



**Advanced Technology Task Force /
Regional Transportation Operations Coalition
Minutes
January 14, 2021**

In Attendance:

Name	Organization
Mitch Bright	Traffic Control Corporation
Claire Bozic (Chair, RTOC)	CMAP
Saurav Chakrabarti	Jacobs
Adam Danczyk	Cambridge Systematics
Justin Effinger	Lake County
Bill Eidson	DuPage County
Abraham Emmanuel	CDOT
Tyler Grau	Stanley Consultants
Chad Hammerl	Jacobs
Terry Heffron	IDOT
Jeff Hochmuth	CDM Smith
Andy Hynes	City of Naperville
Rich Jezierny	Cook County
Christina Kupkowski	Will County
Guilherme Leao	Cambridge Systematics

Name	Organization
Matt Letourneau	AECOM
Jonathan Lloyd	IDOT
Duana Love	Transmart
Taqhi Mohammed	Pace
Jon Nelson	Lake County
Mark Pitstick	RTA
Lukasz Pociecha	IDOT
Kevin Price	IDOT
Brian Roberts	Cook County
Sagar Sonar	Kimley-Horn
Peter Stresino	IDOT
Tom Szabo	CBBEL
David Tomzik	Pace
Betsy Tracy	Federal Highway Administration
Ralph Volpe	Federal Highway Administration
Stephen Zulkowski	Kane County

CMAP Staff Present: Daniel Comeaux, Victoria Jacobsen, Tom Murtha, Todd Schmidt

1.0 Call to Order

The chair called the meeting to order at 9:30 a.m.

2.0 Agenda Changes and Announcements

Mr. Comeaux read the Governor’s Disaster Declaration of January 8th, which authorized this meeting to be held remotely.

Ms. Bozic noted that CMAP recently issued a call for projects for regional transportation projects and encouraged attendees to review these programs and apply.

3.0 Approval of Minutes – November 2020

The minutes were approved without objection.

4.0 Crowdsourcing – Every Day Counts

Mr. Volpe gave a presentation on crowdsourcing for advancing operations, an initiative of the Every Day Counts program (EDC). The Every Day Counts program is a state-based model that seeks to disseminate proven but underutilized innovations at state Departments of Transportation and other agencies.

Mr. Volpe discussed the concept of crowdsourcing, which he defined as “the practice of addressing a need of a problem by enlisting the services of a large number of people via technologies.” He noted examples in other industries, such as the Folding@home project and the Lego Ideas group, both of which have relatively low barriers to entry. He placed the idea of crowdsourcing in transportation within the broader field of Transportation Systems Management and Operations (TSMO). Relevant to RTOC, Mr. Volpe noted that TSMO relies upon ITS. He then discussed sources of transportation operations crowdsourced data: app-based data, vehicular sensors, social media, mobile infrastructure, connected devices, and more.

Mr. Volpe discussed the role of crowdsourced data in the context of a larger system, being one of many data sources that can provide inputs to a unified operations center. He reviewed existing uses of crowdsourcing data, such as the Tennessee Department of Transportation’s reliance on Waze data to augment its real-time traffic monitoring, both by expanding geographic coverage and reducing lag-time. Some data sources can be used in many different ways: for example, the Indiana Department of Transportation uses vehicle probe data as part of more than a dozen operational capabilities, such as incident detection, signal timing, traveler information, and capital project selection. State DOTs, such as those in Virginia and Delaware, even share and collect crowdsourced data through their 511 mobile applications. Maine uses integration with Waze to improve the efficiency of collecting and responding to crowdsourced data on winter weather conditions, while other agencies like the Port Authority of New York and New Jersey work with Waze to ensure that route maps are updated with current construction zones and closures. In total, 19 states have advanced their use of crowdsourcing through EDC-5.

Mr. Volpe shared plans for the next round of EDC, EDC-6. This will focus on more comprehensive deployments of crowdsourcing data, vs. the singular focus of many EDC-5 deployments. This could include adding additional data sources and applications, improving data management, sharing and integration of data, and improving archived data usage. He shared a number of resources for interested parties to learn more, including EDC websites and newsletters. He also noted that the U.S. Government does not endorse products or manufacturers, and that any specific products discussed during this presentation were included for informational and demonstrative purposes only.

Mr. Effinger shared an example of crowdsourced data in Lake County. Lake County relies on data from Waze to identify roadway incidents, as well as identify increased travel times. In roughly 10% of cases, Waze is the first data source to identify roadway incidents. Lake County also makes data on travel times from Waze available for public download and review via the agency's GitHub page. Mr. Effinger noted, for example, that the system allows for automated notifications when travel times exceed historical averages by a set threshold, which is especially useful during incidents like snow storms.

Mr. Effinger also reviewed crowdsourcing inputs into Lake County's traffic signal management system, commenting on the usefulness they have found in loading multiple data sources into one comprehensive system. For example, the combined data sets have allowed them to identify which traffic signals are causing delays. Mr. Effinger then discussed the savings the system enables, including in-house Signal Coordination & Timing (SCAT) contracts and the consequent ability to conduct SCAT studies more frequently.

Mr. Effinger then discussed the use of crowdsourcing data in Lake County's ongoing response to the COVID-19 pandemic. He noted that it has served as the basis for regular reports on travel times to Lake County DOT leadership, and has informed traffic signal recalibrations that have significantly improve travel times and made travel times more reliable. The success of these efforts led partner agencies, including IDOT and Highland Park, to agree to recalibrate their own signals within Lake County.

Mr. Sonar asked whether the FHWA or others validate data received through these channels, and if so, whether there are data sources that could be recommended based on accuracy and confidence. Mr. Volpe noted that some states, such as Kentucky, have developed confidence ratios for components of their data. However, the applicability of these datasets vary according to the use case, the relative amount of existing data (i.e., whether crowdsourcing data is filling a gap or is it standing on its own), and the capabilities of the agency using the data.

Mr. Letourneau asked what portion of the incidents reported by crowdsourcing services are confirmed as correct vs. false reports, and whether the benefits provided by crowdsourced data outweigh the time spent verifying those incidents. Mr. Volpe said this varies nationwide, while Mr. Effinger noted he had not conducted any studies on the matter. Some jurisdictions, like Virginia, do preliminary quality assessments of the data because it is incorporated into their systems without further validation. In contrast, Lake County tries to confirm all incidents using other data sources, such as cameras. Mr. Effinger noted that the most common data issue is duplication, rather than false reports, and that in general, the benefits of using the data do outweigh the costs. Mr. Nelson noted that Waze provides its own estimates on reliability, and uses components of its application to help filter out unreliable incident reports.

Ms. Bozic asked whether scalability is an issue in a large urban area. Mr. Effinger responded that he didn't think that would be problematic. For example, in Lake County, Waze has been responsive in adding routes. Mr. Effinger recommended that jurisdictions "start small," with shorter segments. That approach should allow for greater flexibility in the long term while also identifying specific "pain points" within the broader transportation network. Mr. Effinger then noted that true regional deployment would require larger data agreements with companies like Waze, which might be appropriate for a regional entity like an MPO to pursue. Mr. Volpe agreed that starting small is a good idea, as it allows for experimentation and learning. Mr. Volpe also observed that groups like RTOC allow for shared learning across the jurisdictions, particularly if it helps agencies take advantage of this low-cost data. This is especially relevant for agencies operating in rural areas, where sensors may not be as cost-effective as they are in higher traffic urban areas.

5.0 Feedback on Provided Documents

Traffic signals

Ms. Bozic asked for input on the traffic signal modernization plan. She noted that traffic signal investments may suffer from a lack of awareness and visibility, but that these investments provide significant value.

Mr. Pitstick from RTA commented that traffic signals may have significantly less than a 50-year lifespan, responding to the minutes from the November RTOC meeting. Ms. Bozic agreed that 50 years should not be the target lifespan, particularly given the computerized nature of current traffic signals. In response, Mr. Murtha and Mr. Hammerl both noted that the life cycle of the traffic signals will vary between different components – foundation, poles, mast arms, vs. the controllers and signal heads.

Mr. Mohammed from Pace recommended that this plan include considerations for Transit Signal Prioritization (TSP), and noted that both Pace and CTA are already deploying TSP. Ms. Bozic noted that TSP would be one of the factors under consideration when developing prioritization criteria. Mr. Eidson from DuPage County raised the issue of multimodal transportation more broadly, such as bike detection, which require thinking about the components of the traffic signal.

Ms. Kupkowski from Will County expressed the concern that over-emphasizing transit could leave parts of the region without fixed transit to get less preferential treatment, such as the portions of Will County with no fixed transit. Ms. Bozic agreed that one factor should not predominate, and that factors like freight will also be crucial, for example.

Mr. Stresino from IDOT noted that there are some mobile applications that interact with pedestrian signal buttons to no longer require pedestrians to physically touch the button. Ms. Bozic agreed that there are significant technological developments regarding traffic signals that should be kept in mind as investments are deployed.

Ms. Bozic thanked attendees for their comments, noting these will be incorporated into the finalized version of the document. She asked that members with additional comments share those with her directly, as this document will not be discussed again in the context of an RTOC meeting.

ITS Architecture

Ms. Bozic shared that the current version of the region's ITS architecture is now available for review on CMAP's website, at <https://its.cmap.illinois.gov/draft/web/>. She noted that this version will go to the MPO for formal approval, and asked that members share any additional comments for incorporation in advance of that formal approval.

Communications System

Ms. Bozic summarized the findings of the Communications System report, noting that, for example, fiber optic cables will remain an important component of communications. She noted that CMAP plans to publish this document as a tool to support and guide related future investments. She asked that members share any additional comments with her directly.

I-290 Concept of Operations

Ms. Bozic asked that members provide input on the draft I-290 Concept of Operations plan.

6.0 Agency Updates

Mr. Mohammed noted that Pace is spearheading a regional system for TSP, currently deployed on Milwaukee Ave. Pace has plans to expand TSP on Dempster St. and Grand Ave., as well as potentially other routes in the region.

Mr. Eidson shared that DuPage County will activate its server-to-server connection with the City of Naperville on January 15, 2021 to enable their shared signal system. Mr. Eidson noted that by the next meeting of RTOC, there should be operational experience of the integrated system, moving toward a vision of common operations (while maintaining independent organizations).

Mr. Zulkowski from Kane County provided an update about an adaptive traffic signal control project on Randall Road, which is expected to begin operation in March or April 2021. Kane County has also deployed numerous flashing yellow signals, and plans to open the Longmeadow Parkway Bridge and toll plaza to traffic on January 1, 2022.

Mr. Roberts from Cook County shared that DOTD is planning to do crash data analysis this year. As part of this, the agency is planning to bolster existing data sets, adding data on components like curves. He shared that DOTD has signed up for Waze for Cities and have built their underlying model. Mr. Roberts noted that they are now collecting data,

and are looking forward to deploying it later in the year. Cook County is also working on replacing and modernizing traffic signals, with a goal of replacing 10-12 and modernizing approximately 12 others. The project is in the design stage now, and Mr. Roberts shared that Cook County hopes to let the project later this year. Cook County also has a number of upcoming RFPs to “right-size” streets. In response to a question, Mr. Roberts shared that the project could be completed this year or could extend into 2022. Ms. Bozic noted that this project could provide lessons that would be important for informing broader regional traffic signal work.

Mr. Nelson from Lake County shared that Lake County is continuing to update the Passage system with new website features, such as snowplow tracking and snapshots. He also noted the mobile application will also be updated soon, allowing users to get a more personalized experience. Lake County is also working to create a data collector tool using an ESRI mobile application to update the inventory in the field when they are doing work on the signal system. In response to a question from Ms. Bozic, Mr. Nelson noted that this data collection system will not include asset condition (beyond age). Finally, he noted that Lake County has let its latest adaptive system (Butterfield Road in Vernon Hills/Libertyville, which includes roughly 10 signals and a flashing yellow arrow). That project is moving toward construction later this year.

Ms. Kupkowski from Will County shared that Will County received HSIP funds for the first roundabout in the county on the county highway system. Regarding ITS, Will County has also put together existing data and asset plans, but there have been delays in the process as a result of the COVID-19 pandemic. The next step is reconvening the steering committee to consider candidate ITS solutions.

Mr. Heffron from IDOT shared that IDOT is improving its incident management with a new system. Mr. Heffron also noted that IDOT is developing a statewide ITS communication network to improve communications between D1 and the rest of the state. IDOT has started a new TSMO plan, and are optimistic it will help IDOT improve operations. The Department also recently completed an innovative program delivery top level design document, for facilities such as weigh stations, which was just approved by FMCSA. That approval makes the state eligible for new funding for freight-related projects in Illinois, particularly related to freight safety. Mr. Heffron then shared that the Department is also working on a statewide traffic management study, while District 1 is developing a Regional Arterials study. Mr. Letourneau noted that as part of the Regional Arterials study, the team will soon release the Data Collection tech memo for committee review. The Concept Exploration step is next, with project committee meetings to follow. Finally, Mr. Pochiecha shared that IDOT D1 is working on a plan to have traffic signals in the Schaumburg area connected to a signal management system in D1 headquarters.

Mr. Emmanuel from CDOT shared that CDOT is starting the Chicago Capital Investment Plan this year, supported by a bond program. Roughly \$1.3 billion is set aside for

transportation infrastructure. Specific to ITS, CDOT is planning to upgrade and modernize roughly 50 traffic signals, as well as install intersection technology packages in about 100 signals annually for the next 5 years.

Mr. Pitstick from RTA gave an update on Transit Signal Priority. He noted that the TSP initiative is a large regional program managed by RTA using CMAQ funds, being implemented by Pace and CTA, with implementation support from CDOT and IDOT. There have been successful tests of Pace buses communicating with both CDOT and IDOT signals. They are now upgrading communications equipment on the Pace buses for full operation. He noted that CTA used a somewhat different communications approach on Western and Ashland Avenues (using the model from Jeffrey Jump), which included proprietary technology that is no longer supported. CTA is considering converting their communications system to an interoperable system using the same approach as Pace's on Milwaukee Avenue (although not necessarily using the same equipment). Ms. Bozic noted that TSP is an important source of information for the traffic signal modernization work, and that having old and outdated traffic signals makes implementing TSP more difficult.

Mr. Tomzick from Pace reiterated that Pace is eager to work together with Lake County to improve their operations, including through identifying workarounds for old systems that do not have all the desired functionality.

7.0 Safety Action Agenda

Ms. Jacobsen introduced the Regional Traffic Safety Action Agenda, a new CMAP initiative to improve traffic safety. She discussed the need for action, including rising traffic fatalities, federal mandates, and concerns about achieving safety systematically, equitably, and multimodally. She then reviewed the importance of traffic safety to each of the ON TO 2050 principles: Inclusive Growth; Resilience; and Prioritized Investment.

Ms. Jacobsen noted that the Safety Action Agenda was developed in response to a request from the Transportation Committee, and will be a new frontier of work for both CMAP and MPOs at large. As currently envisioned, the Agenda has four components: a traffic safety resource group; compilation of data, research, expertise, and best practices; pilot projects; and implementation tools and resources for agencies. Ms. Jacobsen shared that the Safety Action Agenda is still in development, but reviewed specific areas of work in each of these four categories. These include convening the traffic safety resource group in early 2021, identifying opportunities to leverage existing and new data sources to prioritize safety investments and solutions, pilot projects like the Flossmoor Local Road Safety Plan, and developing implementation tools to support bicycle and pedestrian safety, as well as speed management.

Mr. Emmanuel from CDOT noted that CDOT has observed an increase this year in fatal crashes that are in fact criminal events (i.e., a shooting that leads to a vehicle collision). Ms. Jacobsen noted that others have raised similar concerns, and that this is a complex issue

with many facets. Mr. Emmanuel also noted that insurance companies examine both damage to property and injury or death, which can help to analyze the source and cause of some incidents. Ms. Jacobsen agreed that insurance companies have an important role to play, including because of the data they collect and the behaviors they can incentivize. Ms. Bozic noted that instead of waiting for accidents, agencies can monitor intersection cameras and identify patterns of behavior that violate traffic laws (e.g., red lights). Ms. Jacobsen agreed, but noted that safety efforts should not be entirely reliant on such technological deployments.

Mr. Volpe shared that the FHWA Office of Operations and Office of Safety is halfway through a task order to examine the leveraging of TSMO and Safety for State DOTs, MPOs, and local/county municipalities. He encouraged interested parties to contact the FHWA to learn more about opportunities for involvement and collaboration.

8.0 Next Meeting

The next meeting is scheduled for Thursday, April 15, 2021 at 9:30 a.m.

9.0 Adjournment

Ms. Bozic adjourned the meeting.