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MEMORANDUM

To: **CMAP Project Selection Committee**
From: Regional Transportation Operations Coalition
Date: June 12 2013
Re: Project Recommendation

Background

RTOC was requested to review and provide a recommendation on the projects submitted for funding through the CMAP CMAQ program. Consistent with previous practice, the projects were evaluated using programmatic information and performance measures. First, projects were evaluated to determine whether they were 1) proposed for locations on the Congestion Management Process network (expressways, tollways, Strategic Regional Arterials, or other principal arterials), 2) modernization projects, or 3) were proposed for a corridor which contained other upcoming projects. Second, performance measures were evaluated for the projects and included speed, delay, and travel time index (all measuring congestion), planning time index (measuring travel time reliability), and crash rates (measuring highway safety). The program characteristics guided the evaluation, while the performance measures provided a way to further prioritize recommendations. In the following package, these performance measures were color coded based on rank order: those shaded pink were in the top third (with the worst performance indicators), orange indicates middle third, and tan indicates bottom third.

Operations Program

Crashes and associated congestion impact all of us in terms of casualties, time, property damage, fuel consumption, and emissions. The delays and congestion created by a single incident can also lead to secondary crashes and further delays.

Currently, the regional transportation partners use a variety of mechanisms to detect and verify incidents. These include closed-circuit television, and traffic sensing devices that may detect declining system performance. However, these systems do not fully cover the entire region. PSAPs have the timeliest and most accurate information as highway incidents occur. Direct communications with computer-aided dispatch (CAD) systems operated by PSAPs allow road operators to respond to incidents in a more efficient and timely manner. In its 2011 recommendation, the Regional Transportation Operations Coalition included *"Data Integration: Public Safety Answering Point (PSAP)/Traffic Management Center Integration"* as its top priority for operations programs. Therefore, RTOC recommends funding application **OT9144036 Kane County PSAP Coordination**.

Corridor Recommendations

> *"GO TO 2040 recommends that the region prioritize investments toward strategic enhancements and modernization of the transportation system. If carefully targeted, these types of projects will improve access, mobility, and the overall experience for all users." GO TO 2040 p. 272*

GO TO 2040 specifically recommends implementing roadway improvements, including projects that add lanes to arterials or other streets, addition of turn lanes, access management programs, intersection improvements, new or improved interchanges, and new or improved bridges. The following package of projects consists of targeted arterial improvements where a number of investments in a specific corridor are under consideration. When taken together, a group of projects can substantially improve the operation of an entire corridor, as Strategic Regional Arterial (SRA) improvements were initially intended. Several such packages were identified.

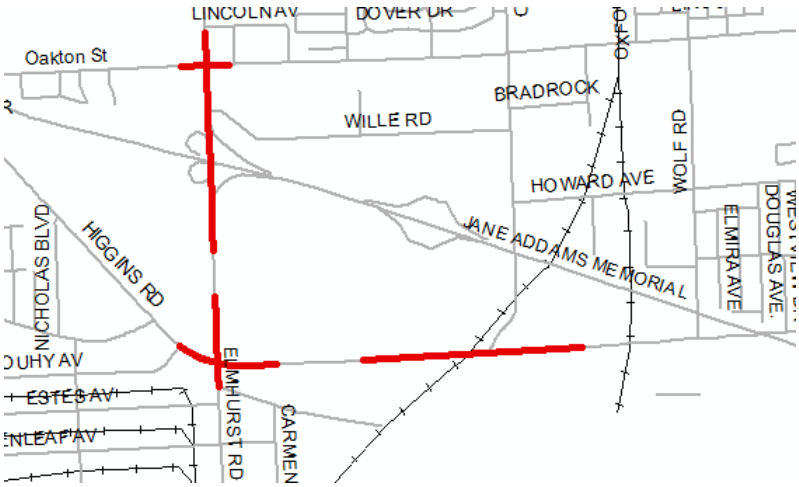
The corridor maps show the proposed CMAQ projects in red, and Transportation Improvement Program projects in blue.

Recommended Corridors:

- **Higgins/Touhy/Elmhurst Road Corridor**
- **Randall Road Corridor**
- **IL 120/Belvidere Road Corridor**
- **Eola Road Corridor**

Higgins/Touhy/Elmhurst Road Corridor

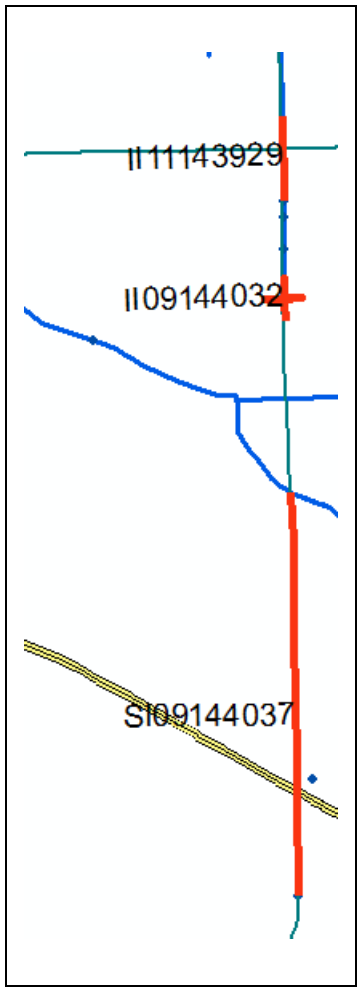
This corridor recommendation includes modernization projects and a railroad grade separation around the Elmhurst Road/I-90 Interchange. The travel time index and planning time index of these proposed projects are in the middle third of submitted projects. However, upcoming changes on I-90 and the proposed Elgin-O'Hare expressway will likely increase traffic at this location.



CMAQ ID	II03143988	II03143983	BE03143991	II03143986
Location	Elmhurst Road and Touhy Ave	I-90 and Elmhurst Road	Touhy Ave and Union Pacific Railroad Intersection	Elmhurst Road and Oakton Street
Project Type	Add lane, signal improvements, and realignment	Add ramps, bridges; make full interchange -DCD	Add Grade Separation	Restriping and turn lane reconfiguration
CMP Network	Yes	Yes	Yes	Yes
Modernization	Yes	Yes	No	No
Corridor	Yes	Yes	Yes	Yes
Before Speed	17	36	16	No Improvement
After Speed	21	20	29	No Improvement
Speed Improvement	4	-16	13	0
Travel Time Index	1.29	1.16	1.24	1.24
Planning Time Index	2.77	4.41	2.59	2.62
Crash Rate	1.1	3.22	1.94	1.8

Randall Road Corridor

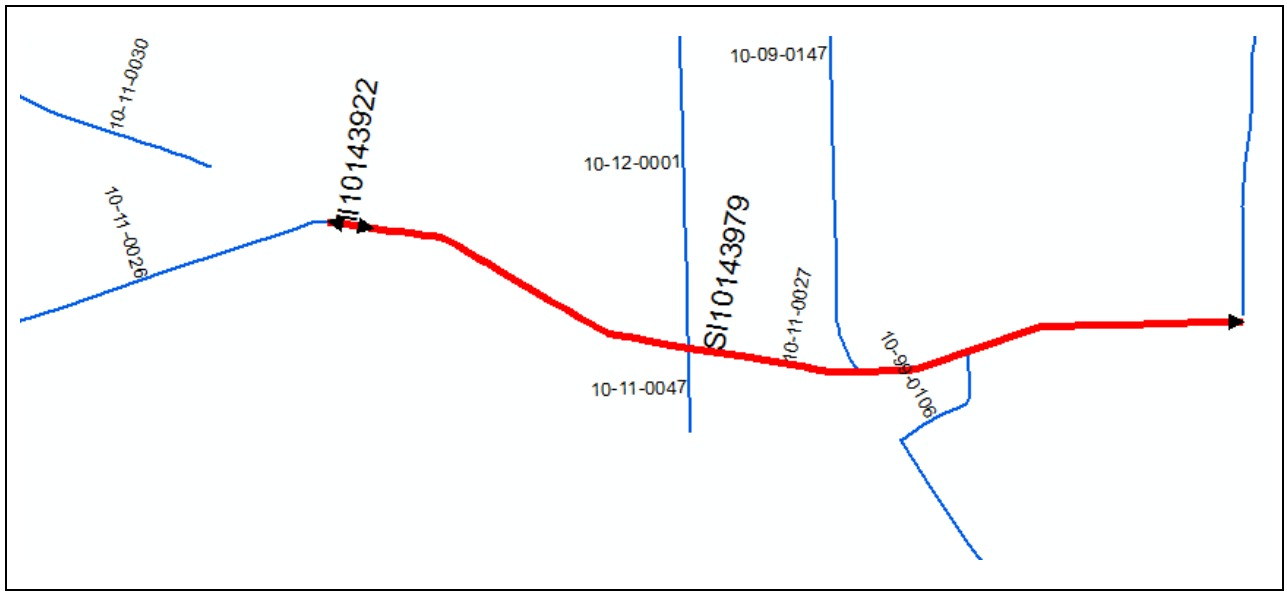
The Randall Road Corridor is an important and highly traveled component of the McHenry County/Kane County transportation network. All of the project locations in this corridor have crash rates in the top 30% of submitted projects. The proposed continuous flow intersection within this corridor should operate more safely with fewer crashes and associated congestion. The addition of right and left turn lanes to remove turning vehicles from through lanes also increase safety. Fewer crashes results in better operations and reduced congestion.



CMAQ ID	II11143929	SI09144037	II09144032
Location	Randall and Algonquin Road	Randall Road	Longmeadow Parkway and Randall Road
Limit 1	Acorn Lane/Polaris Drive	Huntley Road	
Limit 2	Bunker Hill Drive/Huntington Road	Big Timber Road	
Project Type	Continuous Flow Intersection	Adaptive signal control	Add left and right turn lanes
CMP Network	Yes	Yes	Yes
Modernization	Yes	Yes	No
Corridor	Yes	Yes	Yes
Before Speed	15.6	NA	35.5
After Speed	18.1	NA	40.8
Speed Improvement	2.5	NA	5.2
Travel Time Index	1.22	1.19	1.1
Planning Time Index	2.01	2.53	1.43
Crash Rate	5.28	2.62	4.04

IL 120/Belvidere Road Corridor

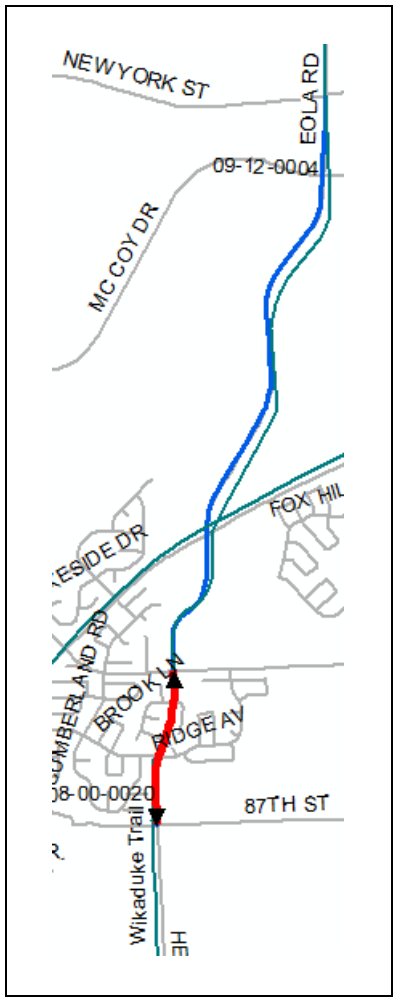
The intersection of Il 120 and Hainesville Road has a crash rate in the middle third of the submitted projects. Il 120, leading up to this intersection, has a crash rate in the top third of submitted projects, and was the third highest location in this category. There are also several TIP projects planned for this location. The addition of turn lanes improves safety and reduces congestion.



CMAQ ID	Location	Project Type	CMP Network	Modernization	Corridor	Travel Time Index	Planning Time Index	Crash Rate
II10143922	IL 120 at Hainesville Rd	Add westbound right turn lane	Yes	No	Yes	1.92	3.37	2.09
SI10143979	Belvidere Road	Interconnect intersections/ Lake County PASSAGE	Yes	Yes	Yes	1.26	3.05	7.52

Eola Road Corridor

The Eola Road project has a crash rate and travel time index in the top third of submitted projects. Analysis shows a significant speed improvement with the turn lane improvements, which also improve safety and incident related congestion.



CMAQ ID	II09143888
Location	Eola Road
Limit 1	83rd Street
Limit 2	87th Street
Project Type	Turn lane improvements
CMP Network	Yes
Modernization	No
Corridor	Yes
Before Speed	10.2
After Speed	24.9
Speed Improvement	14.7
Travel Time Index	1.22
Planning Time Index	2.12
Crash Rate	3.60

System Modernization and Intelligent Transportation Systems (ITS) Priority Ranking

"Improvements related to Intelligent Transportation Systems (ITS) are also considered strategic enhancements and modernization. These include the use of real-time traveler information for both highway and transit, signal improvements such as interconnects or Transit Signal Priority (TSP) systems, traffic management centers, and many others. (…) GO TO 2040 supports continuing to advance ITS projects of all types, and recommends a continued role for CMAP in coordinating these efforts regionally. "GO TO 2040 p. 272

This package of projects provides congestion relief by improving the system through better information and modernized operations. Better information allows better management of incidents, reducing incident delay, and allows the dissemination of better traveler information. The Regional Transportation Operations Coalition supports implementation of all modernization projects. However, given limited resources, improvements should be made at locations with worse conditions first. The following table lists proposed CMAQ modernization projects prioritized by operations performance indicators.

CMAQ ID	Location	Project Type	CMP Network	Modernization	Corridor (TIP)	Travel Time Index	Planning Time Index	Crash Rate
II03143900	IL 58/Golf Rd at Wolf Rd/State St/Broadway St (Cumberland Circle)	Convert traffic circle to roundabout	Yes	Yes	No	1.39	4.19	4.02
II05143882	34th Street and Oak Park Ave	Traffic Signal Modification	No	Yes	Yes	1.26	3.10	5.61
SI10143993_1	Sunset Ave/Golf Road/Greenwood	Interconnect intersections/Lake County PASSAGE	No	Yes	No	1.17	2.29	1.71
SI10143942	Cedar Lake Road	Interconnect intersections/Lake County PASSAGE	No	Yes	Yes	No Data	No Data	5.82
SI10143982	IL 83	Interconnect intersections/Lake County PASSAGE	Yes	Yes	Yes	1.24	2.41	3.21

SI10143985	Sheridan Road	Interconnect intersections/Lake County PASSAGE	Yes	Yes	No	1.13	2.25	2.74
SI08143989	Washington Street	Add traffic detection hardware	Yes	Yes	Yes	1.20	3.61	2.57
SI10143987	US 12/Rand Road	Interconnect intersections/Lake County PASSAGE	Yes	Yes	Yes	1.13	4.34	0.99
SI08143992	Washington Street	Add signal interconnect software	Yes	Yes	No	1.20	3.61	2.57
II08143884	Madison Street at 79th Street	Conversion to Single Lane Modern Roundabout	No	Yes	Yes	1.27	3.08	0.87
SI10143981	Waukegan Road	Interconnect intersections/Lake County PASSAGE	No	Yes	No	1.23	2.37	2.02
II08143941	Batavia Rd/Warrenville Rd/River Rd	Replace with Roundabout	No	Yes	Yes	No Data	No Data	0.42
II02143953	Greenwood Road at West Lake	Add Signal Inter, new gutters, sewers, sidewalk	No	Yes	Yes	No Data	No Data	0.38

Special Projects

Elston/Damen/Fullerton

The intersection of Elston Avenue, Damen Avenue, and Fullerton Avenue was in the top third of all the operations performance indicators. As noted in the project application, this intersection is listed in the 2011 FHWA Five Percent crash report, indicating that it is recognized as a particularly dangerous intersection. As stated earlier, crashes cause significant congestion.

CMAQ ID	Location	Limit 1	Limit 2	Project Type	CMP Network	Modernization	Corridor	Travel Time Index	Planning Time Index	Crash Rate
II01143995	Elston Ave	Damen Ave	Fullerton Ave	Intersection Relocation	Yes	No	Yes	1.38	5.78	3.49

I-90, Cumberland to Harlem

I-90 between Cumberland and Harlem Avenues is part of the transition between the Illinois Tollway and the Illinois Department of Transportation systems and because of lane configurations, becomes a bottleneck. The travel time index and planning time index at this location was in the top third of projects for both of these indicators. The crash rate was in the middle third. However, with the addition of managed lanes on the Illinois Tollway leading to this location, traffic volumes are expected to increase. The auxiliary lane can buffer the current transition between the two systems, and may become a part of a managed lane when it is implemented.

CMAQ ID	Location	Limit 1	Limit 2	Project Type	CMP Network	Modernization	Corridor	Travel Time Index	Planning Time Index	Crash Rate
BE01143909	Eastbound Interstate 90	Cumberland Ave	Harlem Ave	Add Auxiliary Lane	Yes	No	Yes	1.42	3.89	2.06

Thorndale at I-290

Although this project was grouped in the corridor section, the Regional Transportation Operations Coalition recommends this as a stand-alone project. The location serves high volumes of traffic and experiences significant backups eastbound in the mornings, and westbound in the afternoons. RTOC members highlighted the fact that since the backups extend for such a long distance, often crashes caused by operational deficiencies at this location happen farther from the project location than was used for the analysis and therefore are not included in the calculated crash rates. It was noted that the project improvement proposed for this location should result in a doubling of speeds, which is a great improvement from current conditions.

CMAQ ID	Location	Project Type	CMP Network	Modernization	Corridor	Before Speed	After Speed	Speed Improvement	Travel Time Index	Planning Time Index	Crash Rate
II08143970	Thorndale and I-290	Add access facility control and road expansion	Yes	No	Yes	17.7	36.6	18.9	1.36	2.48	2.41

Elgin O'Hare Expressway and IL 19

This location is included as a special project because it exhibits a crash rate in the top third of the submitted projects. The CMAQ funded portion includes reconstruction and resurfacing of the westbound exit ramp and a frontage road, pavement repair and restriping, and traffic signal modernization. The project improvements should improve operations, thereby reducing crashes and congestion.

CMAQ ID	Location	Municipality	Project Type	CMP Network	Modernization	Corridor (TIP)	Travel Time Index	Planning Time Index	Crash Rate
II03143960	Elgin O'Hare Expressway and IL 19	Schaumburg	Ramp Widening and Resurfacing	Yes	No	Yes	1.24	3.05	2.76