



## MEMORANDUM

**To:** Transportation Committee

**Date:** September 9, 2009

**From:** Ross Patronsky, Senior Planner

**Re:** Major Transportation Capital Project Evaluation

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Staff has begun evaluating individual major transportation capital projects in preparation for evaluating systems of projects that will support the preferred scenario.

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 adopted measures are included as the first attachment.

In addition, a draft list of major capital projects was released at that time. The list is attached. 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.

Since the initial list of projects was released, several additional proposals have been received from members of the public:

- Illinois Rail Net Corridor – a proposal for a light rail or bus rapid transit corridor along the Illinois Rail net right-of-way extending from the Aurora Transportation Center to Millington, IL.
- Gold Line – a proposal for improved rail service along the Metra Electric mainline and South Chicago branches.

- Reason Foundation Chicago Mobility Project – a network of High-Occupancy Toll (HOT) expressways that includes both existing and new corridors. The key design feature is tunneling or underground placement of new HOT, or congestion priced, lanes.
- Limited Stop Airport Train Service – this proposal recommends a limited-stop service from downtown Chicago to O’Hare and Midway airports.
- Brown Line Extension – a proposal to extend the Brown Line west from Lawrence/Kimball to the Jefferson Park Blue Line station.
- South Shore Commuter Rail Extension – this proposal calls for providing an additional “south leg” of the service that would extend from either East Chicago or Hammond, IN to Lowell, IN.

Beginning over the summer, staff has been evaluating individual projects. This requires that each project be 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.

An initial sample evaluation is attached for informational purposes: I-55 Add Lanes and Reconstruction. A few measures are not included in these samples. One of these is economic impacts, which will be calculated using TREDIS; CMAP is still experimenting with this recently-acquired software to ensure that it is providing reasonable results. Also, please note that the measures that are shown are still being refined, and the results may change as evaluation continues during the coming months.

Initial results for all projects will be completed this fall, and discussion of the results is scheduled for the Transportation committee in November. Please note that some projects, including many of those proposed by members of the public during the summer, do not have enough detail to allow them to be fully evaluated.

Also in November, staff will propose several “sets” of projects for evaluation to demonstrate the effect that different combinations of projects will have. These will be refined over the winter and further discussed at the January meeting. A recommendation for endorsement from the Transportation Committee is scheduled to be requested in March.



# Chicago Metropolitan Agency for Planning

## GO TO 2040 Major Transportation Capital Program Element Evaluation Measures for Board Consideration

Basic Project Information							
Location and Project Limits							
Overall Project Length							
Lane or Track Miles of Improvement							
Type(s) of Improvements							
Connections or Linkages with Existing Facilities							
Service Area (transit only)							
Hours of Service (transit only)							
Cost							
Proposed Completion Year							
Evaluation Measures	Case Studies					CMAP Indicator(s)	FHWA Planning Factor(s)
	Boston	Baltimore	Los Angeles	San Francisco	Portland		
Long-Term Economic Development, Including Freight System (jobs, income, and output)		X		X	X	EC 1, EC 2, EC 4, EC 5, He 3, R 1, Tr 1	1
Safety Features	X	X	X	X		He 6, S 7, Tr 7	2
Security Features			X			He 6, S 7	3
Congestion - Targeted Facilities or Corridors (vehicle hours of travel in congestion)	X		X		X	EC 5, Tr 1, Tr 2	4, 6
Congestion - System (vehicle hours of travel in congestion)	X	X	X		X	EC 5, Tr 1, Tr 2	4, 6
Travel Time Savings		X		X	X	EC 5, Ho 1, R 1, Tr 3	4, 6
Provision of Bicycle and Pedestrian Facilities				X	X	He 4, Tr 3, Tr 9	4, 6
Mode Share (trips by transportation mode)		X			X	Tr 2, Tr 4	4, 6
Jobs-Housing Access (number of jobs within specified travel times for auto and transit)		X	X		X	EC 5, Ho 1, R 1, Tr 9	4, 6
Air Quality - Emissions	X	X	X	X	X	ENR 1, He 4, Tr 9	5
Energy Consumption and Greenhouse Gas Emissions						EC 5, ENR 5, ENR 6, Tr 6, Tr 9	5
Natural Resources, Land Consumption, and Water Quality (amount of sensitive lands in impacted areas)	X	X			X	ENR 2, ENR 4, ENR 7, R 4	5
Support for Infill Development and Existing Densely-Developed Areas (infill potential in impacted areas)	X			X	X	ENR 4, R 1	5, 8
Mutual Consistency Between Regional and Sub-Regional Plans	X					Coord	5
Peak Period Utilization/Demand (volume/capacity ratios at peak hours)	X	X	X	X	X	Tr 4	7
Facility Condition				X	X	Tr 5	8
<b>Overall Cost-Effectiveness of Fiscally-Constrained Sets of Projects will be Evaluated</b>							
<b>Overall Distribution of Environmental Burdens and Benefits for Sets of Projects will be Evaluated with Respect to Disadvantaged Groups</b>							

**CMAP Indicator key:**

Coord - Coordinated Planning and Development (indicators still to be defined)

EC1 - Income

EC2 - Workforce

EC4 - Business Environment

EC5 - Other Economic Competitiveness

ENR1 - Air

ENR2 - Water

ENR4 - Land

ENR5 - Energy

ENR6 - Climate Change

ENR7 - Biodiversity

He3 - Social Health Factors

He4 - Environmental Health Factors

He6 - Other Health

Ho1 - Housing Stock

R1 - Development Potential and Location

R4 - Land and Water Preservation

S7 - Transportation System Safety

Tr1 - Transportation System Reliability

Tr2 - Transportation System Operations

Tr3 - Transportation System Accessibility

Tr4 - Travel Choices

Tr5 - Transportation System Maintenance

Tr6 - Transportation System Investment

Tr7 - Transportation System Safety

Tr9 - Other Transportation

The full list of indicators is available online at:

<http://www.goto2040.org/indicators.aspx>

**FHWA Planning Factors****§ 450.306 Scope of the metropolitan transportation planning process.**

- (a) The metropolitan transportation planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following factors:
- (1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
  - (2) Increase the safety of the transportation system for motorized and non-motorized users;
  - (3) Increase the security of the transportation system for motorized and non-motorized users;
  - (4) Increase accessibility and mobility of people and freight;
  - (5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
  - (6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
  - (7) Promote efficient system management and operation; and
  - (8) Emphasize the preservation of the existing transportation system.

## GO TO 2040 Major Transportation Capital Project Proposals

Category	Project Name	Extent
Bus Rapid Transit	Central Area Bus Rapid Transit	Carroll Ave-Clinton Ave: Navy Pier to Congress Pkwy
Bus Rapid Transit	DuPage "J" Line	Aurora to O'Hare/Schaumburg
Bus Rapid Transit	Tollway Transit System	Additional Exclusive Bus Lane/Service on I-294 and I-90
Commuter Rail	BNSF Montgomery Extension	From Montgomery to Aurora
Commuter Rail	BNSF RR Extension	CUS to Oswego/Plano
Commuter Rail	BNSF Sugar Grove Extension	From Sugar Grove to Aurora
Commuter Rail	Heritage Corridor Improvements	Joliet to CUS: resolution of freight conflicts
Commuter Rail	Metra Electric Improvements and Extension	Randolph Station to SSA/Kankakee
Commuter Rail	Milwaukee Dist N Improvements /Extension	CUS to Wadsworth/Richmond
Commuter Rail	Milwaukee Dist W Improvements /Extension	CUS to Huntley/Marengo
Commuter Rail	North Central Service Improvements	CUS to Antioch
Commuter Rail	Rock Island Improvements and Extension	La Salle St to Minooka/Peru
Commuter Rail	SW Service Improvements and Extension	CUS to Manhattan/Joliet Arsenal
Commuter Rail	UP North Improvements	Track and Signal Improvements from OTC to Kenosha
Commuter Rail	UP Northwest Improvements and Extension	OTC to Johnsburg; other track/signal improvements
Commuter Rail	UP West Improvements	Signal, storage, track, and service upgrades
Commuter Rail	UP-NW Extension to Richmond	From McHenry to Richmond, other improvements
Existing Major Highway	Elgin O'Hare Expressway Add Lanes	I-290 to Gary Avenue
Existing Major Highway	I-190 Access Improvements	I-90 to O'Hare Terminals
Existing Major Highway	I-290 Managed Lane	I-88 to Austin Blvd
Existing Major Highway	I-294 Add Lanes North	IL/WI Border to Balmoral Ave
Existing Major Highway	I-294 Add Lanes South	95th Street to IL 394
Existing Major Highway	I-294 Interchange Addition	I-294 at I-57
Existing Major Highway	I-55 Add Lanes and Reconstruction	Naperville Rd to Coal City Rd
Existing Major Highway	I-55 HOV	From I-355 to I-90/94
Existing Major Highway	I-57 Add Lanes	I-80 to Wilmington-Peotone Road
Existing Major Highway	I-80 Add Lanes	Grundy County Line to US 45

## **GO TO 2040 Major Transportation Capital Project Proposals**

<b>Existing Major Highway</b>	I-88 Add Lanes	I-294 to IL 56
<b>Existing Major Highway</b>	I-90 Add Lanes	I-294 to Elgin Toll Plaza
<b>Existing Major Highway</b>	IL 394 Add Lanes	I-80 to Exchange Street
<b>New Commuter Rail</b>	CCP RR Service from Burlington	Burlington to UP W (Geneva)
<b>New Commuter Rail</b>	Inner Circumferential Rail Service	O'Hare to Midway via IHB RR
<b>New Commuter Rail</b>	Southeast Service	Chicago CBD to Crete
<b>New Commuter Rail</b>	Suburban Transit Access Route (STAR Line)	Joliet to Hoffman Estates to O'Hare
<b>New Major Highway</b>	Central Lake County Corridor: IL 120 Limited Access	Wilson Rd to I-94
<b>New Major Highway</b>	Central Lake County Corridor: IL 53 North	Lake-Cook Rd to IL 120
<b>New Major Highway</b>	Elgin O'Hare Expressway East Extension	I-290 to West O'Hare Bypass
<b>New Major Highway</b>	Elgin O'Hare Expressway Far West Extension	Shales Pkwy to E Bartlett Rd, as high level arterial
<b>New Major Highway</b>	Elgin O'Hare Expressway West Extension	Gary Ave to US 20
<b>New Major Highway</b>	I-57 to IL 394 Connector	I-57 to IL 394
<b>New Major Highway</b>	Illiana Corridor	IL 394 to I-65 (Lowell, IN)
<b>New Major Highway</b>	McHenry Co Extension of Prairie Parkway	From I-90 to IL/WI State Line
<b>New Major Highway</b>	McHenry Lake Corridor (aka Richmond-Grayslake Tollway)	IL 120 @ Wilson Rd to Richmond
<b>New Major Highway</b>	Prairie Parkway	I-88 to I-80
<b>New Major Highway</b>	Prairie Parkway Southeast Extension	From I-80/PP (Minooka) to I-57
<b>New Major Highway</b>	South Suburban Corridor	I-80 to I-57
<b>New Major Highway</b>	West O'Hare Bypass	I-294 to I-90
<b>New Rapid Transit</b>	CTA Blue Line Extension to Schaumburg	O'Hare to Meacham Road
<b>New Rapid Transit</b>	Gray Line LRT	Existing ME So Chicago Branch - Randolph to 93rd St
<b>New Rapid Transit</b>	Mid-City Transitway	Jefferson Pk Station to 95th St Station via BRC RR
<b>New Rapid Transit</b>	Monorail System	Over Great Western Trail and Illinois Prairie Path
<b>New Rapid Transit</b>	Rainbow Line	Argyle/ Red Line west, south and east to 87th/Metra Electric South Chicago Branch
<b>Other Rail</b>	Illinois Transit System and Spider 10 Hwy System	
<b>Other Rail</b>	O'Hare Direct - High Speed Rail Service	Network serving CUS, O'Hare, several suburban locs
<b>Rapid Transit</b>	Blue Line West Extension	Forest Park to Lisle

## **GO TO 2040 Major Transportation Capital Project Proposals**

<b>Rapid Transit</b>	Circle Line	Fullerton Av Station to Ashland Av Orange Ln Station
<b>Rapid Transit</b>	Express Airport Train Service	O'Hare to Midway plus terminal at 108 N State
<b>Rapid Transit</b>	Green Line Enhancements	Clinton Ave to Harlem Ave
<b>Rapid Transit</b>	N Main Line Rehabilitation / Enhancement	Howard St to Addison St
<b>Rapid Transit</b>	Orange Line Extension	Midway to Ford City SC
<b>Rapid Transit</b>	Red Line Extension (South)	95th to 130th Sts
<b>Rapid Transit</b>	West Loop Transportation Center	CUS and OTC connection plus Clinton St Subway
<b>Rapid Transit</b>	Yellow Line Enhancements and Extension	Howard St to Old Orchard Road
<b>Transportation Management &amp; Operations</b>	Transportation for the Future Now	Electronic Mechanical Guided Highway

## I-55 Add Lanes and Reconstruction

I-55 links the Chicago area to central Illinois, St. Louis, and the southwest United States. Rapid population and employment growth has taken place in this corridor over the past several years, and is expected to continue.

This proposal is to add lanes to I-55 (Stevenson Expressway) from Naperville Road on the north to Coal City Road on the south, a total project length of 29.3 miles, with 56.3 lanes-miles to be built.

When completed, improvements from Naperville Road to I-80 will include complete roadway reconstruction, bridge reconstruction or replacement, an improved interchange at IL 126 and additional safety and operations improvements -which may enable managed lane implementation. South of I-80, lanes will be added on selected segments, and the interchange at IL 129 will be improved for safer operation.

As an add lanes and interchange improvement project, this proposal improves both corridor and regional safety by: reducing vehicle conflicts from entering and exiting vehicles, providing additional capacity for mainline traffic, and providing additional capacity to facilitate the large volume of truck traffic utilizing the I-55 corridor. The proposed improvements also enhance I-55's capability to serve as an evacuation route and facilitator of first responder vehicle traffic in the event of an emergency.

The total project cost is still to be determined.

The project segment north of I-80 is anticipated to be completed in the short term (before 2015), while the I-80 to Coal City Road portion is to be completed in the medium to long term (2020 to 2030).

Quantitative Evaluation Measures	Sub-Category	Outcome
Long-Term Economic Development, Including Freight System	jobs	n/a
	income	n/a
	regional GDP	n/a
Congestion	Targeted Facility/Corridor (hours)	-4,491
	System (hours)	-13,920
Travel Time Savings	auto (minutes)	-0.08
	transit (minutes)	-0.08
Mode Share	auto (trips)	-10
	transit (trips)	-612
	non-motorized (trips)	-25
Jobs-Housing Access	auto - 45 min (number of jobs)	4,642
	transit - 75 min (number of jobs)	0
Air Quality	Daily VOC (tons)	0.03
	Daily NOx (tons)	0.12
	Annual Direct PM (tons)	1
	Annual NOx (tons)	47
Energy Consumption and Greenhouse Gas Emissions (tons)		33,023
Preservation of Natural Resources	subzones	300
	% of subzones	48%
Support for Infill Development	subzones	231
	% of subzones	37%
Peak Period Utilization/Demand (ratio)		-0.18
Facility Condition (CRS score)		6.8



# I-55 Add Lanes: Naperville RD to Coal City RD

## Traffic using improved facility

Project Length (mi):	29.3
Trips Served (000):	237
Capacity (000):	228

