

CMAP



GO TO 2040

UPDATE APPENDIX

Major Capital Projects

DRAFT

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Introduction

A key element of the GO TO 2040 comprehensive regional plan update is to establish a priority list of proposed major transportation projects to fit within the plan's expected "fiscal constraint," meaning that the costs of the selected projects can be covered through the existing or reasonably expected revenue sources documented in the GO TO 2040 update appendix on the financial plan for transportation. As CMAP defines them, major capital projects are large projects with a significant effect on the capacity of the region's transportation system, including extensions or additional lanes on the interstate system, new expressways, major new expressway-to-expressway interchanges, or similar changes to the public transit system. These must be identified in GO TO 2040 to be eligible to receive federal transportation funds or obtain certain federal approvals. This document details the recommended projects and provides background on the process CMAP employed to evaluate them for inclusion under fiscal constraint in the GO TO 2040 plan update.

The GO TO 2040 financial plan includes budgets for maintaining the system, modernizing the system (including both state of good repair projects and system enhancements), and finally for capacity expansion (the major capital projects). While they are not itemized as part of the fiscally constrained major capital projects, numerous other projects that fall below the major capital threshold continue to be priorities for GO TO 2040. These include bus rapid transit and arterial rapid transit projects, elements of the CREATE program, and others. These projects are included, but not specifically listed, in the system enhancements budget of the financial plan.

In order to be included in the plan, major capital projects are also evaluated for air quality conformity. As part of the region's overall transportation system, these projects must not contribute to violations of federal air quality standards or delay achievement of the standards. When these conditions are met, the plan is considered to be in air quality conformity. A separate GO TO 2040 update appendix demonstrates air quality conformity for the GO TO 2040 plan update and will be available at www.cmap.illinois.gov/about/2040/update. Lastly, projects are also assessed for their effects on environmental justice. The environmental justice measure assesses the potential impacts that the fiscally constrained projects will have on minority and disadvantaged population groups in the CMAP region to demonstrate that transportation investments are shared among socioeconomic groups.

Throughout the major capital project evaluation process, the Transportation Committee and other working committees were closely involved through staff memos, presentations, and discussions. This document is composed of material previously presented to these committees.



Recommended Major Capital Projects

The list of priority major capital projects includes the same set of projects under fiscal constraint as the original plan, minus three projects already completed, plus two projects amended into the plan in 2013. Thus, the update continues the same priorities of GO TO 2040, although details have changed in some cases, including costs, financing, and project scope. The financial plan for the GO TO 2040 update indicates that the \$12.71 billion in funding will be available to construct these projects within the planning period. Nevertheless, rapid progress has been made on some projects and less on others, and several projects have near-term funding shortfalls. These and other implementation challenges are discussed as appropriate.

Expressway Additions: Express Toll Lanes

A major focus of GO TO 2040 is directing investment to improve the heavily used transportation infrastructure that serves existing communities in the region. Strategically adding capacity to existing expressways in the region is a key part of this approach. The expressway additions recommended for fiscal constraint in the GO TO 2040 update address capacity limitations and reliability on some of the most congested facilities in the region. At the same time, these projects also rehabilitate older infrastructure and tackle major safety and operational problems.

Once built, new capacity needs to be managed to prevent the loss of performance to congestion over time. The most effective way of managing highway capacity is to implement congestion pricing, so that the price to use the facility changes with demand. This allows traffic to flow freely even in peak periods and improves travel time reliability by giving operators a mechanism to respond to changes in travel demand. Except on very short or isolated segments, GO TO 2040 recommends constructing added lanes as express toll lanes.

I-55 Stevenson Express Toll Lanes

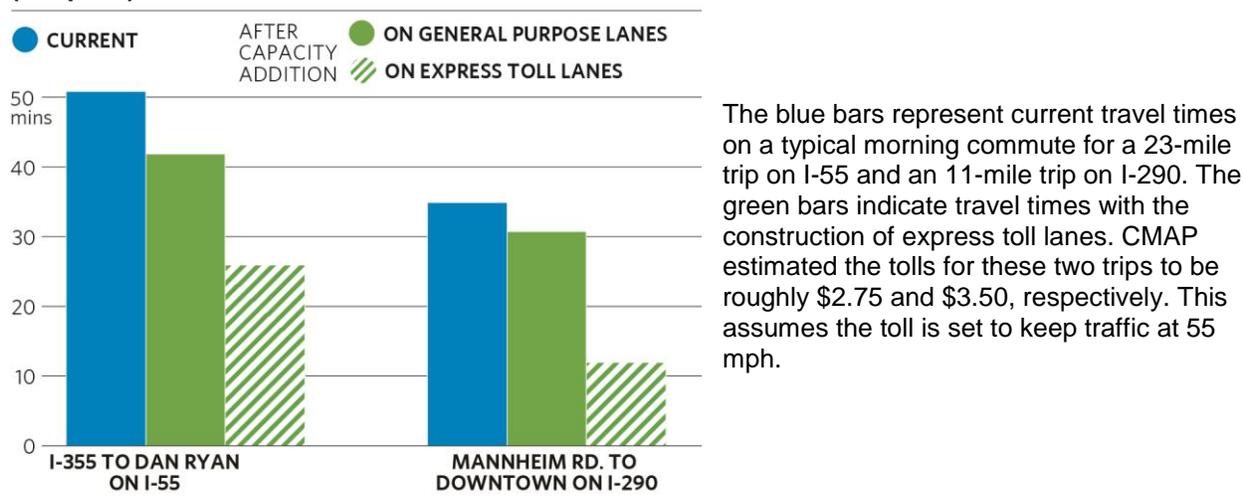
The southbound Stevenson Expressway from I-355 to the Dan Ryan Expressway ranks among the ten most congested expressway segments in the region. The reconstruction of the Stevenson in the 1990s left much of the expressway with wide inside shoulders with mostly full-depth pavement that can withstand regular use. Thus, there is a major opportunity to convert this shoulder cost-effectively to an express toll lane, which would cut travel times (see Figure 1), improve reliability, and benefit transit services already using the corridor. The proposed project would provide one express toll lane in each direction on I-55 between I-355 and the I-90/94. Per unit cost, the I-55 Express Toll Lanes project has the highest economic impact and second highest congestion reduction of any of the projects CMAP studied.

Funded by CMAP's Congestion Mitigation and Air Quality Improvement (CMAQ) program, Pace has for several years operated a successful program running express buses on the shoulder, but buses must merge with regular traffic at several narrow points and travel at limited speeds when on the shoulder. The express toll lane is envisioned to upgrade this service,



allowing continuous travel in a lane with minimal congestion from I-355 to the Dan Ryan. The Stevenson is also a freight-rich corridor with access to intermodal facilities. For safety and operational reasons, multi-unit trucks would not be able to use the express toll lanes, though any new capacity on the expressway will improve travel times and reliability for all users, including trucks.

Figure 1. Travel time savings on a typical trip on the Stevenson and Eisenhower express toll lanes (AM peak)



Source: Chicago Metropolitan Agency for Planning analysis.

The Illinois Department of Transportation (IDOT) has begun Phase I Engineering for the project but has not allocated specific funding for further engineering and construction. CMAP's work on [congestion pricing](#) suggests that pricing could reduce the constrained cost of the new lane by nearly 20 percent, making it critical to implement pricing to help fund the project. Perhaps the most significant challenge with this project is the lower priority that IDOT has placed on it relative to its other projects.

I-290 Eisenhower Express Toll Lanes

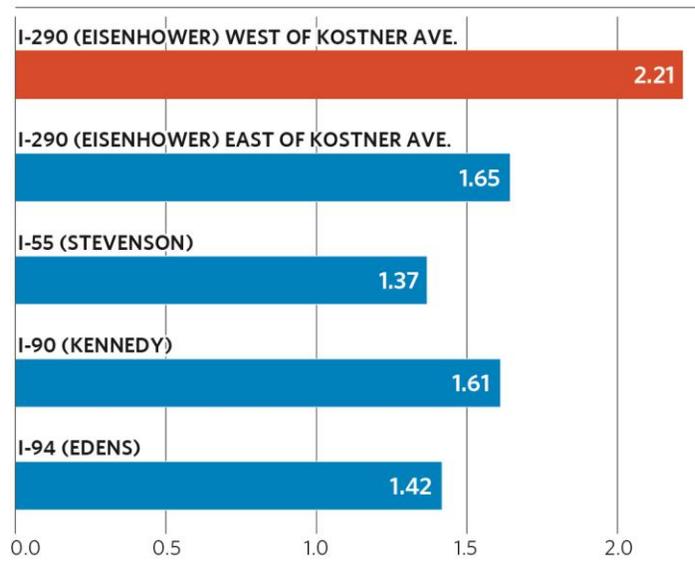
The Eisenhower Expressway was one of the earliest expressways constructed in the Chicago region and has been the vanguard for a number of innovations, including the first use of ramp metering and the construction of rapid transit in the expressway median. The Eisenhower Expressway is generally in the top five most congested expressway segments in the region. It also suffers from major geometric deficiencies, including narrow shoulders, short weaving distances between ramps, and especially the left-hand exits at Austin and Harlem Avenues. Moreover, it has what is probably the most severe bottleneck in the region, where the number of lanes drops from four to three west of Central Avenue. As a result of these problems, the western portion of the expressway has a significantly higher crash rate than comparable expressways in the region (see Figure 2).

Adding an express toll lane to the Eisenhower from Mannheim Road to Racine Avenue will significantly improve speeds and travel time reliability on the facility. Reconstruction and



modernization of the facility will help improve safety. IDOT is currently in Phase I Engineering for this project and has narrowed its study to four alternatives, all of which involve adding a lane to the Eisenhower. However, the Department has not allocated specific funding in the near term for further engineering and construction. CMAP’s work on congestion pricing suggests that pricing could reduce the constrained cost of the new lane by about a quarter, making pricing a key part of funding the project.

Figure 2. Crash rates on select Chicago-area expressways, per million vehicles per mile



Source: Illinois Department of Transportation.

While this project has significant engineering challenges relating to the availability of right-of-way and railroad coordination, perhaps its biggest obstacle is the potential for community impacts. The expressway is in a dense urban corridor. One important mitigation approach is the improvement of the pedestrian and transit station environment along the Blue Line, which the Chicago Transit Authority (CTA) has been considering in its Blue Line Forest Park Branch Feasibility/Vision Study.

Expressway Additions: Interchanges and Improvements

The projects proposed here either reconstruct and modernize older highway infrastructure or correct major deficiencies. While they provide some additional capacity, this is modest relative to the contribution that these projects make to achieving the overall goal of maintaining and improving the existing highway system. CMAP treats interchanges between expressways as major capital projects.



Circle Interchange

The Circle Interchange project will reconstruct and modernize an interchange that has not had a major rehabilitation since it was first built more than a half-century ago. While it is mostly a reconstruction project, new capacity will be added in the form of an additional lane on the east-north and north-west ramps, as well as three new flyovers. A new through-lane will also be added on I-90/94, correcting a deficiency that forces drivers to make lane changes when entering the interchange. The new ramp configurations and added lanes are expected to significantly reduce crashes for all users. The Circle Interchange is the busiest interchange in the region, and is typically among the most congested interchanges in the country. For several years the Federal Highway Administration (FHWA) has identified the Circle Interchange as the **worst freight bottleneck in the U.S.** Rehabilitation of the interchange will support the region's competitive position in freight, manufacturing, and other industries.

FHWA issued a Finding of No Significant Impact for the project in late 2013, allowing it to proceed to construction. Since the project is in a dense, urban area with older buildings, noise walls will be needed in certain areas, as well as special attention to the potential for structural damage to adjacent buildings during construction. Particular attention is expected to be given to improving the pedestrian environment around the interchange and at the Chicago Transit Authority's (CTA) Halsted/UIC Blue Line station.

I-294/I-57 Interchange

The crossing of I-294 and I-57 is the only place in the region, and one of very few locations in the country, where two interstates cross but do not have an interchange. The Tri-State Tollway links the region's suburban communities in an arc from the south suburbs to Lake County, providing access to O'Hare International Airport and several commercial and industrial centers, as well as intermodal freight terminals. The I-294/I-57 interchange project will provide a full connection of these two interstates for improved accessibility to and from the south suburbs and for improved north-south regional travel. The Tollway included this project in its Move Illinois capital program. Construction of Phase 1, which is anticipated to provide the largest congestion reduction benefits, will be complete in 2014. It involves construction of new ramps to connect northbound I-57 to northbound I-294 and southbound I-294 to southbound I-57, as well as an entrance and exit ramp from I-294 to 147th Street. Phase Two is planned for completion in 2024 and will provide the remaining interchange connections.

I-190 Access and Capacity Improvements

The I-190 Access Improvements project consists of reconfiguring arterial access to I-190 and O'Hare International Airport to improve mobility and reduce collisions, as well as ultimately reconstructing and adding capacity to mainline I-190. Project planning is advancing; several elements have already been funded through IDOT, Chicago Department of Transportation (CDOT), and the Chicago Department of Aviation, using Passenger Facility Charge funds. O'Hare International Airport and its surrounding freight and manufacturing development are a significant economic engine for the region. But, the area experiences significant congestion and



unreliable travel times. The I-190 project will improve access to the O'Hare area and reduce congestion in a high-traffic corridor.

Jane Addams Tollway (I-90)

As part of the Move Illinois program, the Illinois Tollway is reconstructing the Jane Addams Tollway from Rockford to I-294, given that most of the roadway is more than a half-century old. A new lane will also be added in each direction to accommodate current and future traffic. The Addams experiences congestion within the Chicago region, although not to the same degree as the Stevenson and Eisenhower. As part of the project, the Tollway is making major strides in modernizing the Addams by including active traffic management technology that warns drivers of upcoming congestion and closes lanes well ahead of a stalled vehicle or wreck (Figure 3). This technology would also permit the use of variable speed limits (speed harmonization), which has been shown to reduce crashes and increase roadway capacity by stabilizing traffic flow.

While the Tollway has studied the use of congestion pricing on the new lane, it has elected not to implement the policy on the Addams when the reconstruction and widening is complete in 2016. The ITS infrastructure will be in place to support a future decision to use congestion pricing, but converting to congestion pricing later may present a challenge for public acceptance. The Tollway is also working closely with Pace to operate a bus-on-shoulder program along the Addams, which is partly funded by CMAP through the CMAQ program.

Figure 3. Example of active traffic management from Washington State



Source: [Washington State Department of Transportation](#).

Transit Improvements

Projects that rehabilitate transit lines to improve asset condition and that add service to accommodate greater ridership are major elements of GO TO 2040's focus on maintaining and modernizing existing infrastructure. These projects add capacity by making improvements to track, platforms, and stations for the purpose of increasing the number of riders that can move through the system. Some of these investments are part of the CREATE program or involve operational improvements that make the freight and passenger rail system work more efficiently. This enhances the region's economic competitiveness.



The transit improvement projects recommended in GO TO 2040 support existing communities and also create new opportunities for transit-supportive development. Considerable planning has been completed both for the stations and broader communities around these investments, although plans are not yet in place for all stations proposed as part of the major capital projects. Completing and implementing these plans is a priority. The plans should seek to foster livable communities and support the region's substantial investment in new and proposed transit infrastructure by promoting land use patterns that allow transit access.

CTA North Red/Purple Line Modernization

This project envisions a modernization of the 100-year old "El" lines serving the north side of Chicago and near north suburban communities. The Red and Purple Line modernization will provide significant reinvestment in existing communities and upgrade the CTA's most heavily used rail line. Dilapidated viaducts and crumbling infrastructure will be replaced or improved, building a new elevated structure and providing a quieter, more livable environment. The improved facility is also expected to experience significantly lower operating and maintenance costs once it is brought to a state of good repair. A Brown Line flyover at Clark Junction, which would decrease travel time for riders by allowing Brown Line trains to cross above the Red and Purple Line tracks, is also being considered for the project.

The CTA is analyzing traditional and innovative funding options. The project recently received authorization to apply for funding under the new Core Capacity Program of the Federal Transit Administration's New Starts transit funding program. The Core Capacity Program allows existing systems to apply for New Starts funds if they expand capacity by at least 10 percent in transit corridors that are currently at or above capacity. The project also has the potential to use innovative funding methods like value capture or obtain innovative financing through the federal Transportation Infrastructure Finance and Innovation Act (TIFIA) program, which provides low-cost loans to transportation projects. CMAP's financial plan assumes value capture will provide approximately five percent of the project's total cost.

West Loop Transportation Center Phase I Improvements

The West Loop Transportation Center is envisioned as a new transportation hub that would reconfigure Chicago Union Station and ultimately lead to greatly improved connections between rapid transit, bus, commuter rail, and intercity rail services, supporting the GO TO 2040 goal of seamless coordination between transit modes. The [Union Station Stage 1 Master Plan](#) determined that work on the project should take place in two key phases: Phase 1 improvements to existing facilities east of and within Union Station, and Phase 2 development of a new underground transitway in the West Loop.

In the GO TO 2040 plan update, only Phase 1 is included in the fiscally constrained project list. Phase 1 will increase capacity within the existing footprint of Chicago Union Station by creating new platforms and tracks and by repurposing currently inactive tracks and platforms formerly



used for mail handling. It will also expand the passenger-carrying capacity of existing platforms used by commuter trains, reconfiguring the station's internal spaces to increase passenger capacity. Finally, the project will create the capability to through-route some intercity trains.

Metra Rock Island Improvements

Metra's proposed improvements to the Rock Island District (RID) Line will enhance coordination between freight traffic and Metra trains as well as allow for eventual connection of the SouthWest Service (SWS) with LaSalle Street Station. This connection and other improvements will improve rail freight movement through the region, reduce congestion, and improve access at Union Station. Proposed improvements include adding a third track to the nine-mile double-track portion (between Gresham Junction and a point north of 16th Street Junction) of the RID Line. The proposed upgrade also includes the CREATE P1 Project, new bi-directional signals, centralized traffic control to integrate with existing RID operations, several new or rehabilitated bridges over city streets, and an expanded and modernized 47th Street Yard. CREATE Project P1 is a rail flyover expected to eliminate conflict between 78 Metra Rock Island trains and approximately 60 freight and Amtrak trains that presently cross at grade through the Englewood interlocking each day. This portion of the RID project is fully funded and under construction.

Metra SouthWest Service Improvements

The SouthWest Service Improvements project will reduce congestion at Union Station and improve freight movements within and through the region. As part of the CREATE 75th Street Corridor Improvement Project, it will address the most congested rail chokepoint in the Chicago Terminal District. As part of this project, the SouthWest Service will be rerouted to terminate at LaSalle Street station, relieving congested operations at Union Station. The improvements also include constructing a two-mile segment beginning west of Belt Junction to carry trains over the parallel Norfolk Southern service along 74th Street to the Rock Island District Line tracks to provide improved reliability with fewer operating conflicts.

Metra UP North Improvements

The UP North Improvements will improve the operating capacity and reliability of the line between Ogilvie Transportation Center and Kenosha through installation of additional crossovers and track improvements. A new outlying coach yard will allow for more efficient servicing of equipment and accommodate expansion of service. Additional upgrades to existing stations will accommodate an expected increase in passengers in both the traditional commute and reverse commute direction. A new station at Peterson and Ridge Avenues is also proposed, and improvements to the existing Hubbard Woods Station are proposed to expand transportation options for these communities.



Metra UP West Improvements

The UP West Improvements will provide track, signal, safety, and infrastructure improvements to increase passenger service and coordinate with freight traffic. Specifically, a third track will be added to an existing double-track portion of the line east of Elmhurst. Among the alternatives under evaluation to address congestion at the A-2 Crossing, where the Milwaukee District and North Central Service lines cross the UP West near Western Avenue, are moving the crossing to a new location one mile east and constructing a flyover near the current crossing. These improvements will enable the UP West to better serve as an alternative to the BNSF line and also to operate more effectively in coordination with freight rail movements. In combination, these improvements would allow for an increase in service from 59 to 80 trains per day, nearly doubling estimated passenger miles traveled on the line. Part of the project involves upgrades to signal systems, crossovers, pedestrian safety improvements, and new triple track. Most of the pedestrian diversion construction was completed in summer 2011, and construction of signals and crossovers is currently proceeding.

New Projects and Extensions

The focus of GO TO 2040 is first on maintaining and modernizing the existing system, then strategically adding capacity to existing facilities, and only then building entirely new projects. GO TO 2040 recommends a small number of critically important new projects, discussed below.

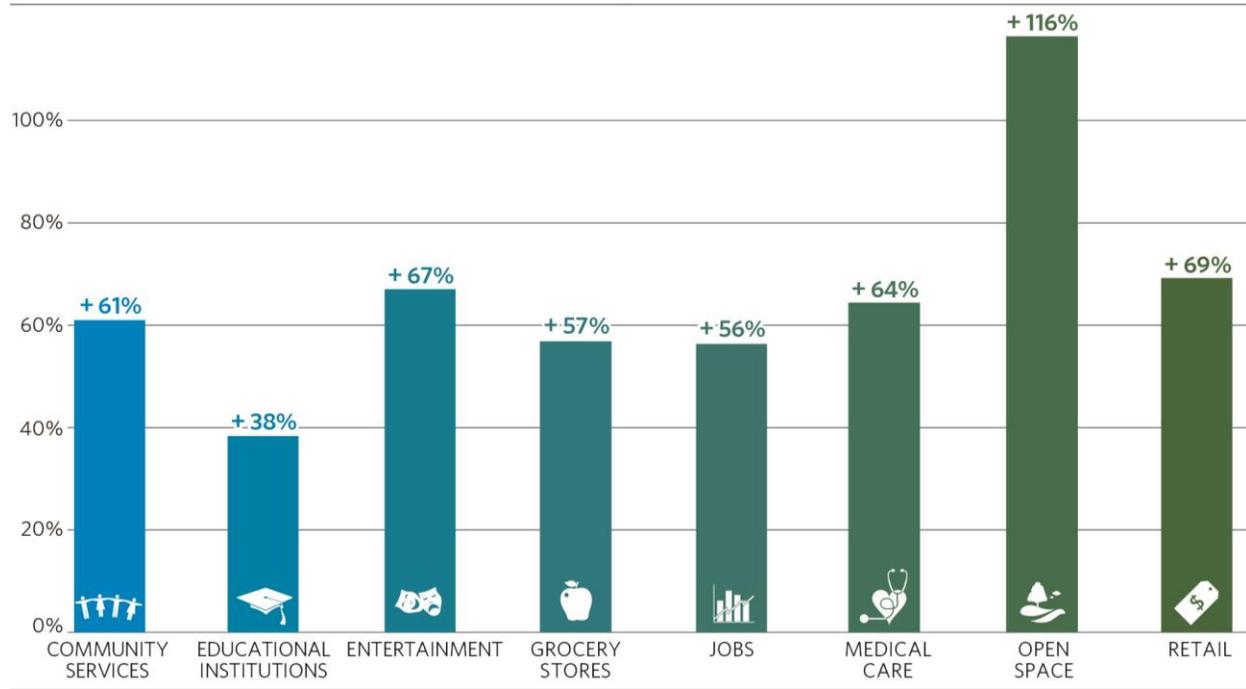
CTA Red Line South Extension

The CTA Red Line currently terminates at the 95th Street/Dan Ryan station, which through the 1990s and most of the 2000s was the busiest CTA station outside of downtown Chicago because of its numerous connecting bus lines. South of 95th Street, residents struggle with long commute times and multiple transit transfers required to reach work, school, medical appointments, and services. By extending the Red Line south to 130th Street, the area it serves would see improved access to jobs and services, reduced travel times by streamlining CTA and Pace bus-to-rail connections, and enhanced livability and economic impact in distressed neighborhoods.

The Red Line south extension would be approximately 5.3 miles in length and add new stations at 103rd Street, 111th Street, and Michigan Avenue (115th) before terminating at 130th Street. The investment would cut transit travel time from 130th Street to the Chicago Loop by 21 minutes or 34 percent. It would also dramatically increase access to a variety of services and amenities for residents of the greater Roseland area to be served by the project (Figure 4). This access would offer residents significantly more employment opportunities and contribute to an improved quality of life. Furthermore, because of its proximity to an interchange with the Bishop Ford Expressway, the large (2,300-space) park-and-ride lot to be constructed at the 130th Street station will provide new commute options for southern Cook County as well.



Figure 4. Increase in number of services and amenities that can be accessed within 60 minutes with the Red Line Extension



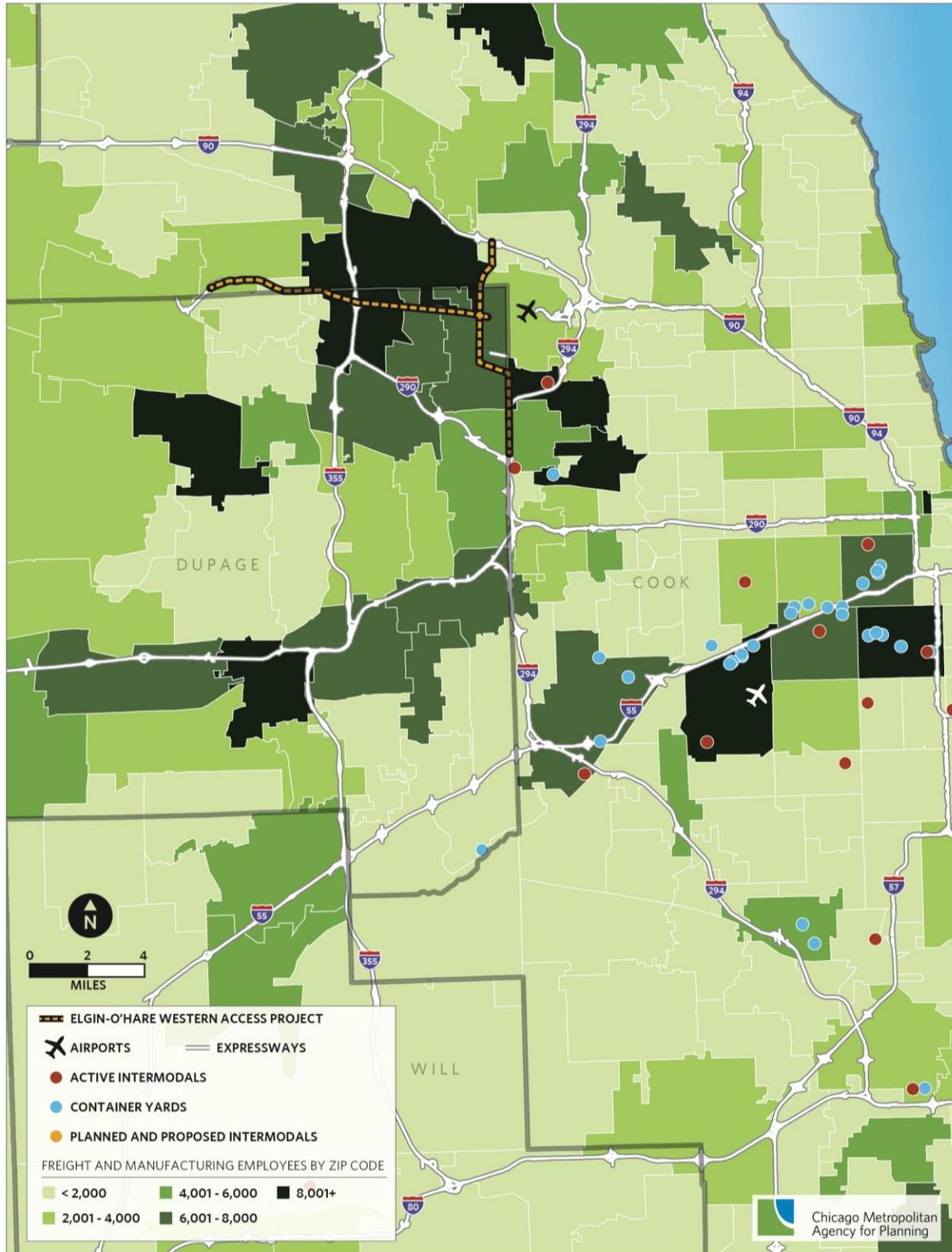
Source: Chicago Metropolitan Agency for Planning analysis, 2012.

While there is a large stock of affordable housing in the greater Roseland area, residents experience longer and more expensive commutes than the rest of the region. In particular, Roseland commuters drive to work alone at a rate 10 percentage points higher than the City of Chicago as a whole and spend a higher proportion of their income on transportation costs. By making transit use more viable, the Red Line Extension will improve overall affordability in the area it serves. Furthermore, the Red Line Extension has the potential to spur revitalization of the area around the proposed stations.

Perhaps the biggest challenge for the Red Line Extension is the specific allocation of funding to this project relative to other investments. Current CTA efforts are focused on reconstruction of the existing system, and this is appropriate given GO TO 2040's emphasis on modernization. However, the project has significant local support and substantial planning efforts have been undertaken by stakeholders in the community to lay the local groundwork for the facility.



Figure 5. The EOWA and CMAP region freight and manufacturing employment



Source: Chicago Metropolitan Agency for Planning analysis of Dun & Bradstreet data.



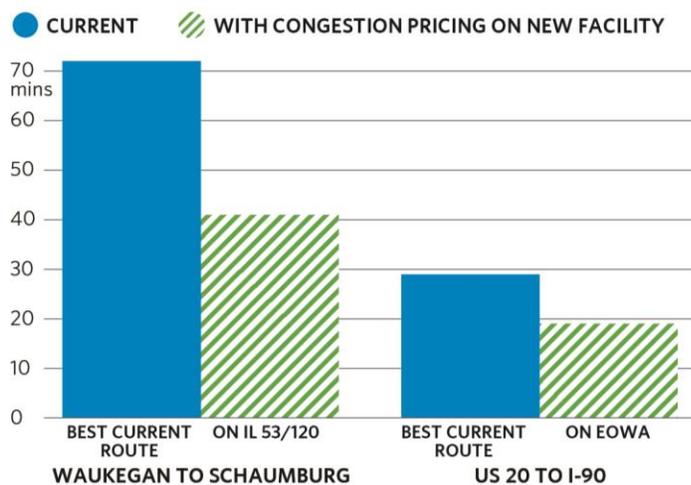
Elgin O’Hare Western Access

While the area around O’Hare International Airport owes its economic vitality to its unique convergence of air, road, and rail infrastructure, the same assets have also led to significant congestion problems for truck and passenger traffic. The Elgin O’Hare Western Access (EOWA) project will provide a new, limited-access facility to reduce congestion and improve access to the airport. The project includes three main components: reconstructing and widening the existing Elgin O’Hare Expressway, extending the expressway east to O’Hare International Airport, and adding an expressway around the western side of O’Hare from I-90 to I-294 (the western bypass). All three components will be tolled. The first two components are expected to be complete in 2018, while the western bypass is planned for 2025. Federal approval for the EOWA was given on January 24, 2013, and construction is now underway.

The EOWA provides critical support to the most significant cluster of freight and manufacturing employment in the region (Figure 5). It would also eventually provide access to the planned western terminal of O’Hare. In addition, the EOWA provides meaningful travel time savings (Figure 6) and yields the highest increase in access to jobs by automobile of any of the projects considered.

While the project does reserve right-of-way for future transit improvements, there are no specific commitments to providing this service. Planning for and implementing enhanced transit service that improves access to this regional employment center will be critical over the long term. Pace is currently developing the Cook DuPage Area Rapid Transit Investment Plan, which would identify investment priorities for rapid transit service, a refined network of near- and long-term transit corridors, and the establishment of an action plan to implement arterial rapid transit (ART). Transit service within the Elgin O’Hare Expressway is a component of this plan. Pace is expected to complete the plan in 2015.

Figure 6. Travel time savings on an example trip using IL53/120 and EOWA (AM peak)



Note: EOWB = Elgin O’Hare West Access.
Source: Chicago Metropolitan Agency for Planning analysis.



IL 53/120 Tollway

As development in central Lake County in recent decades has led to severe arterial traffic congestion, several attempts have been made to plan and build a north-south route through central Lake County. Those efforts were stalled by strong concerns over negative community and environmental impacts as well as funding challenges. In the past two years, the project has made significant progress via the Tollway's [53/120 Blue Ribbon Advisory Council](#) (BRAC), which developed consensus among communities, environmental groups, and other key stakeholders to build a "21st Century modern boulevard" in the corridor. [Principles from the BRAC process](#) are guiding the continued 53/120 work, and they call for "innovative design solutions for a safe, integrated, multi-modal corridor." In line with BRAC recommendations, the project is envisioned as a limited-access, four-lane, 45-mph tolled facility that uses congestion pricing to help manage demand. It would utilize a context-sensitive design that protects Lake County's communities and environmental assets. The project would extend the existing, limited-access IL Route 53 from its terminus at Lake-Cook Road to join IL Route 120 to the north. Additionally, an extension of the limited-access portion of IL Route 120 is proposed. This project would offer significant travel time savings over travel on the arterial network (Figure 6).

Beyond the BRAC's effort, work is still needed to finalize the roadway design, plan for supportive land use, and develop a funding plan. As part of its [Illinois 53/120 Feasibility Analysis](#), the Tollway has convened a Finance Committee comprised of local officials and stakeholders to develop a financing strategy for the facility. The Committee will evaluate both traditional and innovative revenue sources for the facility, including congestion pricing and value capture. The expectation is that toll revenue from the facility will be used to help fund its construction.

Of all the capital projects considered in the GO TO 2040 update, the IL 53/120 Tollway would have the highest congestion reduction benefits for both automobile and freight traffic. It would also have the largest economic impacts of any project. Although the environmental impacts from a conventional road design would also be high, work by the BRAC and furthered by CMAP in the corridor land use plan strongly suggests that the road can be designed to protect environmental assets and local community character. Planning for supportive land use will be critical to meet the mobility and livability goals of the project. In March 2014, CMAP, Lake County, and the Tollway initiated development of the [Illinois Route 53/120 Corridor Land Use Plan](#). This multi-year effort will engage relevant municipalities, the environmental and economic development communities, and other stakeholders in a facilitated, open process to create a plan for land use, open space, local transportation, and economic development within a two-mile buffer of the proposed IL 53/120 right of way.

Illiana Expressway

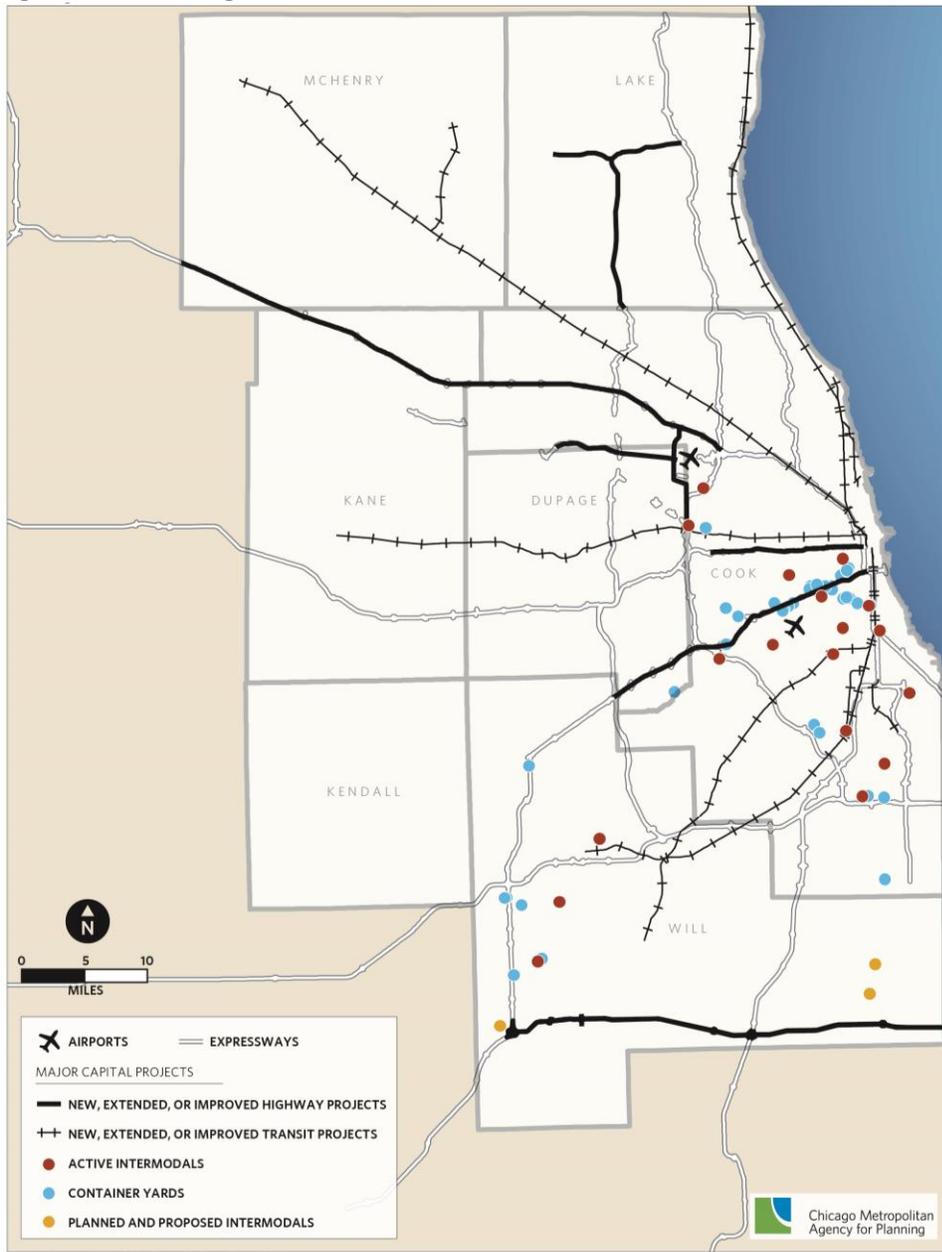
Metropolitan Chicago maintains a significant competitive advantage over other freight hubs in intermodal operations, which facilitate the transfer of goods between truck and rail freight. Well-chosen investments in transportation infrastructure will be critical to maintain that



competitive position over the long term. The Illiana Expressway is designed to support the region's growing **freight cluster**.

The proposed 47-mile, four-lane Illiana Expressway is envisioned as a bypass of I-80 for long-distance truck freight, as well as an alternative for heavy truck travel that is currently utilizing local roadways in Will County. Over the last decade, three new intermodal facilities have been developed in the western portion of Will County, and several additional intermodal facilities are proposed (Figure 7). This growing concentration of intermodal activity in Will County has driven an increase in truck traffic on local roads that are not configured for heavy truck use. In fact, modeling suggests that about 50 percent of the traffic on the facility would be heavy trucks.

Figure 7. CMAP region intermodal and container facilities



Source: Chicago Metropolitan Agency for Planning analysis.



The Illiana is on an accelerated timetable. The [Tier 2 Environmental Impact Statement](#) for the project is nearing completion, with the expectation of beginning construction in 2015 and opening to traffic in 2018. IDOT is pursuing use of a public-private partnership (P3) for the Illiana Expressway. GO TO 2040 supports the use of P3s as an innovative and efficient public finance tool, and also states that these arrangements must be handled with a high degree of transparency and care. IDOT has indicated that it intends to pursue an [availability payment P3 model](#) for the Illiana Expressway, an approach that may transfer risk in achieving projected toll revenues to the public sector.

A significant implementation challenge for the project is planning for growth that meets the tenets of GO TO 2040. The alignment for the Illiana is well to the south of the urbanized area. GO TO 2040 supports reinvesting in existing communities, pursuing opportunities for more compact, walkable, and mixed-use development, protecting the environment and preserving open space, and providing a range of housing options. A large volume of input was received during the public comment period of the plan update process regarding the Illiana Expressway from stakeholders who called for protecting regional environmental assets, particularly Midewin Tallgrass Prairie, and maintaining a compact regional growth strategy. Local planning to meet the goals of GO TO 2040 should be seen as a key part of the overall project.

Metra UP Northwest Improvements and Extension

Two improvements are proposed on the UP Northwest line: infrastructure upgrades and a 1.6 mile extension to Johnsburg from McHenry. Infrastructure upgrades include improvements to the existing signal system and additional crossovers and other track improvements to increase operating capacity and reliability. Two additional stations will be added to the line at Prairie Grove on the McHenry branch and Ridgefield on the Woodstock branch. In addition, new yards are planned for the Woodstock and Johnsburg areas. These combined improvements, the extension, and new stations are estimated to considerably increase passenger miles traveled on the line. This project serves a substantial population of 2.8 million residents within 5 miles, and 1.6 million jobs. The full line travels through a major employment corridor in the Northwest suburbs, and the extension would increase access to jobs there and in downtown Chicago. Planning for transit-supportive development at new stations and for feeder bus service will increase access along the line.



Project Cost Estimates

This section presents the estimated cost of all the major capital projects considered and documents the methodology used. Federal rules on fiscal constraint require costs to be in year-of-expenditure dollars (YOE\$) and to include both capital and operations and maintenance (O&M) costs. Thus, estimates are needed of both types of costs as well as the years in which these expenditures are expected to take place. CMAP staff worked with implementers to update project information including scope, costs, phasing plans, and the portion of the project that would involve the addition of new capacity.

Capital Costs

Capital costs were provided directly by the project sponsor. When provided in current year (or earlier) dollars, costs were escalated to YOE\$ by assuming 3 percent annual cost inflation, the same as the assumption used in the GO TO 2040 financial plan for capital maintenance expenditures. Project phasing was taken into account when that information was available. When the sponsor provided costs in YOE\$ but used a different cost escalation factor, costs were deflated to the base year and then escalated at 3 percent. In some cases, project sponsors did not provide a year within the time horizon of the plan. For those projects, the construction year is left blank and no YOE\$ costs are calculated.

In CMAP's financial plan, the constrained cost of major capital projects is only the amount needed to build and operate new capacity. However, many major capital projects include elements of reconstruction as well as capacity addition. For example, add-lanes projects frequently include reconstruction of the existing facility along with addition of the new lane. The proportion of capital costs required for new capacity and reconstruction was provided directly by the project sponsor.

Operating Costs

Operating costs were generally estimated from information provided by sponsors. For highway projects, operating costs were estimated by applying unit costs (per year per lane-mile) to the amount of new capacity, then inflating the cost each year by 3 percent. The unit cost estimate for non-tolled highways was derived from costs for FY09 – FY13 operations on the interstate system provided by IDOT District 1. The estimate for Tollway projects was derived from information provided by the Tollway on operating costs for the Elgin-O'Hare Western Access project. The estimate for the Illiana was taken from back-up material for the Illiana Expressway project study.

Except when directly provided by the sponsor, annual operating costs for transit projects were assumed to be 1 percent of the initial construction cost. In these cases, half of the transit operating cost was assumed to be covered through farebox recovery and therefore would reduce the cost of the project required to be fiscally constrained. Again, operating costs were



inflated by 3 percent each year. These are the same assumptions previously used for transit projects in the major capital element of the GO TO 2040 plan.

Role of Project-Specific Revenues

Unless they have already been counted in the financial plan forecasts, any revenues specifically generated by a project help offset the constrained cost of the project. Accounting for project revenues is somewhat complex, but the following points can be made for specific projects.

- The Illiana Expressway is assumed to be tolled and to utilize a public-private partnership. [CMAP's earlier analysis of the project](#) found that, under a "moderate" financing scenario (neither optimistic nor pessimistic), a \$710 million public contribution would be required to help fund the Illiana. It was assumed that this amount would have to be provided by 2040. After accounting for financing costs, then, project revenue is estimated to offset 53% of the Illiana Expressway's capital and ongoing operations costs.
- The revenues of Tollway projects funded under Move Illinois are included in the financial plan forecast, with the exception of the Elgin-O'Hare Western Access (EOWA) project. CMAP staff used back-up material provided by the Tollway to estimate the portion of EOWA project costs recovered by tolls from that facility. Additional revenues from congestion pricing were not assumed in the estimate, congestion pricing could offset an additional 9 percent of the constrained cost over and above flat tolling.
- Construction of the extension of IL 53 and IL 120 bypass (the Central Lake County Corridor) is not included in the Move Illinois program. Cost estimates were provided by Tollway staff and revenue estimates were derived from the 2012 Blue Ribbon Advisory Committee recommendations. They include tolling the new capacity as well as tolling existing Route 53, indexing tolls to inflation, congestion pricing, and value capture.
- The I-55 and I-290 managed lanes projects were assumed to have variable tolling with rates set to keep traffic moving at the speed limit. Both the capital and operating costs of priced managed lanes will be higher than on a newly added general purpose lane, mainly because electronic toll collection (ETC) systems will be needed. However, the revenue generated by these lanes would reduce the constrained cost by 24 percent on I-290 and 19 percent on I-55 in comparison to a non-priced managed lane alternative.
- The Red/Purple Line Modernization project was assumed to have a small portion (5 percent) of its overall costs covered through the use of value capture, estimated as the blended potential of either a special service area or a mechanism similar to a tax increment finance district.



Managed Lanes Methodology

Revenue for I-55 and I-290 was estimated from a previous [CMAP study of congestion pricing](#). The costs of building and operating the electronic toll collection (ETC) systems were estimated from backup material for the 2010 study by the Tollway and the Metropolitan Planning Council. To estimate the total project capital cost, the costs related to ETC (detection equipment, gantries, etc.) were added onto the capital costs provided by the implementers. Additional costs related to lane separation were assumed negligible (striping only). Operating costs for ETC were taken from a survey of other managed lanes projects in the backup material. To account for financing costs, construction was assumed to be financed through bonds with a 20-year term, 6 percent interest, and a debt coverage ratio of 2.0. Revenue was assumed to grow at 1 percent while costs grow at 3 percent.

Results

The full list of fiscally constrained projects and their costs is in Table 1, while the unconstrained projects are in Table 2. The second-to-last column in bold type indicates the new capacity costs considered for fiscal constraint, while the last column describes the reconstruction costs associated with that new capacity. Constrained projects come to \$12.33 billion for new capacity with an additional \$8.53 billion in associated reconstruction costs. No YOES costs are provided for projects outside the planning horizon (indicated by a ‘-’ in the third column).



Table 1. Costs of fiscally constrained major capital projects

Project	Project information				Costs for new capacity in YOE\$b					Associated reconstruction costs, YOE\$b
	Sponsor	Year	Capital cost, 2014\$	Percent of cost for new capacity	Capital cost, YOE\$b	Operating costs to 2040, YOE\$b	Total project cost, YOE\$b	Cost offset by new project-specific revenue	Constrained cost, YOE\$b	
Elgin O'Hare Western Access*	Tollway	2020	2.15	99%	2.52	0.20	2.72	52%	1.11	0.03
I-90 Reconstruction and Widening	Tollway	2016	1.27	17%	0.23	0.07	0.30	0%	0.30	1.11
Illinois 53/120 Tollway	Tollway	2020	2.10	88%	2.78	0.08	2.87	30%	1.63	0.32
I-294/I-57 Interchange Addition	Tollway	2024	0.35	75%	0.35	0.01	0.36	0%	0.36	0.12
I-55 Express Toll Lanes	IDOT	2020	0.40	80%	0.38	0.03	0.41	19%	0.33	0.10
I-290 Express Toll Lanes	IDOT	2020	1.60	20%	0.38	0.01	0.39	24%	0.30	1.53
Illiana Expressway	IDOT	2016	1.00	100%	1.06	0.46	1.52	53%	0.71	-
I-190 Access Improvements	IDOT	2020	0.38	20%	0.09	0.00	0.09	0%	0.09	0.36
Circle Interchange Reconstruction	IDOT	2015	0.41	20%	0.08	0.00	0.09	0%	0.09	0.34
Red Line Extension (South)	CTA	2020	1.70	82%	1.66	0.23	1.90	0%	1.90	0.37
Red/Purple Line Modernization	CTA	2020	4.20	64%	3.21	(0.06)	3.15	5%	2.99	1.81
UP Northwest Extension	Metra	2020	0.58	50%	0.35	0.19	0.54	0%	0.54	0.35
SouthWest Service Improvements	Metra	2020	1.03	25%	0.31	0.16	0.47	0%	0.47	0.92
UP North Improvements	Metra	2020	0.45	25%	0.13	0.07	0.21	0%	0.21	0.40
UP West Improvements	Metra	2020	0.52	25%	0.16	0.08	0.24	0%	0.24	0.47
Rock Island Improvements	Metra	2020	0.05	25%	0.02	0.01	0.02	0%	0.02	0.05
West Loop Transportation Ctr: Phase 1**	CDOT	2020	0.84	75%	0.75	0.30	1.05	0%	1.05	0.25
Total for constrained projects									12.33	8.53

* Operating costs for the Elgin O'Hare Western Access project are already included in the financial plan expenditure forecasts, so they are not counted as part of the constrained cost here. ** In GO TO 2040, the West Loop Transportation Center was considered one project. As a result of the Union Station Master Plan, it was broken into two projects.



Table 2. Costs of unconstrained major capital projects

Project	Project information				Costs for new capacity in YOES\$b					Associated reconstruction costs, YOES\$b
	Sponsor	Year	Capital cost, 2014\$	Percent of cost for new capacity	Capital cost, YOES\$b	Operating costs to 2040, YOES\$b	Total project cost, YOES\$b	Cost offset by new project-specific revenue	Cost considered for fiscal constraint, YOES\$b	
Elgin O'Hare Exwy Far West Extension	Tollway	-	0.24	100%	-	-	-	-	-	-
Elgin O'Hare Exwy West Extension	Tollway	-	0.20	100%	-	-	-	-	-	-
I-294 Central Tri-State Mobility Imprvmt	Tollway	2025	1.04	25%	0.36	0.05	0.41	0%	0.41	1.08
I-55 Add Lanes - I-80 to Coal City Rd.	IDOT	-	0.84	20%	-	-	-	-	-	-
I-57 Add Lanes	IDOT	2030	0.90	80%	1.15	0.01	1.16	0%	1.16	0.29
I-80 Managed Lanes - Ridge Road to US	IDOT	2020	0.75	20%	0.18	0.12	0.30	0%	0.30	0.72
I-80 Managed Lanes - US 30 to I-294	IDOT	-	0.45	80%	-	-	-	-	-	-
I-80 to I-55 Connector	IDOT	-	0.10	100%	-	-	-	-	-	-
IL 394	IDOT	-	0.60	40%	-	-	-	-	-	-
West Loop Transportation Ctr: Phase 2**	CDOT	-	2.09	100%	-	-	-	-	-	-
Blue Line West Extension	CTA	-	2.57	75%	-	-	-	-	-	-
Brown Line Extension	CTA	-	4.14	75%	-	-	-	-	-	-
Circle Line South (Phase II)	CTA	-	1.00	75%	-	-	-	-	-	-
Circle Line North (Phase III)	CTA	-	2.24	75%	-	-	-	-	-	-
Orange Line Extension	CTA	-	0.50	75%	-	-	-	-	-	-
Yellow Line Enhancements and Extension	CTA	-	0.29	75%	-	-	-	-	-	-
Express Airport Train Service	CTA	-	1.80	50%	-	-	-	-	-	-
BNSF Extension	Kendall	-	0.84	100%	-	-	-	-	-	-
BNSF Improvements	Metra	-	0.45	25%	-	-	-	-	-	-
Heritage Corridor Improvements	Metra	-	0.20	25%	-	-	-	-	-	-
Metra Electric Improvements	Metra	-	0.45	25%	-	-	-	-	-	-
Metra Electric Extension	Metra	-	0.29	50%	-	-	-	-	-	-
Milwaukee District North Extension	Metra	-	0.64	75%	-	-	-	-	-	-
Milwaukee District West Extension	Metra	-	0.42	75%	-	-	-	-	-	-
Milwaukee District West Improvements	Metra	-	0.45	25%	-	-	-	-	-	-
North Central Service Improvements	Metra	-	0.33	50%	-	-	-	-	-	-
Rock Island Extension	Metra	-	0.32	100%	-	-	-	-	-	-
SouthEast Service	Metra	-	0.83	75%	-	-	-	-	-	-
SouthWest Extension	Metra	-	0.33	50%	-	-	-	-	-	-
STAR Line	Metra	-	3.00	100%	-	-	-	-	-	-
Central Area Transitway	CDOT	2020	0.36	75%	0.33	0.13	0.46	0%	0.46	0.11
Mid-City Transitway	CDOT	-	1.60	100%	-	-	-	-	-	-



Project Evaluation

GO TO 2040 strongly encourages transportation implementers to select projects based on their performance. For the major capital element of the GO TO 2040 update, CMAP evaluated the benefits of proposed capital projects to help prioritize them for inclusion within the plan's fiscal constraint. The primary tool used to evaluate the major capital projects was CMAP's regional travel demand model, supplemented with spreadsheet analyses and commercial economic impact software.

Build and No Build Scenarios

Travel conditions in 2040 were compared with the project (build scenario) and without the project (no-build scenario). All currently constrained projects were included in a single GO TO 2040 network as the build scenario. For each constrained project, an individual no-build scenario was constructed that excluded only the project in question. For unconstrained projects, the GO TO 2040 network was considered the no-build scenario, and each unconstrained project then had an individual build scenario constructed that included the project in question. The change between no-build and build measures was calculated accordingly by using the difference between the appropriate scenarios. The characteristics of individual projects were coded into the model based on information supplied by the project sponsors.

Evaluation Measures

The following summary describes evaluation measures and the methods used to calculate them. While the modeled area extends outside of CMAP's service area, the evaluation measures are calculated only for the area within the CMAP region.

- **Long-term economic development** – Measured by gross regional product in 2040, which is the total business output in the region less the value of inputs, reported in millions of dollars. This measures long-term gains from a more efficient transportation system rather than short-term gains from economic activity associated with facility construction.

This measure relies on a combination of information generated by the travel demand model and TREDIS, software used to estimate economic impacts. A TREDIS input file is created from the travel demand model results for each build and no build scenario, and each file is input to TREDIS using a web-based interface which generates the estimate of gross regional product. Changes caused by the project are based on the difference between build and no-build scenarios, with changes in accessibility, delay, overall travel, etc. converted to economic impacts by county.

- **Congestion** – Measured by daily vehicle-hours traveled in congested conditions (“congested VHT”), both in the region as a whole and in a five-mile corridor around the



facility. It includes all network traffic which occurs inside the CMAP area, even if it originates or is destined to areas outside the CMAP area.

Congested highway links were identified with a volume/capacity ratio exceeding 0.9 and located within the CMAP area. On these links, vehicle equivalents were converted to vehicles, and the total volume was multiplied by the congested travel time. This calculation includes all vehicles, both autos and trucks. The process was applied to each of the eight daily time period assignment results, and summed. The change between build and no-build was calculated by simple subtraction of one total from the other.

For the corridor congested VHT, only links within the five mile buffer of the project were considered. These links were identified through a GIS exercise for both build and no-build conditions. The total for the corridor includes traffic on the new project. For the heavy truck regional and corridor congested VHT, the calculations were carried out in the same way, but only heavy truck vehicles were multiplied by link travel time.

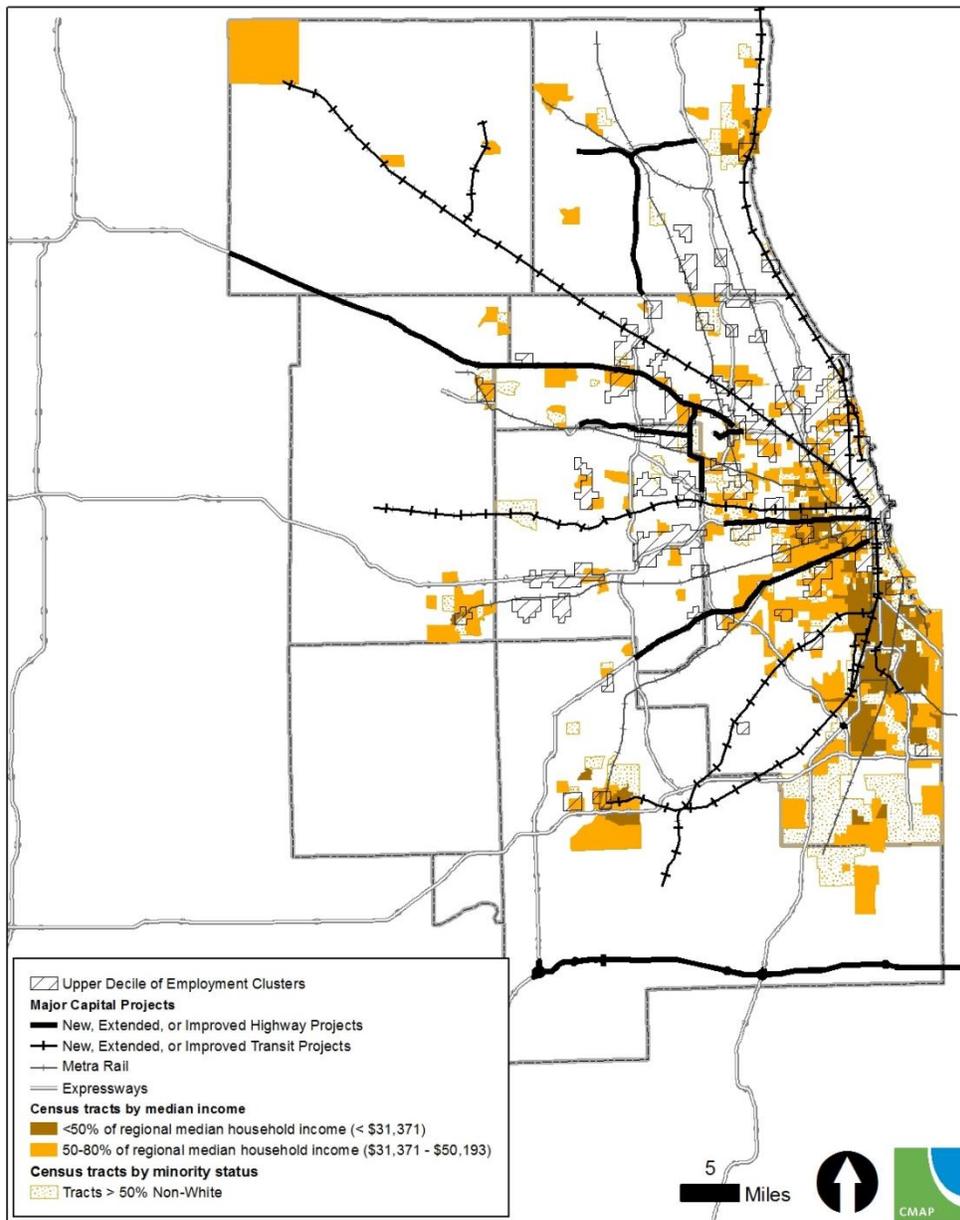
- **Work trip travel time** – Change in the average commute time in the region, in minutes, by auto or transit. For transit projects, all home-based work transit person trips originating in the CMAP area were multiplied by the total origin to destination transit travel time, on a zonal interchange by interchange basis. The transit travel time included in-vehicle time, walk transfer time, and waiting time. The product of trips and time was summed, and divided by the total number of home based work transit person trips. For this measure the destination end of the trip could be outside the CMAP area. For highway projects, the same procedure was used, with all home-based work auto person trips originating in the CMAP area multiplied by the A.M. peak congested highway time.
- **Jobs-housing access** – Measured as the number of jobs that can be reached by auto within 45 minutes or by transit within 75 minutes. For the transit calculation, a table based on the A.M. peak transit travel time was created, where the transit travel time was 75 minutes or less and the origin was within the CMAP area. The transit travel time included in-vehicle time, walk transfer time, and waiting time. The table was then multiplied by the destination employment vector and summed over the origins. The result is an origin vector whose contents are the total number of accessible jobs for each origin within the CMAP area. This data was summed into a scalar, for the total number of accessible jobs, and divided by the number of zones within the CMAP area for the average number of accessible jobs per zone.

For the auto calculation, a table based on the A.M. peak auto travel time was created, where the travel time was 45 minutes or less and the origin was within the CMAP area. The table was then multiplied by the destination employment vector and summed over origins. The result is a vector with the number of jobs accessible for each origin. This vector was summed for the total number of accessible jobs, and then divided by the number of zones within the CMAP area.



- Environmental justice** -- Environmental justice impacts were evaluated to demonstrate that the benefits of transportation investments are shared broadly in the CMAP region. This analysis was only conducted for projects recommended for fiscal constraint. It was evaluated by examining the jobs-housing access measure for census tracts where median income is less than the regional median income or where more than half of the population is minority to ensure that access to jobs by auto or transit is improving for disadvantaged communities as a result of the project. A map of these areas is shown in Figure 8 below.

Figure 8. Employment clusters, low-income areas, and minority status in the CMAP region



Sources: CMAP Analysis of American Community Survey data, 2008-2012, and Illinois Department of Employment Security data, 2012



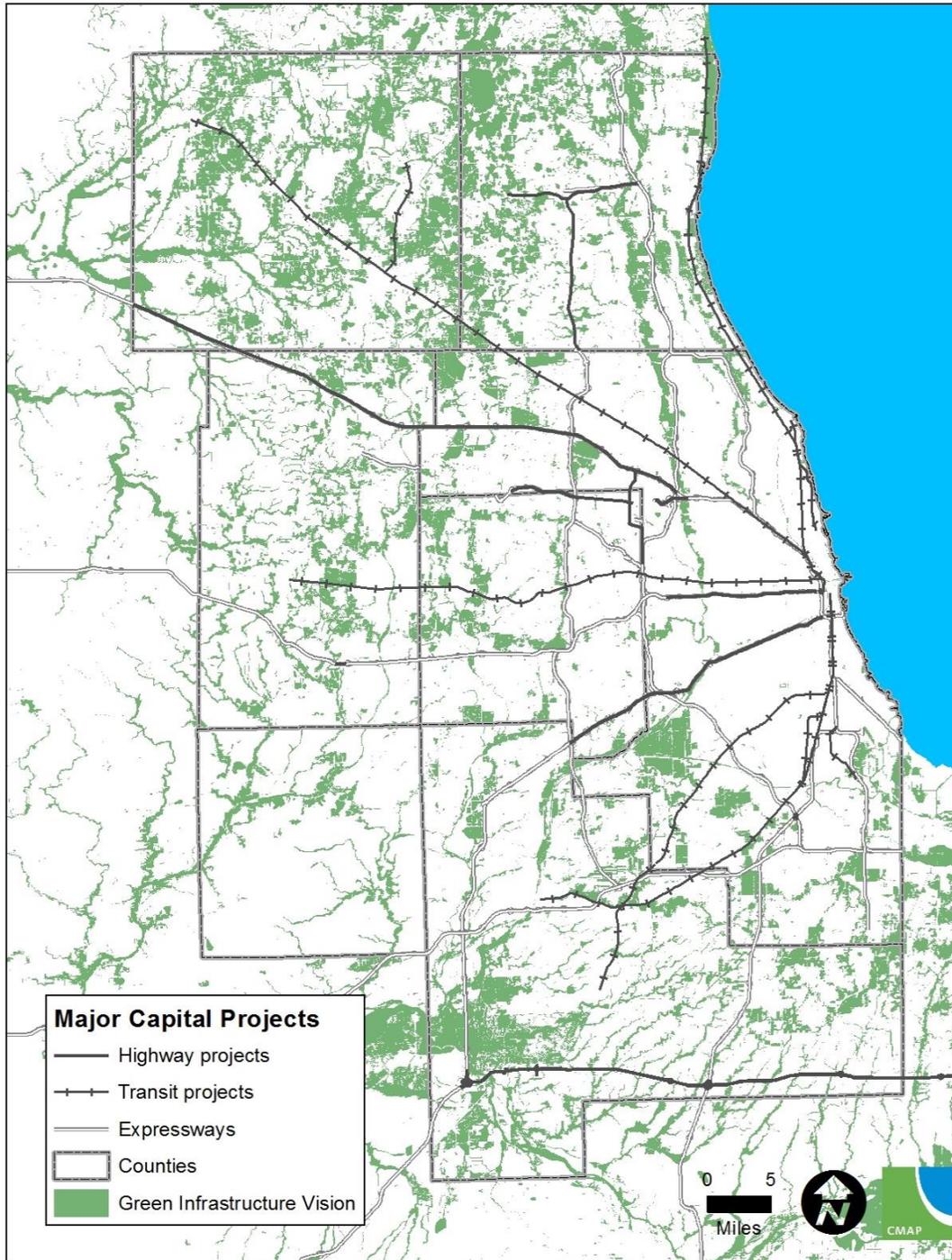
- **Mode share** – Measured as net new daily transit trips, where transit projects are evaluated for their ability to induce transit trips and highway projects are evaluated for their potential negative effect on transit use. The home based work, home based non-work and non-home based transit person trip tables were summed for all origins within the CMAP area. The destination end of the trip could be outside the CMAP area.
- **Air quality** – Measured as the change in carbon dioxide equivalent emitted by the transportation system in the region, in tons per year. The emissions of pollutants CMAP calculates under the Clean Air Act’s transportation conformity requirements are ozone precursors and fine particulate matter. Emissions of these pollutants generally track with carbon dioxide emissions and for simplicity were not reported. The change in emissions of carbon dioxide equivalents was calculated using the MOVES model for each build and no-build scenario. The inputs were the standard processed model results used for the air quality conformity analysis, as described in the [Travel Model Documentation](#). The procedure considers all traffic on links within the nonattainment area, whether or not the traffic originates within the region.
- **Natural resource preservation** – Two measures were used to try to capture impacts on natural resources: the creation of impervious surface and potential damage to regional green infrastructure. A well-accepted proxy measure for degradation of water resources, impervious surface is created directly by a facility as well as by encouraging spinoff development in undeveloped areas. Potential impact on terrestrial resources was measured by the number of households expected to locate in areas identified as ecologically important in the [Chicago Wilderness Green Infrastructure Vision](#) (Figure 9).

Potential impact on the GIV is calculated by summing the number of households locating in an area as a result of the improved accessibility associated with the proposed project. The change in households was calculated as follows. For each project, the difference in composite transit and auto commute travel costs between build and no-build was calculated for each zone-to-zone trip interchange. The logsum of these costs was then calculated, which serves as the measure of accessibility. The probability of household change was based on the change in cost logsums. For the constrained projects, the original GO TO 2040 household forecast was the build forecast. Therefore, the probability of change calculation process resulted in a reduction factor to be applied to GO TO 2040 households where accessibility was reduced by removing the project to represent the no-build condition. The difference between build and no-build households was included in a GIS file for comparison with the green infrastructure areas. For unconstrained projects, the GO TO 2040 household forecast file was considered to be the no-build condition. The accessibility was increased by adding the project to represent the build condition. This resulted in a probability of increase in households which was applied to the GO TO 2040 number. The difference between build and no build households was included in a GIS file for comparison with the green infrastructure areas.



Impervious surface creation estimated from a subzone-level statistical relationship between imperviousness in the 2006 National Land Cover Dataset and the density of households and jobs. This statistical relationship was applied to the change in households and jobs in 2040 resulting from the project's accessibility improvement, as just described.

Figure 9. Chicago Wilderness Green Infrastructure Vision



Source: Chicago Metropolitan Agency for Planning.



- **Infill and reinvestment** – Measured by the percent of trips using the facility that originate within current municipal boundaries, which indicates the extent to which existing communities benefit from a project. For highway projects, a traffic assignment with select link analysis was used for each of the traffic assignment periods. The number of trips coming from trip generation zones within municipalities was calculated along with the total number of trips. For transit projects, a select segment transit assignment was undertaken. Transit is not capacity constrained, so a single daily transit assignment can be used. Each itinerary segment which was considered part of the project was flagged and any trips that used the segment during the transit assignment were collected into a daily transit matrix. Finally, the number of trip origins coming from within municipal boundaries and the total number of trips was calculated.
- **Facility condition** – For improvements or additions to existing facilities, reconstruction and modernization is a typical part of the project. Thus, existing facility condition is a relevant metric for prioritization. For highway projects, conditions were measured by the Condition Rating Survey (IDOT roads only). Higher values indicate better condition with a maximum of nine. Facility condition was not examined for transit or Tollway projects due to data availability issues.

Summary of Evaluation Results

Tables 3 and 4 below report the evaluation results as the change in the measure, i.e., the build scenario minus the no-build scenario. The baseline value for 2040 is provided at the bottom of the tables for comparison. Because the projects are small relative to overall travel in the region in 2040, modeling in some cases shows insignificant results. In those cases, the results are reported as '---'. It is important to emphasize that the evaluation is a planning-level comparison rather than the more detailed modeling required for project studies.

Roadway extensions typically have relatively large effects on regional mobility and accessibility. For instance, the Central Lake County Corridor reduces system congestion more than any other project, while the Elgin O'Hare Western Access project makes significantly more jobs available within a 45-minute drive. Several of the roadway extensions have fairly large economic benefits as well, much of which is driven by improved access to customers and suppliers for businesses. On the other hand, these roadway extension projects have higher costs and higher negative impacts as well. The Illiana Expressway is projected to create nearly 2,000 acres of impervious surface and induce the location of about 500 new households in important areas identified in the Green Infrastructure Vision, while the Central Lake County Corridor would create 2,200 acres of impervious surface and potentially induce 1,800 households to locate within the regional green infrastructure network (although the [Illinois Route 53/120 Corridor Land Use Plan](#) that CMAP is developing in conjunction with Lake County is expressly meant to lower such potential impacts). Overall environmental impacts are lower with the Elgin O'Hare Western Access because it is in an already-developed area.



Greenhouse gas emissions (GHG) from roadway extensions are variable. By reducing congestion, highway projects also reduce GHG emissions, since emission rates generally decrease as speeds increase. On the other hand, an overall increase in driving brought about by the project can offset this effect. The balance of these two competing factors is reflected in the handful of highway projects that show significant changes in GHG emissions. Lastly, highway extensions by themselves tend to affect transit ridership negatively. Many of the capital projects have transit elements (typically express bus or bus rapid transit) under consideration for them, but no specific information was available for modeling. Inclusion of transit elements in highway projects is expected to offset negative impacts on overall transit ridership. In one case transit ridership increases with highway construction; this is likely because the project increases accessibility to transit stations by car.

Like highway extensions, transit extensions typically have relatively large effects as well. For example, several of the transit extensions are able to put tens of thousands of additional jobs within reach in a reasonable commute time. They also have lower impacts on natural resources in their corridors, although a few do tend to increase development pressure on areas identified in the Green Infrastructure Vision. In general, transit extensions to areas that are poorly served by transit currently tend to show greater net increases in ridership while transit projects in transit-rich areas partly take their riders from existing services. Thus, a commuter rail extension to an outlying area may show a relatively high increase in overall ridership while a rapid transit project shows lower net ridership gains even though it has higher usage. Transit improvements typically have large reconstruction elements associated with them, but new capacity and service enhancement can combine to provide significant benefits. For instance, several of the transit improvement projects make 10,000 - 20,000 more jobs accessible.

With some exceptions, additions to existing highways typically have more modest effects than construction of new facilities. The I-90 managed lane project performs well because of its length and the congestion in the corridor, as does the Central Tristate Mobility Improvements project. Both reduce overall hours traveled in congested conditions with a large portion of the benefit to freight haulers. In general, additions to existing highways would be expected to support infill/reinvestment goals better, but it should be noted that several of the add-lanes projects have relatively low benefit to existing communities because they are on the outer portions of expressways. The add-lanes projects tend to have lower environmental impacts than the highway extension projects.

Two expressway-to-expressway interchanges were modeled. Although it adds some new capacity, the Circle Interchange is mostly a rehabilitation project. While the weighted average condition rating score puts it in good condition, portions of it are in much worse condition. While it was not modeled, the project is expected to reduce the number of crashes through the interchange as well. The interchange at I-294/I-57 is a new project at the only location where two interstates cross but do not interchange. Neither project shows a significant regional congestion reduction benefit and is expected to slightly worsen congestion in the surrounding corridor.



Lastly, job access to environmental justice areas improves as a result of GO TO 2040. The major capital projects increase by 61,000 the number of jobs accessible to disadvantaged census tracts within 45 minutes via car. The number of jobs accessible within 75 minutes via transit increases by 42,600.



Table 3. Evaluation results for highway projects: 2040 build minus no-build

Project	Fiscal constraint status	Gross regional product (\$ millions annually)	Regional congested VHT (daily)	Corridor congested VHT (daily)	Work trip travel time by auto (minutes)	Transit trips (daily)	Number of jobs accessible within 45 minutes by car	Carbon dioxide emissions (tons/year)	Number of households located in Green Infrastructure Vision areas	New impervious surface in project corridor (acres)	Percent of trip origins within current municipal borders	Heavy truck regional congested VHT	Heavy truck corridor congested VHT	Current Condition Rating Survey	Percent change in job accessibility in environmental justice areas
Elgin O'Hare Western Access	C	\$598	-10,031	-3,433	-0.14	-882	21,688	38,476	---	---	96	555	452	7.4	1.6
I-90 Add Lanes	C	\$93	-21,048	-13,699	-0.12	-1,366	8,129	88,422	---	732	90	-1,138	-883	---	0.4
IL 53/120 Tollway	C	\$1,203	-64,406	-39,788	-0.37	-4,633	8,296	---	1,779	2,203	87	-5,811	-2,625	---	0.5
I-294/I-57 Interchange Addition	C	\$95	---	936	---	-1,011	---	---	---	---	75	---	141	---	0.6
I-55 Express Toll Lane	C	\$371	-8,347	-3,342	---	-2,531	4,966	---	---	---	94	---	---	7.8	0.5
I-290 Express Toll Lane	C	\$272	-4,498	-1,566	---	---	5,491	-48,693	---	---	98	---	-111	8.6	0.5
Illiana Expressway	C	\$425	-4,441	-1,471	---	---	3,849	99,528	478	1,948	42	-997	-78	---	0.4
I-190 Access Improvements	C	---	-6,808	-981	---	-1,116	---	---	---	---	89	---	---	4.5	0.0
Circle Interchange	C	\$295	-7,247	1,108	---	-1,073	3,484	---	---	---	97	---	164	7.6	0.6
Elgin O'Hare Exwy Far West Ext.	U	---	---	-1,482	---	---	---	---	---	---	97	---	---	---	NC
Elgin O'Hare Exwy West Extension	U	---	---	-2,808	---	1,202	---	---	---	---	96	---	---	---	NC
Central Tri-State Mobility Imprvmt	U	\$609	-15,245	-12,320	---	---	17,664	-66,690	---	---	94	-3,522	-3,219	---	NC
I-55 Add Lanes - I-80 to Coal City Rd.	U	---	---	-1,739	---	---	---	---	---	---	61	-522	-256	8.6	NC
I-57 Add Lanes	U	---	---	-6,664	---	---	---	---	---	---	69	-968	-895	7.7	NC
I-80 Managed Lanes - Ridge to US 30	U	---	---	-3,259	---	---	---	---	---	---	77	---	-218	8.5	NC
I-80 Managed Lanes - US 30 to I-294	U	---	---	-1,129	---	---	---	---	---	---	81	373	---	8.2	NC
I-80 to I-55 Connector	U	---	7,591	-520	---	---	---	-60,707	---	---	34	---	---	---	NC
IL 394	U	---	-9,054	-1,294	---	---	---	---	---	---	73	-377	-93	7.4	NC
Baseline*		\$802,516	1,482,436	---	32.81	1,519,043	1,089,99	0.32 m	52,272	674,928	---	69,426	---	---	

* Baseline values of '---' are not included because the statistics are specific to each project. NC = not calculated for unconstrained projects.

Table 4. Evaluation results for transit projects: 2040 build minus no-build

Project	Fiscal constraint status	Gross regional product (\$ millions annually)	Regional congested VHT (daily)	Corridor congested VHT (daily)	Work trip travel time by transit (minutes)	Transit trips (daily)	Number of jobs accessible within 75 minutes by transit	Carbon dioxide emissions (tons/year)	Number of households located in Green Infrastructure Vision areas	New impervious surface in project corridor (acres)	Percent of trip origins within current municipal borders	Percent change in job accessibility in environmental justice areas
Red Line Extension (South)	C	---	---	-860	---	708	2,382	---	---	---	100	0.3
Red/Purple Line Modernization	C	---	---	-2,168	---	1,283	---	---	---	---	100	0.0
UP Northwest Extension	C	---	-8,135	-3,608	---	9,359	17,421	---	356	---	94	0.6
SouthWest Service Improvements	C	\$127	---	956	---	1,722	6,156	---	---	---	98	0.2
UP North Improvements	C	---	-7,502	-4,711	-0.17	3,299	5,415	---	---	---	84	0.7
UP West Improvements	C	---	-9,216	-2,703	-0.20	4,315	19,063	---	---	---	99	1.0
Rock Island Improvements	C	---	---	-1,692	---	2,421	---	---	---	---	100	0.3
West Loop Transportation Center: Phase 1	C	---	---	---	---	---	---	---	---	---	---	---
West Loop Transportation Center: Phase 2	U	\$417	---	---	-0.89	15,870	34,001	---	---	---	99	NC
Blue Line West Extension	U	---	---	---	---	4,372	8,153	---	---	---	100	NC
Brown Line Extension	U	\$149	---	2,743	---	881	---	---	---	---	100	NC
Circle Line South (Phase II)	U	\$416	---	---	-0.11	5,926	-8,379	-41,194	---	---	100	NC
Circle Line North (Phase III)	U	\$437	---	---	---	5,583	-4,859	---	---	---	100	NC
Orange Line Extension	U	---	---	---	---	2,363	---	---	---	---	100	NC
Yellow Line Enhancements and Extension	U	---	---	---	---	4,124	---	---	---	---	100	NC
Express Airport Train Service	U	---	---	2,282	---	---	---	---	---	---	100	NC
BNSF Extension	U	---	---	-718	---	---	---	---	257	---	95	NC
BNSF Improvements	U	---	---	---	---	3,045	12,104	---	---	---	100	NC
Heritage Corridor Improvements	U	---	---	---	---	2,822	19,174	---	---	---	99	NC
Metra Electric Improvements	U	\$211	---	---	---	5,800	---	---	---	---	99	NC
Metra Electric Extension	U	---	-10,678	---	---	---	---	---	---	---	83	NC
Milwaukee District North Extension	U	---	---	---	0.18	3,299	---	-42,130	551	524	99	NC
Milwaukee District West Extension	U	---	---	1,018	---	---	---	---	---	---	96	NC
Milwaukee District West Improvements	U	---	---	---	---	586	9,975	---	---	---	100	NC
North Central Service Improvements	U	---	---	---	---	1,286	9,884	-43,180	---	---	98	NC



Project	Fiscal constraint status	Gross regional product (\$ millions annually)	Regional congested VHT (daily)	Corridor congested VHT (daily)	Work trip travel time by transit (minutes)	Transit trips (daily)	Number of jobs accessible within 75 minutes by transit	Carbon dioxide emissions (tons/year)	Number of households located in Green Infrastructure Vision areas	New impervious surface in project corridor (acres)	Percent of trip origins within current municipal borders	Percent change in job accessibility in environmental justice areas
Rock Island Extension	U	---	---	493	---	---	---	---	243	---	84	NC
SouthEast Service	U	\$190	---	---	---	5,016	14,381	-52,130	407	---	100	NC
SouthWest Extension	U	---	---	-56	---	---	---	---	---	---	82	NC
STAR Line	U	---	---	---	---	1,271	13,978	---	220	---	100	NC
Central Area Transitway	U	---	---	---	---	7,058	13,726	---	---	---	99	NC
Mid-City Transitway	U	\$137	---	---	-0.22	4,594	31,697	---	---	---	100	NC
Baseline*		\$802,516	1,482,436	---	43.96	1,519,043	840,121	32,192,565	52,272	674,928	---	

* Baseline values of '---' are not included because the statistics are specific to each project. NC = not calculated for unconstrained projects.



Unconstrained Major Capital Projects

The projects proposed for fiscal constraint were presented in a section above. This section describes the unconstrained projects to complete the full “universe” of capital projects considered. To develop the information presented here, CMAP staff consulted with the project implementing agencies to develop the universe of major capital projects for the plan update. CMAP staff met one-on-one with staff from the Chicago Department of Transportation (CDOT), Metra, Regional Transportation Authority (RTA), Illinois Toll Highway Authority (Tollway), Illinois Department of Transportation (IDOT), Chicago Transit Authority (CTA), and Pace Suburban Bus (Pace) to discuss existing major capital projects identified in GO TO 2040 and if they wished to submit new major capital projects to be included in the plan update. CMAP staff worked with project implementing agencies to update project description and status along with costs associated with the project.

Blue Line West Extension

Project description

This project would extend the CTA Blue Line to the west along the I-290 and I-88 corridors, with a western endpoint as far west as Lombard; an interim Mannheim Road terminus is currently under review as part of the I-290 corridor study.

Cost estimate

- Total project construction is estimated to cost \$2.573 billion in 2014 \$
- Year of construction: After 2040

Project status

- CTA has a Blue Line Vision study underway, which will evaluate facility conditions and improvement needs on the current service between the Forest Park and Clinton Street stations.
- The Cook-DuPage Corridor study recommends extending the Blue Line west to Mannheim Road with stations located at 1st Avenue, 25th Avenue and Mannheim Road.

BNSF Extension

Project description

This project would extend Metra BNSF service from its current terminus in Aurora to Oswego, in Kendall County. The project is nearly ready to begin Phase I engineering. It has been exempted from the New Starts evaluation process by federal action. Kendall County is currently



outside of the RTA service area. The project involves an extension outside the RTA service area, so project financing requires special attention. Metra has identified Kendall County as the sponsor for this project.

Cost estimate

- Total project construction is estimated to cost \$84 million in 2014 \$
- Year of construction: After 2040

Project status

- Metra has an Environmental Assessment and Preliminary Engineering contract underway. The PE contract will also develop estimates of capital and operating costs.
- The study so far has found no room for a yard in Oswego, so the project study has been extended to Yorkville, where yard and station space is available.
- Kendall County is currently outside of the RTA service area and must identify capital and operating funding for this project to proceed.

BNSF Improvements

Project description

This project would include making track, signal, and other improvements to the BNSF Line to support growth in ridership and upgrades to the core capacity of the line.

Cost estimate

- Total project construction is estimated to cost \$447 million in 2014 \$
- Year of construction: After 2040

Project status

- Identified as a potential future expansion project in Metra's Strategic Plan.

Brown Line Extension

Project description

This project would extend the CTA Brown Line from its current terminus near Kimball Avenue along Lawrence Avenue to connect with the CTA Blue Line at the Jefferson Park station. Intermediate stations would be provided at or near Pulaski Road and Cicero Ave. The project benefits would significantly decrease transit travel times in a heavily-travelled and congested corridor, while improving transit connectivity. The project is in early stages of development, and further investigation of the feasibility of this project, as well as alternative bus-based service such as ART or BRT, is needed.



Cost estimate

- Total project construction is estimated to cost \$4.139 billion in 2014 \$
- Year of construction: After 2040

Project status

- This project was identified during the Alternatives Analysis process for the Circle Line.
- The Brown Line extension is in an early stage of planning, and further investigation of the feasibility of this project, as well as alternative bus-based service such as ART or BRT is needed.

Central Area Transitway

Project description

This project includes a number of elements meant to improve circulation in downtown Chicago, including exclusive busways, bus rapid transit, light rail, and/or priority lanes on city streets. Several elements of this project, including any bus improvements on surface streets, can proceed at any time; the only elements of this project which are unconstrained are the construction of major capital facilities.

Cost estimate

- Estimated cost of the River North/Streeterville transitway portion of the project range from \$250 million to \$400 million depending on the vehicle technology selected.
- The project is estimated to cost \$280 to \$447 million in 2014 \$ depending on vehicle technology
- Year of construction: 2020

Project status

- Several key initiatives are taking place now to support the Central Area Bus Rapid Transit Project.
- Prior feasibility studies have been prepared for the Carroll Avenue transitway element of the project, along a now unused railroad right-of-way along the north side of the Chicago River Main Branch.
- The City of Chicago is currently beginning an alternatives analysis for transit improvements focusing on connections between the River North/Streeterville and the rest of Chicago's Central Area.
- Transit improvements in the Clinton Street corridor are under study by CDOT and CTA as part of the West Loop Transportation Center proposal. For this element, property rights necessary for the project are being sought as the adjacent properties are



developed. Surface bus lane improvements in the Clinton Street corridor are included as an element within the City of Chicago's ongoing Central Loop BRT project.

- \$24.6 million dollars in federal grants were awarded to CDOT to initiate the Central Loop BRT project, including bus lanes along Clinton, Canal, Washington, and Madison Streets. Construction completion is expected in late 2014/early 2015.

Circle Line (Phase II, South)

Project description

The Circle Line is a proposed new rail service that will connect several existing CTA rail lines. The southern portion of the Circle Line will travel south from the Ashland station of the Green and Pink Lines, have a transfer connecting to the Blue Line (Forest Pak Branch) at Congress and continue to the Orange Line. After this, the route will use the Orange Line alignment to travel into the Loop, with a transfer connection to the Red Line near 18th/Clark. Other intermediate stations would be provided at Madison, Roosevelt, and Blue Island/Cermak. Transfer connections with intersecting Metra lines would also be accommodated.

Cost estimate

- Total project construction is estimated to cost \$1 billion in 2014 \$
- Year of construction: After 2040

Project status

- The selection of a Locally Preferred Alternative for the southern portion of the Circle Line is underway through the Alternatives Analysis process.
- More documentation on this, including detailed reports and maps, is available at http://w.transitchicago.com/news_initiatives/planning/circle.aspx.

Circle Line (Phase III, North)

Project description

The Circle Line is a proposed new rail service that will connect several existing CTA rail lines. The northern portion of the Circle Line will connect the Ashland station of the Green and Pink Lines (also the northern terminus of the southern portion of the Circle Line) to the Red, Brown, and Purple Lines in the vicinity of North/Clybourn, with a transfer connection to the Blue Line (O'Hare Branch) at Division/Milwaukee. Other intermediate stations would be provided at Chicago and North/Ashland. Transfer connections with intersecting Metra lines would also be accommodated.



Cost estimate

- Total project construction is estimated to cost \$2.237 billion in 2014 \$
- Year of construction: After 2040

Project status

- The selection of a Locally Preferred Alternative is underway through the Alternatives Analysis process.
- More documentation on this, including detailed reports and maps, is available at http://w.transitchicago.com/news_initiatives/planning/circle.aspx.

Elgin-O'Hare Far West Extension

Project description

This project would build on the Elgin-O'Hare Expressway West Extension (described below) by upgrading US 20 through northwest Cook County. It is contingent on the completion of other projects.

Cost estimate

- Total project construction is estimated to cost \$235 million in 2014 \$ - *Neither engineering nor ROW acquisition included*
- Reconstruction costs: 0%
- Year of construction: After 2040

Project status

- There are no Phase I studies at this time
- This project is considered contingent on completion of Elgin O'Hare Expressway projects further east, and is in an early stage of planning.

Elgin O'Hare West Extension

Project description

This project would extend the Elgin O'Hare Expressway west from its current terminus in Hanover Park to a location along US 20 near Bartlett Road in Streamwood. A transit element may be included as part of this project.

Cost estimate

- Total project construction is estimated to cost \$201 million in 2014 \$
- Year of construction: After 2040



Project status

- The Village of Hanover Park is conducting a high level feasibility study.

Express Airport Train Service

Project description

This project would provide express service along the CTA Blue and Orange Lines, speeding connections to downtown Chicago. It also would include upgraded vehicles and a new downtown terminal that would allow airline and baggage check-in.

Cost estimate

- Total project construction is estimated to cost \$1.8 billion in 2014 \$
- Year of construction: After 2040

Project Status

- The City of Chicago has discussed the possibility of encouraging foreign capital investment in this project.
- The Chicago Department of Aviation contracted with AECOM to develop demand forecasts for this service.
- In the summer of 2013, AECOM released its findings, which focused primarily on express rail service between O'Hare Airport and the Chicago CBD based on market demand.
- The report studied potential rail alignments ranging from expanding existing CTA Blue Line service, to Metra railways, abandoned rail, and included automated guideway service.

Heritage Corridor

Project description

This project would improve operations on the Metra Heritage Corridor, which currently serves southwest Cook and Will Counties. The project includes reducing freight conflicts (including addressing some elements of CREATE), upgrading infrastructure, increasing service levels, and adding stations. Many elements of this project (including those associated with CREATE) are considered capital improvements with independent utility and therefore can be pursued at any time. It is currently in early stages of planning.

Cost estimate

- Total project construction is estimated to cost \$199 million in 2014 \$
- Year of construction: After 2040



Project status

- This project has not undergone Alternatives Analysis or any Phase I engineering component of the federal planning process.
- \$20,000,000 for CREATE improvements has been programmed in the 2010-2014 Northeastern Illinois Transportation Improvement Program (TIP); however no work has been awarded.
- IDOT awarded funding for a passenger service improvement feasibility study, which was completed by the CN railroad.
- The Heritage Corridor was added as a passenger corridor of CREATE.

I-294 Central Tri-State Mobility Improvements

Project description

Move Illinois, the Illinois Tollway Driving the Future capital program anticipates reconstruction of the eight lanes on the Central Tri-State Tollway over the 22.3 miles length from 95th Street to Balmoral Avenue. Reconstruction years in the program are 2020 to 2022. Roadway design will be upgraded to current standards and operational requirements.

The Central Tri-State, designated Interstate Route I-294, connects five additional interstates; I-90, I-190, I-290, I-88, and I-55. This corridor has the Tollway's highest daily traffic, and produces half the Tollway system-wide recurring congestion. The Central Tri-State is nationally significant for freight movement and in the support of Midwest regional manufacturing. Concurrent with the need to reconstruct base pavement that is over fifty years old; roadway capacity and system interchange improvements are anticipated to enhance freight, transit, and economic mobility.

Project planning will require coordination with the Illinois Department of Transportation and Federal Highway Administration due to potential impacts to Interstate 55 and Interstate 290. This project will coordinate with I-55 Managed Lanes, the I-290 Multimodal Corridor, and the Elgin-O'Hare Western Bypass GoTo2040 capital projects.

Cost estimate

- Reconstruction cost estimate is \$1.53 billion in 2014\$. Including some potential capacity enhancement and system interchange improvements costs.
- Year of construction: 2020-2023

Project Status

- Illinois Tollway Engineering is furthering feasibility and cost estimates for the proposed improvements.



I-55 Add Lanes and Reconstruction I-80 to Coal City Road

Project description

This project would reconstruct I-55, add a lane in each direction, and improve interchanges through western Will County, from the I-80 interchange south. This project follows similar projects that have been completed on segments of I-55 farther north.

Cost estimate

- Total project construction estimated to cost \$839 million in 2014 \$
- Year of construction: After 2040

Project status

- IDOT is not currently engaged in any Phase I studies for this corridor
- IDOT will perform maintenance improvements along the corridor, as well as interchange improvements as appropriate in the near term.
- A new interchange connecting I-55 and the proposed Illiana expressway is being studied. This interchange would be located in the vicinity of IL 129/Lorenzo Road. The need for any auxiliary lanes on I-55 will be evaluated as part of the Illiana study.

I-57 Add Lanes

Project description

This project would add one lane in each direction to I-57 in eastern Will County, from I-80 south to the proposed South Suburban Airport. Project planning for this project is in its early stages.

Cost estimate

- The project is estimated to cost \$895 million in 2014 \$ - *Neither engineering nor ROW acquisition included*
- Year of construction: After 2040

Project status

- No project planning activities or studies are scheduled in the near future.



I-80 Add / Managed Lanes - Ridge Road to US 30

Project description

This project would add a lane to I-80 through southwestern Cook and Will Counties, from Ridge Road to US 30. This may be considered as a managed lane over some or all of its length.

Cost estimate

- Total project construction is estimated to cost \$750 million in 2014 \$
- Year of construction: 2020

Project status

- Planning is ongoing for a series of interim improvements that would address bridge condition, as well as a long term improvement of I-80 (complete reconstruction)

I-80 Managed Lanes – US 30 to I-294

Project description

A managed lane could be added to the existing six lane cross section by adding a lane in each direction.

Cost estimate

Cost is for additional lane only, given that a majority of this section of I-80 is not in need of reconstruction east of US 30. Construction of the additional lane and associated IT infrastructure improvements is estimated to be \$450 million.

- Total project construction is estimated to cost \$450 million in 2014 \$
- Year of construction: After 2040

Project status

- Adding a managed lane is considered a longer term objective. No studies are active at this time.

I-80 to I-55 Connector

Project description

This project would connect the Illiana Expressway (which has a western terminus at I-55) and I-80. It is contingent on the completion of the Illiana Expressway.



Cost estimate

- Total project construction is estimated to cost \$100 million in 2014 \$
- Year of construction: After 2040

Project status

- This project is viewed as contingent upon the completion of the Illiana Corridor.
- The Prairie Parkway Record of Decision was rescinded.
- Funding for the Prairie Parkway has been redirected to other local improvements.
- No planning or engineering activities are scheduled for the connector at this time.

IL 394

Project description

This project would add lanes to IL 394 from I-80 south in southern Cook and Will Counties to Exchange Street, and convert the roadway from an arterial to an expressway. Local officials in the area have expressed concern about the effect of the conversion of the roadway to an expressway on nearby economic development. This project should be examined to determine if operational alternatives to expressway conversion are available. Per FHWA regulations, conversion of the facility to an expressway may not advance to Phase II engineering unless the project is fiscally constrained. However, any operational or arterial-based improvements may occur at any time.

Cost estimate

- Total project construction is estimated to cost \$604 million in 2014 \$ - *Neither engineering nor ROW acquisition included*
- Year of construction: After 2040

Project status

- A locally led corridor feasibility study is being conducted, and would be intended to lay the groundwork for a Phase I study.

Metra Electric District (MED) Improvements

Project description

This project would include making track, signal, and other improvements to the Metra Electric District to support growth in ridership and upgrades to the core capacity of the line.



Cost estimate

- Total project construction is estimated to cost \$447 million in 2014 \$
- Year of construction: After 2040

Project status

- Identified as a potential future expansion project in Metra's Strategic Plan.

Metra Electric Extension

Project description

This project would extend Metra Electric service to the proposed South Suburban Airport in Will County from its current terminus in University Park, as well as create a new rail yard facility. Supportive land use planning should accompany this and other transit extension projects.

Cost estimate

- Total project construction is estimated to cost \$291 million in 2014 \$
- Year of construction: After 2040

Project status

- This project has not undergone Alternatives Analysis or any Phase I engineering component of the federal planning process.
- Progress on this project may ultimately be dependent on the progress of the South Suburban Airport project.

Mid-City Transitway

Project description

This project would create a new north-south transit corridor in the vicinity of Cicero Avenue in central Cook County, and also connecting east to the CTA Red Line. The mode of this project is not yet certain, ranging from an on-street BRT service to rail service. This project is in the early stages of planning, and was evaluated further as part of the continuation of the Cook-DuPage corridor study.

Cost estimate

- Total project construction is estimated to cost \$1.6 billion in 2014 \$
- Year of construction: After 2040



Project status

- A physical feasibility study was completed by the City of Chicago in 2013; the study determined that the east-west part of the corridor is not likely to be feasible within or near the existing 75th Street freight and commuter rail corridor.
- No formal alternatives analysis, environmental, or preliminary engineering studies have been scheduled thus far.

Milwaukee District North Extension

Project description

This project would extend the Metra Milwaukee District North line to Wadsworth in Lake County from the Rondout junction. A feasibility study for this project has been completed, but further planning is needed to advance it.

Cost estimate

- Total project construction is estimated to cost \$644 million in 2014 \$
- Year of construction: After 2040

Project status

- Metra completed the Wadsworth Extension Commuter Rail Feasibility Study in 2001 to examine the potential for establishing commuter rail service.
- No additional or revised planning and analysis or construction activity has been scheduled thus far.

Milwaukee District West Extension

Project description

This project would extend the Metra Milwaukee District West line from its current terminus in Elgin to Marengo in McHenry County.

Cost estimate

- Total project construction is estimated to cost \$422 million in 2014 \$
- Year of construction: After 2040

Project status

- A Phase I feasibility study to Marengo was completed in 2010. Commuter service to Marengo appears to be operationally and physically feasible, but significant environmental issues need further examination, and significant capital improvements will be needed including two segments of double track, a new coach yard, a grade separation at IL-47, as well as other track and signal improvements.



- No further work on the Hampshire routing has been completed. This option is not consistent with NICTD plans to extend passenger rail service beyond the CMAP region to Rockford.
- Due to the further analysis of the Marengo routing and the incompatibility of the Hampshire routing with other plans, Metra plans to maintain the Marengo extension in the unconstrained plan, while removing the Hampshire routing from the unconstrained plan.

Milwaukee District West (MD-W) Improvements

Project description

This project would include making track, signal, and other improvements to the Milwaukee District West Line to support growth in ridership and upgrades to the core capacity of the line.

Cost estimate

- Total project construction is estimated to cost \$447 million in 2014 \$
- Year of construction: After 2040

Project status

- Identified as a potential future expansion project in Metra's Strategic Plan.

North Central Service Improvements

Project description

This project would upgrade Metra North Central Service to allow for full service levels. This project is currently in early stages of planning.

Cost estimate

- Total project construction is estimated to cost \$332 million in 2014 \$
- Year of construction: After 2040

Project status

- This project for assuring full level of service is in an early stage of planning.



Orange Line Extension

Project description

This project would extend the CTA Orange Line to the Ford City shopping center, in southwest Cook County, from its current terminus at Midway airport.

Cost estimate

- Total project construction is estimated to cost \$498 million in 2014 \$
- Year of construction: After 2040

Project status

- The Locally Preferred Alternative for this project was selected in August 2009, completing the Alternatives Analysis process.
- This led to the preferred alignment being selected over several other potential alternatives.
- The next step in the process is to prepare a draft Environmental Impact Statement and begin preliminary engineering through the federal New Starts process.
- More documentation on the Alternatives Analysis process, including detailed reports and maps, is available at: <http://w.transitchicago.com/orangeeis/documents.aspx>.

Rock Island District Extension

Project description

This project would extend the Metra Rock Island District line from its current terminus in Joliet to Minooka in Will and Grundy Counties. This project is currently in early stages of planning. Improvements to the Rock Island District line which do not include the extension are included among the fiscally constrained projects.

Cost estimate

- Total project construction is estimated to cost \$317 million in 2014 \$
- Year of construction: After 2040

Project status

- This project has not undergone Alternatives Analysis or any Phase I engineering component of the federal planning process.



SouthEast Service

Project description

This project would create a new rail line that provides service to communities in southern Cook and northern Will Counties. It has been undergoing Alternatives Analysis by Metra, and the identification of a Locally Preferred Alternative (LPA) is in process. The proposed route runs north from Balmoral Park, through Crete, using primarily UP/CSX railroad tracks, joining the Metra Rock Island District at Gresham to LaSalle Street Station.

Cost estimate

- Total project construction is estimated to cost \$830 million in 2014 \$
- Year of construction: After 2040

Project status

- Alternative Analysis was completed for this project in August 2011, with the commuter rail alternative identified as the LPA. Metra did not apply to enter preliminary engineering for this project due to the lack of a viable financial plan.
- Legislation provided for the establishment of the Southeast Commuter Rail Mass Transit District. The group is now working to identify funding, and has secured IDOT/DCEO funding to support operation simulation and other pre-engineering activities.

SouthWest Service Extension

Project description

This project would extend Metra SouthWest Service to Midewin in Will County from its current terminus in Manhattan. This project is currently in early stages of planning. Supportive land use planning should accompany this and other transit extension projects. (Improvements to SouthWest Service which do not include an extension are included among the fiscally constrained projects.)

Cost estimate

- Total project construction is estimated to cost \$328 million in 2014 \$
- Year of construction: After 2040

Project status

- This project has not undergone Alternatives Analysis or any Phase I engineering component of the federal planning process.



STAR Line Corridor

Project description

This project would create a new rail service from Joliet to Hoffman Estates through western Will, DuPage, and Cook Counties, and also connect from Hoffman Estates to O'Hare airport along I-90.

Cost estimate

- Total project construction is estimated to cost \$3 billion in 2014 \$
- Year of construction: After 2040

Project status

- Alternative Analysis for this project was completed in June 2012, with the commuter rail alternative identified as the Long Term Vision for the corridor. Metra did not apply to enter preliminary engineering for this project due to the lack of a viable financial plan.
- More information is on Metra's website at <http://metraconnects.metrarail.com/star.php>.
- In 2012, CMAP awarded a CMAQ grant to Pace for transit improvements in the corridor, including additional park and ride lots and new express bus service.

West Loop Transportation Center: Phase 2, West Loop Subway Component

Project description

Findings of the Phase I Union Station Master Plan determined that work on the project should take place in two key phases: 1) improvements to existing facilities east of and within Union Station and 2) a new underground transitway in the West Loop. Phase 2 comprises the West Loop Transportation Center, a group of projects that accommodate and facilitate easy transfers between inter - city rail, commuter rail, rapid transit, bus and bus rapid transit services in Chicago's West Loop. These improvements facilitate connections with proposed Central Area Transitway improvements, serving destinations including the North Michigan Avenue Area, River North, McCormick Place, and the eastern part of the Loop. The West Loop Subway component of the West Loop Transportation Center is a proposed new underground transitway along Clinton and/or Canal Streets with key transfer stations located between the Eisenhower Expressway and Lake Street in Chicago. The route allows alternative routing of existing CTA rail services, increases CTA rail capacity between Chicago's Central Area and outlying neighborhoods, and facilitates transfers between inter - city rail, commuter rail, rapid transit and bus services. The subway may also include multiple levels or alignments within the West Loop area to accommodate additional tracks and platforms for inter-city and or commuter trains. This project cost is \$2.5 billion.



Cost estimate

- Total project construction is estimated to cost \$2.094 billion in 2014 \$
- Year of construction: After 2040

Project status

- Stage 1 of the Union Station Master Plan was concluded in May 2012.
- The second stage of the Study started in December, 2012. This work will include three key components: 1) A train operations simulation model of existing and possible future conditions at Chicago Union Station (CUS); 2) A pedestrian flow model of existing and possible future conditions within CUS's passenger areas; 3) A street traffic simulation model of existing and possible future conditions on 40 blocks surrounding CUS. The goal of this stage of the Study will be to establish a robust technical case for implementing the Stage 1 Study's "medium term" recommendations as soon as possible, and it will determine just how much capacity (i.e., how many years of growth) these improvements are likely to accommodate. It is anticipated that this stage of the Study will be completed in mid-2014.
- Projects to create a surface bus transfer center adjacent and connected to Union Station and BRT transitway improvements to the Central Loop are funded and underway by the City of Chicago. The projects will begin to address improving connections between Union Station and other transportation services upon construction completion, expected in late 2014/early 2015.
- This project was fiscally constrained in GO TO 2040 as the "West Loop Transportation Center" before phasing was determined to be the best pathway forward, based on findings from the Phase 1: Union Station Master Plan.

Yellow Line Enhancements and Extension

Project description

This project would extend the Yellow Line from its current terminus in Skokie to Old Orchard Mall in northern Cook County.

Cost estimate

- Total project construction is estimated to cost \$294 million in 2014 \$
- Year of construction: After 2040

Project status

- The Locally Preferred Alternative for this project was selected in August 2009, completing the Alternatives Analysis process.
- This led to the selection of a preferred alignment that follows the UP railroad to a terminal to the east of the Edens Expressway.



- The next step in the process is to prepare a draft Environmental Impact Statement and begin preliminary engineering through the federal New Starts process.
- More documentation on the Alternatives Analysis process, including detailed reports and maps, is available at: <http://w.transitchicago.com/yelloweis/documents.aspx>.

Projects Reclassified or Not Evaluated

In the course of evaluating the major capital projects, it was evident in several cases that the project did not meet the definition of major capital project that CMAP uses. In other cases, further information suggested that the project was infeasible given other commitments or circumstances. Although they were included in the “universe” of major capital projects discussed with the Transportation Committee, these projects were not modeled. The projects are listed and discussed below.

DuPage “J” Line

Project description

This project involves the construction of a new bus-only lane on I-88 through DuPage County from Naperville Road to IL 83. It also includes service on nearby arterial streets and improvements to these streets, though these are not considered part of the major capital project. The DuPage “J” Line may initiate operations as an express bus or ART-type service at any time, and this is supported by GO TO 2040; the only portion of this project which is fiscally unconstrained is the construction of a new lane on I-88. As indicated in the Cook-DuPage corridor study, there is a significant need for north-south transit alternatives in western Cook and eastern DuPage Counties, and this project may be able to address this need. Pace is currently developing a phased transit investment plan for DuPage County and western Cook County, which will seek to establish an actionable plan to implement ART.

Cost estimate

- Total project construction project is estimated to cost \$1.10 billion in 2009
- Year of construction: After 2040

Project Status

- No Phase I engineering activities (e.g. alternatives analysis) have been scheduled thus far.
- CMAP reclassified this project for the GO TO 2040 plan update, per discussion with the implementing agency. The Cook-DuPage Corridor study found that an ART system on the arterials is more feasible. This removed the construction of a bus only lane on I-88. The ART system will appear in the plan update as an improvement to the region’s transportation system, along with other proposed BRT and ART routes.

Prairie Parkway

Project description



This project would create a new expressway between I-88 and I-80 in Kane and Kendall Counties. Phase I engineering for this project has been completed, and federal earmarks to cover a portion of project costs have been received, but funding is insufficient to construct the entire project. However, one element of this project, involving a bridge over the Fox River in Yorkville to connect US 34 and IL 71, has independent utility and can be completed with the earmarks received. This project element may be pursued at any time. For the remainder of the project, corridor preservation activities should be continued in order to preserve a transportation corridor in this area for future use.

Cost estimate

- Total project construction is estimated to cost \$1 billion in 2014 \$
- Year of construction: After 2040

Project status

- Phase I engineering for this project was completed, and federal earmarks to cover a portion of project costs were received.
- The Record of Decision for this project was rescinded, and the earmarks were redirected to other projects in the vicinity. It was removed from consideration per the rescission of the record of decision.

McHenry-Lake Corridor

Project description

This project would create a new expressway through McHenry and western Lake Counties, from the terminus of the US 12 freeway at the Wisconsin border to the upgraded IL 120 roadway (see the IL 53/120 Tollway project for a further description). This project is in early stages of planning and relies on the completion of the Central Lake County corridor.

Cost estimate

- Total project construction is estimated to cost \$1.119 billion in 2014 \$ (neither engineering nor ROW acquisition included)
- Year of construction: After 2040

Project status

- At this juncture no planning or engineering processes are scheduled or underway, nor have there been any funding sources identified.
- No sponsor was identified for this project.

Inner Circumferential Rail Service

Project description

This project would create a new north-south transit connection through western Cook County, connecting to both O'Hare and Midway airports. Both this project and the Mid-City Transitway appear to have potential to serve the need for north-south transit travel in central and western Cook County. A feasibility study for this project has been completed, but further planning is



needed to advance it. This project should be evaluated further as part of the continuation of the Cook-DuPage corridor study. The proposed new service will use the IHB and BRC railroad tracks to travel between O'Hare Airport and Midway Airport, with intermediate stations at Franklin Park, Melrose Park, Bellwood-25th Ave, Broadview, LaGrange Park, LaGrange, Summit, Harlem/59th St, and Midway Airport. It has been studied as a branch of the STAR Line (STAR Line Feasibility Analysis, 2003).

Cost estimate

- Total project construction is estimated to cost \$1.275 billion in 2014 \$ - *Likely higher due to CREATE*
- Year of construction: After 2040

Project Status

- In cooperation with the North Central and West Central Council of Mayors, Metra studied the potential benefits and capital costs associated with its implementation of the Inner Circumferential Rail Service as part of the STAR Line feasibility study (2003).
- No further planning or engineering activities have been scheduled thus far.
- The CREATE Program identified this route as the Beltway Corridor and directs significant capital investments to support increased freight service to this corridor. The CREATE Beltway Corridor will function as a bypass route for intermodal and carload train interchanges between eastern and western railroads and will include six highway/rail grade separations, 4.8 miles of new track, 66 new switches, and more than 13 miles of new CTC signals. Accommodating passenger service in this corridor after the increases in freight service may significantly increase this project's capital costs and/or decrease reliability or feasibility of any new passenger service.
- CMAP removed this project from consideration for the GO TO 2040 plan update, as study has shown freight conflicts make this project infeasible.

O'Hare to Schaumburg Transit Service

Project description

This project would include both a transit component of the Elgin O'Hare eastern extension (part of the Western Access project on the fiscally constrained list) and a new transit service on IL 53 from the Elgin-O'Hare Expressway to Schaumburg.

Cost estimate

- Total project construction is estimated to cost \$1.119 billion in 2014 \$
- Year of construction: After 2040

Project status

- This project is in an early stage of planning and has not entered the federal Alternatives Analysis process. This was one of three projects selected to advance in the Cook-DuPage Corridor Study. As part of Pace's current work to create the Cook DuPage Area



Rapid Transit Investment Plan, an incremental transit service design and implementation plan for this corridor will be developed in 2015.

- The Elgin-O'Hare Expressway project is being built to allow bus on shoulder operation.
- This project does not fit the definition of a major capital project that CMAP uses, which does not include BRT service not running in a dedicated busway.

Milwaukee District North Improvement

Project description

This project would improve service along the Metra Milwaukee District North line between Fox Lake and the Rondout junction in Lake County by making track, signal, and other improvements. Many elements of this project are considered capital improvements with independent utility and therefore can be pursued at any time. This project is currently in early stages of planning.

Cost estimate

- Total project construction is estimated to cost \$130 million in 2014 \$
- Year of construction: 2020

Project status

- This project is currently in an early stage of planning.
- Improvements to this line have been considered during WISDOT's EA for expanded Amtrak Hiawatha service which also operates on this line. Operations simulations have been completed to determine what additional elements of capital improvements will be necessary, especially in the area between Rondout and A-20 junctions where Metra, Amtrak, and CP freight all have significant operations. The proposed improvements would allow existing service on the line to operate with more flexibility and greater reliability.
- Further discussion with Metra suggested that this project would not expand capacity and that increased service was not expected.

South Lakefront Corridor

Project description

This project would improve service along Chicago's lakefront from downtown Chicago to the south. It could include a new light-rail service or operational improvements to existing Metra services; variations of this concept have been referred to as the Gray Line or the Gold Line. It is recommended that service in this area be studied with participation by CDOT, CTA, and Metra, considering whether operational improvements can be made rather than a major capital project.

Cost estimate

- Total project construction is estimated to cost \$1 billion in 2014 \$
- Year of construction: After 2040



Project status

- The City of Chicago is undertaking a South Lakefront Corridor Transportation study with financial assistance from the RTA.
- The Chicago South Lakefront Corridor Study recommended that the rail component part of the project not advance as a feasible alternative. However, if further studies support a BRT system in the South Lakefront Corridor, it will appear in the plan update as an improvement to the region's transportation system, along with other proposed BRT and ART routes.

Projects Not Included in Universe

At least three additional projects were not included in the “universe” of major capital projects brought to the Transportation Committee for discussion, either because they were submitted late, lacked important details, or because in discussions with project sponsors they did not appear to be major capital projects. They are documented here.

CrossRail Chicago

Project description

This multi-faceted, phased project would retool Union Station to handle electrified trains, build new Metra stations at O'Hare International Airport, and connect the Metra Electric, the Rock Island Line, and Union Station via elevated tracks along 16th Street. Later phases would provide commuter rail between Elgin and O'Hare, between Elgin and Rockford, and extend the Metra Electric line. See <http://www.midwesthsr.org/crossrail-chicago>.

Cost estimate

- Phase I construction is estimated to cost \$2.0 billion, with other phases costing an additional \$7.6 billion. The year of the cost estimates is unknown.
- Year of construction: Unknown

Project status

- This project is currently in an early stage of planning. Project supporters should continue to study this project, identify funding sources, and identify a project implementer.

South Suburban Airport Access

Project description

This IDOT project would provide access to the proposed South Suburban Airport from I-57. As it only encompasses improving an existing expressway-arterial interchange, it does not appear to meet the definition of major capital project.

Cost estimate



- Project cost is \$85 million (2014) with a reconstruction cost of \$20 million and a new capacity cost of \$65 million
- Year of construction: 2020

Project status

- This project is currently in an early stage of planning.

West Lake Corridor

Project description

This project is an approximate nine-mile extension of the existing South Shore Line (SSL) operated by the Northern Indiana Commuter Transportation District (NICTD). The proposed project would include an initial start-up extension of service between Hammond and Dyer, with a possible future extension further south to St. John, Indiana. Trains on the new branch line would connect with the existing SSL, terminating at Metra Electric District's Millennium Station in downtown Chicago.

Cost estimate

- Estimated capital cost of \$571 million (YOE)
- Project engineering and construction will span the period of 2016-23

Project status

- The draft Environmental Impact Statement is expected to be completed in fall 2015.
- A Record of Decision is then estimated in 2016.
- Service start-up for the project is targeted for 2023.





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