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MEMORANDUM

To: Transportation Committee

Date: October 16, 2009

From: Ross Patronsky, Senior Planner

Re: Major Transportation Capital Project Evaluation – Status Update

Evaluation Status

Staff continues to evaluate individual major transportation capital projects in preparation for evaluating systems of projects that will support the preferred scenario. The evaluations that have been completed are posted with the meeting materials; they will also be posted to the *GO TO 2040* web site, at http://www.goto2040.org/scenarios/capital/projectlist/. While staff has gathered as much information as possible, implementing agencies should review these preliminary results and provide feedback or additional information where needed. In particular, capital cost information is needed for a number of projects, along with qualitative information such as safety and security considerations – either deficiencies to be remedied, or new features to be provided.

The list of projects that are evaluated to date is included as Attachment 1.

Attachment 2 shows the projects still under evaluation. Staff expects to complete these by the November meeting:

The projects listed in Attachment 3 currently lack sufficient information to adequately model their impacts. These projects will still be described qualitatively, but without more information about them, it is difficult to accurately assess their benefits. As a result, they have not been included in the evaluation at this time. Project sponsors or other interested parties who would like to see more detailed evaluation of these projects will need to assist CMAP in developing more detailed information about these projects.

Among these projects, some are similar to projects that have enough information to evaluate. For example, the Gold Line, as describe in material available to CMAP staff, shares features with the Gray Line LRT. Similarly, the Reason Foundation project incorporates other corridors

under consideration, including the Illiana Corridor, Central Lake County Corridor: IL 53 North and IL 120 Limited Access, and Elgin-O'Hare East and West Extensions.

Background on Evaluation Process

Only a small number of transportation projects are considered "major capital projects." They 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, entirely new expressways, or similar changes to the passenger rail system. Arterial expansions and intersection improvements are not defined as major capital projects; neither are bus facilities, unless they involve a dedicated lane on an expressway. This definition is consistent with federal guidance as well as the definition of major capital projects used in past regional transportation plans prepared by CATS.

To evaluate an individual project, it is included in the 2040 baseline transportation network, and then run through the travel demand model. Output of the travel demand model is then incorporated into GIS analysis for environmental and infill/density impacts, TREDIS for economic impacts, and MOBILE6 for air quality impacts.

In addition, qualitative information on safety, security, existing facility condition (if relevant), pedestrian/bicycle accommodations, and consistency with sub-regional plans is being gathered through the implementing agencies.

Evaluation Measure Descriptions

At their June meetings, the CMAP Board and MPO Policy Committee adopted evaluation measures to be used in evaluating projects and systems of projects. These measures were considered in draft form at Transportation Committee meetings in the spring.

The quantitative measures reported in the project evaluations are:

- Long-Term Economic Development the long-term economic impacts of the project (construction impacts are not included). To ensure consistency in the evaluations, all projects are presumed to be completed in 2017; this allows sufficient time for the model to stabilize. Three measures are included – jobs, income and regional output. Please note that these measures are still being calculated and are not included in the attached project descriptions.
- Congestion as measured by the travel demand model, the number of vehicle hours of travel under congested conditions. There is one measure for the project facility, and one for the full network.
- Travel Time Savings the difference between the travel time for home-based work trips under the reference scenario and the scenario incorporating the project. The savings are estimated for both highway and transit trips.
- Mode Share the number of trips on an average weekday made by auto, transit and non-motorized modes.

- Jobs-Housing Access the average number of jobs accessible to individuals in the region within a specified time (45 minutes for highway travel, 75 minutes for transit travel).
- Air Quality the number of tons of criteria pollutants or precursors emitted by highway vehicles. On a daily basis, volatile organic compounds and nitrogen oxides are measured – they are the precursors to ground-level ozone. On an annual basis, direct particulate emissions and nitrogen oxides are measured – these are the primary contributors to fine particulate matter pollution.
- Energy Consumption and Greenhouse Gas Emissions annual tons of carbon dioxide equivalent gases.
- Preservation of Natural Resources the number of subzones surrounding a project's access points (rail stations or highway interchanges) that contain concentrations of unprotected natural areas with high environmental value, high-quality streams or prime agricultural lands. The percentage of this number relative to the total number of subzones surrounding a project's access points is also calculated. Since this measure is specific to a project, no comparison is made to the reference scenario.
- Support for Infill Development the number of subzones surrounding a project's access points (rail stations or highway interchanges) that are within municipal boundaries. The percentage of subzones around the access points this number represents is also calculated. Since this measure is specific to a project, no comparison is made to the reference scenario.
- Peak Period Utilization/Demand (ratio) the volume/capacity ratio is computed for the network links that comprise the project (highway projects only). Since this can be computed for the reference scenario and the reference scenario with the project, the change in this ratio is calculated.
- Facility Condition the most current CRS score is reported for highway projects. For transit facilities, CMAP staff is working with RTA staff to develop condition assessments.

Measures with qualitative impacts are summarized in the narrative section of the project evaluation; many of these measures are still being collected and are not included in all narratives. These include:

- Safety features a description of how the project will address existing deficiencies or incorporate new features to improve safety.
- Security features a description how the project will contribute to transportation security.
- Provision of bicycle and pedestrian facilities a description of the project's accommodations to and support of bicycle and pedestrian travel.
- Consistency between regional and sub-regional plans, including municipal and county plans – project sponsors have been asked to describe the consistency of their projects with the plans of local governments in the project area.

Reference Values for Evaluation Measures

The reference scenario, against which individual projects are being compared, is a scenario in which current trends/regional plans are extended to 2040. The results for this scenario are shown below. Please note that these are direct measures, not differences as reported in the

project evaluations. So, for example, the reference scenario reports 3,536,881 hours of highway travel under congested conditions. If a project evaluation has a value of -10,000, then the project is expected to reduce congested hours of travel by 10,000 hours, to 3,526,881.

In addition, it should be noted that the systems of projects that will be considered over the next several months will be evaluated in the context of the preferred scenario, not the reference scenario. Thus, the baseline values will be different than those shown here.

Quantitative Evaluation		
Measures	Sub-Category	Outcome
Long-Term Economic	jobs	0
Development, Including	income	0
Freight System	regional GDP	0
Congestion		N/A
	Targeted Facility/Corridor (hours)	
	System (hours)	3,536,881
Travel Time Savings	auto (minutes)	33.84
	transit (minutes)	58.36
Mode Share	auto (trips)	28,374,829
	transit (trips)	3,065,649
	non-motorized (trips)	492,287
Jobs-Housing Access	auto - 45 min (number of jobs)	831,680
	transit - 75 min (number of jobs)	1,268,062
Air Quality	Daily VOC (tons)	63.55
	Daily NOx (tons)	50.94
	Annual Direct PM (tons)	1,020
	Annual NOx (tons)	20,187
Energy Consumption and Greenhouse Gas Emissions (tons)		40,710,832
Preservation of Natural	subzones	N/A
Resources	% of subzones	N/A
Support for Infill Development	subzones	N/A
	% of subzones	N/A
Peak Period Utilization/Demand (ratio)		N/A
Facility Condition (CRS score)		N/A

Attachment 1 Projects Evaluated to Date

Elgin O'Hare Expressway Add Lanes	I-290 to Gary Avenue	
I-190 Access Improvements	I-90 to O'Hare Terminals	
I-290 Managed Lane	I-88 to Austin Blvd	
I-294 Interchange Addition	I-294 at I-57	
I-55 Add Lanes and Reconstruction	Naperville Rd to Coal City Rd	
I-57 Add Lanes	I-80 to Wilmington-Peotone Road	
I-80 Add Lanes	Grundy County Line to US 45	
I-90 Add Lanes	I-294 to Elgin Toll Plaza	
IL 394	I-80 to IL 1/Goodenow Road	
Southeast Service	Chicago CBD to Crete	
Suburban Transit Access Route (STAR	Joliet to Hoffman Estates to O'Hare	
Line)		
Elgin O'Hare Expressway East Extension	I-290 to West O'Hare Bypass	
Elgin O'Hare Expressway West Extension	Gary Ave to US 20	
I-57 to IL 394 Connector	I-57 to IL 394	
Illiana Corridor	IL 394 to I-65 (Lowell, IN)	
McHenry Co Extension of Prairie Parkway	From I-90 to IL/WI State Line	
McHenry-Lake Corridor	IL 120 @ Wilson Rd to Richmond	
Prairie Parkway	I-88 to I-80	

Attachment 2 Projects with Pending Evaluations

DuPage "J" Line	Aurora to O'Hare/Schaumburg
Tollway Transit System	Additional Exclusive Bus Lane/Service on I-294
1021149 12021020 0 9 0 0 0 1 1	and I-90
BNSF RR Extension	Union Station to Oswego/Plano
Heritage Corridor Improvements	Joliet to Union Station: resolution of freight
	conflicts
Metra Electric Improvements and	Randolph Station to SSA/Kankakee
Extension	
Milwaukee Dist N Improvements	Union Station to Wadsworth/Richmond
/Extension	
Milwaukee Dist W Improvements	Union Station to Huntley/Marengo
/Extension	
North Central Service Improvements	Union Station to Antioch
Rock Island Improvements and Extension	La Salle St to Minooka/Peru
SW Service Improvements and Extension	Union Station to Manhattan/Joliet Arsenal
UP North Improvements	Track and Signal Improvements from Ogilvie
	to Kenosha
UP Northwest Improvements and	Ogilvie to Johnsburg; other track/signal
Extension	improvements
UP West Improvements	Signal, storage, track, and service upgrades
I-294 Add Lanes North	IL/WI Border to Balmoral Ave
I-294 Add Lanes South	95th Street to IL 394
I-88 Add Lanes	I-294 to Orchard Road
Central Lake County Corridor: IL 53 North	Lake-Cook Rd to IL 120; Wilson Rd to I-94
and IL 120 Limited Access	
Elgin O'Hare Expressway Far West	Shales Pkwy to E Bartlett Rd, as high level
Extension	arterial
Prairie Parkway Southeast Extension	From I-80/PP (Minooka) to I-57
South Suburban Corridor	I-80 to I-57
West O'Hare Bypass	I-294 to I-90
Gray Line LRT	Existing ME So Chicago Branch - Randolph to
	93rd St
Mid-City Transitway	Jefferson Pk Station to 87th St via BRC RR
Blue Line West Extension	Forest Park to Lisle

Circle Line	Fullerton Av Station to Ashland Av Orange Ln
	Station
Express Airport Train Service	O'Hare to Midway plus terminal at 108 N State
Green Line Enhancements	Harlem Ave to 63rd St
North Red Line Improvements	Howard St to Addison St
Orange Line Extension	Midway to Ford City SC
Red Line Extension (South)	95th to 130th Sts
West Loop Transportation Center	Union Station and Ogilvie connection plus
	Clinton St Subway
Yellow Line Enhancements and Extension	Howard St to Old Orchard Road
Brown Line Extension	Lawrence/Kimball to Jefferson Park Blue Line
	Station
South Shore Commuter Rail Extension	East Chicago or Hammond, IN to Lowell, IN

Attachment 3 Projects Lacking Sufficient Information to Evaluate

From Montgomery to Aurora		
From Sugar Grove to Aurora		
From McHenry to Richmond, other improvements		
From I-355 to I-90/94		
O'Hare to Midway via IHB RR		
O'Hare to Meacham Road		
Carroll Ave-Clinton Ave: Navy Pier to Congress Pkwy		
Burlington to UP W (Geneva)		
Over Great Western Trail and Illinois Prairie Path		
Argyle/ Red Line west, south and east to 87th/Metra		
Electric South Chicago Branch		
Illinois Transit System and Spider 10 Hwy System		
serving Union Station, O'Hare, several suburban		
locations		
Electronic Mechanical Guided Highway		
Light Rail or BRT in Kendall County		
I-55 to IL 394		
O'Hare and Midway to Downtown Chicago		