

Transportation System Funding Concepts



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Transportation System Funding Concepts

As part of the development of ON TO 2050, CMAP staff is in the process of developing a series of [strategy papers](#) -- reviewing current policies, emerging issues, and potential future directions -- on various issues. This strategy paper explores policies with the potential to significantly affect regional financial planning for transportation. Findings will be used to focus staff's efforts during financial plan development.

This strategy paper expands on GO TO 2040's current set of reasonably expected revenues with research on other topics with the potential to significantly affect available transportation resources in the region. Working with the CMAP Transportation Committee, staff identified seven major funding concepts to study:

- Alternatives to the state motor fuel tax (MFT)
- Congestion pricing
- Expenditure efficiencies
- Non-user fee revenues
- Public-private partnerships
- Value capture
- Variable transit fares

For each concept, the strategy paper examines -- as applicable -- current GO TO 2040 policies, subsequent CMAP or regional experience, and national case studies or trends.

Research process

For most of the seven topics identified for this project, GO TO 2040 contains existing policy guidance, and CMAP staff has subsequently developed an extensive body of work. At the November 2015 meeting of the Transportation Committee, staff summarized past CMAP work on alternatives to the MFT, congestion pricing, public-private partnerships (PPPs), and value capture. For these topics, as well as non-user fees, staff assessed current policies and lessons learned from subsequent research and outreach. For other topics -- expenditure efficiencies and variable transit fares -- GO TO 2040 provides little to no guidance. As such, research for these topics focused on case studies and literature review.

To help gather input from stakeholders, CMAP staff hosted a technical forum about expenditure efficiencies on January 22, 2016, featuring presentations from the Federal Highway Administration (FHWA) and Illinois Department of Transportation (IDOT) on the use of innovative materials, processes, and technologies to reduce capital costs. That technical forum included extensive discussion among the region's transportation agencies on potential opportunities to reduce costs in project delivery. More detail on the technical forum is in the appendix.



In late winter 2016, staff gathered stakeholder input on each potential funding alternative through a series of one-on-one meetings with various stakeholders and experts. Informed by that outreach, staff presented its findings on the seven funding concepts at the March 4, 2016, meeting of the Transportation Committee, followed by the draft report of the strategy paper at its May 20, 2016, meeting. More detail on the interview series is in the appendix.

Transportation revenues in GO TO 2040

The [GO TO 2040 Financial Plan for Transportation](#) includes a number of existing revenue sources -- core revenues -- to fund improvements to the region's transportation system, such as MFTs, vehicle registration fees, tolls, and transit fares. Each of these is a critical source of revenue for the region.

Similarly, GO TO 2040 includes "reasonably expected revenue" sources. Federal guidance permits the inclusion of additional revenues in the financial plan that are expected to result from future policy changes. The GO TO 2040 reasonably expected revenues included:

- **State MFT increase and replacement.** The state MFT still must be raised to provide additional transportation funding in the near term. While not addressed in this strategy paper, increasing the MFT will very likely be discussed in more detail during the development of the financial plan. A discussion of the strategy for replacing the state MFT can be found below.
- **Congestion pricing on a portion of the existing expressway network.** A discussion of this recommendation can be found below.
- **Performance-based funding.** This issue is closely linked to GO TO 2040's larger policy objectives and will be considered during financial plan development.
- **Variable parking pricing.** This source yielded a modest amount of revenue in GO TO 2040, accounting for only 0.4 percent of the financial plan, but was linked to the plan's policy priorities. These policies are anticipated to be carried forward to ON TO 2050 and will be considered during financial plan development.

This document explores a selection of the region's existing and expected revenue sources with a focus on those that have the potential to substantively change the amount of funding available for the region's transportation needs. The existing GO TO 2040 core revenue sources will be retained in the ON TO 2050 financial plan, and new revenue forecasts will be developed in consultation with regional stakeholders as part of the financial plan development process.



Evaluation of transportation system funding concepts

For each of the seven funding concepts considered in this study, the following sections synthesize current policy recommendations in GO TO 2040, subsequent CMAP staff research, and national and local case studies to suggest next steps in the development of the ON TO 2050 financial plan.

Alternatives to the state motor fuel tax

To provide adequate revenue in the long term, the state MFT needs to be replaced. Vehicles have become increasingly fuel-efficient, and further improvements in fuel economy are expected well into the future. In addition, a flat, per-gallon rate fails to keep pace with inflation over time. GO TO 2040 recommends that the state MFT be increased by eight cents and indexed to an inflationary measure in the short term. In the long term, it recommends the implementation of a replacement to the state MFT, and further specifies that this replacement account for growth in construction costs as well as overall growth in the transportation system, over time.

CMAP published a [research brief](#) in May 2015 that evaluated three alternatives to the state MFT -- a mileage-based user fee, a motor fuel sales tax (a percentage tax on the sale of fuel rather than a flat, per gallon tax), and a vehicle registration fee -- against several criteria, including revenue-based criteria, economic factors, and feasibility.¹ The criteria are explained in the following graphic.

 <p>Revenue-based criteria determine whether the revenue source is able to sustain the transportation system.</p>	<p>Sufficiency: whether the revenue produced from the source will initially provide enough funding to replace the MFT.</p> <p>Stability: whether revenues will be stable year to year, which is important for funding multi-year transportation programs as well as for bonding purposes.</p> <p>Growth potential: whether the revenue source will grow at the same pace as construction costs.</p>
 <p>Economic factors should be balanced in terms of the distribution and proportionality of the tax burden.</p>	<p>Benefit principle: whether the tax is a user fee imposed proportionately to the benefit received.</p> <p>Equity: whether those better able to pay the tax experience more of the burden.</p>
 <p>Feasibility examines how the tax would be implemented and operated.</p>	<p>Implementation: whether the tax could be easily executed.</p> <p>Administration: whether the tax could be easily managed.</p>

¹ Chicago Metropolitan Agency for Planning, *Possible Alternatives to the Illinois Motor Fuel Tax*, May 2015



While the evaluation does not make any recommendations, it found that the mileage-based user fee does relatively well against most criteria by providing sufficient, stable, and growing revenue. While it would likely be as regressive as the current MFT, there may be opportunities to improve equity, such as by offering lower-income drivers credits. Furthermore, a mileage-based user fee provides options for facility-level tolling and congestion pricing, as well as flexibility in that users could be charged various rates based on the facility used, time of day, and type of vehicle. However, implementation remains a significant hurdle for this revenue source due to the substantial investments in technology it would require, as well as privacy concerns it may raise. There currently is no system in place to collect this revenue source, and the State of Illinois would need to build consensus on the administration of the tax.

On the other hand, a motor fuel sales tax would not be difficult to implement from an administrative perspective but is relatively volatile due to fluctuations in fuel prices and only provides fair growth because it is still based on consumption. Motor vehicle registration fees would not be sufficient to replace the MFT but could be used to supplement another replacement. The following chart summarizes CMAP's findings, which the agency has shared with stakeholders over the past several months.

Summary of considerations for replacements to the state motor fuel tax

Source: Chicago Metropolitan Agency for Planning analysis.

- Good
- Fair
- Poor

	MILEAGE-BASED USER FEES	MOTOR FUEL SALES TAX	MOTOR VEHICLE REGISTRATION FEES
Sufficiency	Good	Good	Fair
Stability	Good	Poor	Good
Growth potential	Good	Fair	Good
Benefit principle	Good	Fair	Poor
Equity	Fair	Poor	Poor
Implementation and administration	Poor	Good	Good



Practices in other states

As [tracked](#) by the advocacy group Transportation for America, many states have increased funding for transportation in recent years.² While several states have increased their MFTs, other states such as Pennsylvania, Utah, Vermont, and Virginia have replaced theirs with a motor fuel sales tax. Kentucky, which previously had a motor fuel sales tax, recently raised the floor for its minimum tax to ensure that the revenue source could provide enough funding despite falling fuel prices.

In addition, following the completion of a pilot program, Oregon has initiated a vehicle miles traveled fee, currently with a cap of 5,000 volunteer participants. [OReGO](#) participants pay 1.5 cents per mile and receive credits on their bill for the state's existing fuel tax. Participants have multiple choices for mileage reporting and payment. Three different account managers, the Oregon Department of Transportation (ODOT) and two private vendors, offer different features. Both private vendors use a GPS-enabled device, which provides several features, including the ability to receive account credits for out-of-state miles driven. This is in contrast to ODOT, which provides a non-GPS device that simply determines and sends the number of miles of vehicle travel, like a communicative odometer. Other states, including [Utah](#), [Washington](#), and [California](#), are also beginning to study mileage-based user fees. These programs are expected to pilot in the next couple of years.

Recommendation

In addition to continuing to support a near-term increase of the MFT, ON TO 2050 should recommend a specific, long-term alternative to the MFT. The [brief's findings](#) suggest that a mileage-based user fee, specifically a vehicle-miles traveled (VMT) fee, is the best candidate across multiple criteria. If implemented, the state could begin by launching a pilot program. This approach would allow the state to test the program, working through the technical complexity of deploying and administering the new VMT fee before full statewide implementation. This revenue source may benefit from a national solution that allows VMT fees to be collected from out-of-state drivers; a national approach would also streamline implementation and reduce the state's costs of executing a collection system. In addition, the state should take the opportunity presented by the implementation of a new revenue source to integrate measures to lower the burden on lower-income drivers.

Staff recommends analyzing two flat rates for VMT fees (one for passenger vehicles and one for non-passenger vehicles) for ON TO 2050. However, the plan should also support the eventual implementation of an advanced pricing system reflecting an array of marginal costs, where different rates could be applied to travel on different types of facilities, at different times of day, and for different classes of vehicles. In Fiscal Year (FY) 2017, CMAP staff should conduct outreach among regional stakeholders to gauge opinions and begin to build consensus on a

² Transportation for America, "State Transportation Funding," <http://t4america.org/maps-tools/state-transportation-funding>



mileage-based user fee. Staff should also continue reviewing relevant national case studies and developing methodology to estimate revenues.

Congestion pricing

[Congestion pricing](#) is a major policy emphasis in GO TO 2040, and its Financial Plan for Transportation includes revenues from the implementation of congestion pricing on a portion of the region's existing expressway network. Note that any congestion pricing associated with new major capital projects in GO TO 2040 is not included in that revenue estimate; rather, congestion pricing is assumed to reduce the public share of the costs of those [projects within the financial plan](#).³ In addition, the plan's implementation action areas call for all new expressway capacity on existing facilities to be congestion priced (except short or isolated add-lanes projects), for the eventual congestion pricing of all existing expressway capacity, and for the excess revenues raised from pricing to be invested into transit and local road improvements in priced corridors.

Since the adoption of GO TO 2040, CMAP has advocated strongly for congestion pricing. These efforts have included quantitative modeling, an outreach campaign (including both media and stakeholder engagement) and additional policy research. There are no active congestion-pricing projects in the region, although pricing was recently announced as part of an Illinois Department of Transportation (IDOT) project to construct an additional lane on I-55 and has been considered for other major capital projects currently under development (e.g., I-290).

In concert with CMAP's congestion-pricing campaign, staff developed a brief series of analyses exploring a few related topics in more detail. The first was a high-level analysis of the [economic impacts](#) of congestion pricing for the five major capital projects included in GO TO 2040. It found that congestion pricing these projects would result in expanded market access, increased gross regional product, increased business output, and new jobs and wages. Later analyses explored how other projects in the U.S. [use the revenues](#) generated from congestion pricing, and how congestion pricing might play into the [Elgin O'Hare Western Access](#) project.⁴

Practices in other states

Recent changes in federal law have made it easier for states to pursue [tolling strategies](#) -- generally allowing the addition of new toll lanes to an existing facility, conversion of high-occupancy vehicle (HOV) lanes to high-occupancy toll (HOT) lanes,⁵ and modifying pilot

³ Chicago Metropolitan Agency for Planning, *GO TO 2040 Update Appendix: Major Capital Projects*, October 2014, <http://www.cmap.illinois.gov/documents/10180/332742/Update+Major+Capital+Projects+FINAL.pdf/51a1943f-0c2d-4243-8d94-9232f4598566>

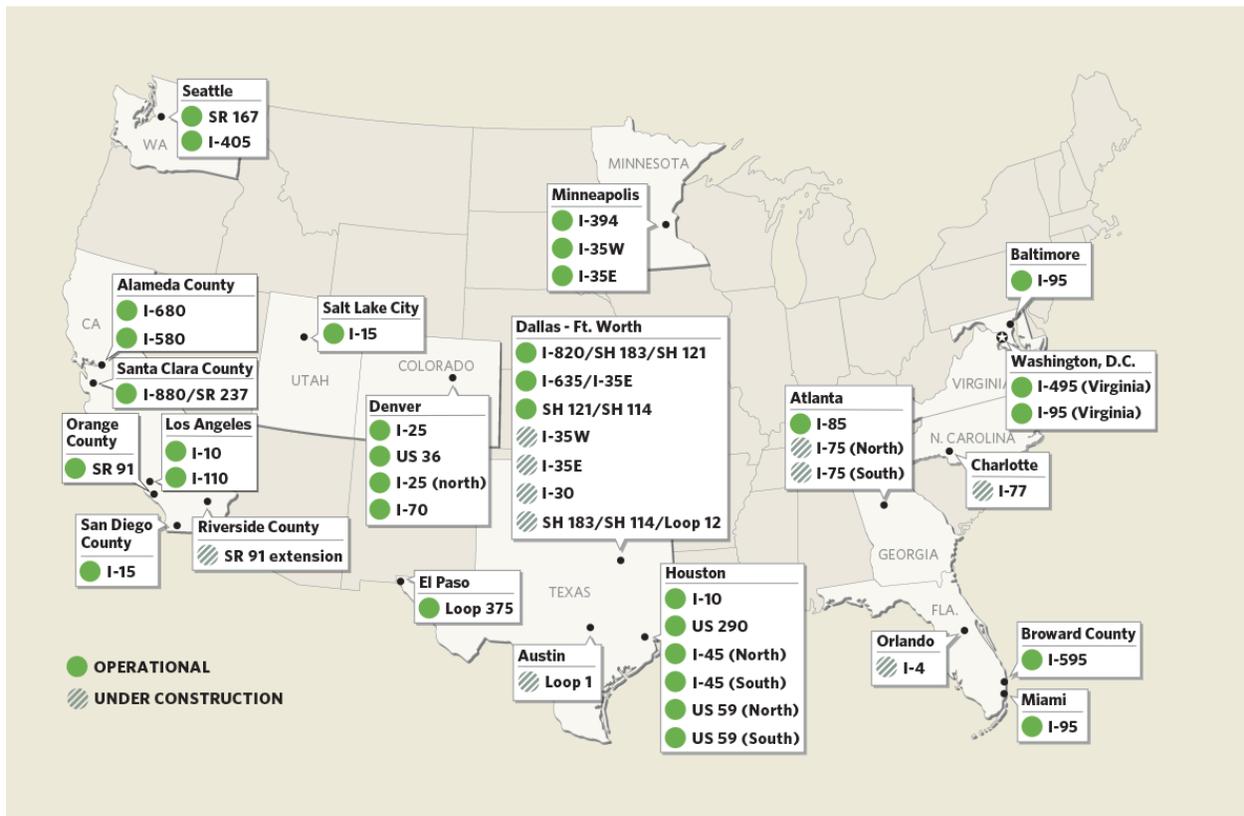
⁴ Chicago Metropolitan Agency for Planning, "Examples of How Congestion Pricing Revenues are Used Elsewhere in the U.S.," March 7, 2013, http://www.cmap.illinois.gov/about/updates/-/asset_publisher/UIMfSLnFfMB6/content/examples-of-how-congestion-pricing-revenues-are-used-elsewhere-in-the-u-s-

⁵ HOV lanes restrict access to vehicles with multiple occupants (typically 2 or more). HOT lanes typically allow free access to high-occupancy vehicles, but charge a toll for single-occupancy vehicles to access.



programs to allow tolling of existing Interstate capacity (although broad tolling of existing facilities is still prohibited).⁶ In addition, a number of congestion-priced facilities have [opened](#) across the country since the adoption of GO TO 2040, specifically in Texas, California, Virginia, Florida, and Colorado. According to a [2014 FHWA report](#), one of the emerging trends in congestion pricing is the development of regional networks of congestion-priced expressway facilities, e.g., in the Los Angeles, Miami, San Francisco, and Washington, D.C., metropolitan areas.⁷ While individual congestion priced facilities provide travel benefits for particular corridors, coordinated regional networks may provide broader benefits. The following map provides an overview of managed lanes projects that have been implemented throughout the country.

Congestion priced facilities in the U.S.



Source: CMAP staff analysis, 2016.

Some of these facilities have been developed in concert with transit service or equity programs, which could potentially represent an area for further study. One innovative approach to address equity concerns is Los Angeles Metro’s [Low-Income Assistance Plan](#) for its ExpressLanes on I-10 and I-110, which provides a \$25 credit at sign-up and waives the monthly

⁶ Federal Highway Administration, “Federal Highway Tolling Programs,” 2015, https://www.fhwa.dot.gov/ipd/pdfs/fact_sheets/techttools_federal_highway_tolling.pdf

⁷ Federal Highway Administration, “Report on the Value Pricing Pilot Program Through April 2014,” October 14, 2014, http://ops.fhwa.dot.gov/congestionpricing/value_pricing/pubs_reports/rpttocongress/pdf/vppp14rpt.pdf



account maintenance fee.⁸ Eligible recipients must fall below an income threshold set at twice the federal poverty level.

A more frequently implemented approach is to provide enhanced transit service in priced corridors. Some metropolitan areas simply run bus service in priced lanes (in fact, many agencies had already done so in former HOV lanes), but others have embraced the opportunity for [expressway-based BRT](#). Examples of the latter include Denver (recently branded as the “[Flatiron Flyer](#)” on U.S. 36) and San Diego (the “[Rapid](#)” services on I-15), both of which include direct access ramps, frequent service, and dedicated stations.⁹ The improvements to the congestion-priced U.S. 36 corridor in Colorado also include a [new bikeway](#).¹⁰

Recommendation

ON TO 2050 should retain GO TO 2040 recommendations, which support congestion pricing on new expressway capacity as well as the existing system. GO TO 2040 was specific about using pricing to manage demand and raise revenue on the expressway major capital projects, and individual major capital projects had their costs reduced by the amount of congestion pricing revenues they were anticipated to generate. However, the plan did not detail the most appropriate existing highway corridors in which to apply pricing.

Starting in FY17, staff should begin identifying specific expressway corridors to be congestion priced. As pricing existing expressways will bring about a need to provide better alternative modes of transportation and may tend to divert traffic onto the arterial system, ON TO 2050 should also provide more detail on the potential use of congestion pricing revenues within specific priced corridors. For example, congestion pricing revenues could support enhanced transit service or arterial improvements in priced corridors. Staff should also explore the potential impacts of congestion pricing in more detail, particularly in the context of regionally significant transit and arterial projects.

Expenditure efficiencies

This concept would incorporate innovative construction practices, materials, technologies, and other strategies to reduce project costs. GO TO 2040’s treatment of expenditure efficiencies focused on the utilization of performance measures to identify the most effective projects. CMAP staff has not completed significant work on this topic since the adoption of GO TO 2040; however, two other strategy papers ([transit modernization](#) and [highway operations](#)) describe policies that may reduce lifecycle capital costs and the need for capital expansion.¹¹

⁸ Metro Expresslanes, Low-Income Assistance Plan, https://www.metroexpresslanes.net/en/about/el_low_income_plan_bg.pdf

⁹ See Flatiron Flyer – Bus Rapid Transit, http://www.rtd-fastracks.com/us36_1 and Rapid, <http://www.rapidmts.com>, for more information.

¹⁰ Colorado Department of Transportation, Bikeway Construction Updates, <https://www.codot.gov/projects/US36ExpressLanes/bikeway-construction-updates>

¹¹ For information on other strategy papers, see <http://www.cmap.illinois.gov/onto2050/strategy-papers>.



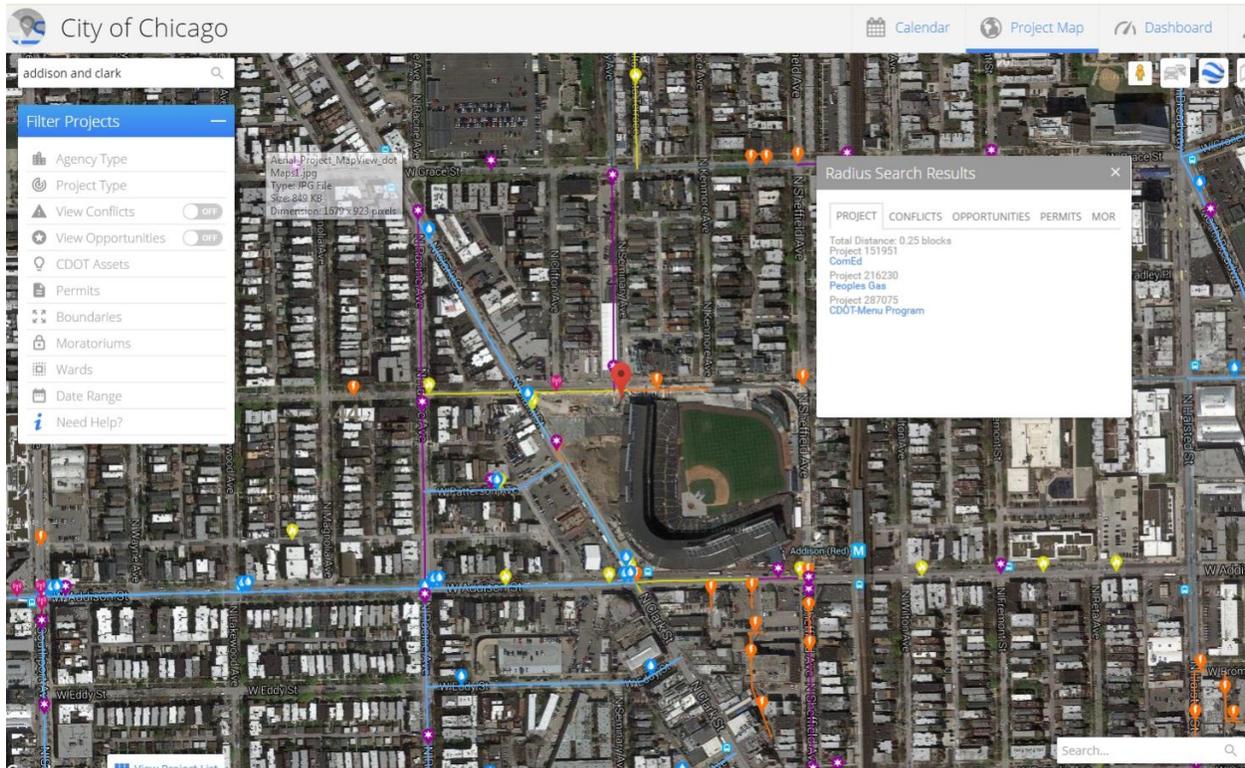
On January 22, 2016, CMAP hosted a [forum](#) on expenditure efficiencies in roadway project delivery. The forum included presentations from FHWA staff on Every Day Counts and IDOT staff on design innovations and pavement preservation. The goal of the forum was to convene experts and stakeholders to discuss specific practices that have the most potential for expanded application in the region or the greatest effect on the cost of projects. In addition, CMAP staff was interested in discussing how innovative or more efficient construction practices should be treated in ON TO 2050, in terms of both financial planning assumptions and policy guidance.

Feedback from stakeholders suggests that technical changes such as innovative construction practices, materials, and technologies have limited potential to reduce expenditures over the planning horizon. Rather, stakeholders believe that policy changes, such as improved coordination between transportation agencies and utilities or railroads, have the greatest potential to promote expenditure efficiencies.

For example, the City of Chicago Project Coordination Office (PCO) brings together various city agencies, private utilities, and other groups to better coordinate their work in the municipal right of way. The PCO provides a web-based geographic information system (GIS) tool, pictured below that fosters improved communication and provides a streamlined process to manage project-related documents, such as permits and timelines. The tool allows the PCO to identify capital improvements in the right of way programmed by numerous agencies and schedule them to help ensure that, for example, a water main replacement does not require cutting a recently repaved street. It also can help allow complementary projects to occur at the same time. The Chicago Department of Transportation estimates that the PCO has saved the City over \$100 million since 2012, primarily by reducing such duplication of efforts.



Screenshot of the PCO web tool



Source: CDOT Project Coordination Office

Recommendation

Based on discussion and presentations at the forum, ON TO 2050 should develop policy guidance to incorporate expenditure efficiencies in capital costs into the next financial plan. This language should acknowledge recent and anticipated advances in the construction industry that reduce capital costs via improvements in processes, materials, and technologies. The next plan should incorporate these cost savings into its long-term expenditure forecasts within the financial plan. In FY17, staff should continue outreach among regional stakeholders to build consensus on specific methodological considerations, in conjunction with the development of other assumptions for the new Financial Plan for Transportation.

Non-user fee revenues

Decision-makers at multiple levels of government have resorted to sources of funding that are unrelated to the transportation system to support new transportation initiatives in recent years. For example, regional sales taxes have been popular in many major metropolitan regions across the country, particularly to support transit expansion programs.¹²

At the state level, the most recent capital program, [Illinois Jobs Now!](#), largely drew from non-transportation sources like video gaming, the lottery, increased sales taxes on candy and pop,

¹² See Center for Transportation Excellence, Transportation Ballot Measures, <http://www.cfte.org/elections>



and increased liquor taxes. At the federal level, the Highway Trust Fund [required](#) about \$140 billion in bailouts from the General Fund between FY2008 and FY2016.¹³

In contrast, GO TO 2040 recommends that the region prioritize revenues that require users to pay an amount close to their actual cost of using the system. CMAP has [incorporated](#) user fee language into its federal legislative agenda, state legislative principles and agenda, and freight policy principles.¹⁴ Further, CMAP's [principles for a new state capital program](#) are highly critical of the funding package used for Illinois Jobs Now!,¹⁵ and a related CMAP [Policy Update](#) documented the shortfall in revenues.¹⁶

Recommendation

GO TO 2040 and the CMAP Board have expressed strong support for transportation user fees -- which are revenue sources raised from those who benefit from use of the transportation system -- and yet recent funding packages at the federal and state level have increasingly relied on an array of other revenue sources. In some cases, these sources have proved inadequate, and these funding packages are provided irregularly. Both user fees and other reasonable sources should be set at rates that yield adequate support for investment needs. The new plan should continue to express support for user fees, particularly for highway projects, while acknowledging the need for flexibility to use these revenues to address transportation problems in a multimodal way. In addition, ON TO 2050 could explore ways to make existing non-user fees more sustainable, such as how expanding the sales tax base to additional services could ensure future growth for the Regional Transportation Authority (RTA) sales tax or county sales taxes for transportation.

Public-private partnerships

GO TO 2040 supports what it termed "appropriate" public-private partnerships (PPPs). It acknowledges their potential benefits, but notes the complexity of PPP arrangements and stresses that they must be handled on a case-by-case basis and with a high degree of transparency and care. The original emphasis within the plan's implementation action areas had been placed on securing broad enabling legislation for PPPs at the state level, a recommendation that was implemented in 2011 with the passage of the Public-Private Partnerships for Transportation Act. The remaining recommendations call for the careful

¹³ American Society of Civil Engineers, "FAST Act Summary Part One: The Funding," December 6, 2015, <http://www.infrastructurereportcard.org/asce-news/fast-act-summary-part-one-the-funding/>

¹⁴ For more information, see <http://www.cmap.illinois.gov/about/legislative-policy-statements>

¹⁵ Chicago Metropolitan Agency for Planning, "Principles for a State Capital Program," <http://www.cmap.illinois.gov/documents/10180/182772/Principles%20for%20state%20capital%20program,%206-2014.pdf/4768873d-531c-4b43-b447-0c6941cd81f3>

¹⁶ Chicago Metropolitan Agency for Planning, "Revenue Shortfalls Jeopardize State Capital Program Financing," April 23, 2013, http://www.cmap.illinois.gov/about/updates/-/asset_publisher/UIMfSLnFfMB6/content/revenue-shortfalls-jeopardize-state-capital-program-financing



review of PPP proposals and the consideration of PPPs as part of the project development process.

The GO TO 2040 Financial Plan for Transportation recognized that PPPs could result in cost efficiencies on a project-by-project basis, reducing the public share of the costs for those projects. To the extent that utilizing a PPP reduces the cost of a major capital project, it reduces the cost that must be fiscally constrained in the financial plan. CMAP staff has worked with implementers to incorporate these estimates into the major capital project costs for previous financial plans.

CMAP has continued to provide policy research and analysis on PPPs since the adoption of GO TO 2040. Much of this effort occurred over 2011-12, when staff published a four-part [series](#) exploring the issue in more detail.¹⁷ CMAP supported the state [Public-Private Partnerships for Transportation Act](#) (630 ILCS 5), which provided broad enabling legislation for IDOT and the Illinois Tollway to enter into various types of public-private agreements.

In recent years, the national PPP market has evolved in multiple ways. While the U.S. experience with PPPs initially focused on long-term concessions of existing assets, more recent arrangements have focused on new-build facilities. Further, availability-payment models have become increasingly popular. Federal policy has continued to support private investment in transportation.

Recommendation

Given the unique nature of individual transportation projects, GO TO 2040's emphasis on a careful, case-by-case analysis to proposed PPP agreements should be retained in ON TO 2050. From there, the new plan should improve policy language from GO TO 2040, primarily by adding new discussion on the need to protect the public interest in a PPP arrangement. The public interest should include transparency of the procurement process, including a demonstration of value for money, as well as ongoing access to data, interoperability with existing state and regional technical frameworks (e.g., ensuring toll transponders for new PPP facilities are interoperable with the existing Tollway system), performance benchmarking, and remediation provisions. Further, ON TO 2050 should clarify that PPPs are primarily a source of financing, not funding, and that a discussion of a project's merits is independent of the discussion on how that project should be delivered. Finally, the new plan should be updated to reflect the evolution of PPP structures in the U.S. in recent years, including new models and changes to federal and state legislation.

In FY17, staff should conduct outreach among regional stakeholders to build consensus on this policy position, as part of the development of the new Financial Plan for Transportation. In

¹⁷ See http://www.cmap.illinois.gov/about/updates/-/asset_publisher/UIMfSLnFfMB6/content/public-private-partnerships-part-4-major-capital-projects-in-metropolitan-chicago for links to this series.



addition, staff should reach out to stakeholders to determine how to incorporate PPPs into cost estimates for regionally significant projects, where applicable and appropriate.

Value capture

Value capture assumes that nearby property owners will benefit from the construction of a new or improved transportation facility through increased rents, sales, and land values, and seeks to harness some portion of these benefits to pay for the cost of the facility. In Illinois, value capture mechanisms can include tax increment finance (TIF) districts, special service areas (SSAs), impact fees, and special local taxes such as sales or hotel taxes. Limited value capture takes place in the region via TIF or SSA district support for smaller transportation improvements.

GO TO 2040 encouraged the exploration of value capture in order to help fund capital costs associated with new or expanded transportation facilities. In addition, it indicated the need for state legislation that would support transportation capital investments through a multijurisdictional, long-term value capture district that would accommodate overlapping taxing districts.

GO TO 2040 assumed that value capture will be used to partially fund two major capital projects, including the Red/Purple Line Modernization project. CMAP has been involved in analysis regarding the use of value capture, including commissioning two studies on value capture, one in [2010](#) and the second in [2011](#).¹⁸

In recent years, several bills have been introduced in the General Assembly allowing for various forms of value capture. For example, [Public Act 99-0792](#), which was enacted in August 2016, would allow value capture to be used for transit improvements within the City of Chicago related to the Red/Purple Line Modernization project, the Red Line extension, the Blue Line modernization, and the Union Station redevelopment.

Recommendation

The new plan should retain the existing policy language from GO TO 2040 and continue to apply value capture to regionally significant projects where appropriate. For the latter, the plan should identify specific opportunities in consultation with project implementers and include funding estimates within the fiscal constraint of the financial plan for transportation. As part of the evaluation of regionally significant projects (RSPs) in FY17, staff should work with implementers to identify those RSPs with value capture potential.

¹⁸ Chicago Metropolitan Agency for Planning, *Transit Value Capture Analysis for the Chicago Region*, December 2010, http://www.cmap.illinois.gov/documents/10180/27573/Value-Capture-Analysis_12-10-2010.pdf/622b876a-2eb4-4a89-bb02-5724e97f8c89 and Chicago Metropolitan Agency for Planning, *Transportation Value Capture Analysis for the CMAP Region*, June 2011, http://www.cmap.illinois.gov/documents/10180/27573/VC-Final-Report_7-26-11-Executive-Summary.pdf/5efa8c6f-da3b-4fe8-8a61-33d322850a01.



Variable transit fares

Like congestion pricing, this concept would manage demand for transit services by charging different fares for different types of trips. Varying the fares by distance traveled, time of day (i.e., peak period vs. non-peak period), or mode could offer substantial benefits, encouraging greater transit ridership for the types of trips that are cheaper for transit agencies to provide (i.e., short, off-peak trips). New technology for transit farecards, particularly the growing use of smart cards, would facilitate differentiated transit fares. Numerous academic studies have noted the benefits of variable or differentiated transit fares, yet relatively few transit agencies vary fares by time of day, and relatively few non-commuter rail agencies vary fares by distance traveled.

GO TO 2040 did not address variable transit fares, nor has CMAP staff completed any significant work on this topic. GO TO 2040 did call for coordinated fares across the service boards and a universal fare payment system, but does not address issues of distance-, mode-, or time of day-based pricing. The plan's other funding-related recommendations for transit focus on securing new revenue sources and strengthening the RTA's fiscal oversight responsibilities.

In northeastern Illinois, the fare policies for the region's three transit agencies vary by mode. The Chicago Transit Authority (CTA) charges [flat fares](#) (with the exception of a \$2.75 surcharge for tickets purchased at O'Hare), Pace charges [flat fares](#) (with the exception of a \$2.25 surcharge for premium or express service fares), and Metra charges [distance-based fares](#) using combinations of 12 zones. Metra charges a flat fee for an unlimited-ride weekend pass.

Practices in other states

Distance-based fares are relatively uncommon among the nation's heavy rail and light rail transit systems. Examples of detailed distance-based fares, with different prices for various station-pair matches, include [BART](#) in the San Francisco Bay Area, [WMATA Metrorail](#) in the Washington, D.C., area, and, to a lesser extent, [Sound Transit](#) in the Seattle area. However, a more common approach appears to be zone-based pricing, as is the case for [SEPTA](#) in the Philadelphia area, the [RTD](#) in Denver, the [Port Authority of Allegheny County](#) in the Pittsburgh area, and [PATCO](#) transit in suburban Philadelphia. These zone-based fares also apply to bus services for some of these agencies, including the RTD, SEPTA, Sound Transit, Port Authority of Allegheny County, along with [King County Metro Transit](#) buses in Washington State (peak periods only) and [NJ Transit](#) buses in New Jersey. In addition, agencies commonly charge higher bus fares for express commuter services.

Time-of-day fares are less common than distance-based fares for major transit agencies and are usually implemented as a peak-period surcharge. King County Metro Transit charges higher peak-period fares, ranging from an additional \$0.25 to \$0.75 for an adult fare, depending on the number of zones. [WMATA Metrorail](#) also increases its fares during peak periods, ranging from \$0.40 to \$2.30 for a regular fare.



Recommendation

Additional research would be needed to understand the potential regional costs and benefits of variable transit fares, including estimated costs of implementation and potential impacts on ridership. In FY17, staff could incorporate transit fare policy into the planned [study on transit ridership growth](#). Recommendations on this topic would be developed in concert with transit service providers.

ON TO 2050 framework

In general, strategies in ON TO 2050 for funding the transportation system should refine GO TO 2040 recommendations. However, the region should also research and assess new concepts. The following provides an overview of a general policy framework for addressing transportation funding in ON TO 2050.

Refinements to current policy

Short-term increase of the MFT. ON TO 2050 should continue to recommend an increase to the existing MFT and indexing of the per-gallon rate. GO TO 2040 recommended an eight-cent increase to the MFT. Staff recommends evaluation of the sufficiency of this increase and discussion of an increase to the current eight-cent recommendation with key stakeholders.

Long-term MFT replacement. ON TO 2050 should recommend a VMT fee as a specific, long-term alternative to the MFT. In FY17, staff should forecast revenues and conduct outreach among regional stakeholders to build consensus on a mileage-based user fee.

Congestion pricing. ON TO 2050 should retain recommendations from GO TO 2040 that support congestion pricing on new expressway capacity as well as the existing system. Starting in FY17, staff should begin identifying specific expressway corridors that should be congestion priced. The new plan should also provide more detail on the potential use of congestion-pricing revenues within specific priced corridors for enhanced transit service or arterial improvements. Staff should also explore the potential impacts of congestion pricing in more detail, particularly in the context of regionally significant transit and arterial projects.

Non-user fee revenues. The new plan should continue to express support for user fees, particularly for highway projects, as well as support for a reasonable dedicated source of funding for transit and non-motorized projects. In addition, ON TO 2050 could explore ways to make existing non-user fees more sustainable, such as how expanding the sales tax base to additional services could ensure future growth for the RTA sales tax or county sales taxes for transportation.

Public private partnerships. Given the unique nature of individual transportation projects, GO TO 2040's emphasis on a careful, case-by-case analysis to proposed PPP agreements should be



retained in ON TO 2050. From there, the new plan should improve policy language from GO TO 2040, primarily by adding new discussion on the need to protect the public interest in a PPP arrangement. In FY17, staff should conduct outreach among regional stakeholders to build consensus on this policy position, as part of the development of the next Financial Plan for Transportation.

Value capture. The next plan should retain the existing policy language from GO TO 2040 and continue to apply value capture to regionally significant projects where appropriate.

New research and concepts

Expenditure efficiencies. ON TO 2050 should develop policy guidance to incorporate expenditure efficiencies in capital costs into the next financial plan. This language should acknowledge recent and anticipated advances in the construction industry that reduce capital costs via improvements in processes, materials, and technologies. The new plan should incorporate these cost savings into its long-term expenditure forecasts within the financial plan. In FY17, staff should continue outreach among regional stakeholders to build consensus on specific methodological considerations in conjunction with the development of other assumptions for the Financial Plan for Transportation.

Project coordination policies. In FY17, staff will explore new or improved policies involving coordination of transportation projects with utilities and railroads in cooperation with regional stakeholders.

Variable transit fares. Additional research would be needed to understand the potential regional costs and benefits of variable transit fares, including estimated costs of implementation and potential impacts on ridership. Evaluating variable transit fare frameworks will be included in CMAP's upcoming transit ridership growth study, in concert with transit service providers.

Other revenue sources. Staff identified several other new or enhanced revenue sources over the course of development of the strategy paper. The following sources will also be analyzed and evaluated during the course of financial plan development:

- Expansion of the sales tax base
- Increase diesel tax more than the MFT
- New vehicle registration fees
- Additional use tax revenue from increased online sales

Next steps

Forecasting, analysis, and modeling on a VMT fee and congestion pricing, as well as other potential reasonably expected revenues like variable parking pricing, will be done in concert with other revenue forecasting efforts and related stakeholder engagement. Analyzing



potential public cost reductions for regionally significant projects, such as congestion pricing, value capture, and PPPs, will be done in concert with stakeholder outreach and project evaluation.

Future policy changes that bring additional revenues to the region or have the effect of reducing the cost of projects are key to fiscally constraining desired transportation system enhancements and expansions within the long-range planning context. CMAP will continue to engage stakeholders, partners, and experts on what types of policy changes and new funding concepts should be prioritized for ON TO 2050, and to encourage federal, state, and local policymakers to take the actions necessary to ensure the future viability of the region's transportation system.



Appendix: Stakeholder input

This appendix summarizes the two primary forms of stakeholder outreach pursued as part of this project. The first was an informational forum on cost efficiencies in project delivery; the second was a series of one-on-one interviews with regional transportation stakeholders. Each is summarized in turn.

Planning Information Forum: Cost Efficiencies in Project Delivery

On Friday, January 22, 2016, CMAP staff held a planning information forum on cost efficiencies in project delivery. These concepts could include efficiencies that are used to lower the cost of operating, maintaining, enhancing, or expanding the transportation system. The purpose of the forum is to discuss ways to reduce the costs of roadway projects, with a focus on innovative construction practices, materials, and coordination. Attendees to the forum included staff from the county departments of transportation, IDOT, FHWA, and the CTA, along with CMAP staff. The program included two informative presentations, one from FHWA and one from IDOT, and an open discussion facilitated by CMAP staff. The presentations and discussion are summarized below.

Presentation: Federal Highway Administration -- Illinois Division. FHWA administers the Every Day Counts (EDC) initiative, a multidisciplinary, stakeholder-based effort to identify and rapidly deploy proven innovations for widespread use. Through this program, FHWA works to create implementation plans for various innovative practices and disseminates information to stakeholders via staff training, case studies, technical specifications, and other assistance. In Illinois, EDC has promoted several innovative practices, including the use of warm-mix asphalt utilization, which reduces cost by decreasing energy consumption. Other innovations like 3D engineered models and e-construction increase efficiency and reduce project timelines. EDC also has been working on a new test to assess asphalt pavement performance in order to extend the life of the material; in 2016, IDOT will implement 11 pilot projects of this test. Longitudinal joint seals are also under experimental use as a low-cost (\$2 per lineal foot) way to extend the life of asphalt pavement. Finally, IDOT is currently researching how pavement preservation techniques can reduce lifecycle costs. However, this effort is hampered by IDOT's tracking system, which makes it difficult to see how new technologies affect the lifecycle costs.

Presentation: Illinois Department of Transportation District 1 Bureau of Design. IDOT has implemented innovations in a number of areas, including engineering, design geometrics, construction, and pavement preservation. Efficiencies have been gained through the transition to 3D modeling and use of GPS for roadway design, which eases the evaluation of alternatives. IDOT has also implemented accelerated bridge construction in a number of projects, which reduces project time and traffic impact. However, accelerated bridge construction can result in additional upfront costs -- for example, a prefabricated temporary bridge was rented for use in order to reduce traffic impacts of construction. Another innovation utilized is bridge beam



galvanization and metallization, which allows IDOT to avoid repainting beams. Innovative strategies, like crack sealing, micro-surfacing, longitudinal joint seals, and two-inch intermittent pavement patching help to extend the life of flexible pavements. For concrete pavements, strategies like full depth repairs, precast pavement panels, and diamond grinding are used.

Discussion

- Initial discussion focused on some of the innovations and efficiencies utilized by county transportation departments, such as echelon paving, heated joints, micro-surfacing, and recycled materials. However, it was noted that many innovations that save time might not actually save money, particularly those aimed at maintaining traffic during construction. In addition, many innovations are either too minor to be utilized in a long-range forecast or are already included in long-range financial planning assumptions.
- Many participants expressed that regulatory compliance resulted in added costs. Properly disposing of construction debris, managing stormwater, implementing complete streets policies, and providing accessibility for individuals with disabilities often result in significant expenditure in construction projects, especially in an environment when regulations and rules change over time.
- Issues involving utilities were discussed. Moving utilities can result in additional cost and delay. Issues with coordination with utility companies can exacerbate these costs and delays and to some extent are governed by state statute.
- One participant noted that while funds for the transportation system are insufficient, the region should not settle for a poor user experience. Another noted that privatization of infrastructure, often cited as a way to reduce costs, does not necessarily provide high-quality services. Another participant noted that better integration of land use and transportation planning would reduce capital costs over time.

Based on discussion and presentations at the forum, ON TO 2050 should develop policy guidance to incorporate expenditure efficiencies in capital costs into the next financial plan. This language should acknowledge recent and anticipated advances in the construction industry that reduce capital costs via improvements in processes, materials, and technologies. The next plan should incorporate these cost savings into its long-term expenditure forecasts within the financial plan.

Interview series

Between January 2016 and March 2016, CMAP staff conducted a series of 12 one-on-one interviews with various regional transportation stakeholders, including IDOT, RTA, transit service boards, county departments of transportation, municipalities, and civic/advocacy groups. In these interviews, CMAP staff summarized the research conducted as part of the Transportation System Funding Concepts project, as well as potential recommendations to be included in the final strategy paper.

In general, most interviewees were supportive of the proposed recommendations, including the overall concept of funding the transportation system with user fees. Several were concerned



about the potential equity impacts of variable transit fares, particularly distance-based fares. Others noted the importance of raising the motor fuel tax in the near-term, despite the long-term need to replace the MFT with a more sustainable revenue source. These discussions also raised potential new areas for staff to investigate, such as expanding the sales tax base to include some services (thereby increasing revenues for regional transit operations).



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The Chicago Metropolitan Agency for Planning (CMAP) is our region's official comprehensive planning organization. The agency and its partners are developing ON TO 2050, a new comprehensive regional plan to help the seven counties and 284 communities of northeastern Illinois implement strategies that address transportation, housing, economic development, open space, the environment, and other quality-of-life issues. See www.cmap.illinois.gov for more information.

ON TO 2050 strategy papers will explore potential new topics or refinements to existing GO TO 2040 recommendations. These documents and data-driven snapshot reports will define further research needs as the plan is being developed prior to adoption in October 2018.

