



## MEMORANDUM

**To:** CMAP's Environment and Natural Resources Working Committee

**From:** CMAP Staff

**Date:** September 28, 2017

**Re:** ON TO 2050 Land Use Indicator Refinement

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Following an approach established in GO TO 2040, ON TO 2050 will include various topic-specific indicators, which are a set of performance measures to benchmark the region's progress on plan implementation. The final set of indicators should highlight and complement all of the major recommendations made in ON TO 2050. All indicators will have targets for both 2025 and 2050 to evaluate near- and long-term progress.

In identifying the set of indicators for ON TO 2050, staff first began by reviewing the existing GO TO 2040 indicators, as revised via the Plan Update process in 2014. Informed by several ON TO 2050 Strategy Papers and Snapshot Reports, staff considered whether the current set adequately addresses the core ON TO 2050 topics from both a technical (e.g. available data sources, methodologies) and policy (e.g. regulations, plan priority, accessibility, and level of effort) standpoint. This memo outlines recommendations for revisions or entirely new indicators in order to successfully benchmark the region's progress on implementing the plan.

### Current GO TO 2040 Land Use Indicators

The GO TO 2040 Plan Update in October 2014 included an extensive review of the original GO TO 2040 indicators. Two main indicators track progress on land use recommendations – the share of new development occurring within the existing municipal envelope and the percentage of income spent on housing and transportation by moderate- and low-income residents (Table 1). Additional details about the indicator methodology can be found in the [Indicator Methodology Appendix](#) from the Plan Update.<sup>1</sup>

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<sup>1</sup> CMAP. GO TO 2040 Plan Update, Indicator Methodology Appendix.

<http://www.cmap.illinois.gov/documents/10180/332742/Update+Indicator+Methodology+FINAL.pdf/720e4b90-0058-4d27-bdff-e898cdf3fb2b>

**Table 1. GO TO 2040 Land Use Indicators**

Indicator	Description	Targets
Share of New Development Occurring within the Existing Municipal Envelope	This indicator uses the Northeastern Illinois Development Database (NDD) to measure the percentage of infill development that occurred within the 2010 municipal envelope over the life of the plan. This measure addresses a critical element of GO TO 2040 – encouraging development in existing communities where supporting infrastructure to support it is already in place. Both residential and non-residential development are tracked.	<p><b>Residential Development</b></p> <ul style="list-style-type: none"> <li>• 2020: 75 percent of new residential units located within the existing municipal envelope.</li> <li>• 2040: 60 percent of new residential units located within the existing municipal envelope.</li> </ul> <p><b>Non-Residential Development</b></p> <ul style="list-style-type: none"> <li>• 2020: 80 percent of new non-residential square footage located within the existing municipal envelope.</li> <li>• 2040: 65 percent of new non-residential square footage located within the existing municipal envelope.</li> </ul>
Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Residents	This measure estimates the share of household income spent on housing and transportation costs for moderate- and low-income households. For analysis purposes, these are households with an annual income ranging from \$20,000 to \$49,999; this is consistent with the data analyzed in the original GO TO 2040 measure. Data are from the Consumer Expenditure Survey (CES), which is conducted annually by the U.S. Bureau of Labor Statistics (BLS). The survey collects information on household income and expenditures, including those for housing and transportation. Data are reported for the Chicago Metropolitan Statistical Area (MSA).	<ul style="list-style-type: none"> <li>• 2015: 53 percent of income spent on housing and transportation by moderate- and low-income residents.</li> <li>• 2020: 51 percent of income spent on housing and transportation by moderate- and low-income residents.</li> <li>• 2040: 45 percent of income spent on housing and transportation by moderate- and low-income residents.</li> </ul>

**Rationale for Updating ON TO 2050 Land Use Indicators**

As part of the ON TO 2050 plan development process, CMAP explored key policy areas through the development of strategy papers on Reinvestment and Infill, Expanding Housing Choice, and Lands in Transition. Key findings and policy recommendations from each of these three efforts have pinpointed the need to update the ON TO 2050 land use indicators. What follows is a brief explanation of how research highlighted the need for additional indicator changes.

## ***Understanding of New Development Characteristics***

CMAP conducted a review of new development occurring on natural and agricultural lands and found that from 2001 to 2015, nearly 140,000 acres of agricultural and natural lands were developed.<sup>2</sup> The majority of this greenfield development (84 percent) occurred within the 2010 municipal envelope. Approximately 64 percent occurred beyond the 2001 municipal boundaries, despite over 100,000 acres of unprotected agricultural/natural lands and infill development opportunities remaining within this area. Given its location, this new development likely required the extension of new infrastructure, such as streets, drinking water and wastewater services, and other utilities. However, development in these areas does not align with CMAP's goals to promote development in infill supportive areas and to protect agricultural and natural lands.

For ON TO 2050, CMAP has developed an infill supportiveness index using four indicators that represent existing development and infrastructure: developed area, road infrastructure, and housing and employment density.<sup>3</sup> Together, these indicators categorize each part of the region into one of three types: highly, partially, or minimally infill supportive. Using the index, CMAP was able to identify the infill supportiveness of an area in 2000 and track development in these areas over time. In 2000, just over half of the region was highly or partially infill supportive and these areas were home to 96 percent of the region's population. While significant development did occur within these already developed areas between 2000 and 2015, the development did not result in much net population or job growth. CMAP identified where development did occur between 2000 and 2015 and concluded that much of the development during that period was not infill (Figure 1). By 2015, 10 percent of the formerly minimally infill supportive areas had developed enough to become categorized as partially supportive. Further, newly developed land and increased employment (and, to a lesser extent, new roads and housing units) resulted in a smaller share of partially supportive areas transitioning to highly supportive areas. A significant portion of development in partially infill supportive areas took place on agricultural or natural lands.

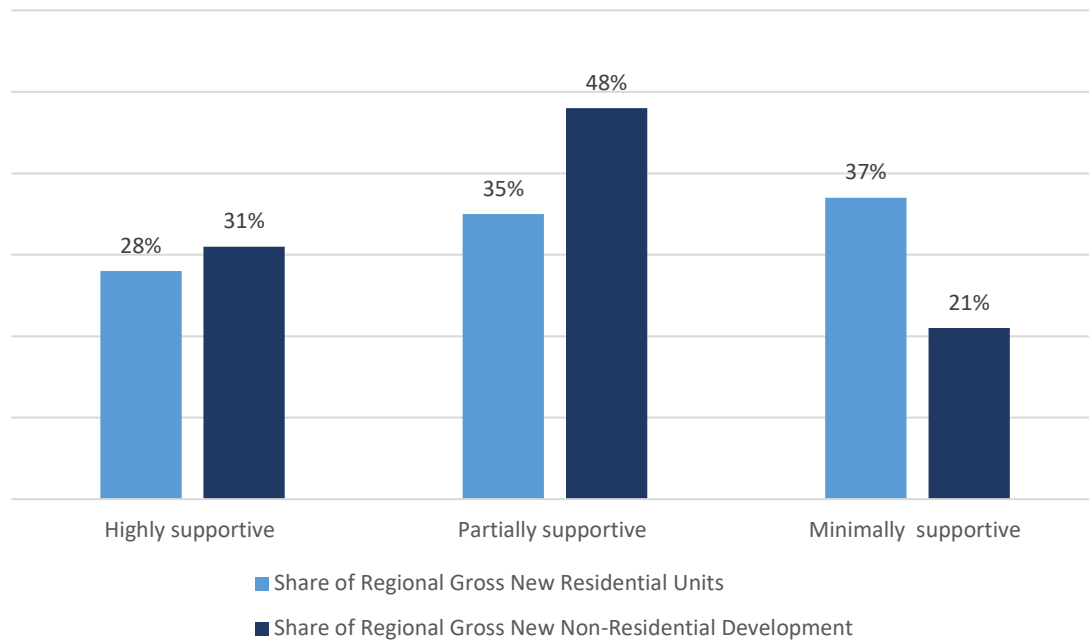
The current development indicator considers how much development is occurring within the municipal envelope but does not consider whether this development occurs in infill supportive areas or on agricultural or natural lands. Given this finding, CMAP began to explore ways to update the indicator given these two policy goals – encouraging infill development and protecting key agricultural and natural lands.

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<sup>2</sup> CMAP, "ON TO 2050 Lands in Transition Strategy Paper," 2017, <http://www.cmap.illinois.gov/onto2050/strategy-papers/lands-in-transition>

<sup>3</sup> CMAP, "Infill and TOD: Exploring regional development," 2017, <http://www.cmap.illinois.gov/documents/10180/0/Infill+and+TOD+Snapshot+Report/4273b7d1-0a16-4c2f-a93e-dce1c2a472fd>

**Figure 1. Share of residential and non-residential development by infill supportive area type, 2000-2015**



Source: Chicago Metropolitan Agency for Planning analysis of the Northeastern Illinois Development Database (NDD), 2000-2015.

### ***Affordability as a Measure of Housing Choice***

CMAP’s focus on expanding housing choice still considers affordability. Costs for both housing and transportation can limit the ability of low- and moderate-income residents to live in amenity-rich areas. Continuing to track the percentage of income spent on housing and transportation by low- and moderate-income residents will allow CMAP to monitor the region’s progress on both the availability of housing options for low- and moderate-income residents and the ability of such residents to access these options.

That said, the current housing-related indicator, “Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Residents” has two key shortcomings. First, the metric does not include consumers earning less than \$20,000 and therefore omits the lowest-income households from the analysis. Second, the income range used to define moderate- and low-income households does not change with inflation (or relative to the regional median income). By not factoring in inflation, it makes it challenging to understand what the measure is tracking over time.

### **Recommended ON TO 2050 Indicators**

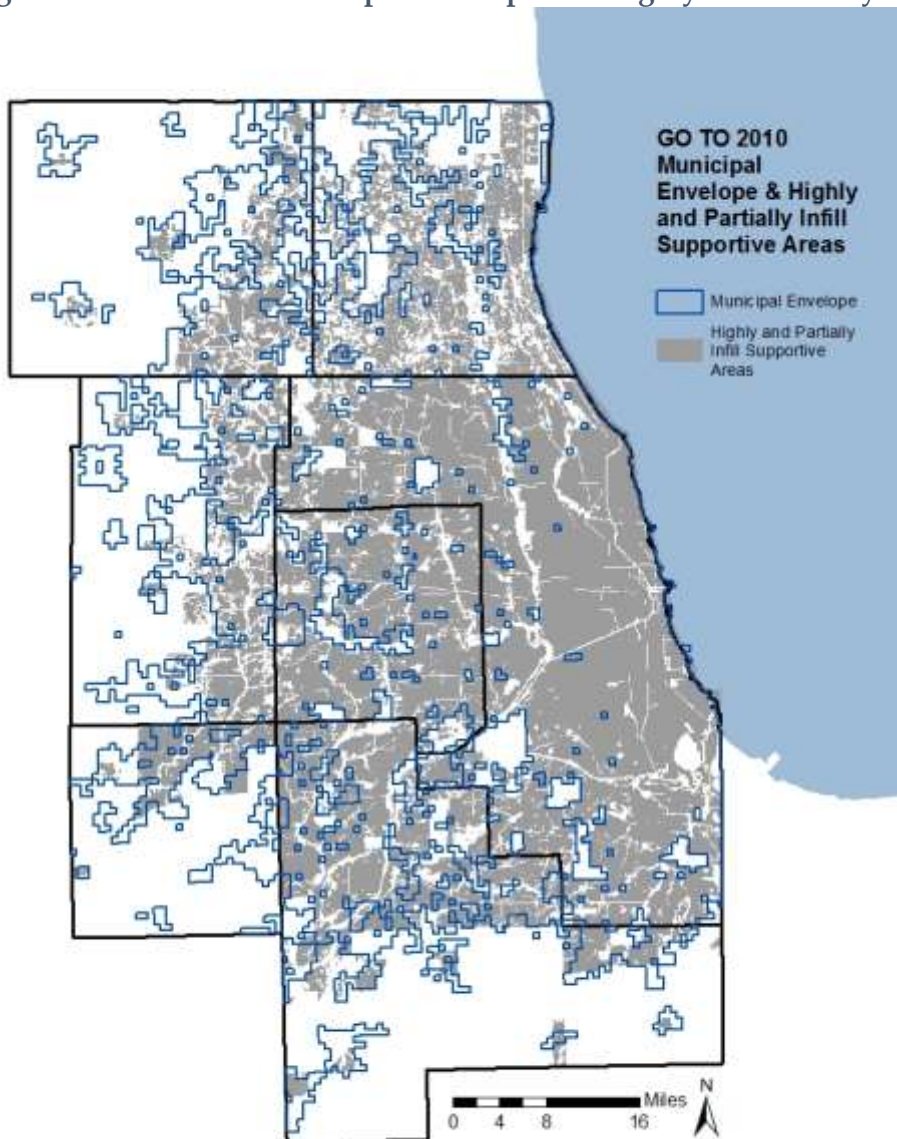
This memorandum proposes to continue CMAP’s longstanding efforts to support investment in existing communities, protect natural and agricultural resources, and provide a range of housing options.

## ***ON TO 2050 Development Indicator: Share of New Development Occurring in Highly and Partially Infill Supportive Areas***

This modified development indicator tracks all new development by infill supportive area type using the 2015 infill supportiveness index and measures development occurring in conservation areas throughout the region as well as development on agricultural and other open space areas in minimally infill supportive locations.

The infill supportiveness index can provide better direction for tracking infill development than the municipal envelope used for the GO TO 2040 indicator. Currently, 25% of the partially infill supportive areas are outside of the municipal envelope, while 21% of the minimally infill supportive areas are inside the municipal envelope. Since the infill supportiveness index better captures the existing development and infrastructure conditions, it is a better fit for tracking development in relation to ON TO 2050's priorities.

Figure 2. GO TO 2040 Municipal Envelope and Highly and Partially Infill Supportive Areas

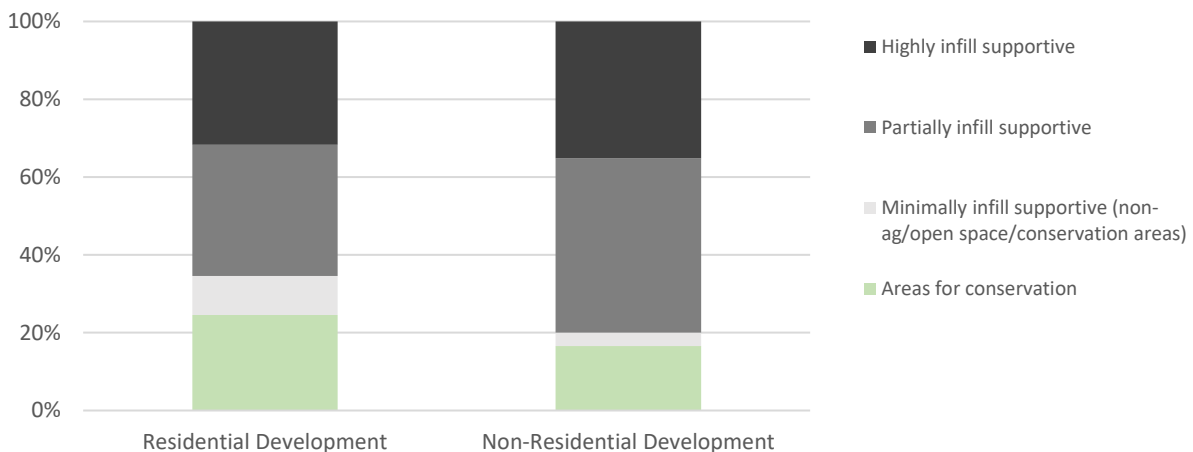


Source: CMAP

The modified ON TO 2050 indicator would track new residential and non-residential development by type: highly infill supportive, partially infill supportive, or minimally infill supportive. Within the minimally infill supportive areas, development on conservation areas as well as agricultural and other natural resources identified in the National Land Cover Database (NLCD)<sup>4</sup> will be tracked separately in order to identify areas where development may have impacted conservation priorities as well as areas where the extension of infrastructure likely occurred. Further, the 2015 infill supportiveness index itself will be modified to move any lands recognized in the conservation areas layer in highly or partially infill supportive areas to minimally infill supportive.<sup>5</sup> The conservation areas layer identifies key unprotected natural resources recognized as priorities for conservation.<sup>6</sup>

Figure 3 provides a historical perspective of how this indicator would have categorized development from 2000-2015. While the indicator will track units and square footage of new development, Table 2 provides a summary of the total land area of each of these four categories where this new development could be located. For reference, 59 percent of the land area of the region was inside the previous municipal envelope boundary. Table 3 provides a quick summary of the purpose and methodology of the proposed indicator.

**Figure 3. New development by indicator category, 2000-2015**



Source: CMAP analysis of the Northeastern Illinois Development Database (NDD), 2000-2015.

<sup>4</sup> CMAP defined agricultural land cover based on the cultivated crops and pasture/hay land cover types within NLCD. Similarly, CMAP defined natural land cover based on the deciduous forest, emergent herbaceous wetlands, evergreen forest, grassland/herbaceous, mixed forest, shrub/scrub, and woody wetlands land cover types within NLCD.

<sup>5</sup> This change could be considered in the finalized version of the index as well. Currently, the infill supportiveness index identifies any census blocks that have more than 50 percent of their area in protected open space as minimally infill supportive. Given CMAP policy goals of protecting key natural resources that have been identified in a conservation areas layer, the infill supportiveness index could be slightly modified to use this same technique for unprotected conservation areas. The revised infill supportiveness index would identify any census blocks that have more than 50 percent of their area in unprotected conservation areas and protected open space as minimally infill supportive. With this change, the index and the indicator would be in better alignment.

<sup>6</sup> The Conservation Areas layer is currently in draft form and is being reviewed by stakeholders. It includes a range of land types, including wetlands, floodplains, forests, and prairies that provide crucial ecosystem services, habitat, recreational amenities, and other important functions to communities.

**Table 2. Proportion of the region in each of the indicator categories, 2015.**

	<b>Acreage</b>	<b>Percent of Region</b>
Highly infill supportive	512,754	19.56%
Partially infill supportive	609,254	23.24%
Minimally infill supportive	111,773	4.26%
Areas for conservation	1,387,611	52.93%

Source: Chicago Metropolitan Agency for Planning analysis of American Community Survey data 2010-2014; National Land Cover Database data 2011; Northeastern Illinois Development Database data 2000-2015; NAVTEQ data 2016; draft CMAP Conservation Areas Layer, and Illinois Department of Employment Security data 2015.

The proposed modification to the indicator builds on GO TO 2040’s recommendation to focus new development in places with existing development and infrastructure by tracking new development occurring in infill supportive areas and clearly identifying greenfield development that would result in an extension of new infrastructure, such as streets, drinking water and wastewater services, and other utilities. This shift better supports CMAP’s infill development and land conservation policy goals.

**Table 2. Proposed Development Indicator**

Indicator	Share of New Development Occurring in Highly and Partially Infill Supportive Areas
Methodology	<p>This indicator uses the Northeastern Illinois Development Database (NDD) to measure the percentage of development that occurs throughout the region over the life of the plan. Development will be tracked within four different categories based on infill supportiveness: highly infill supportive, partially infill supportive, minimally infill supportive, and in areas for conservation (agricultural land, open space, or conservation areas). Separate residential and non-residential targets will be set for the share of all development occurring within the first two categories.</p> <p>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. Developments that are completed or under construction will be tracked. For this indicator, the term “development” is used in a general sense to include both new development and redevelopment of existing uses.</p> <p>The infill supportiveness layer was created based on land use, infrastructure, and socioeconomic indicators. Existing development and infrastructure were identified, focusing on four major indicators: developed area, road infrastructure, and housing and employment density. The layer highlights parts of the region that are best able to support infill development and promotes development in these areas. The 2015 infill supportiveness index will be modified to move any lands recognized in the conservation areas layer in highly or partially infill supportive areas to minimally infill supportive. The conservation areas layer identifies key natural resources that are priorities for conservation. A fourth category of the indicator will include development on conservation areas throughout the region as well as development within the minimally infill supportive area on agricultural and natural land cover identified in the 2011 National Land Cover Dataset. CMAP</p>

	<p>defined agricultural land cover based on the cultivated crops and pasture/hay land cover types within NLCD. Similarly, CMAP defined natural land cover based on the deciduous forest, emergent herbaceous wetlands, evergreen forest, grassland/herbaceous, mixed forest, shrub/scrub, and woody wetlands land cover types within NLCD.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Consume at least once acre of land, OR</li> <li>• Consist of at least ten residential units, OR</li> <li>• Consist of at least 10,000 square feet of non-residential space.</li> </ul> <p>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.</p>
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***ON TO 2050 Affordability Indicator: Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Residents***

The proposed affordability indicator remains very similar to that from the GO TO 2040 Update, with minor changes made to address known issues (Table 4). Most importantly, the proposed indicator would include all households in the CES sample earning less than 80 percent of the area median income, ensuring a more representative reporting of regional affordability trends of low- and moderate-income households.

**Table 4. Proposed Affordability Indicator**

Indicator	Percentage of Income Spent on Housing and Transportation by Moderate- and Low-Income Residents
Methodology	<p>This measure estimates the share of household income spent on housing and transportation costs for moderate- and low-income households. The indicator will estimate the share of household income spent on housing and transportation cost. The analysis will include all households making less than or equal to 80 percent of area median income. CMAP will determine/ update the upper limit of the income range for moderate- and low-income households based on the methodology from the Department of Housing and Urban Development’s (HUD) annual income limits, allowing for indicator adjustments based on both income and household size. Data on housing and transportation costs will come from the Consumer Expenditure Survey (CES), which is conducted annually by the U.S. Bureau of Labor Statistics (BLS). The survey collects information on household income and expenditures, including those for housing and transportation. Data are reported for the Chicago Metropolitan Statistical Area (MSA).</p>



### ***ON TO 2050 TOD Indicator: Population and Jobs with At Least Moderately High Transit Availability***

Proximity to transit is an important land use indicator when analyzing compact development, but is not covered in this memorandum to avoid duplication with the ON TO 2050 Transportation Indicators Refinement memorandum. That specific memo addresses proximity to transit by discussing GO TO 2040's "population and jobs with at least moderate access to transit" indicator, and the proposed ON TO 2050 refinement of narrowing the focus to "population and jobs with at least moderately *high* transit availability." Included in this analysis is a review of CMAP's Transit Availability Index, which incorporates frequency of service, activities that can be reached via a single direct route, proximity to transit stops, and pedestrian friendliness.

### **Next Steps**

Following committee review and discussion of the above list of proposed indicators, staff will adjust the list as needed to incorporate feedback – by modifying or eliminating indicators, or by adding new ones if necessary. Once the list of ON TO 2050 indicators has been finalized, staff will begin setting near-term (2025) and long-term (2050) targets for each one. These targets will go through a subsequent round of committee review before being compiled into a final list of indicators and targets covering the full range of topics in ON TO 2050.