



**MEMORANDUM**

**To:** CMAP Transportation Committee  
**From:** CMAP Staff  
**Date:** February 16, 2018  
**Re:** Proposed ON TO 2050 Mobility Indicator Targets

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.

A set of proposed indicators (along with data sources and methodologies) have already been reviewed by the relevant working committees. In some cases, staff have adjusted indicators to accommodate committee feedback. The rest of this document contains the proposed near-term (2025) and long-term (2050) targets for each indicator, as well as some discussion of how staff chose those targets.

Since the GO TO 2040 Plan Update, the U.S. DOT has finalized the rules for performance measures enacted by MAP-21 and the FAST Act. CMAP will be including targets for all MPO required performance measures as an appendix of ON TO 2050. Eight of the fifteen plan indicators below overlap with these federally required performance measures, although the targets expressed here reflect longer-term goals. Extra emphasis is being placed on these measures because of their alignment with the recommendations of ON TO 2050.

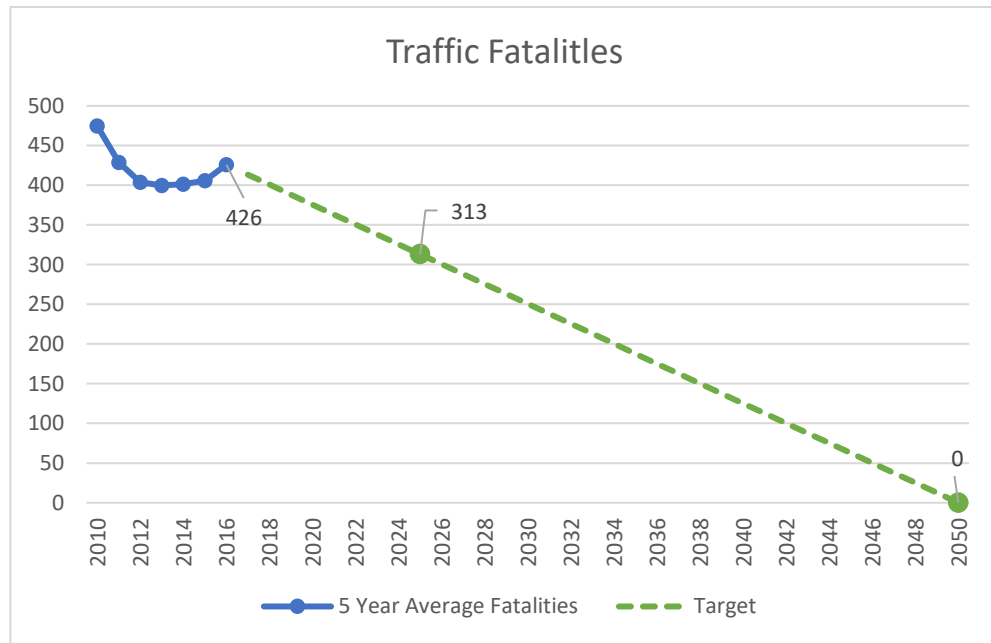
**Number of Fatalities (Five-Year Rolling Average)**

Indicator:	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 cyclist involved. This measure is also a federally required performance measure under MAP-21.
Proposed 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 include the 4 E's (Education, Enforcement, Engineering, & 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

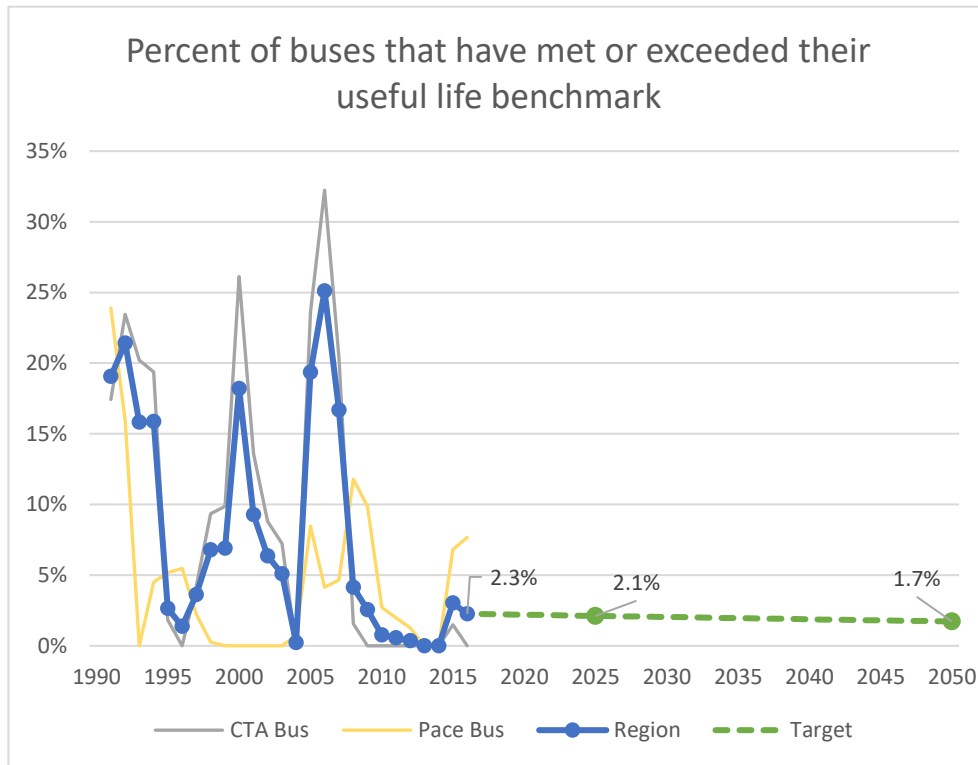


### ***Transit Asset State of Good Repair***

<p>Indicator:</p>	<p><i>(a) Percent of fixed-route buses that have met or exceeded their useful life</i></p> <p>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 under MAP-21.</p>
<p>Proposed Targets:</p>	<p>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, 67% of Pace's and 72% of CTA's current bus fleet will have reached their ULB. Currently only 2.3% of buses are more than 14 years old, however this is near a historic low. Financial projections for ON TO 2050 include funding being directed toward reducing the state of good repair backlog. This would result in a modest improvement in bus condition to 1.7% of buses beyond their useful life in 2050.</p>

**2025:** 2.1% or fewer buses exceed 14 years of age

**2050:** 1.7% or fewer buses exceed 14 years of age



Indicator:

**(b) Percent of rail vehicles that have met or exceeded their useful life**

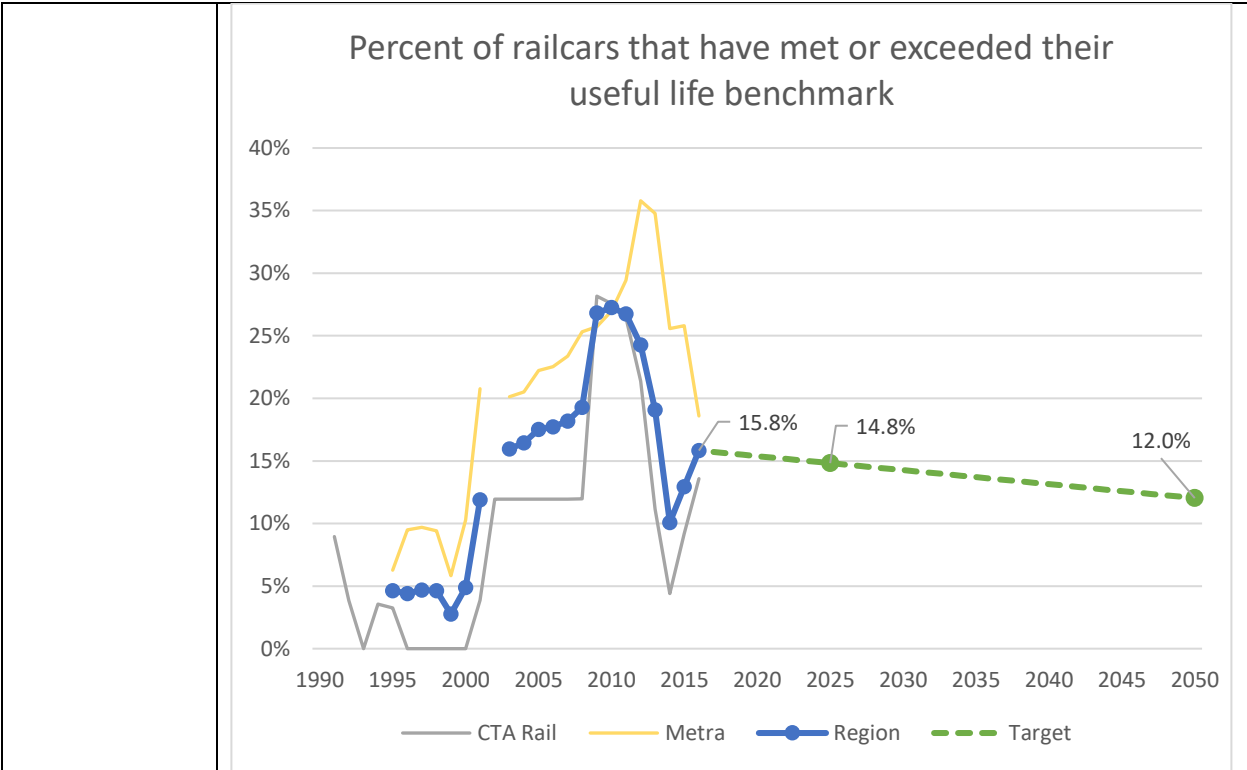
This measures the percent of active revenue public transit rail vehicles that have exceeded their useful life. This represents the number of vehicles that have reached an age where maintenance cost and vehicle performance issues are likely to increase. This measure is also a federally required performance measure under MAP-21.

Proposed 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, 38% of Metra's and 51% of CTA's current rail fleet will have reached their ULB. Currently 15.8% of rail vehicles are more than 39 years old. 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.

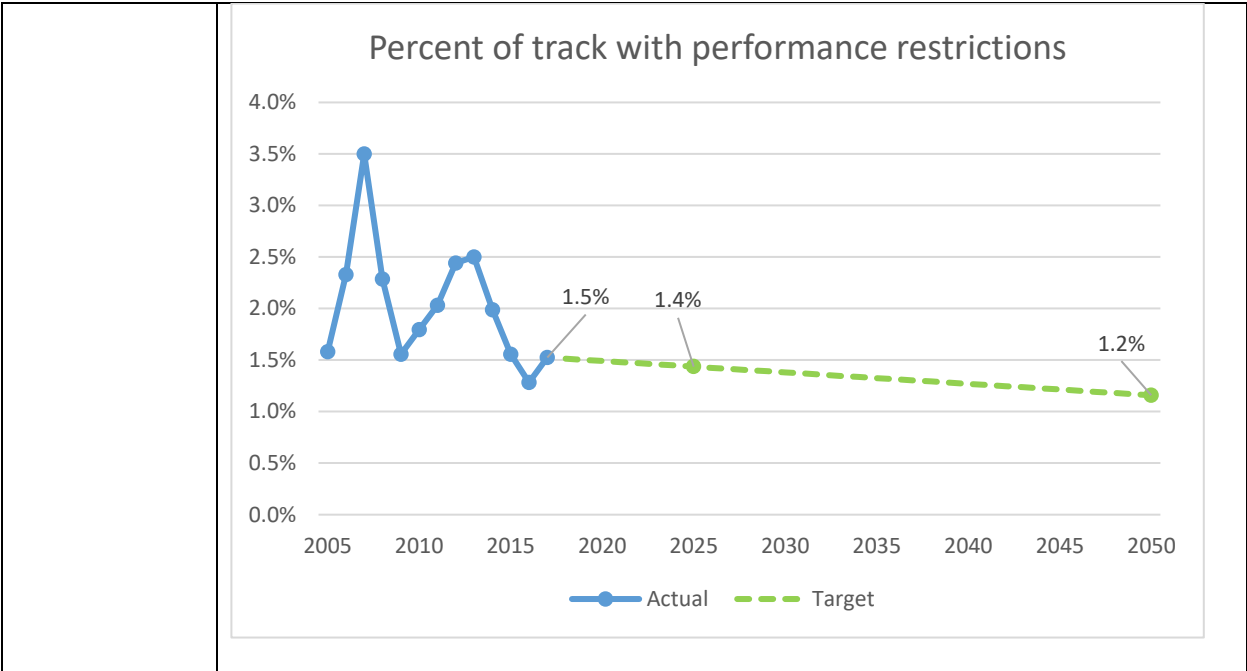
**2025:** 14.8% or fewer rail vehicles exceed 39 years of age

**2050:** 12.0% or fewer rail vehicles exceed 39 years of age



\*Data incomplete in 2002 and prior to 1995

<p>Indicator:</p>	<p><b>(c) Percent of directional rail route miles with track performance restrictions</b></p> <p>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. This measure is also a federally required performance measure under MAP-21.</p>
<p>Proposed Targets:</p>	<p>Slow zones are currently near the lowest they have been in a decade due to a number of small and large track renewal programs, including 2013 reconstruction of the Dan Ryan branch of the Red Line. Remaining slow zones have a number of root causes. For example, trains reduce speed to protect workers in construction zones.</p> <p>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.</p> <p><b>2025: 1.4%</b></p> <p><b>2050: 1.2%</b></p>



**Number of Traffic Signals with Transit Priority and/or Queue Jumping**

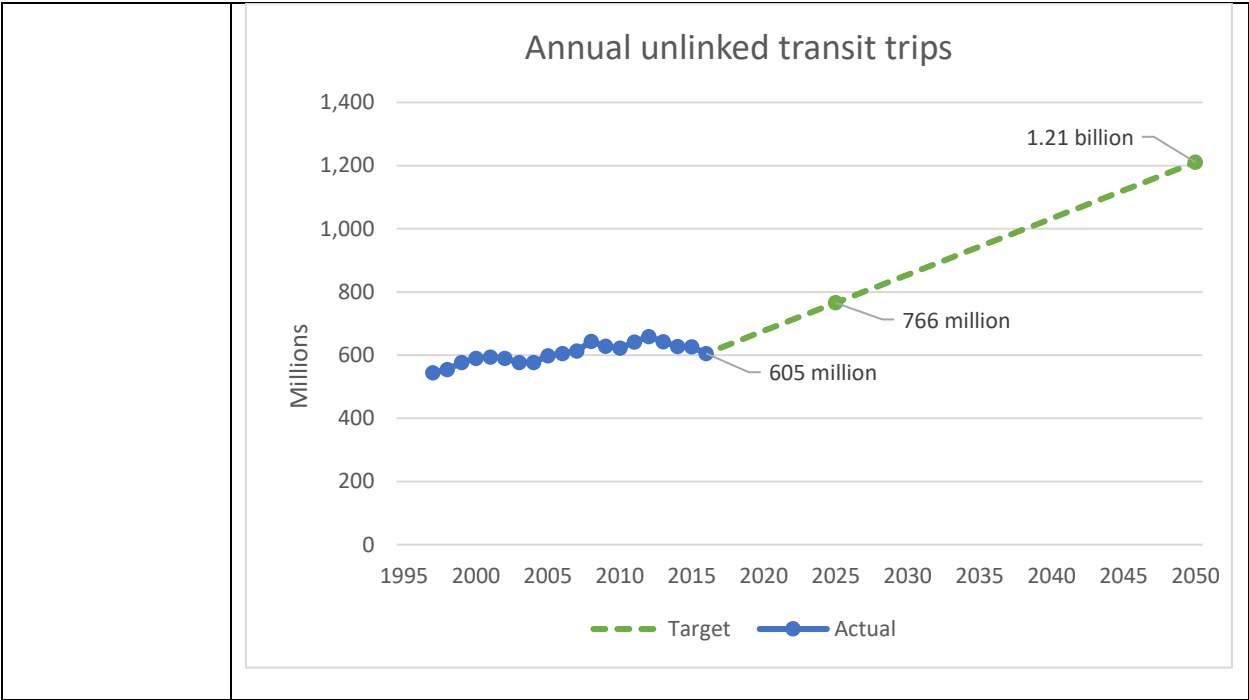
<p>Indicator:</p>	<p>Some of the factors affecting the speed, frequency, and reliability of transit ridership lie outside the control of the transit agencies themselves. Closer partnerships between transit and highway agencies hold promise to create integrated, multimodal corridors. These approaches support transit ridership at relatively modest cost. This indicator tracks the implementation of these highway projects that give priority to transit service.</p> <p>Transit Signal Priority (TSP) utilizes existing 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 the Bus Rapid Transit (BRT) and Arterial Rapid Transit (ART) systems now being developed by the CTA and Pace. 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.</p>
<p>Proposed Targets:</p>	<p>In addition to the 83 existing signals with TSP and/or queue jumping, over 400 signal improvements are currently in advanced planning or engineering to be in place by 2020. Future efforts should continue to improve intersections until at least half of intersections that serve buses have bus priority.</p> <p><b>2025:</b> 1,000 signals</p> <p><b>2050:</b> 2,400 signals</p>

**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.
Proposed Targets:	<p>There are currently 108 miles of bus preference in the region and most of miles have been completed in the last ten years. Pilot projects have shown that these improvements can improve ridership.</p> <p><b>2025:</b> 250 miles (50 on urban streets)</p> <p><b>2050:</b> 500 miles (100 on urban streets)</p>

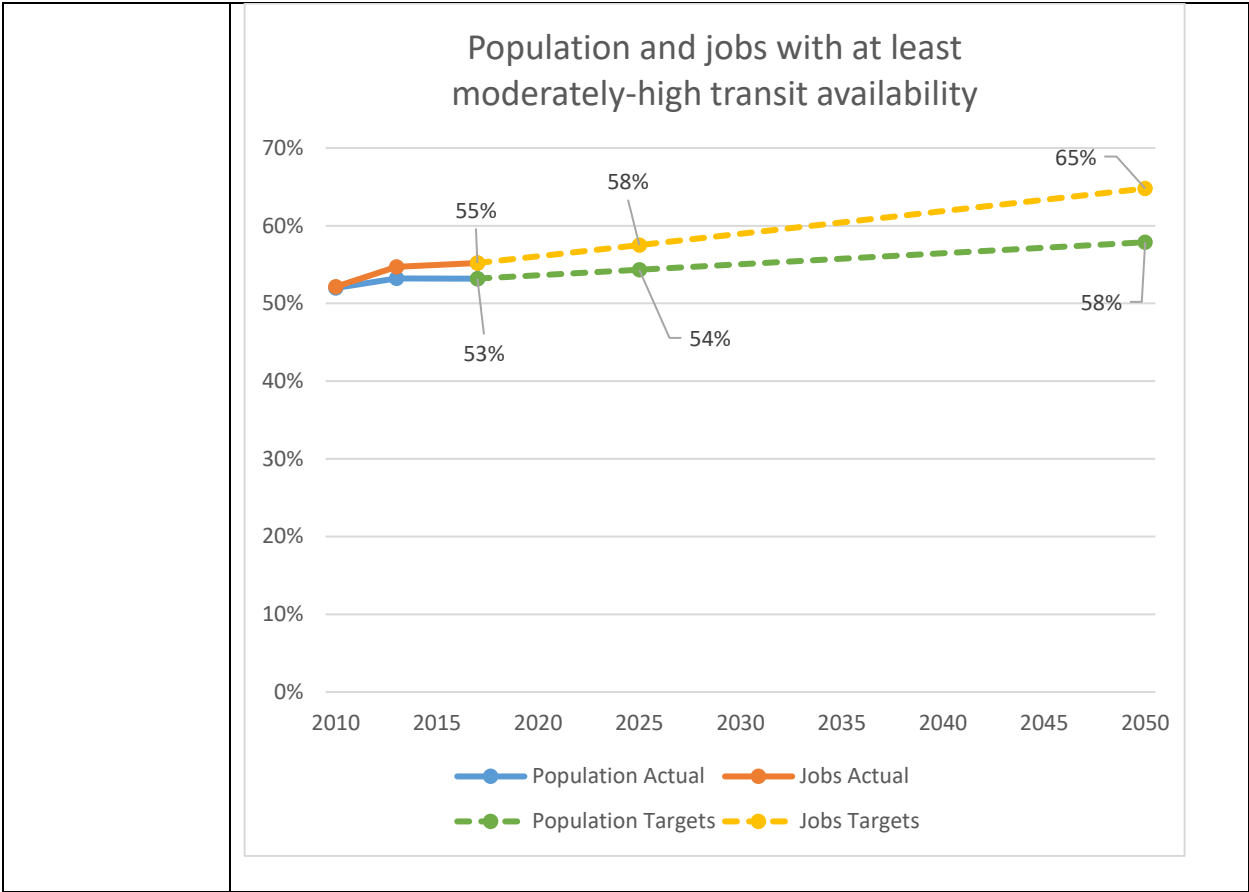
**Total Annual Unlinked Transit Trips**

Indicator:	This indicator tracks the 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.
Proposed Targets:	<p>The 2050 target has been set in keeping with the GO TO 2040 goal of doubling transit ridership from current levels. Currently the region has 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 by 58% to 114 per resident per year, which is lower than San Francisco’s current per resident trip rate.</p> <p><b>2025:</b> 766 million unlinked transit trips</p> <p><b>2050:</b> 1.21 billion unlinked transit trips</p>



**Population and Jobs with at Least Moderately-High Transit Availability**

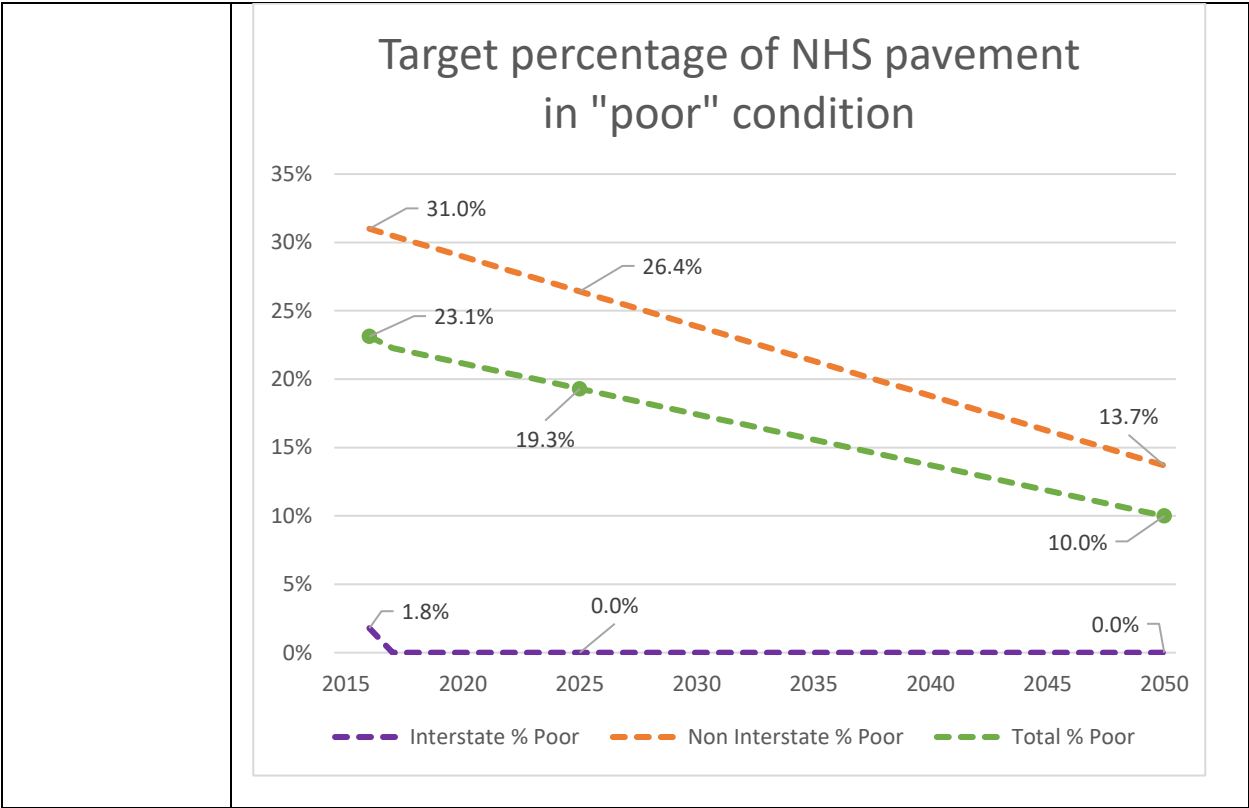
Indicator:	This indicator will report the percentage of population and jobs with at least moderately-high transit availability. This is based on a CMAP-created index that considers multiple factors. For a specific area, this index is intended to measure the relative level of access residents have to the transit system from home and work, regardless of their actual choice of mode.
Proposed Targets:	<p>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.</p> <p><b>2025:</b> 58% of jobs and 54% of population with at least moderately-high transit availability</p> <p><b>2050:</b> 65% of jobs and 58% of population with at least moderately-high transit availability</p>



**Percentage of NHS Pavement in Poor Condition**

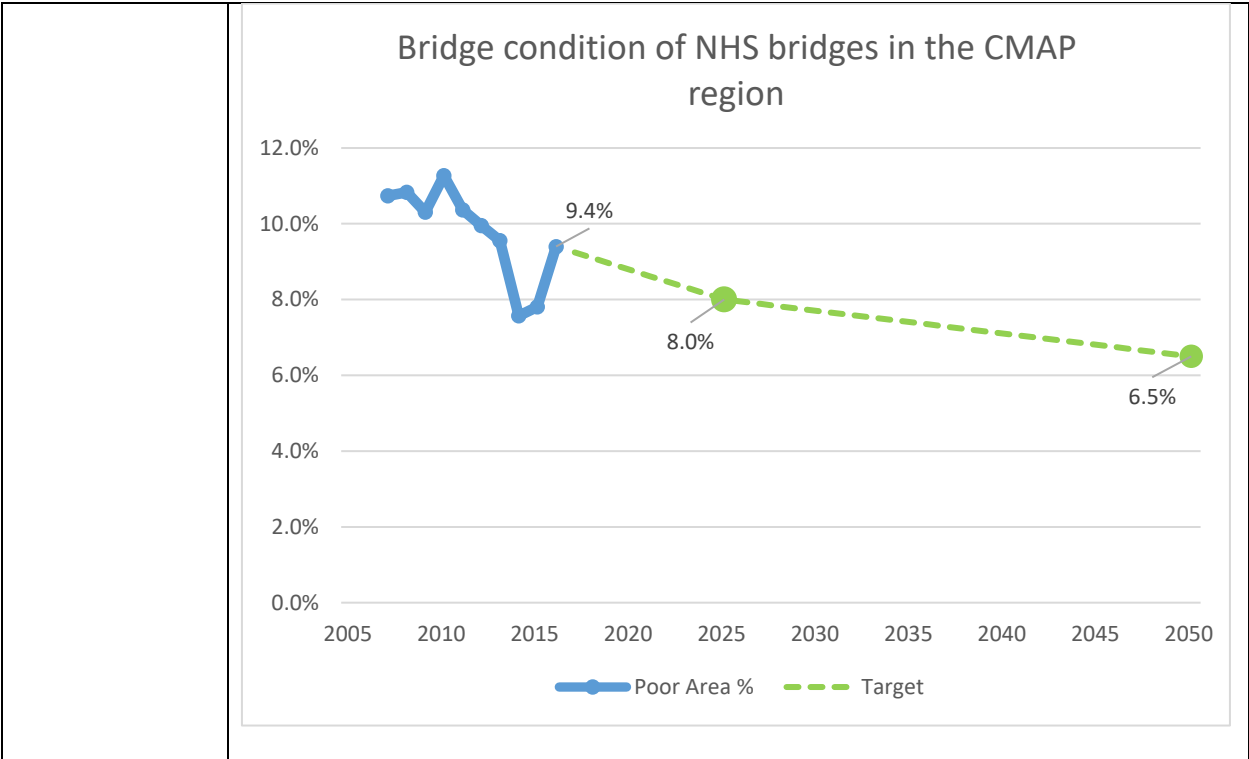
<p>Indicator:</p>	<p>This indicator measures the percentage of National Highway System (NHS) lane miles in the region that have “poor” ride quality. Poor ride quality is defined by an International Roughness Index (IRI) score of more than 170, which measures the cumulative deviation from a smooth surface on a mile of roadway. Ride quality provides a good measure of user experience of the facility. The NHS used for this analysis is the one defined in MAP-21 (Moving Ahead for Progress in the 21st Century), the current federal surface transportation act. This measure is a federally required performance measure under MAP-21.</p>
<p>Proposed Targets:</p>	<p>All 2,428 lane miles of interstate should be in “fair” or “good” condition by 2050 (currently 1.8% “poor”). Non-interstate NHS roads should have fewer than 14% of 6,590 road miles in “poor” condition (currently 31%). Achieving both of these targets would result in a regional value of no more than 10% of NHS roads in “poor” condition, achieving IDOT’s target, down from 23.1% today. This would bring the CMAP region to the same condition as the remainder of the state is in today.</p> <p><b>2025:</b> 19.3% or less of NHS lane miles in “poor” condition</p> <p><b>2050:</b> 10.0% or less of NHS lane miles in “poor” condition</p>





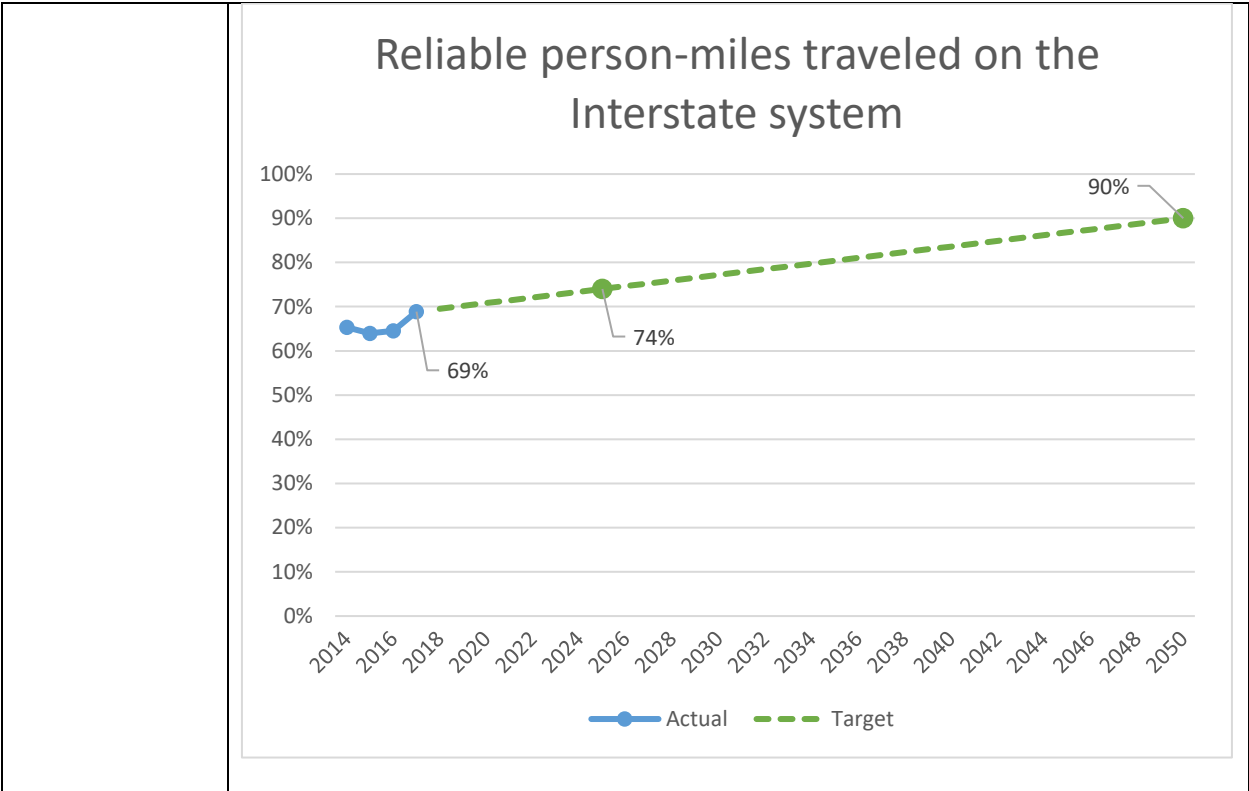
**Percentage of NHS Bridges in Poor Condition**

Indicator:	This indicator measures the percentage of bridge deck area of National Highway System bridges (NHS) that are 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. This measure is also a federally required performance measure under MAP-21.
Proposed Targets:	<p>Current (2016) NBI data indicate that 9.4 percent of the NHS bridge deck area in the region was classified as being in “poor” condition, which represents almost 3 million out of a total 31 million square feet of NHS bridge deck area in the CMAP region. Over the last decade, the measure has fluctuated between 7.6 and 11.3%, 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.</p> <p>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 recent rates of improvement, and adequate funding levels that allow for the continuation of timely bridge maintenance programs.</p> <p><b>2025:</b> 8.0% or less of bridge deck area in “poor” condition</p> <p><b>2050:</b> 6.5% or less of bridge deck area in “poor” condition</p>



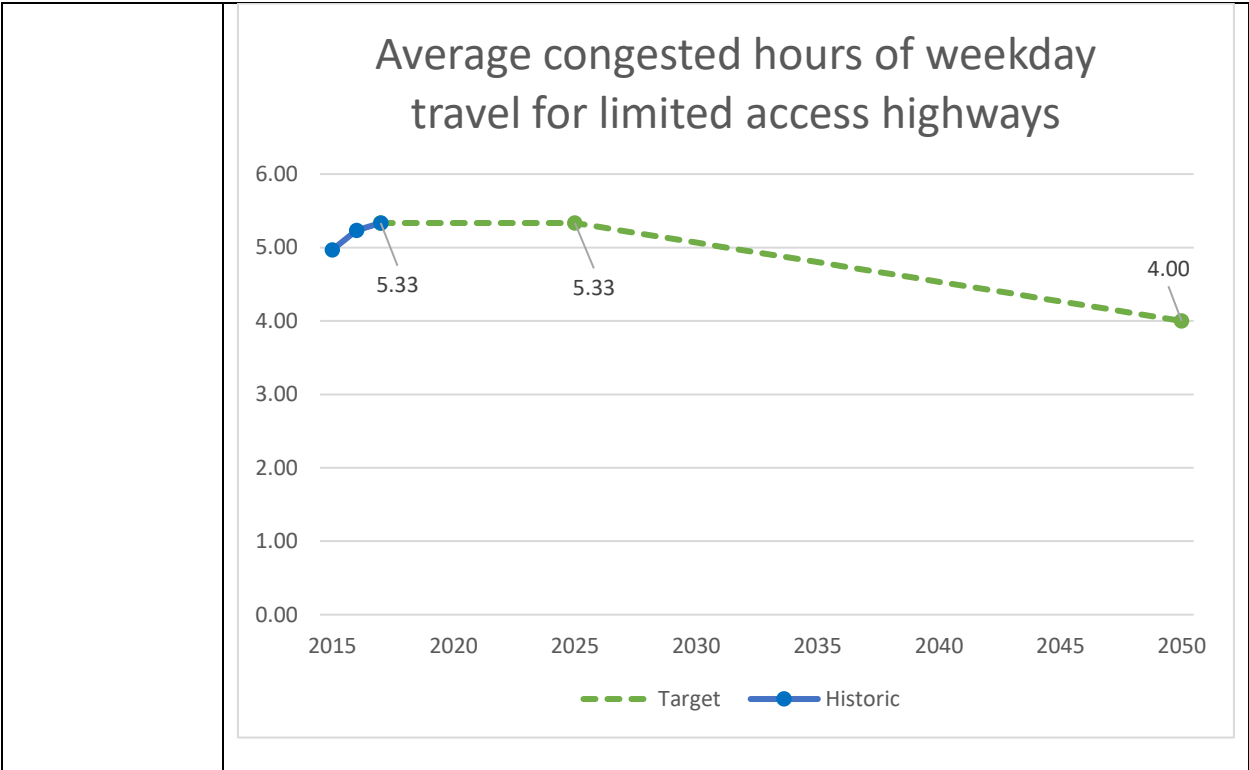
**Percentage of Person-Miles Traveled on the Interstate System with Reliable Travel Time**

<p>Indicator:</p>	<p>The Level of Travel Time Reliability (LOTR) 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 under MAP-21.</p>
<p>Proposed Targets:</p>	<p>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.</p> <p><b>2025: 74%</b></p> <p><b>2050: 90%</b></p>



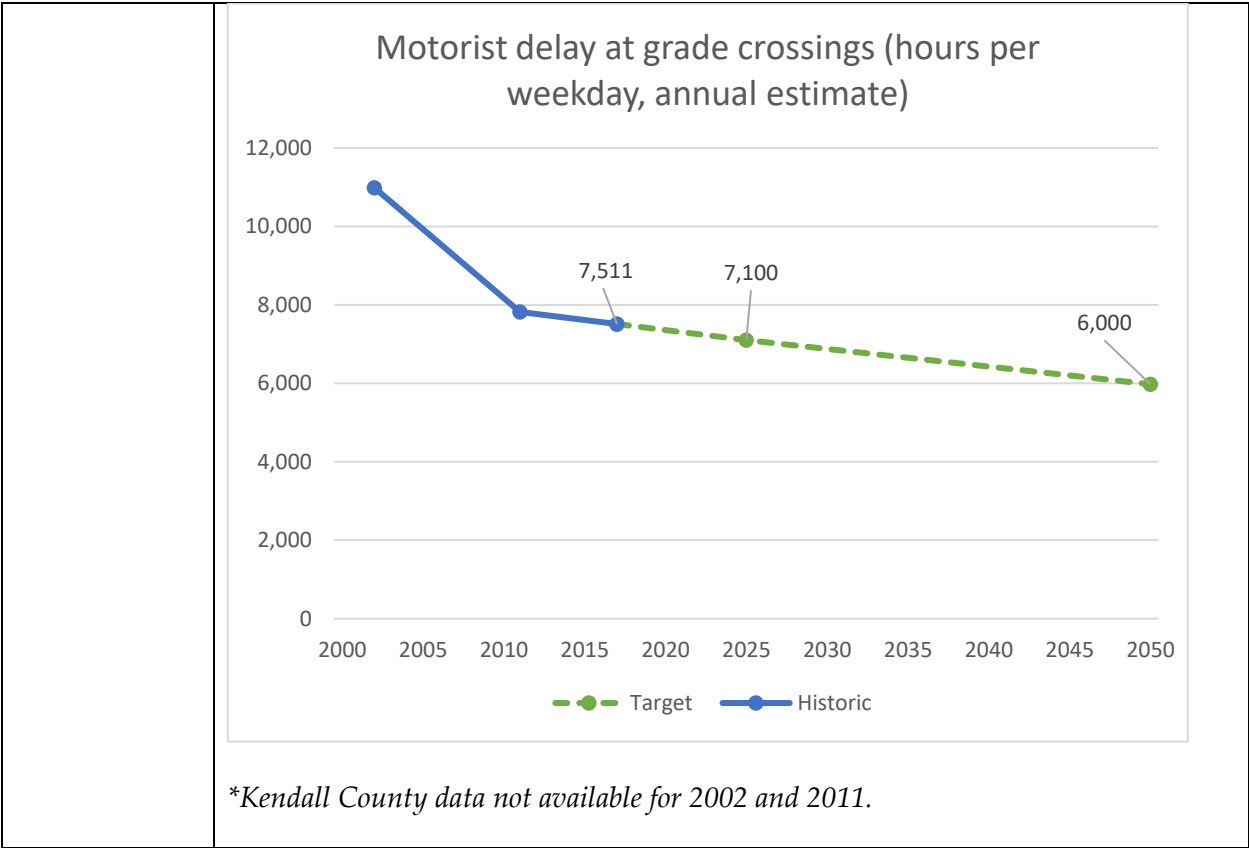
**Average Congested Hours of Weekday Travel for Limited Access Highways**

Indicator:	This indicator measures how long the region’s expressways are lightly 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.
Proposed Targets:	<p>The goal for 2050 is to experience a one hour twenty 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 operational strategies like congestion pricing, managed lanes, incident management, and truck delivery times to address congestion.</p> <p><b>2025:</b> 5.33 hours of congestion</p> <p><b>2050:</b> 4.00 hours of congestion</p>



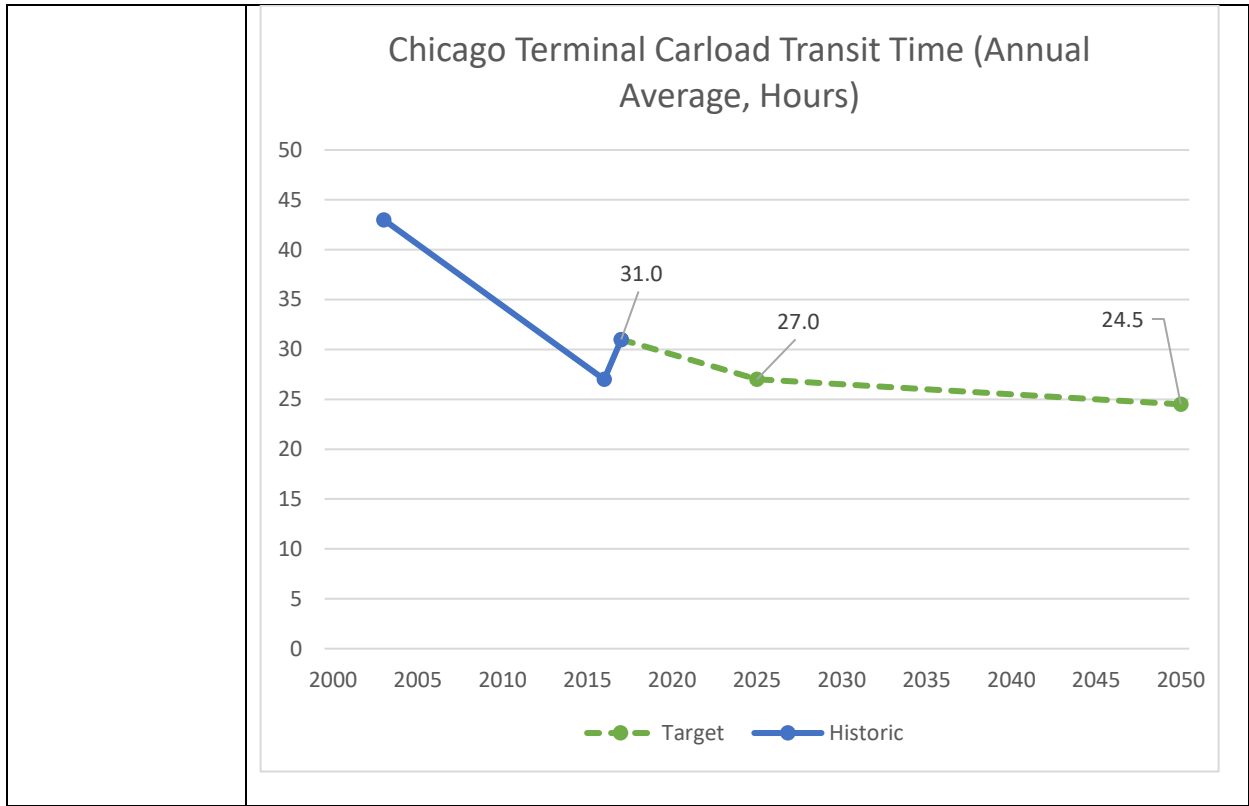
**Motorist Delay at Highway-Rail Grade Crossings**

Indicator:	This indicator measures the aggregate hours of delay per weekday experienced by motorists at railroad crossings in the seven-county CMAP region.
Proposed Targets:	<p>From 2002 to 2011, a number of strategies were implemented that resulted in a large reduction in weekday delay between the baseline and current analyses -- 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.</p> <p><b>2025: 7,100</b></p> <p><b>2050: 6,000</b></p>



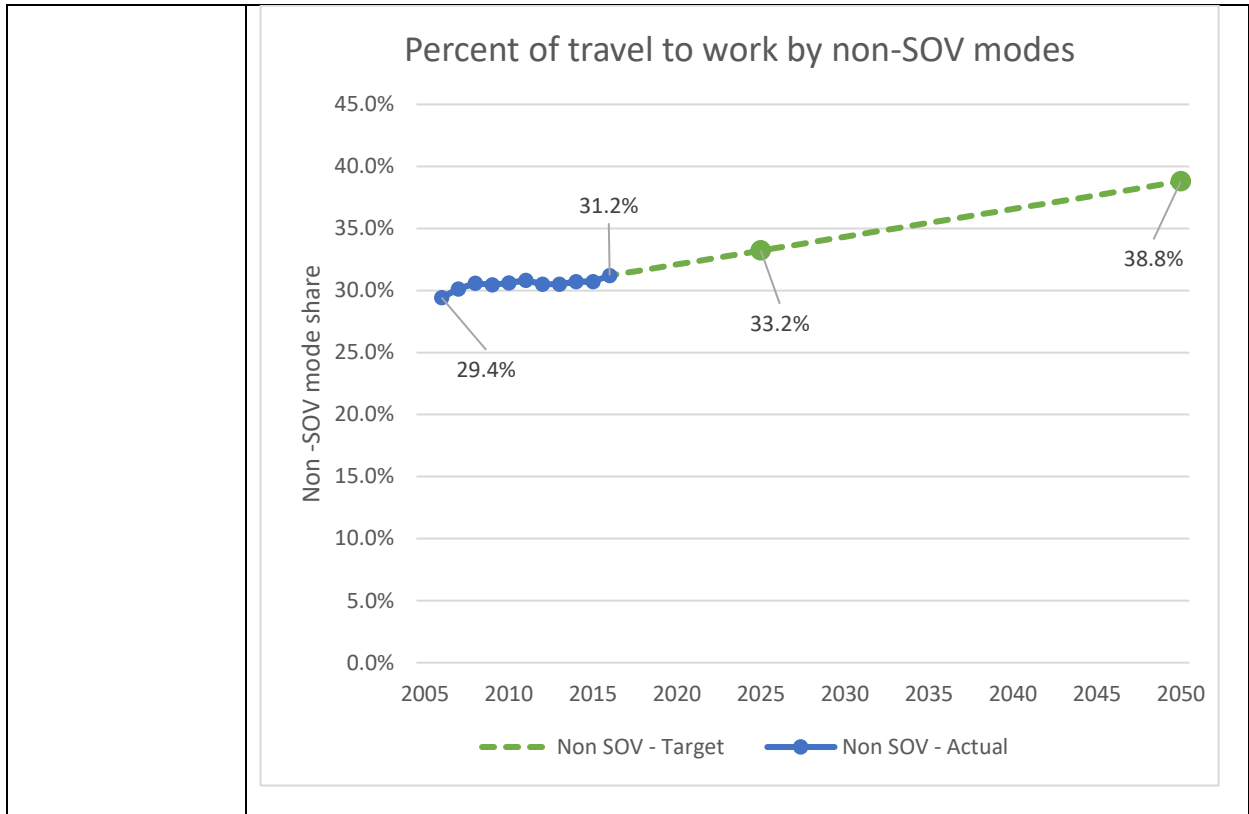
**Chicago Terminal Carload Transit Time**

<p>Indicator:</p>	<p>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. Carload freight excludes containerized and single-purpose, through-routed unit trains. 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 indicator measures the fluidity of the Chicago Terminal, which is important to the economic strength of the region’s rail industry. The measure also indicates how fast trains are moving – a slow train will block a highway-rail grade crossing longer than a fast train.</p>
<p>Proposed Targets:</p>	<p>The targets reflect a return to 2016 conditions by 2025, and cutting the remaining transit time, less yard dwell time, in half by 2050.</p> <p><b>2025: 27.0 hours</b></p> <p><b>2050: 24.5 hours</b></p>



**Percent Non-Single Occupancy Vehicle (Non-SOV) Travel to Work**

Indicator:	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, van, public transportation, commuter rail, walking, or bicycling, as well as telecommuting. This measure is also a federally required performance measure under MAP-21.
Proposed Targets:	<p>Recent data indicate that non-SOV travel is increasing in the region. Recent increases in non-SOV travel have been driven by an increase in people working at home. Implementation of policies to support transit, cycling, and walkability will enable this trend to continue.</p> <p>A 2050 target of 38.8% is consistent with the target of doubling transit ridership. The 2025 target is based on a straight-line interpolation between 2016 ACS data and the 2050 target.</p> <p><b>2025: 33.2%</b></p> <p><b>2050: 38.8%</b></p>



ACTION REQUESTED: Discussion

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