology	Illinois traffic crash reports provided by IDOT are used to calculate the number of fatalities that occur per year within the CMAP region. A five-year rolling average is then calculated from the five most recent years' data.
Targets	Because traffic deaths are preventable, the region should strive for zero traffic related fatalities by 2050. Many of CMAP's partners have embraced the goal of achieving zero traffic related fatalities. This goal can be achieved through a holistic approach to safety that includes the 4 E's (Education, Enforcement, Engineering, and Emergency Response) of traffic safety. Additionally, improvements in vehicle technology are expected to play a significant role in reducing traffic fatalities. **2025:** 313 or fewer fatalities per year **2050:** Zero fatalities per year 
Plan Update revisions	This indicator has not been modified.

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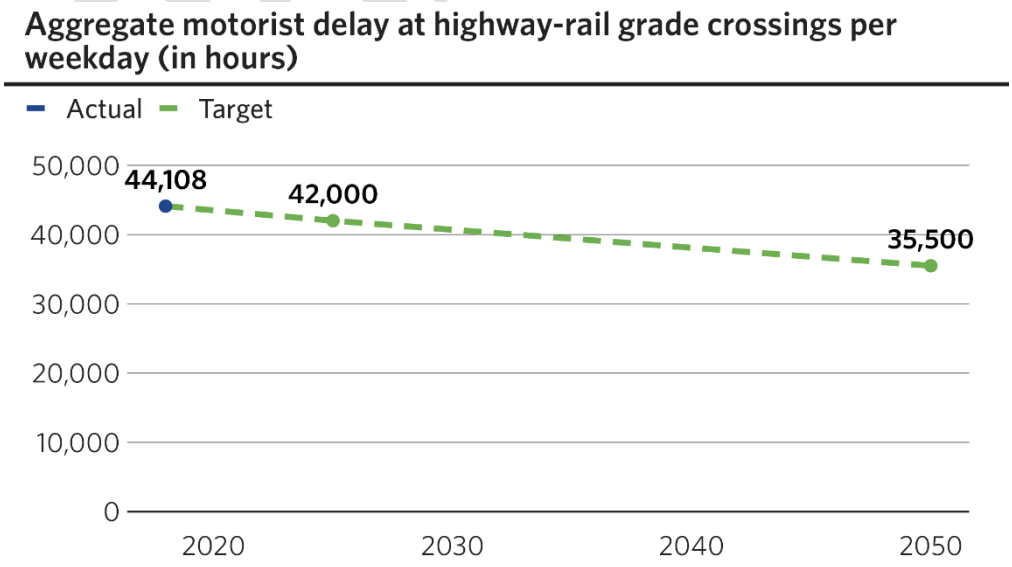
Motorist Delay at Highway-Rail Grade Crossings

Indicator	CMAP estimates that weekday motorist delay at the region's grade crossings cost residents $332 million in wasted productivity in 2018 alone. This indicator measures the aggregate hours of delay per weekday experienced by motorists at railroad crossings in the seven-county CMAP region. **Related recommendation:** Maintain the region's status as North America's freight hub.
Methodology	The source for these data is periodic analyses conducted by the Illinois Commerce Commission (ICC), which provide detail about delay at each grade crossing in the region. This data is then aggregated to calculate the region wide daily average.
Targets	From 2002 to 2011, a number of strategies were implemented that resulted in a large reduction in weekday delay — these include closing lines and grade crossings, re-routing of service, and service realignments. The pace of change slowed from 2011 to 2017. In the future, the pace of change will reflect the most recent rate of change. Proposed targets reflect trends from 2011 to 2017 and are consistent with 17 proposed CREATE grade separations being completed by 2050. **2025**: 42,000 hours or less of motorist delay at grade crossings per weekday **2050:** 35,500 hours or less of motorist delay at grade crossings per weekday 
Plan Update revisions	The methodology by which CMAP has calculated motorist delay at highway-rail grade crossings in the past made many simplifying assumptions. This had the effect of significantly underestimating the actual delay caused by these

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	crossings. Staff have since refined the methodology to account for several missing sources of delay. Among the improvements are the use of observed train speeds instead of estimates, hourly traffic counts instead of daily, and queue clearance rates after gates are raised. These methodological improvements have resulted in a nearly six-fold increase in our estimates of motorist delay at highway-rail grade crossings (44,108 hours per weekday in 2018, compared to approximately 7,500 hours using the original methodology). As a result, the indicator targets established in ON TO 2050 are no longer meaningful. Staff have applied the ON TO 2050 delay reduction targets (in percentage rather than absolute terms) to the updated baseline data to produce new targets.

Chicago Terminal Carload Transit Time

Indicator	The indicator measures the fluidity of the Chicago Terminal, which is important to the economic strength of the region's rail industry. This measures the annual average time carload freight takes to get through the core of Chicago's rail freight hub, the Chicago Terminal, extending from the City of Chicago to roughly the Indiana Harbor Belt Railway in the near-west suburbs. Much of the carload freight needs to pass through classification yards in the Chicago Terminal, where the interchange is made between predominantly eastern railroads, predominantly western railroads, Canadian railroads, and smaller regional and industrial railroads. The measure also indicates how fast trains are moving – a slow train will block a highway-rail grade crossing longer than a fast train. **Related recommendation:** Maintain the region's status as North America's freight hub.
Methodology	Data is provided to CMAP for the Chicago Transportation Coordination Office by the Association of American Railroads' data provider, RailInc. The information is also provided to and posted by the Surface Transportation Board. The terminal transit time includes both "dwell time" in the classification yards, totaling about 22 hours, and the time spend traveling to and from those yards. Carload freight excludes containerized and single-purpose, through-routed unit trains.
Targets	The targets reflect a return to 2016 conditions by 2025, and cutting the remaining transit time, less yard dwell time, in half by 2050. A fixed yard dwell time of 22 hours, consistent with recent observations, is assumed. The amount of time trains spend in classification yards is beyond the control of

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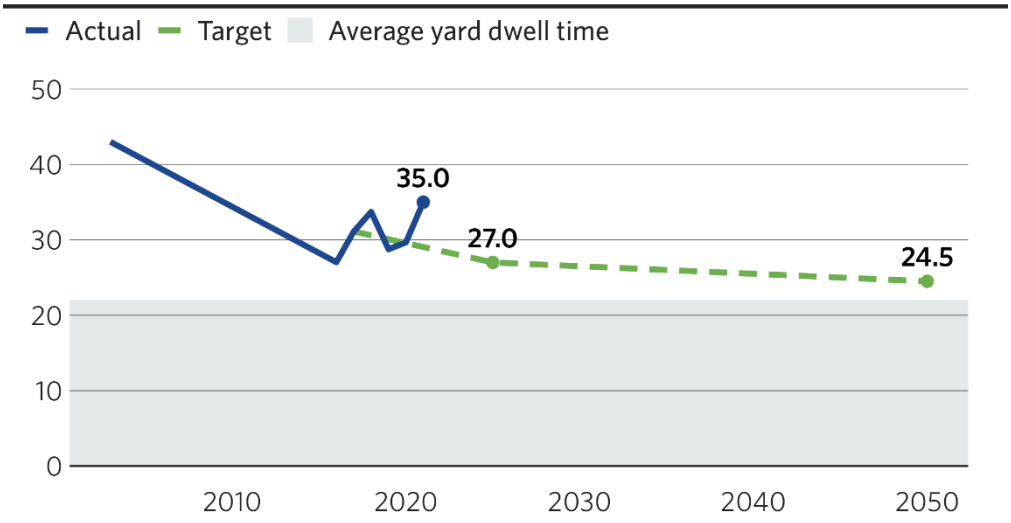
	any CMAP policy recommendations, so the targets focus solely on decreasing the time spent traveling to and from them. **2025:** 27.0 hours or shorter carload transit time **2050:** 24.5 hours or shorter carload transit time **Chicago Terminal carload transit time (annual average, in hours)** 
Plan Update revisions	This indicator has not been modified.

Annual Unlinked Transit Trips

Indicator	This indicator tracks the total number of annual unlinked transit trips. Trips are "unlinked" in that this is a total count of boardings, so that an individual making one transfer is counted as two unlinked trips. Increased transit ridership reduces greenhouse gas emissions, reduces roadway congestion, and improves air quality. **Related recommendation:** Make transit more competitive.
Methodology	This value is taken directly from the National Transit Database and unlinked trips are the only way the Federal Transit Administration reports transit service used by the public. Data are reported separately for CTA, Metra, and Pace (including paratransit services).
Targets	The 2050 target has been set in keeping with the goal of doubling transit ridership over 2016 levels. In 2016, the region had an average 72 unlinked transit trips per resident per year. With forecasted increases in population by 2050, doubling transit ridership would increase the average number of trips

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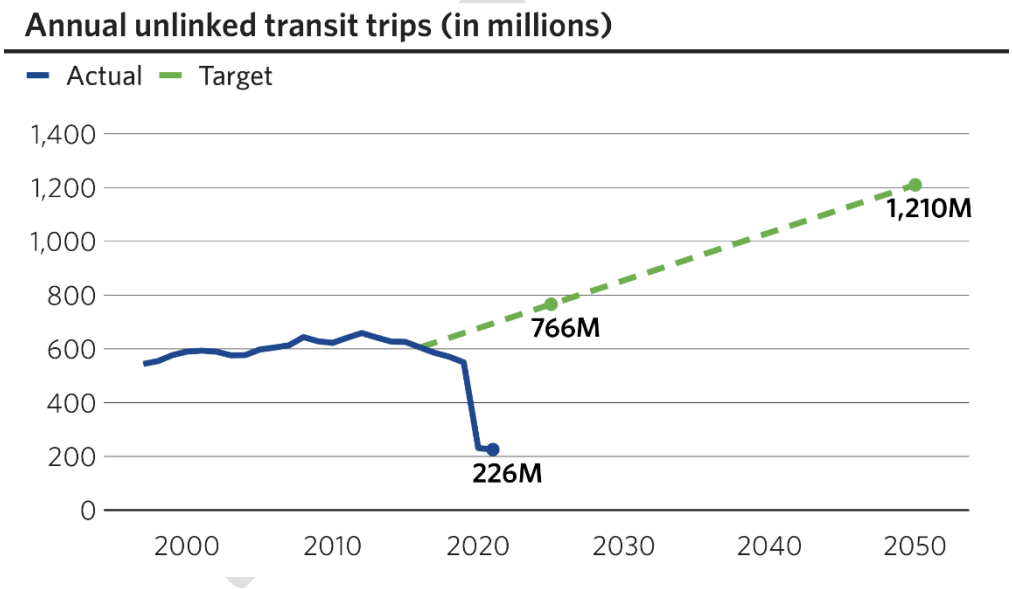
	by 58 percent to 114 per resident per year, which is lower than San Francisco's current per resident trip rate. Achieving this target will require regional action by not just the transit agencies, but also municipalities, highway agencies, and funding authorities. Transit agencies cannot sustain fast, frequent, reliable service without supportive land use change. Effective transit service results from a combination of strategic investment in transit service and coordinated land use planning. Locating jobs and residences near transit has a powerful positive effect on ridership. CMAP analysis shows that taking steps to increase employment density near transit stations and pricing parking would have more impact on ridership compared to many other strategies for capital investment and service expansion.[3] **2025:** 766 million or more unlinked transit trips **2050:** 1.21 billion or more unlinked transit trips 
Plan Update revisions	This indicator has not been modified.

Population and Jobs with at Least "Moderately High" Transit Availability

Indicator	This indicator will report the percentage of population and jobs with at least moderately high transit availability. This is based on a CMAP-created index that considers multiple factors: proximity to transit stops, frequency of service, destinations reachable without a transfer, and walkability. For a specific area, this index is intended to measure the relative level of access

[3] Chicago Metropolitan Agency for Planning, "Transit Ridership Growth Study," August 2017, http://www.cmap.illinois.gov/documents/10180/0/Transit+Ridership+Growth+Study_final.pdf.

	residents and workers have to the transit system, regardless of their actual choice of mode. **Related recommendation:** Make transit more competitive.
Methodology	The Transit Availability Index is a metric that takes into account transit service frequency, pedestrian friendliness, network distance to transit stops, and number of subzone connections. Each factor is measured individually at the subzone level and an index value is assigned to each subzone. The Transit Availability Index is then the average of these four factor indices that have been assigned to each subzone. This measure tracks the percent of the population in the two highest categories (4 or 5 on a five-point scale).

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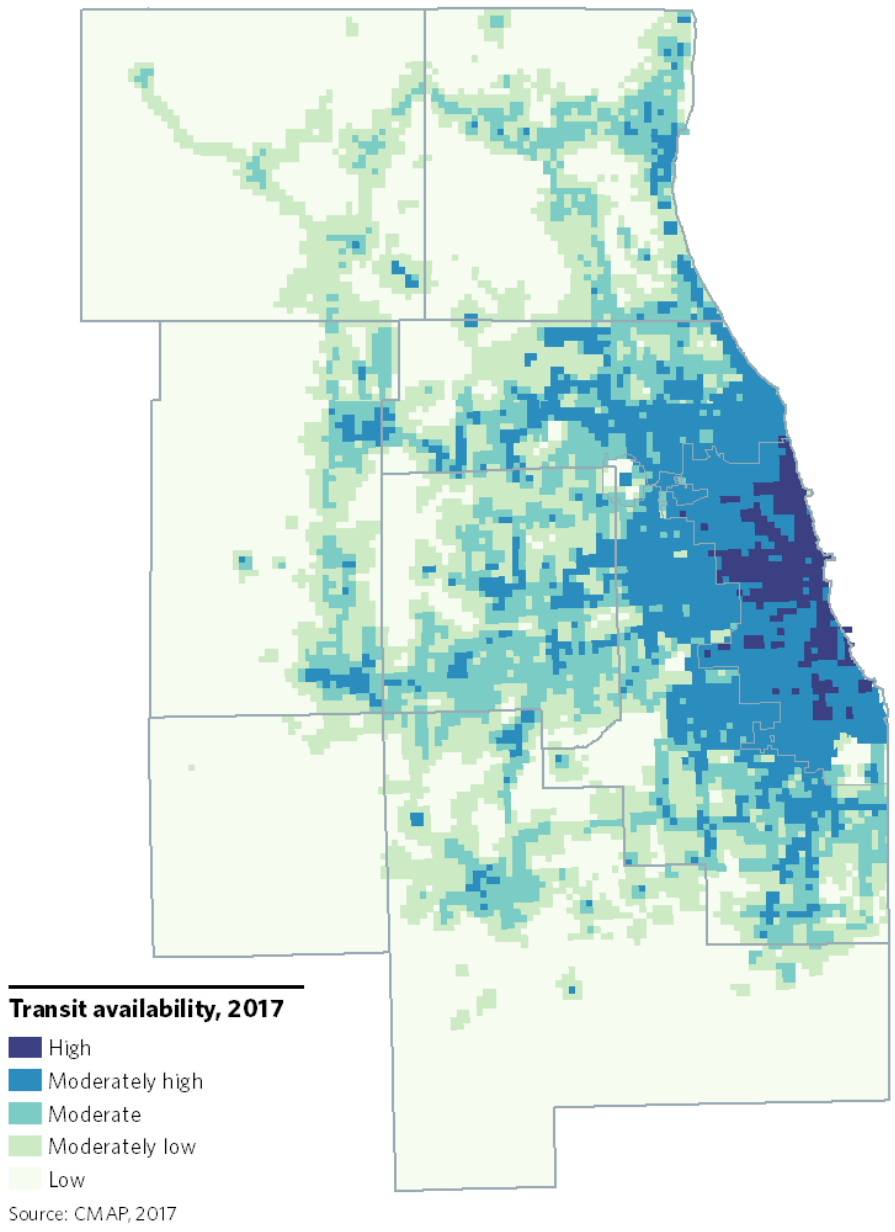
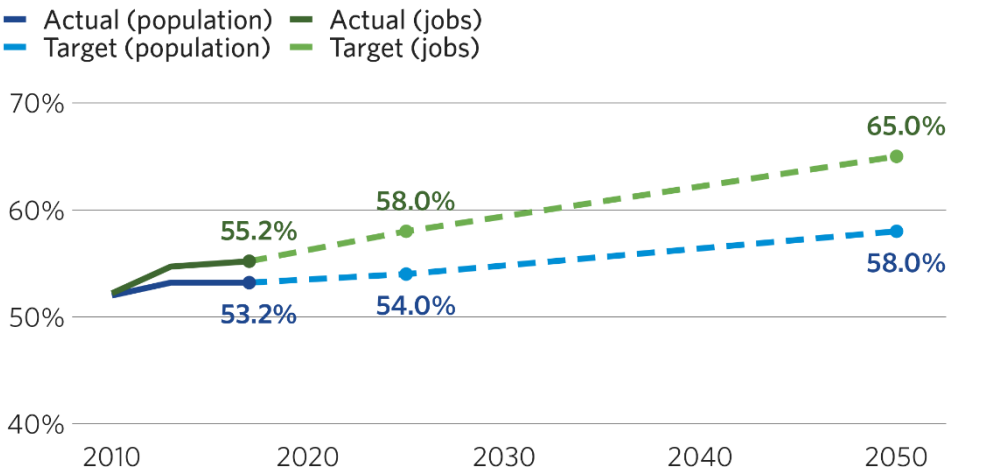
	
Targets	The proposed transit availability targets (below) could be reached if many regionally significant projects were completed, along with policies to encourage infill development and improvements to walkability around transit stations.

	2025: At least 58 percent of jobs and 54 percent of population with "moderately high" or "high" transit availability **2050:** At least 65 percent of jobs and 58 percent of population with "moderately high" or "high" transit availability **Share of population and jobs in areas with "moderately high" or "high" transit availability** 
Plan Update revisions	This indicator has not been modified.

Percentage of Trips to Work via Non-SOV Modes

Indicator	Encouraging multimodal travel makes the best use of the system, reduces greenhouse gas emissions, and improves quality of life. This measure tracks the share of trips to work by non-single occupancy vehicle (non-SOV) modes for trips to work. These modes include carpool, public transportation, walking, bicycling, and work at home. Higher levels of non-SOV travel would yield numerous benefits: reduced congestion, better air quality, and healthier residents, to name a few. This measure is similar to the MAP-21 performance measure for non-SOV travel, but uses slightly different geography and Census data. **Related recommendations:** Make transit more competitive; Harness technology to improve travel and anticipate future impacts; Improve travel safety.
Methodology	Annual releases of the U.S. Census Bureau's ACS dataset – table B08301 – are used to track mode share in the region. The data is assembled from county-level data, using 1-year samples for Cook, DuPage, Kane, Lake, McHenry and Will, and 5-year samples for Kendall (for which the full level of detail

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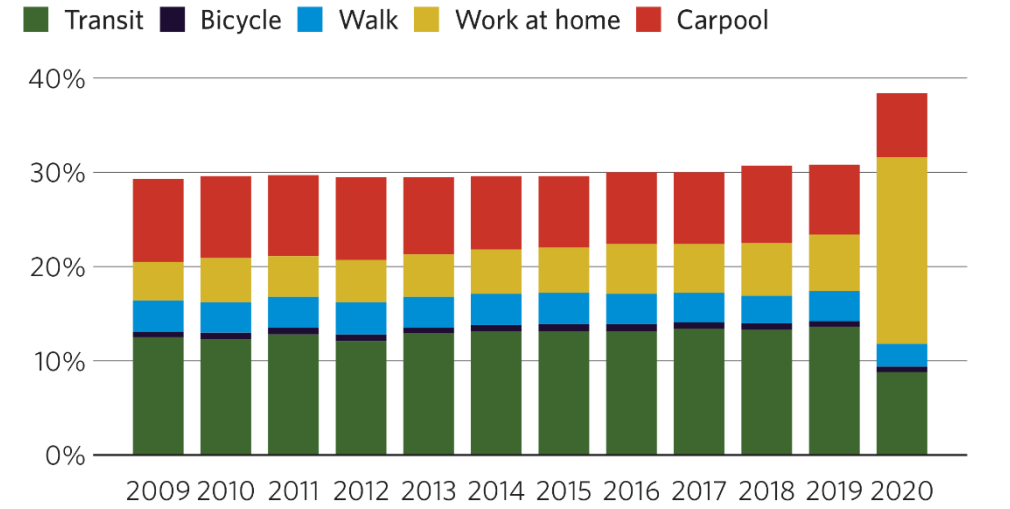
	required is not available in the 1-year samples). While targets are only set for overall non-SOV mode share, CMAP will track the share of the specific modes that are considered "non-SOV": carpool, public transportation, walk, bicycle, and work at home (telecommuting). Trips by driving alone, motorcycle, taxicab, and "other means" are excluded. The chart below shows this data for 2009-20. In 2020, non-SOV mode share increased sharply, driven by a surge in telecommuting during the COVID-19 pandemic (at the expense of all other modes). The extent to which increased telecommuting and the resultant decrease in other modes persists beyond 2020 remains to be seen. **Percentage of trips to work via specific non-SOV modes** 
Targets	Recent data indicate that non-SOV travel is increasing in the region. Recent increases in non-SOV travel have been driven largely by an increase in people working at home, even pre-pandemic. Implementation of policies to support transit, cycling, and walkability will enable this trend to continue. A 2050 target of 37.3 percent is consistent with the target of doubling transit ridership (see *Annual Unlinked Transit Trips*, p. 53). The 2025 target is based on a straight-line interpolation between 2016 ACS data and the 2050 target. **2025:** 32.4 percent or more trips to work via non-SOV modes **2050:** 37.3 percent or more trips to work via non-SOV modes

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	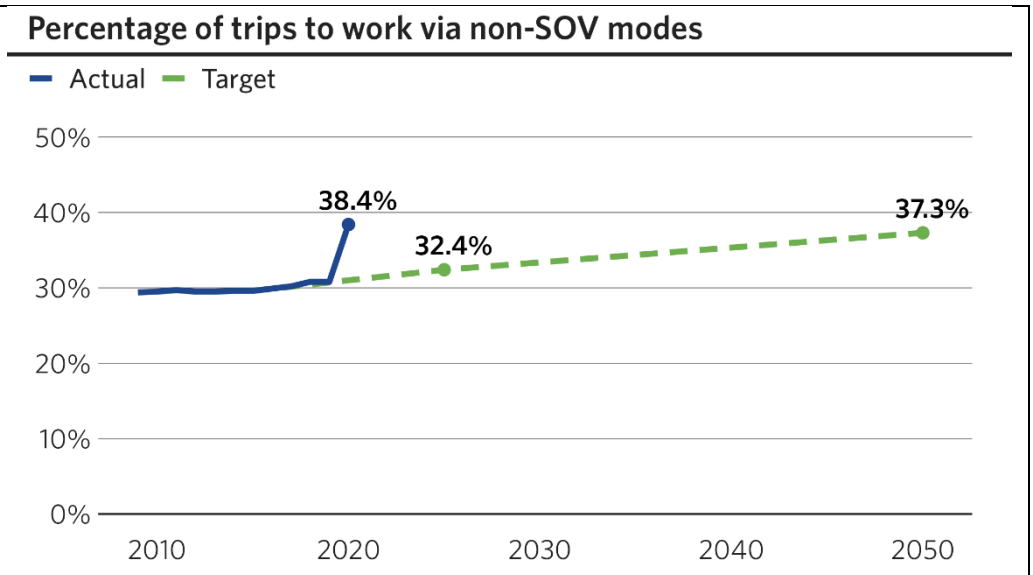
Plan Update revisions	This indicator has not been modified.

Number of Intersections with Transit Priority or Queue Jumping

Indicator	Road infrastructure and technology affect the speed, frequency, and reliability of transit ridership, but lie outside the control of the transit agencies themselves. Closer partnerships between transit and agencies responsible for roadways hold promise to create integrated, multimodal corridors. These approaches support transit ridership at relatively modest cost. This indicator tracks the implementation of projects that give priority to transit service. Transit Signal Priority (TSP) utilizes vehicle location and wireless communication technologies to advance or extend green times at signalized intersections. This can help reduce bus travel times, improve schedule adherence, and reduce operating costs. TSP is also an important component of Bus Rapid Transit (BRT) and Arterial Rapid Transit (ART) projects. Queue jumps can work in conjunction with TSP or on their own to allow a bus to go through an intersection ahead of other vehicles. **Related recommendation:** Make transit more competitive; harness technology to improve travel and anticipate future impacts.
Methodology	CMAP worked with Pace, CTA and the RTA to track Transit Signal Priority (TSP) and queue jumps in the region. There are approximately 4,800 signalized intersections in the region along bus routes. In 2018, 84 of these had bus priority.

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Locations of intersections with transit priority, 2018

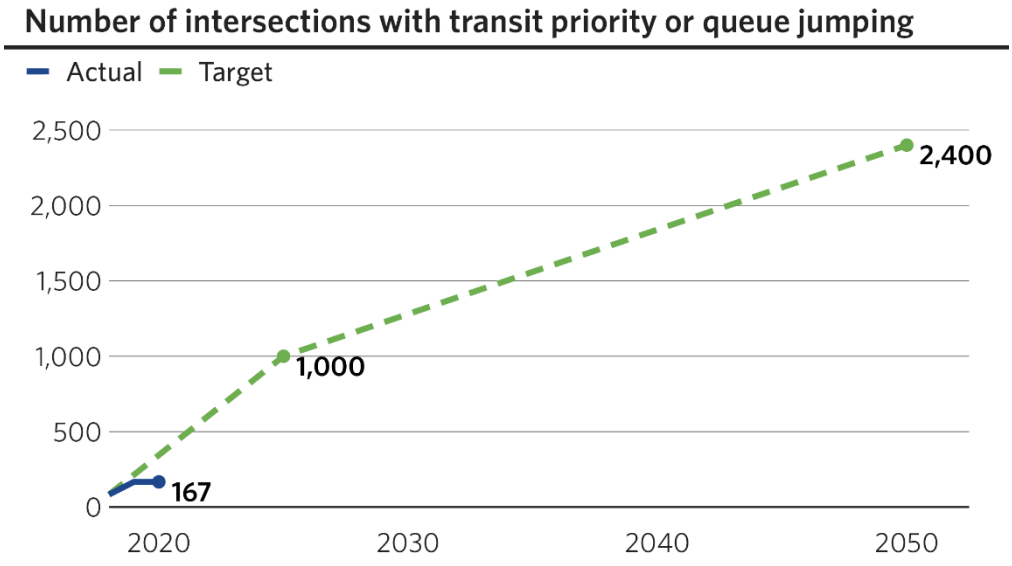
Major Street / Location	TSP signals	Queue jump signals	Total
Ashland Ave	40		40
Canal St		1	1
Clark St		1	1
Dearborn St		1	1
Franklin St		1	1
Jeffery Ave	6	1	7
La Salle Dr		1	1
Wabash Ave		1	1
Wells St		1	1
Wash. St (Lake Co.)	10		10
Harvey TC	20		20
Grand Total	**76**	**8**	**84**

Targets

In addition to the 84 existing intersections with TSP and/or queue jumping when ON TO 2050 was adopted, over 400 signal improvements were in advanced planning or engineering to be in place by 2020 (although as of 2020, the completed total was only up to 167). Future efforts should continue to improve intersections until at least half of intersections that serve buses have bus priority.

2025: 1,000 intersections or more with TSP or queue jumping

2050: 2,400 intersections or more with TSP or queue jumping



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Plan Update revisions	This indicator has not been modified, although it has been renamed for accuracy. It was previously called "number of traffic signals with transit priority and/or queue jumping."

Miles of Roadway with Transit Preference

Indicator	This indicator tracks the allocation of road space to buses. Providing extra space or right of way to buses improves travel time and reliability. This takes many forms throughout the region. Bus on shoulder and flex lanes allow buses on expressways to bypass slower traffic. Dedicated bus lanes, such as the Loop Link project, provided bus priority on local streets all day. Some bus lanes are shared with only bikes. Peak hour lanes provide a dedicated lane for buses when demand is highest and are otherwise used for parking or general travel. The region has one busway, the McCormick Busway, which provides a dedicated road for buses serving special events. **Related recommendation:** Make transit more competitive.
Methodology	Information for transit agencies was used to create an inventory of bus preference. In 2018, there were 108.3 miles of bus preference in the region. The majority of this mileage is along expressways. **Locations of roads with bus preference, 2018**

Lane type	Project	Miles
Bus on shoulder	Edens BOS	25.2
Bus on shoulder	I-55 BOS	38.8
Flex lane	Addams / Tollway	31.0
Busway	McCormick Busway	4.6
Peak hour	Jeffery Jump	4.0
Bus lane	Loop Link	2.1
Bus lane	Downtown Chicago	1.5
Bike/bus lane	Cortland/Clark	1.0
Total		**108.3**

Targets	When ON TO 2050 was adopted in 2018, there were 108.3 miles of bus preference in the region, most of which had been built since 2008. Pilot projects have shown that these improvements can improve ridership. **2025:** At least 250 miles of roadway with transit preference (50 on urban streets) **2050:** At least 500 miles of roadway with transit preference (100 on urban streets)

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	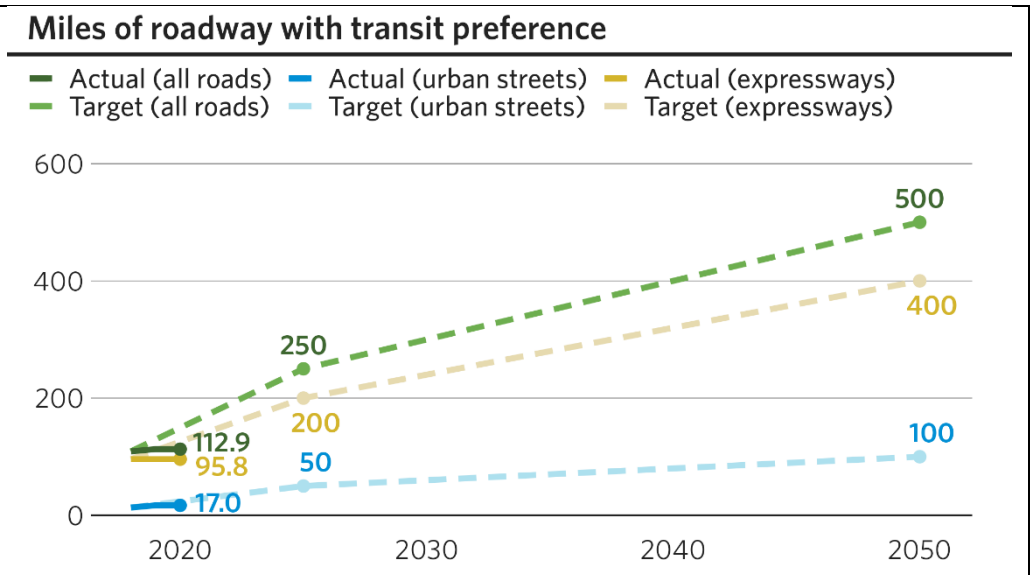
Plan Update revisions	This indicator has not been modified.

Percentage of Regional Greenways and Trails Plan Completed

Indicator	This indicator tracks the total miles of all trails in the Northeastern Illinois Regional Greenways and Trails Plan (RGTP) that are completed or let for construction. The RGTP includes not only off-street trails, but key on-street facilities and side paths. The RGTP includes trails in Aux Sable Township in Grundy County. Out-of-region connections to systems in Indiana and Wisconsin are not included in indicator totals. **Related recommendation:** Improve travel safety; Build regionally significant projects.
Methodology	CMAP updated the RGTP in 2016 based on input from all seven counties, forest preserve and conservation districts, Councils of Mayors, and the City of Chicago. The revised Plan now includes 3,163 miles of existing, programmed, and planned facilities in Illinois. Information on trail status is maintained by CMAP staff in the Bikeway Inventory System (BIS).[4]

[4] Chicago Metropolitan Agency for Planning, "Bikeway Inventory System (BIS)," June 2018, https://datahub.cmap.illinois.gov/dataset/bis.

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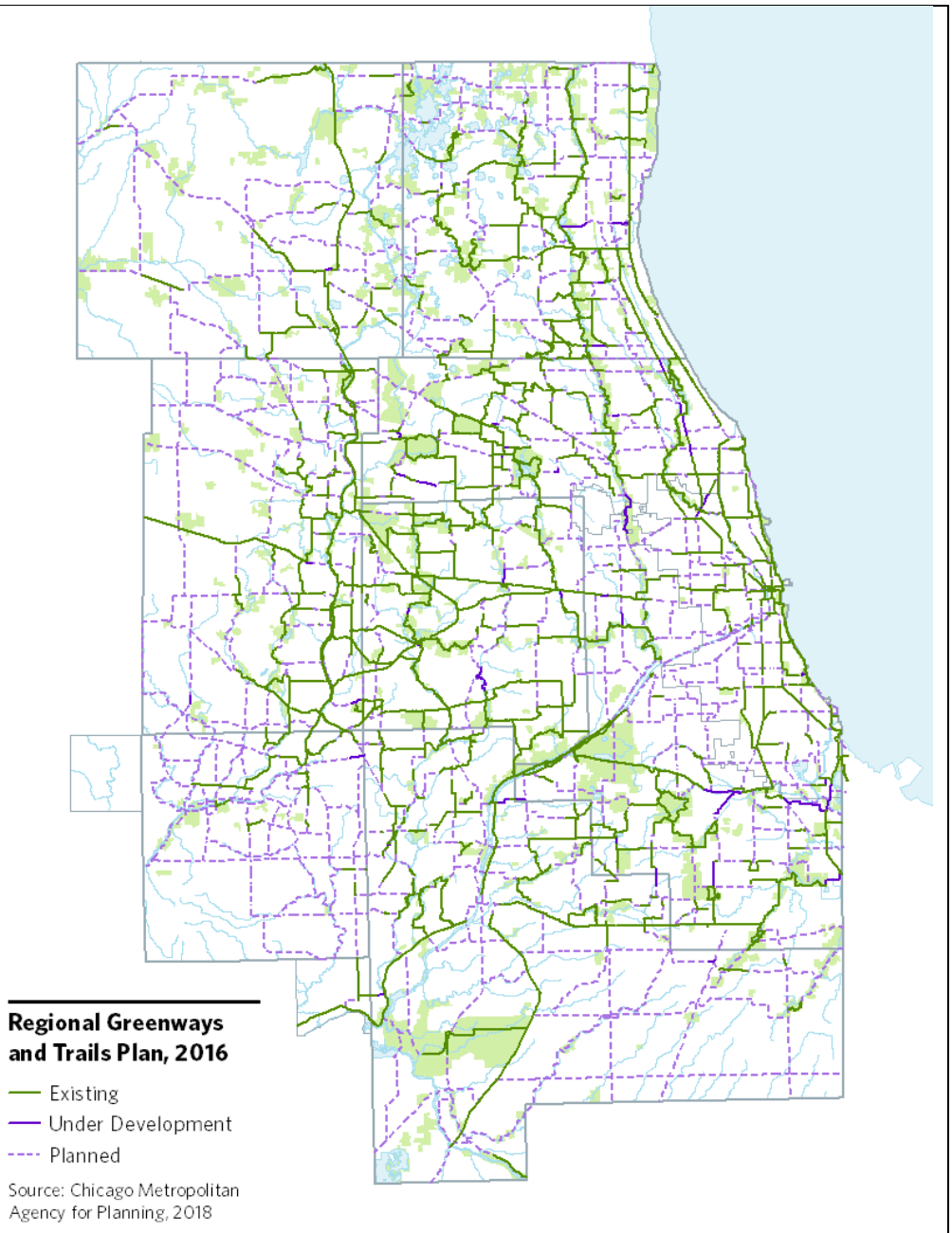
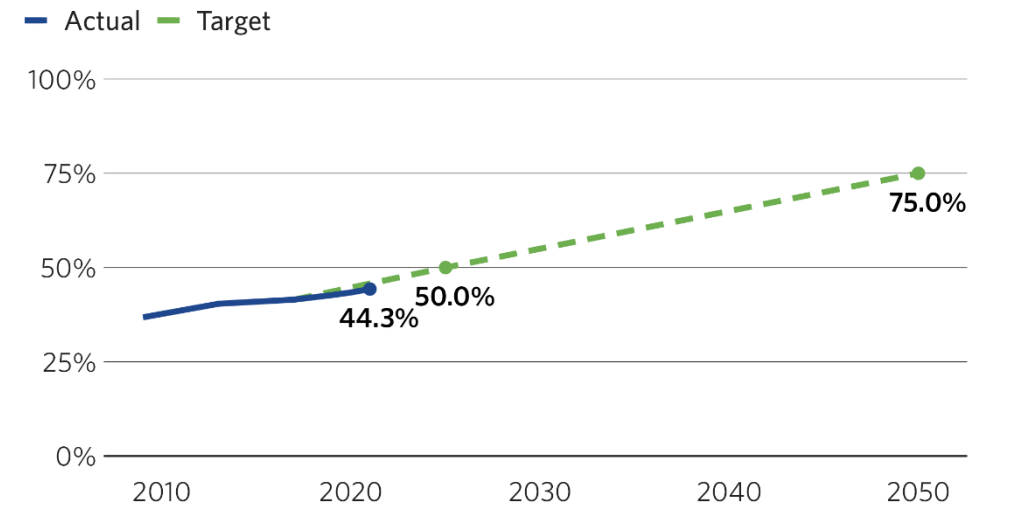


The RGTP categorizes trails as existing (including let for construction), programmed, planned, or future. Programmed trails, which have been tapped to receive funds for their development, total about 62 miles, or an additional 2 percent of system miles to be completed by 2020, showing system development remains roughly on-track. Periodic updates to the RGTP and changes in trail alignments, particularly as conceptual lines are constructed, have modest impacts on this indicator.

Targets	As of 2017, 41.5 percent of the 2016 RGTP has been completed, including both existing and programmed trail miles. Extrapolating the average annual

	rate of completion from 2009 to 2017 would yield 49 percent completion by 2025 and 68.1 percent completion by 2050. The proposed targets are slightly higher than those figures. **2025:** 50 percent or more of RGTP completed **2050:** 75 percent or more of RGTP completed **Percentage of Regional Greenways and Trails Plan completed** 
Plan Update revisions	This indicator has not been modified.

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Governance Indicators

Municipalities with Per Capita State Revenue Disbursement Below 80 Percent of Regional Median

Indicator	Municipalities with strong revenue levels relative to public service needs may be better able to maintain their fiscal condition and serve their residents and businesses. This may also lead to greater capacity to achieve local and regional goals. This indicator will track per capita state revenue disbursements to municipalities in northeastern Illinois, relative to the regional median. Illinois municipalities receive revenue through state disbursements of several revenue sources, including income, use, sales, motor fuel, and personal property replacement tax revenue.[5] These revenues may be based on current land use, population, or similar factors, but some disbursements are based on long established criteria that may no longer relate to service and infrastructure needs or current conditions in a given community. The amount of revenue municipalities collect varies throughout the region and depends on local land use mix, the composition of their tax structures, and the level of service the community desires from the municipality. State statutory criteria for revenue disbursements to municipalities also drive divergences, as the criteria do not always relate to the level of public services required or to a municipality's capacity to raise its own revenue from its own tax base. **Related recommendation:** Develop tax policies that strengthen communities and the region.
Methodology	State disbursements to municipalities occurring in calendar year for 2015 were totaled and normalized by municipal population data from the 2015 U.S. Census Population Estimates. For state disbursements, income tax revenues, use tax revenues, state motor fuel tax revenues, state sales tax revenues, and personal property replacement tax revenues disbursed to municipalities were obtained from the Illinois Department of Revenue and IDOT. The median per capita disbursement for the region was $277, and 74 municipalities were at least 20 percent less than the median level.

[5] Chicago Metropolitan Agency for Planning, "Tax Policies and Land Use Trends," March 2017, http://www.cmap.illinois.gov/documents/10180/517351/Tax+Policy+and+Land+Use+strategy+paper.

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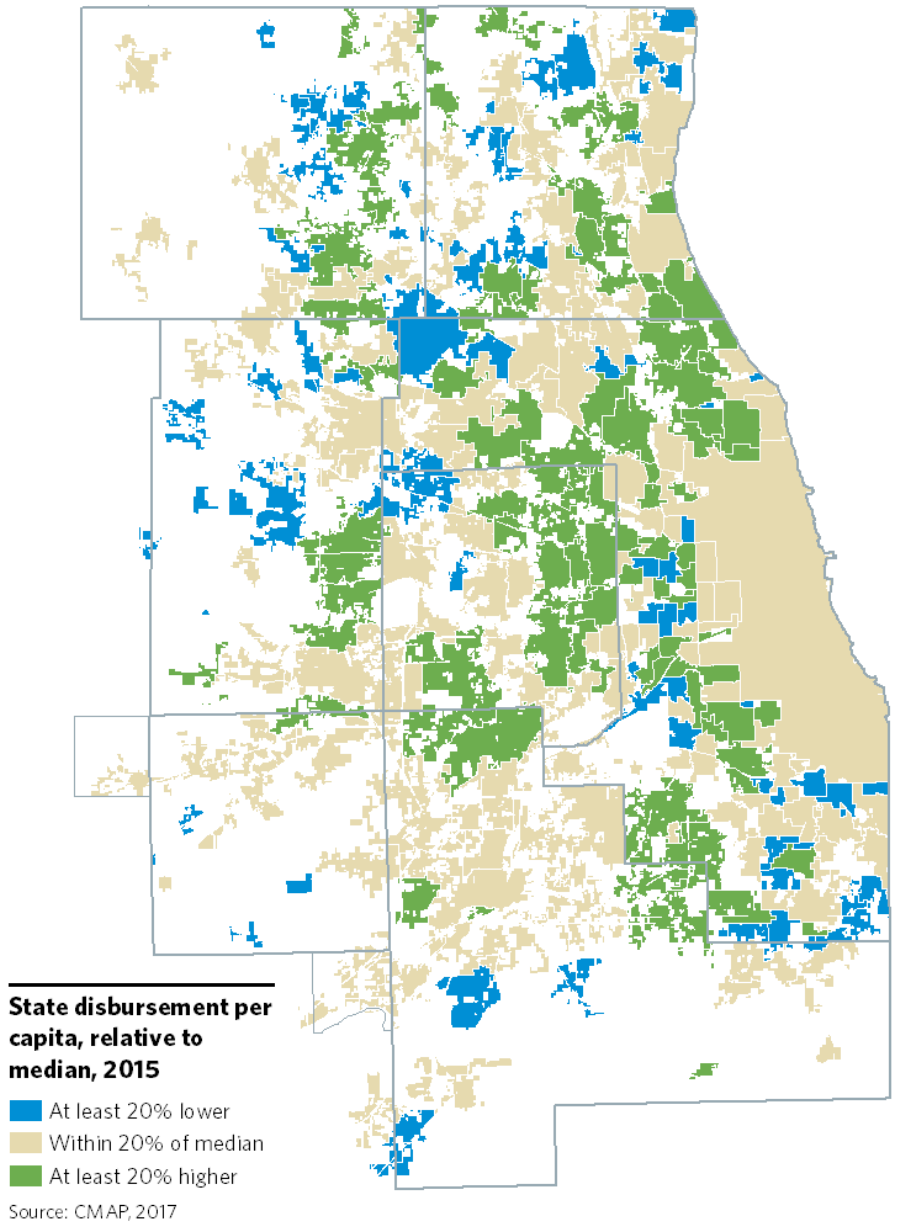
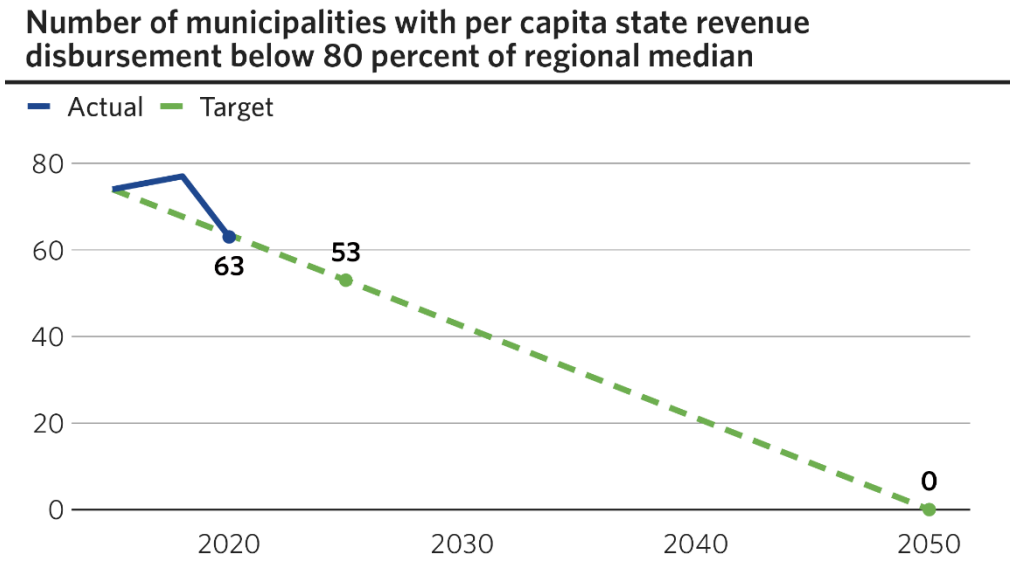
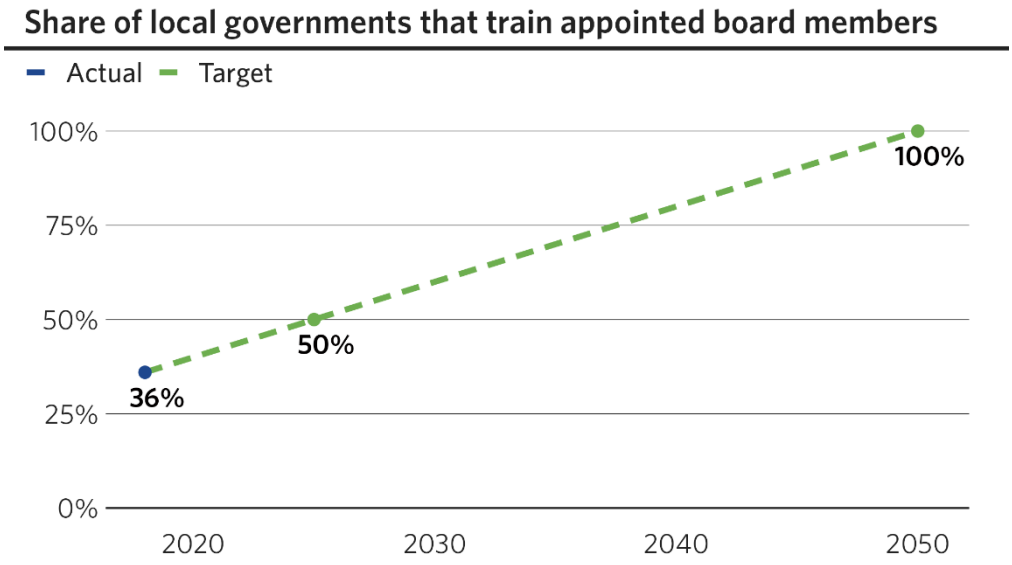
	
Targets	Zero was chosen as the 2050 target because the goal is to ensure that every municipality has sufficient revenues and to lessen the role that state statutory criteria plays in the wide divergences across municipal revenue levels. While it is conceivable that not every municipality requires this level of state support today, the general goal is to increase municipal capacity, including among smaller municipalities that may experience growing needs over the planning period. The 2025 target was derived by following a

	straight-line decrease between the 2015 figure (74 municipalities) and the 2050 target. **2025:** 53 municipalities or fewer with per capita state revenue disbursement below 80 percent of the regional median **2050:** Zero municipalities with per capita state revenue disbursement below 80 percent of the regional median 
Plan Update revisions	This indicator has not been modified.

Local Governments That Train Appointed Board Members

Indicator	This indicator tracks the number of local governments whose appointed board members with development review authority have recently completed relevant professional development training. The indicator includes not only plan commission and zoning board members, but also other boards charged with development review such as Historic Preservation and Environment Committees. Strategy development for ON TO 2050 indicated that appointed board members, as well as government staff and elected officials, who regularly engage in trainings are more familiar with best practices and better prepared to fulfill their roles in service of their communities. **Related recommendation:** Build local government capacity.

Methodology	CMAP conducts the Municipal Plans, Programs, and Operations Survey on a biennial basis, soliciting information on a variety of topics from all of the region's 284 municipalities and seven counties. Beginning with the 2018 survey, and continuing for each subsequent survey, a question will be included to establish the amount, and types, of training that have been undertaken over the subject time period by each local government's appointed board members.
Targets	With the understanding that appointed board members who receive support by provision of trainings are better prepared to serve their communities, the 2050 target is that all local governments train their appointed board members. The 2025 target is a linear interpolation between the 2018 rate and the 2050 target. **2025:** 50% or more of local governments train appointed board members **2050:** 100% of local governments train appointed board members 
Plan Update revisions	This indicator has not been modified.

Secondary Indicators

This section details the set of secondary indicators that will supplement the information provided by the core indicators in the earlier sections. Many of these specifically focus on the theme of inclusive growth. The secondary indicators do not have target values, but they did go through the same review process as the core indicators. They were chosen to help tell a more complete story and address data gaps in the core indicators.

Inclusive Growth Secondary Indicators

Share of Post-2015 Infill Development Occurring in Disinvested and Economically Disconnected Areas

See "Inclusive growth perspective" portion of *Share of Post-2015 Development Occurring in Infill Supportive Areas* (p. 6).

Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Households, by Race and Ethnicity

See "Inclusive growth perspective" portion of *Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Residents* (p. 10).

Access to Parks in Disinvested and Economically Disconnected Areas

See "Inclusive growth perspective" portion of *Access to Parks* (p. 25).

Educational Attainment by Race and Ethnicity

See "Inclusive growth perspective" portion of *Educational Attainment* (p. 30).

Workforce Participation by Race and Ethnicity

See "Inclusive growth perspective" portion of *Workforce Participation* (p. 32).

Median Household Income by Race and Ethnicity

Indicator	This indicator measures median household income by race and ethnicity in the Chicago metropolitan statistical area (in current year dollars). Median household income reflects the economic well-being of a region's population and highlights the hardships that impede residents of color from sharing in regional prosperity. This data highlights an existing need for collaborative efforts on inclusive growth that promote economic opportunity, particularly for the region's Black and Hispanic households. Economic and workforce

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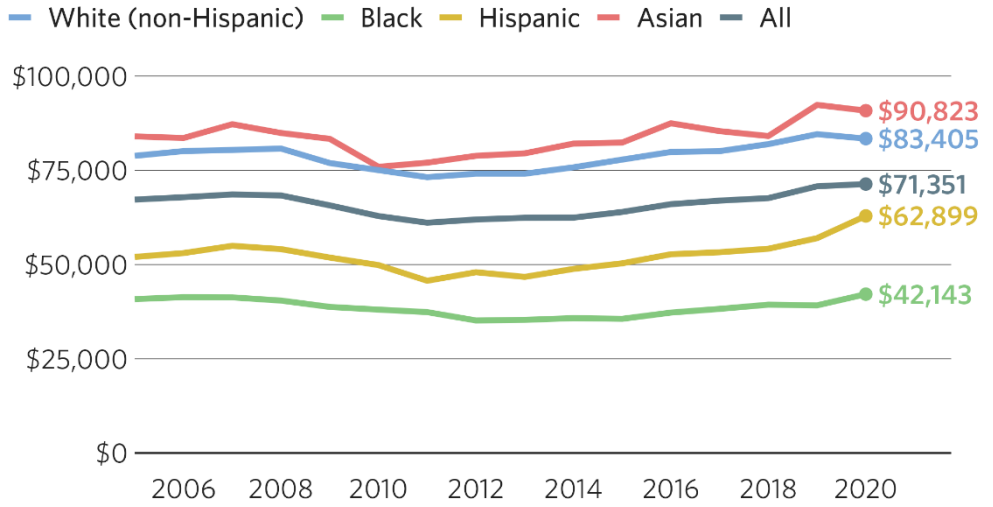
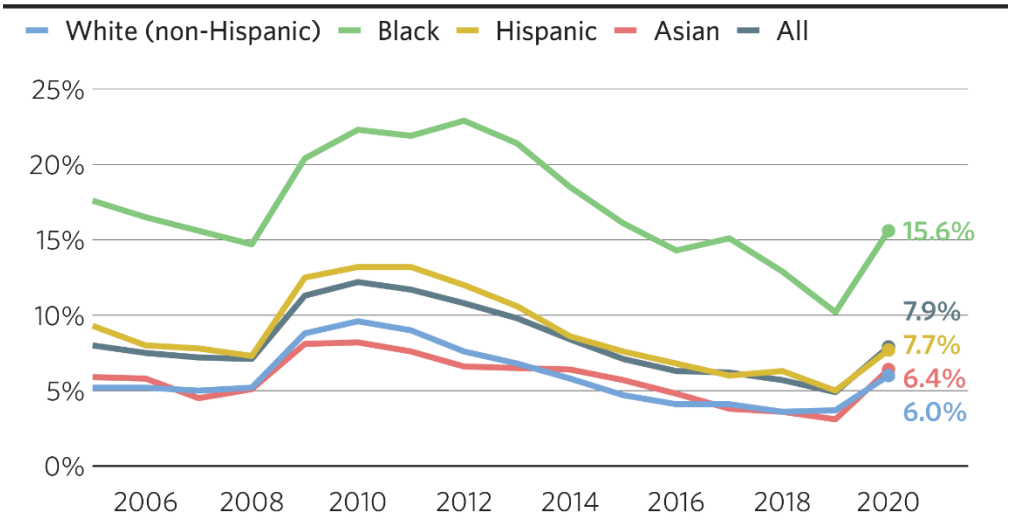
	development efforts must meet the needs of a changing and diversifying economy and promote growth of and access to jobs with pathways for upward mobility. **Related recommendation:** Use collaborative leadership to address regional challenges (Governance).
Methodology	The data for this indicator come directly from the ACS. Inflation adjustments are made using the Bureau of Labor Statistics' Consumer Price Index for All Urban Consumers: All Items (CPI-U). Data indicates significant disparities across demographic groups. Black and Hispanic households have median household incomes lower than the regional median. **Median household income (2016 dollars), by race and ethnicity** 
Plan Update revisions	This indicator has not been modified.

Unemployment by Race and Ethnicity

Indicator	This indicator tracks unemployment rates for the population age 16 years and over in the Chicago metropolitan statistical area by race and ethnicity. Unemployed residents are not currently well connected to opportunities provided by the region's economy, and — as a result — a substantial portion of the region's human capital is untapped. Creating pathways for unemployed workers to fully contribute to and benefit from the regional economy will help it grow to individual and regional benefit. **Related recommendation:** Conduct regional planning for human capital (Prosperity).

Methodology	The data for this indicator come directly from the ACS. This indicator measures the share of labor force participants who are currently unemployed in the Chicago metropolitan statistical area by race and ethnicity. Employment outcomes differ across racial and ethnic groups in the Chicago region. Black and Hispanic residents have higher unemployment rates relative to Asian and white residents. **Unemployment rate (ages 16 and older), by race and ethnicity** 
Plan Update revisions	This indicator has not been modified.

Gini Coefficient

Indicator	This indicator summarizes income inequality in the Chicago region. The Gini coefficient measures the dispersion of income across the income distribution in the Chicago metropolitan statistical area (MSA). The Gini coefficient is measured between 0 to 1, representing perfect equality and perfect inequality, respectively. Broad-based growth can facilitate economic mobility and help decrease inequality. Increasing economic equity can increase both individual prosperity and regional growth, developing periods of economic growth that are stronger and more sustainable. **Related recommendation:** Pursue regional economic development (Prosperity).
Methodology	The data for this indicator come directly from the ACS, which is released annually. The Gini coefficient measures the degree to which a society deviates from perfect equality in which all households have an equal share of

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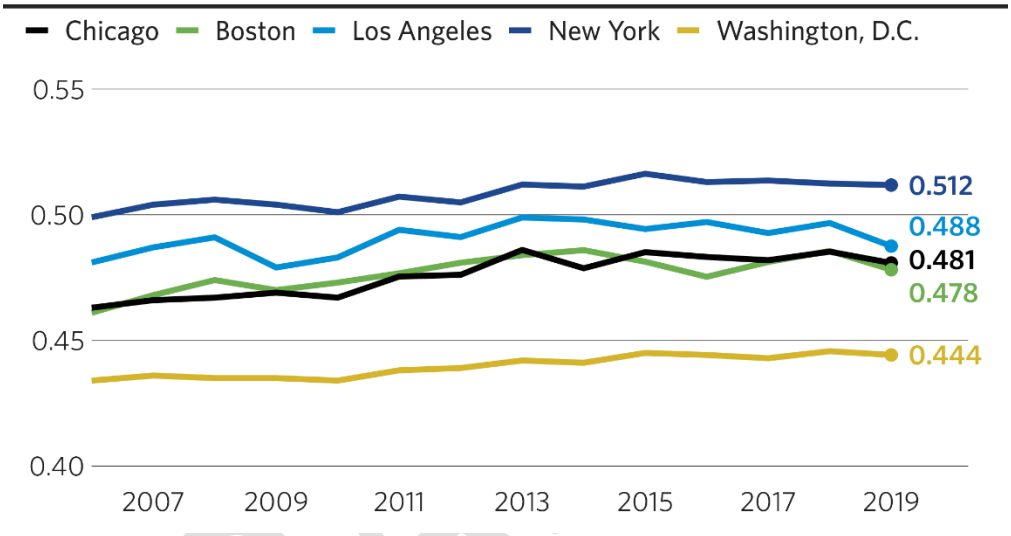
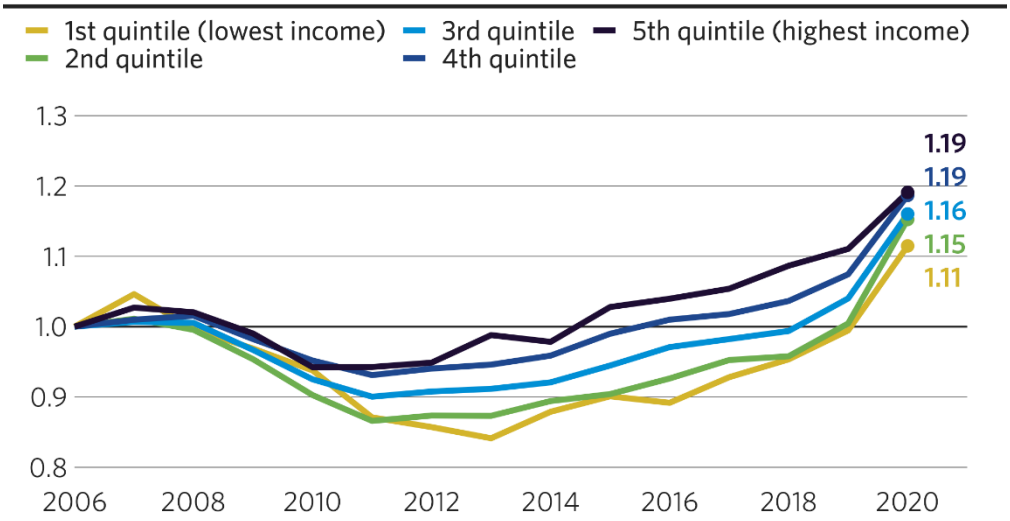
	total income. This indicator is measured at the Chicago MSA geography and includes several peer MSAs for context. Recent data indicates a Gini coefficient of 0.488 for the Chicago MSA in 2019. Further analysis indicates that income inequality has generally been increasing in the Chicago MSA in the last 10 years. Similar trends are also seen in peer MSAs. **Gini coefficient for select metropolitan areas** 
Plan Update revisions	This indicator has not been modified.

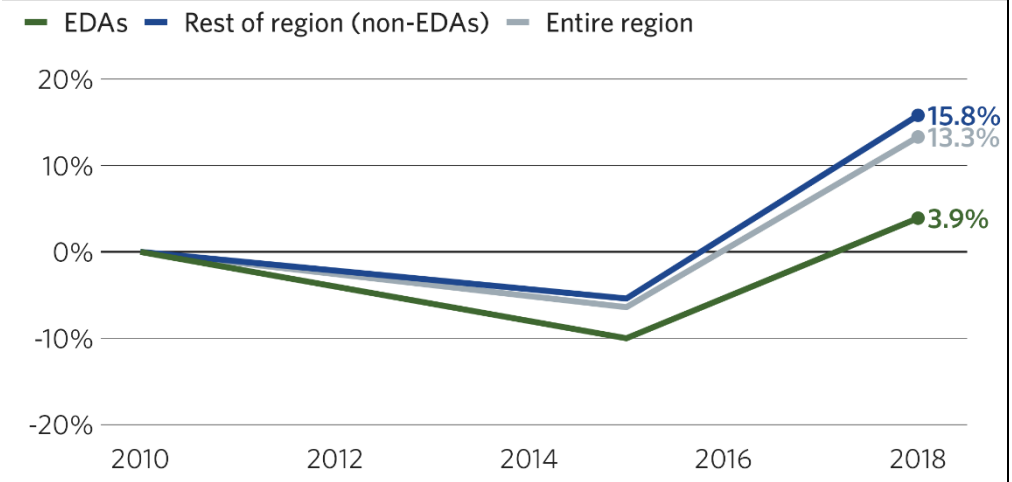
Change in Mean Household Income Since 2006 by Quintile

Indicator	This indicator measures change in mean household income since 2006 by quintile in the Chicago metropolitan statistical area. The degree to which regional prosperity is shared among all segments of the population drives long-term economic success of regional economies. To meet its potential, the region's economy requires opportunities for all residents to contribute to and benefit from its growth. Promoting an inclusive model of economic growth can improve outcomes for lower-quintile households and increase the size of the overall economy. **Related recommendation:** Use collaborative leadership to address regional challenges (Governance).
Methodology	Data for this indicator come from the ACS, which reports mean household income by quintile. The ACS calculates means of household income by dividing aggregate household income by the number of households. This is done for each quintile, or one-fifth of the total number of households. The

	change in mean household income will be inflation-adjusted and indexed to 2006. Recent data indicates differences in the change of mean household income by quintile. All quintiles experienced declines in mean household income during the Great Recession and have since started to recover. However, the bottom two quintiles experienced the greatest decline in mean household income and have recovered at a slower pace than higher earning households. **Change in mean household income since 2006 by quintile** 
Plan Update revisions	This indicator has not been modified.

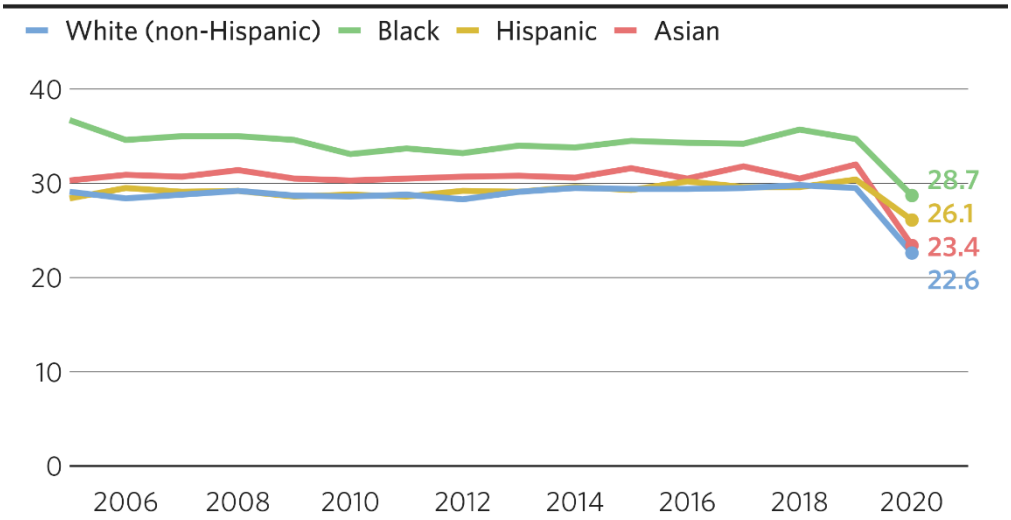
Change in Non-Residential Market Value in Disinvested and Economically Disconnected Areas Since 2010

Indicator	This indicator measures percent change in aggregate non-residential market value in economically disconnected areas and disinvested areas versus the remaining parts of the region. Non-residential land uses include commercial, industrial, institutional, mixed use, and vacant. ON TO 2050 highlights reinvestment in disinvested areas—such as building on existing community assets, identifying unique and regulatory tax solutions to persistent vacancy and abandonment, and building municipal and private sector capacity—as a key strategy for improving outcomes and revitalizing communities. **Related recommendation:** Invest in disinvested areas (Community).

Methodology	Data for this indicator come from county assessor data. Data indicates that aggregate non-residential market value — market value for commercial, industrial, institutional, mixed use, and vacant land uses — has declined across the region between 2010 and 2015. Decline in non-residential market value is more severe in the region's economically disconnected and disinvested areas than in the remaining areas of the region. Aggregate non-residential market value decreased by 10 percent in economically disconnected and disinvested areas between 2010 and 2015, roughly five percentage points more than the decline seen in the remaining parts of the region. **Change in non-residential market value in disinvested and economically disconnected areas since 2010** 
Plan Update revisions	This indicator has not been modified, although it has been renamed for clarity. The original name did not include "since 2010."

Average Journey to Work Time by Race and Ethnicity

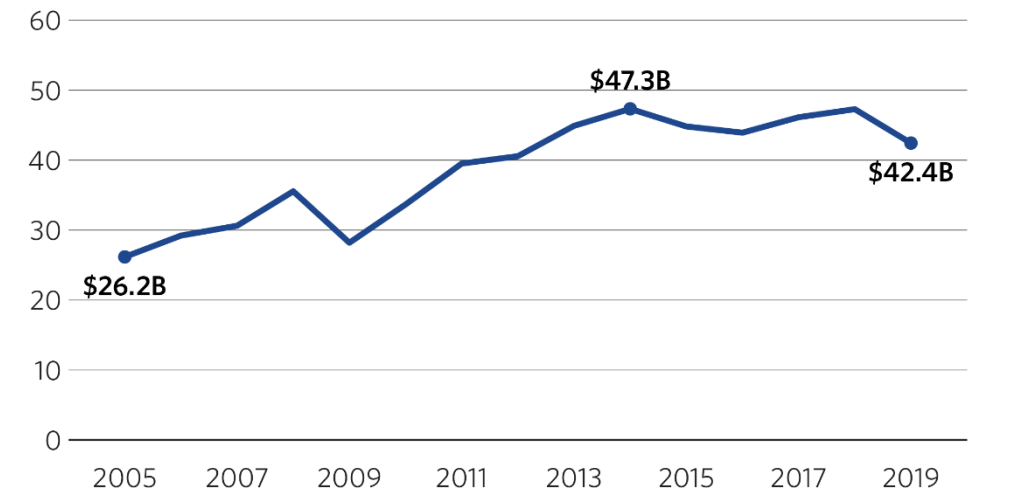
Indicator	This indicator measures the average one-way commute time of workers in the Chicago metropolitan statistical area by race and ethnicity, inclusive of all modes of transportation. Longer commute times decrease the productivity of workers and hinder their ability to connect to available and attainable employment opportunities. Local and regional planning should emphasize improving commute times and options for residents facing long commutes by providing high-quality transportation options that are cost efficient and increase residential access to fruitful economic opportunities. This will require shifts in transportation, land use, and economic development planning and policy.

	Related recommendation: Leverage the transportation network to promote inclusive growth (Mobility).
Methodology	Data for this indicator come from the ACS Public Use Microdata Sample (PUMS). Average journey to work time in minutes is the average one-way travel time for workers to get from home to work across all modes of transportation (including telecommuting). The measure is calculated by dividing the aggregate travel time by the total number of workers who do not work at home. In 2020, the average journey to work time dropped sharply across all racial and ethnic groups due to an increase in working at home in response to the COVID-19 pandemic. The extent to which this decline persists beyond 2020 remains to be seen. **Average journey to work time (minutes), by race and ethnicity** 
Plan Update revisions	This indicator has not been modified.

Other Secondary Indicators

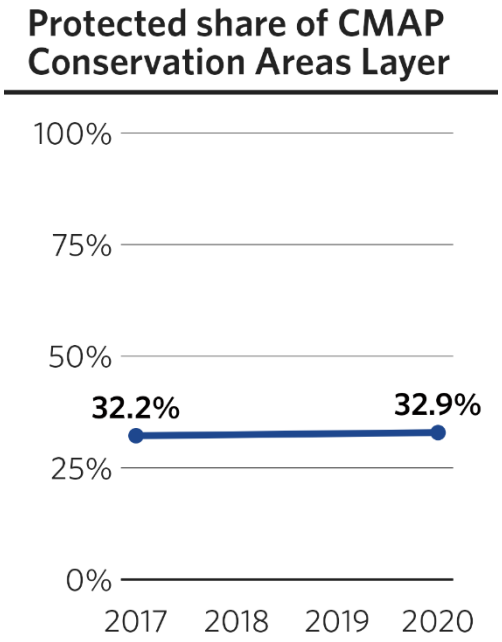
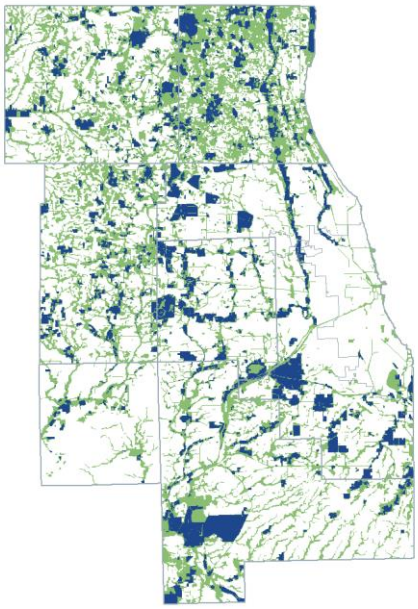
Manufacturing Exports

Indicator	This measure tracks the total value of manufactured goods exported from the region. Historically, manufacturing has been a key driver of economic growth in the region and this secondary indicator reflects the plan's call for organizing regional economic development around its industry clusters. The export of goods connects metropolitan economies like the Chicago region with a growing global consumer base. Exports have played an important role in past economic recoveries for both Chicago and peer metropolitan

	economies. Data comes from the U.S. Census Bureau's Origin of Movement series. **Related recommendation:** Support the region's traded clusters (Prosperity).
Methodology	The U.S. Census Bureau's Origin of Movement series attributes export sales to metropolitan areas based on the ZIP code in which payment for a good is received. Data specifically for manufactured goods can be obtained by summing the total of all manufacturing North American Industry Classification System (NAICS) codes (31-33). The geography for this data is the Chicago-Naperville-Elgin metropolitan statistical area. **Value of region's manufacturing exports (in billions of dollars)** 
Plan Update revisions	This indicator has not been modified.

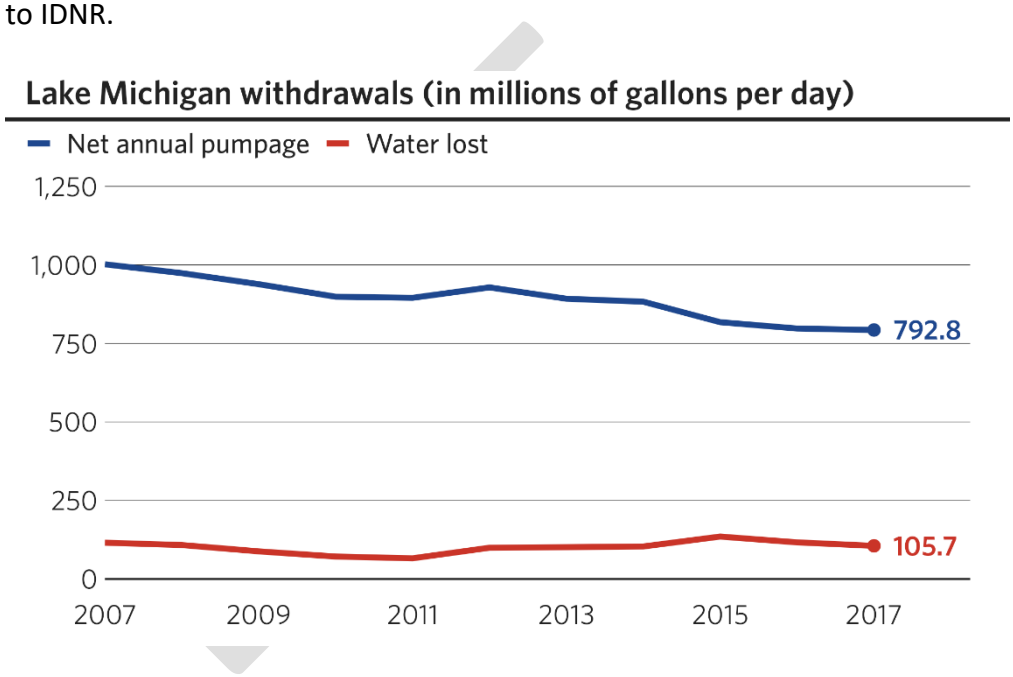
Protected Share of CMAP Conservation Areas Layer

Indicator	This indicator measures what percentage of CMAP's Conservation Areas Layer lies within conserved land and water areas, including public open space and conservation easements. It provides a measure of how effectively land and water preservation implementers are aligning their efforts with regional conservation priorities. **Related recommendation:** Integrate land preservation into strategic growth efforts (Environment).
Methodology	The Conservation Area Layer combines county-level green infrastructure plans with regional analysis of key land, water, and habitat resources to map conservation priorities across the region. It will be updated in the future as

	new data become available and counties create or update their green infrastructure plans. This secondary indicator uses the same "conserved land" areas as the core *Acres of Conserved Land* indicator (p. 24). The indicator is calculated by calculating the acreage of the Conservation Areas Layer overlapped by conserved land, then converting that into a percentage of the area covered by the entire Conservation Areas Layer (835,222 acres).  
Plan Update revisions	This indicator has not been modified.

Lake Michigan Withdrawals

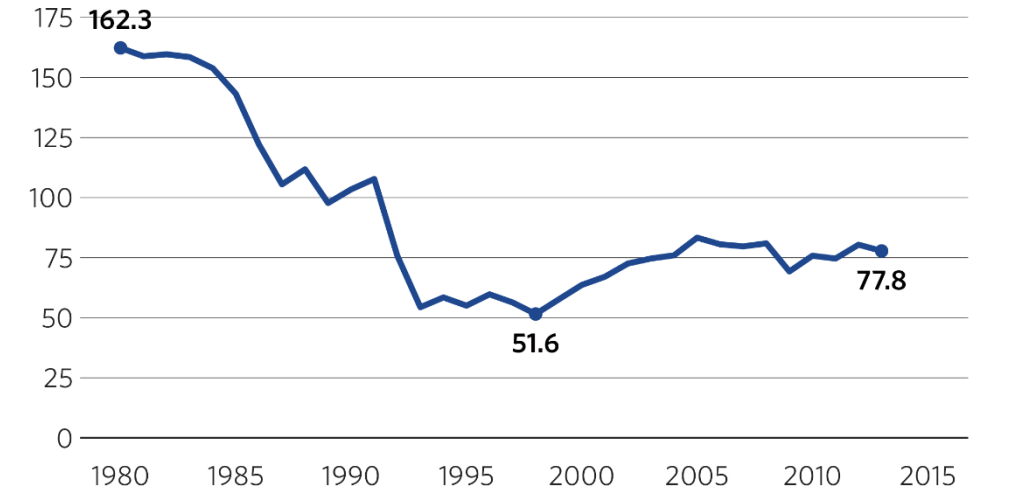
Indicator	In addition to overall water demand (see *Water Demand*, p. 21), water use from Lake Michigan is an area of interest for the CMAP region. In response to a U.S. Supreme Court consent decree, the State of Illinois regulates Lake Michigan water use for those communities with an allocation for lake water. This secondary indicator measures water use and levels of non-revenue water loss from community water suppliers in order to track conservation and water loss reduction efforts. **Related recommendation:** Coordinate and conserve shared water supply resources (Environment).
Methodology	The State of Illinois Department of Natural Resources (IDNR) Office of Water administers the Lake Michigan Allocation program, which governs Lake

	Michigan water use for those communities with an allocation.[6] Permittees receive an allocation of water with several conditions, including implementation of conservation practices and reduction of water loss. IDNR tracks water withdrawals and the level of water loss, known as non-revenue water, from Lake Michigan Permittees on an annual basis. Levels of water loss above the state's threshold (12 percent non-revenue water in 2015, decreasing to 10 percent by 2019) indicate that some communities' water systems are not in compliance with the Rules and Regulations for the Allocations of Water from Lake Michigan (IL Admin. Code, Title 17, Part 3730). This indicator will track net annual pumpage and non-revenue water in millions of gallons per day (mgd), as reported by community water suppliers to IDNR. 
Plan Update revisions	This indicator has not been modified.

Deep Bedrock Aquifer Withdrawals

Indicator	In addition to reporting on overall water demand (see *Water Demand*, p. 21) and the diversion of water from Lake Michigan (see *Lake Michigan Withdrawals*, p. 77), it will also be instructive to measure total annual groundwater withdrawals from deep bedrock aquifers (Ancell Unit of bedrock and deeper) in the CMAP region (measured in millions of gallons per

[6] Illinois Department of Natural Resources, "Lake Michigan Water Allocation," https://www.dnr.illinois.gov/waterresources/pages/lakemichiganwaterallocation.aspx.

	day). This will help provide a more complete assessment of water conservation in the region. **Related recommendation:** Coordinate and conserve shared water supply resources (Environment).
Methodology	The Illinois State Water Survey (housed at the University of Illinois at Urbana-Champaign) is the source for this groundwater data, which is reported annually in gallons per year. CMAP converts this data into millions of gallons per day (mgd). **Deep bedrock aquifer withdrawals (in millions of gallons per day)** 
Plan Update revisions	This indicator has not been modified.