Welcome & Introductions

1. Approval of July 27 Committee Minutes* (page 2)

2. Agency Updates

3. Election of Vice Chair*

4. 2020 Work Plan* (page 4)

5. Replacement of OGL Vehicle* (page 6)

6. Hot Topic: KCMO Prospect BRT

7. Arterial Performance Management Presentation

8. 2021 - 2025 Strategic Plan (page 7)


10. Quarterly Budget Report (page 26)

11. Various Topics for Information
   - KDOT Transportation Technology Program Funding
   - Tennessee Center for Transportation Research Traffic Signal Training
   - AASHTO Letter on Clearance Intervals

Other Business

Next Regularly Scheduled Meetings: Mondays, January 25; April 27; July 27; October 27

Adjournment

*Action Items

Getting to MARC: Information on transportation options to the MARC offices, including directions, parking, transit, carpooling, and bicycling, can be found online. If driving, visitors and guests should enter the Rivergate Center parking lot from Broadway and park on the upper level of the garage. An entrance directly into the conference area is available from this level.

Parking: Free parking is available when visiting MARC. Visitors and guests should park on the upper level of the garage. To enter this level from Broadway, turn west into the Rivergate Center parking lot. Please use any of the available spaces on the upper level at the top of the ramp.

Special Accommodations: Please notify MARC at (816) 474-4240 at least 48 hours in advance if you require special accommodations to attend this meeting (i.e., qualified interpreter, large print, reader, hearing assistance). MARC programs are non-discriminatory as stated by Title VI of the Civil Rights Act of 1964. For more information or to obtain a Title VI Complaint Form, call 816-474-4240 or visit our webpage.
Welcome & Introductions
The meeting started at 1:30. Sol Moinuddin, Chair, welcomed all.

1. April 27, 2020 committee minutes – Andrew Morrow made a motion to accept the minutes. The motion was supported and approved unanimously.

2. Agency updates – Sol inquired if anyone had updates regarding projects of regional significance. None were voiced.

3. Hot topic – M-152 & I-35 interchange project – Ryan Hale, MoDOT, presented some of the background, design, construction and operation of the new M-152 & I-35 bridge. After evaluating several types of interchanges, they built a so-called “displaced left” interchange. In this design the EBLT and the SBLT utilize a separate bridge north of the main bridge. It has proven successful so far; flexible and able to handle the different traffic patterns occurring.

4. Timing changes in response to COVID-19 – Barry shared some charts describing the lower volumes during COVID-19 up through the week of July 19. I-435 & Mission is at about 90% of pre-COVID-19 volumes for an entire week and 119th & Greenwood is at about 84%. Much of the reduction is attributed to lower volumes during the weekday AM and PM peak periods. Some corridors the large cycle peak plans were removed, some have the coord plan schedules shortened, some have been placed in free.

5. 2023 – 2024 STP/CMAQ call for projects – Ray presented on the OGL application for funds to purchase a new ATMS software and upgrade a few necessary controllers to be compatible with that software. The budgeted amount is $1.2 million, including a required 20% local match. Funds would be available October of 2022.
6. **2021 – 2022 MO and KS operations agreement proposal** – Several local agencies have asked about not executing new agreements for OGL operations, rather utilizing the two additional years available in the current agreements. The question is whether agencies will be able to pay MARC for additional years’ services under the existing agreement dated for 2019-2020. A cover letter of explanation could be provided with the invoices starting next year. Each agency should let Ray know one way or the other. Ray will send this info and request to all agencies through email later.

7. **Quarterly operations update** – Chris highlighted a few items from the Operations Report that was included in the meeting packet. ETI, the OGL field network contractor, has been doing preventative maintenance at all tower locations which should be completed in a few weeks. Barry highlighted some of the signal timing work recently completed and underway and he offered some reminders about good cybersecurity practices when accessing TransSuite from personal devices. Please let OGL staff know ASAP if an OGL TransSuite user at your agency leaves employment with you for any reason. Several agencies and OGL staff are also still working with TransCore to finalize their new software support contract.

8. **Quarterly budget report, 2021-2022 budget and agreements** – Ray presented the current financial picture to the committee. We have been spending average $104k per month. The balance of local funds is currently $874,000. Projections show the STP funds will be spent by October after which only local fund will be utilized. 2021 STP agreements or currently being coordinated with MoDOT and KDOT. Current estimate to start on 2021 STP funds is for January 2021.

9. **Other business**
   - The committee will be looking for a new vice chairperson from a Missouri agency to be elected at the October meeting.
   - MARC staff will be performing some network maintenance on the evening of July 28 starting at 18:00. The system will be unavailable for several hours.
   - OGL will be participating in a new MARC-wide managed security services contract. This will provide a private firm to actively manage, monitor, and respond to cybersecurity threats.
   - Lideana Laboy was wished well by the committee as will be leaving UG for a new position.

Next regularly scheduled meetings: October 26, January 25

Adjournment – Meeting was adjourned at 2:35 p.m.
Operation Green Light Program

Program Objectives

- Manage traffic signal operations on the arterial corridors included in Operation Green Light in cooperation with partner agencies.
- Support regional traffic incident management initiatives by managing traffic signal timing plans on the arterial corridors included in Operation Green Light.
- Maintain the regional shared wireless communication network in good working order.
- Collect Traffic Signal traffic data in support of the signal timing efforts
- Support the Regional Traffic Signal Software

Background/Previous Work
Operation Green Light is a regional effort to improve traffic flow and reduce vehicle emissions. Operation Green Light works with federal, state and local agencies to operate and coordinate traffic signal operations and communication between traffic signal equipment across jurisdictional boundaries on over 750 traffic signals. Coordinating traffic signal systems can significantly reduce travel delay, reduce ozone precursor emissions and provide a powerful tool to help manage incident-related congestion.

Program Activities and Products

1. **ACTIVITY: Program management.** Activities included in this work include project management, stakeholder engagement, training, Integrated Corridor Management (ICM) activities, Transportation System Management and Operations (TSMO) and all other work necessary to ensure the active prioritization of objectives to efficiently manage traffic signal infrastructure and control devices (Ongoing)

2. **ACTIVITY: Signal Timing and synchronization.** Activities include traffic data collection and analysis, field observation, controller programming and deployment, signal timing troubleshooting and reporting, traffic modeling and deployment, updating signal timing based on changes in traffic patterns, citizen concerns, special events, incidents or roadwork. (Ongoing)

3. **ACTIVITY: Regional network communications.** Activities include, database management, repair tracking, field investigation, equipment procurement, server and software administration, contractor oversight and other activities associated with the system network (ongoing)

4. **ACTIVITY: Communications Network Upgrades.** Continue technology plan upgrades of aging communication network equipment following the technology plan

5. **ACTIVITY: Incident Management Work.** Finalize incident management diversion plans, and development of signal timing plans and procedures for I-435 and I-70

6. **ACTIVITY: Missouri and Kansas 2021 CMAQ funds.** Manage the funds and construction project that will add infrastructure elements in the cites of Leawood, KCK, Merriam, KCMO, North Kansas City, MoDOT, Belton, Raymore, Independence, Lees Summit. The project includes communication infrastructure, traffic signal controllers and CCTV’s.

7. **ACTIVITY: Develop 2021-2022 Regional Agency Agreements as needed.** Develop and execute agreements for the 27 partner agencies including the MoDOT and KDOT STP funding agreements.

8. **ACTIVITY: Update the 2017-2020 Strategic plan

Funding

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## 2021 OGL SIGNAL TIMING PLAN

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ISSUE:
VOTE/REPORT: Authorize MARC to purchase a new vehicle for the Operation Green Light (OGL) program

BACKGROUND:
Operation Green Light is MARC’s initiative to create and manage a regional traffic signal coordination system in partnership with local governments and the State Departments of Transportation in Kansas and Missouri.

OGL currently conducts operations with three vehicles, a 2008 Ford Escape and a 2013 Ford Escape and a 2018 Ford Transit. The purpose for this acquisition is to replace the 2008 Ford Escape SE Hybrid due to the age of the vehicle and anticipated maintenance. At the time of the trade-in, the mileage is anticipated to be nearing 135,000 at time of trade in. The trade-in value is anticipated to be anywhere from $500 - $2000.

The vehicle is used in the KC region to transport communications network equipment and tools for the troubleshooting and repair of the MARC owned and maintained network equipment that provide network to hundreds of traffic signals. The network consists of 17 locations of POD sites that house the backhaul wireless equipment. Another 1200+ radios and switches are located in over 750 traffic signals that OGL supports. The vehicle would get outfitted with emergency safety lights due to the nature of the work that could entail having to be in traffic however if at all possible the work entails driving over the curb or off the traffic lanes to service the network equipment. Many times, this work is during inclement weather and having a vehicle that can maneuver over curbs or shoulders is required.

BUDGET CONSIDERATIONS
This new vehicle purchase is included in the OGL program budget. OGL will use the Regional KCRPC Metro Vehicle Contract that provides local government with a previously bid contract. The cost is between $31,000 and $40,000 as quoted by Shawnee Mission Ford, Midway Ford, and Olathe Ford. The range is due to working to finalize the vehicle options of which availability of equipment and safety packages can drive the variability. STP funds used for most expenses for the OGL program are not allowed by FHWA to be used for vehicle purchases thus local funds only would be used as was the case for the past vehicle purchases. Leasing is not feasible due to the way the vehicle is utilized and outfitted with safety equipment. Vehicle replacements are planned for and local funds are identified and available for this purchase in the 2021 budget.

COMMITTEE ACTION
The Operation Green Light Steering Committee has recommended the OGL program proceed with this purchase pending MARC board approval

RECOMMENDATION
Approve up to $40,000 for the Operation Green Light program to purchase a 2021 Ford Explorer from Olathe Ford for operational use. The purchase is expected to be made within the next month.
Executive Summary

In 2013, following a recommendation by the Federal Highway Administration that Operation Green Light (OGL) develop a new strategic plan, the OGL Steering Committee set out to develop a strategic plan to sustain and grow the program. The strategic plan encompassed the years 2013 through 2016. In 2016 OGL staff began the process of reviewing the current strategic plan and updating for the years 2017 to 2020.

OGL staff and Steering Committee members began the process of providing input and discussing an update to the strategic plan the summer of 2016. Current plan goals and tasks were reviewed to determine the progress made toward each goal, and whether current goals remain relevant. Steering Committee members participated in a survey and workshop to determine current level of service and brainstorm ideas for the future of the organization.

Based on stakeholder input, member agencies indicated that they are satisfied with services provided by the OGL program and few recommendations for improvements to the program were received. Member agencies also responded with support for the current mission and vision of the OGL program, as well as positive support for the goals of the current strategic plan. The update of the plan will focus on the development of tasks that continue to further OGL as a model program.

The goals and objectives for the strategic plan are:

- **Goal 1: Technology**
  Continue to develop the Operation Green Light system through the use of innovative and emerging technologies.

- **Goal 2: Funding and Budget**
  Maintain a financial plan that adequately funds the program and monitors the budget.

- **Goal 3: Planning**
  Engage in a planning process to ensure the organization remains relevant and serves the needs of member agencies.

- **Goal 4: Communications and Public Education**
  Conduct outreach activities, both internally and externally, to make known the benefits and activities of the program.

- **Goal 5: Training**
  Provide opportunities for staff and member agencies to improve upon skills and learn about emerging technologies through training.

- **Goal 6: Performance Management**
  Develop performance measures to assess performance of the Operation Green Light program.
1 Introduction

This strategic plan provides program direction and a framework for development and implementation of new initiatives. The 2013 - 2016 strategic plan focused on five areas: technology, funding, planning, marketing and public education, and training.

Since development of the 2013 - 2016 strategic plan, OGL has continued to be a model program across the country for Metropolitan Planning Organizations and multi-jurisdictional teams as an example for management of regional traffic systems providing benefit to all agencies and travelers in the area. To continue providing these benefits effectively, the program must continue to refine practices and adapt to new technologies and processes.

With the involvement of OGL member agencies, the existing strategic plan was reviewed and input was gathered for development of a strategic plan for the years 2017 - 2020. Staff and member agency input resulted in re-development of goals and objectives to guide the program for the next four years.

This strategic plan not only focuses on the future of the organization, but also provides a history of the Operation Green Light program and an evaluation of progress towards goals from the current strategic plan. An evaluation of progress made on the current strategic plan will assist in developing achievable tasks that continue to drive the organization towards excellence.
4 Program Mission

OGL member agencies developed a vision and mission statement in 2013. The strategic plan survey asked member agencies if the current statements are still relevant. The overall response was that both the vision and mission statements continue to be appropriate for OGL.

**Vision**
State and local governments work together through Operation Green Light using best practices in traffic management to provide safe and efficient movement for people and goods across a seamless regional transportation system.

**Mission**
Operation Green Light monitors and manages the existing transportation system through safe and efficient traffic signal operations to reduce travel time, fuel consumption and air pollution.

4.1 Regional Significance
Across the metropolitan area, OGL is providing services to improve travel time and reduce vehicle emissions benefiting both agencies and travelers. OGL staff provide a core organization to facilitate cooperation and consistency between multiple agencies to improve traffic operations across the metropolitan area.

Through the work of OGL, the framework for a regional communications system dedicated to traffic operations has been developed. A central software and hardware system is in place, accessible to all member agencies. Agencies, working together in partnership, are able to address transportation issues across jurisdictional boundaries.

Operation Green Light improves the flow of traffic along the most used arterial routes in the region and improves regional air quality. Through the implementation of traffic signal timing plans along selected routes, OGL has reduced delays on coordinated routes.

The traffic and transportation industry is constantly evolving. As a program based on communications, data, and real-time traffic monitoring, OGL staff is continually looking ahead for future technologies, strategies, and trends that will lead to improved operations and level of service. Opportunities to not only provide improved services but also to expand upon the base of services offered should be considered. To maintain relevance in the industry the OGL program should continue to investigate new opportunities and implement new technologies or strategies as appropriate.
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Introduction
Operation Green Light (OGL) is a bi-state regional effort to improve traffic flow and reduce vehicle emissions. Managed by the Mid-America Regional Council (MARC), Operation Green Light works with federal, state and local agencies to operate a program that coordinates traffic signal timing and communication between intersections across jurisdictional boundaries.

This report details the work performed on the Operation Green Light communications network during the 3rd Quarter of 2020 and highlights of signal timing and agency coordination. OGL currently monitors/operates 739 signals and manages over 1200 network devices. These devices include intersection controllers, wireless radios, switches, cameras, routers, serial-to-IP converters and servers. For more information on the program, visit http://www.marc.org/Transportation/Commuting.

Operations Summary
A summary of the operational results and activities of the OGL program staff during the reporting period is presented below.

Repair tickets
- OGL staff actively responded to 11 repair tickets.

Corridor/Signal Timing Efforts
- 7/21 – New coordination plans were installed on Lackman Rd in Lenexa, KS
- 7/21 – New coordination plans were installed on Main St and Blue Ridge Blvd in Grandview, MO
- Various changes were made to OGL signals around the region in response to increasing volumes during the COVID-19 pandemic.

Training Sessions/ Panels/ Events
- 7/9 – Barry Viss participated in a KCITE panel presentation on COVID-19 pandemic traffic volumes and trends.
- 8/21, 8/26 – Barry Viss gave two introductory TransSuite training sessions for partner agency staff.

Additional Information
- With the region adopting a Stay-at-Home order in March and traffic patterns significantly altered, 49 counts were completed in the 3rd quarter.

Notes on Operations Summary
1. Repair ticket levels used by OGL staff are defined in Exhibit I Scope of Services as follows:
   - Minor – investigate and resolve communication problem within 5 business days, weather permitting
   - Major – investigate and resolve communication problem within 2 business days, weather permitting
   - Critical – investigate and resolve communication problem within 24 hours, weather permitting
System Hardware/Software Activities/Issues
The following list represents major software or hardware activities performed during the 2\textsuperscript{nd} Quarter of 2020:

- A Managed Security Services solution was implemented on the OGL and the MARC network. This product and services are for real-time cybersecurity analysis and intrusion prevention. All servers and computers on the OGL network now have a new end-point solution as well.
- On 7/28, the core network switch on the OGL network was replaced with new stacked switches in an effort to improve connectivity and server operations.
Interagency Coordination

During the 3rd Quarter, OGL staff participated in the following interagency activities:

- 7/1, 7/15, 7/29 – OGL and Iteris held bi-weekly conference calls for contract work
- 7/6 – OGL meet with Lees Summit regarding the Chipman and Pryor Road timing work
- 7/7 – OGL met with Grandview to discuss the areas new signal timing work and plan
- 7/8, 7/22 – OGL and Olsson held bi-weekly conference calls for contract work
- 7/16 – OGL staff participated in the OGL Regional TransSuite Monthly Status meeting
- 7/22 – OGL and other agencies participated in a demo from Streetlight Data on Arterial Performance Measures
- 7/23 – Chris Jenkins met with MoDOT to discuss upcoming signal communications project in the KC District
- 7/27 – ATSPM Developer and User Web-Conference call
- 7/27 – OGL team held the July OGL Steering Committee meeting
- 7/29 – Chris Jenkins attended construction meeting for NW PVR/I-29/M45 project
- 7/30 – Chris Jenkins attended the KCMO City Manager’s Camera Coordination meeting
- 8/5 – Chris Jenkins attended meeting to discuss Raymore traffic signal inspections
- 8/5, 8/19 – OGL and Olsson held bi-weekly conference calls for contract work
- 8/6 – Chris Jenkins attended Core Project team meeting for Chipman & US50 bridge replacement design project
- 8/12 – OGL and Iteris held bi-weekly conference calls for contract work
- 8/12 – OGL and other agencies participated in a demo from Iteris on Arterial Performance Measures
- 8/13 – OGL participated in the US 50 / Chipman road project meeting
- 8/20 – OGL staff participated in the OGL Regional TransSuite Monthly Status meeting
- 8/24 – ATSPM Monthly User Developer Web-Conference call
- 8/26 – OGL staff participated in the M-45 Construction meeting
- 8/27 – Chris Jenkins attended the KCMO City Manager’s Camera Coordination meeting
- 8/31 – Ray participated in the Tennessee Transportation Research Center, Traffic Signal Academy - Detection and Advanced Operations
- 9/2, 9/16, 9/30 – OGL and Olsson held bi-weekly conference calls for contract work
- 9/2 – OGL and Iteris held bi-weekly conference calls for contract work
- 9/8 – OGL met with staff from St Charles County, MO, to discuss TransCore work
- 9/16 – OGL, Iteris, and KCMO staff met to discuss midtown signal timing work
- 9/17 – OGL staff participated in the OGL Regional TransSuite Monthly Status meeting
- 9/24 – OGL participated in the US 50 / Chipman road project meeting
- 9/25 – OGL staff met with Mid-American Signal and Intelight staff to discuss database troubleshooting for a MODOT intersection.
- 9/25 – OGL staff met with Gades Sales staff to discuss integration efforts with SEPAC M-60 controllers with 5.2 firmware.
- 9/30 – OGL and other agencies participated in a demo from OP and Olathe on Arterial Performance Measures
- 9/30 – OGL staff participated in the M-45 Construction meeting
Quarterly Repair Ticket Statistics by Month
In the 3rd Quarter of 2020, OGL staff created and responded to 11 repair tickets in the Kansas City area.

Figure 1 – Quarterly Repair Ticket Statistics by Month

Additional Repair Ticket Details:
Figure 2 – Monthly Repair Ticket Statistics / Prior 15 months
Figure 2 shows the number of repair tickets that OGL staff responded to for the last 15 months. It is intended to show long-term trends in incidents that are occurring on the OGL network.
Additional Communications Statistics

OGL Network Pod Diagram

Figure 3 shows the overall design of the OGL Network and Pod Locations. It is noted that the different color of lines between the Pods are representing the different type of network connections. A black line represents an FCC licensed link, an orange line represents a fiber optic connection, and a light blue line represents an unlicensed radio link. The OGL network now has 2 wireless rings as seen in the diagram.

Figure 3 – OGL Network Pod Diagram
Repair Tickets by Network Pod

OGL staff is continually working on improving the reliability of the OGL network. Therefore, staff monitors and tracks which network pods continually have incidents. Figure 4 shows the number of repair tickets for each Pod and Figure 5 shows the number of repair tickets year–to–date for each Pod.

Figure 4 – Repair Tickets by Network Pod

Figure 5 – Repair Tickets by Network Pod / Year – to – date
Repair Tickets by Equipment Type

Figure 6 – Repair Tickets by Equipment Type

Figure 6 shows the number and percentage of incidents that occur for each equipment type for the quarter.

Figure 7 – Repair Tickets by Equipment Type / Year – to – Date

Figure 7 shows the percentage of repair tickets year – to – date for each equipment type.
Repair Ticket Statistics by Severity Level

**Figure 8 – Repair Ticket Statistics by Severity Level**

Figure 8 shows the number and percentage of incidents by severity level for the quarter.

- Critical: 18%
- Major: 0%
- Minor: 82%

**Figure 9 – Repair Ticket Statistics by Severity Type / Prior 15 months**

Figure 9 shows the number of incidents by severity type that OGL staff has managed in the last 15 months.
Summary of Critical Events
The OGL staff responded to 2 critical events during the 3rd Quarter of 2020.
On 7/5, the backhaul link between the Booth and KCMO City Hall went down. It was determined that there was a configuration issue with the radio and the router and was resolved after a software change and a reboot.
On 7/15, the connection from KCMO City Hall to Booth went down during a large storm. Once the storm was over and staff was able to investigate, it was determined that a port on the router was down. Moved cable to different port and the radio is now working properly.

Preventative Maintenance
Each year at the Pod locations for the OGL network, preventative maintenance is performed according to Exhibit I Scope of Services.
Preventative maintenance was started and about is almost complete with no major issues found. Some of the things checked are general site inspection, inspect all cables, connectors, mounts, brackets, nuts and bolts, check signal strength of all radios, check for any alarms on equipment, and clean the cabinet of any dust or debris.

Incident Management
FHWA’s Congestion Report estimates the following causes of congestion on US roadways:

Noticing that Traffic Incidents, Work Zones, Bad Weather, and Special Events account for approximately 55% of congestion, OGL has increased our focus on responding to these types of events. When traffic patterns are abnormal, signal timing can often be adjusted to reduce the impact.
OGL staff responded to 139 incidents in the 3rd quarter of 2020. These consisted of weather events, crashes or roadwork events (either on the interstate system or on surface streets) or other abnormal events that impacted traffic flow. Of these events, OGL staff made operational changes to traffic signals.
for 112 of them. The remainder resulted in communication with KC Scout or the agency involved or monitoring of the situation only.

Some examples include:

The workzone at I-35 & 75th was frequently impacted by crashes and stalled vehicles blocking lanes. OGL staff responded to these incidents on 22 occasions during the 2nd quarter, and 21 occasions in the 3rd quarter.

Johnson Dr was closed at the BNSF railroad for several days. Many changes were made to accommodate altered traffic patterns.

Intersection work at M-58 & Kentucky/Westgate required regular intervention to increase cycle length.

Work began at M-45 & I-29 ramps and Chatham. Many changes were made to accommodate various lane closures.

Turkey Creek culvert work began again at SW Blvd & 31st, resulting in lane closures. Signal timing changes were made to accommodate. Eventually the south leg was closed completely, and the signals turned off.

Work began to reconfigure the M-350 and Raytown Rd and Walmart intersections. Various lane closures required signal timing adjustments.

On September 24 there were 3 separate full closures of freeways or major highways. M-291 was closed at I-70, US-40 was closed at Phelps, and I-35 NB was closed at Antioch. For the Antioch closure, the pre-planned incident plans were used as a starting point, then adjusted as the event progressed.

Typical response to incidents included temporarily placing signals in free, adjusting max times, passage times and recalls, commanding signals to run a different coord plan, and/or temporarily adjusting the coord plan settings.
Figure 10 – Number of Incidents Responded to

Figure 10 shows the trends in the number of incidents OGL responded to over the past 6 quarters.
## Traffic Signal Event Tracking

<table>
<thead>
<tr>
<th>Issue</th>
<th>Jurisdiction</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Directions Dark</td>
<td>Independence</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MODOT</td>
<td>2</td>
</tr>
<tr>
<td>All Directions Flashing</td>
<td>MODOT</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Blue Springs</td>
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<tr>
<td></td>
<td>KCMO</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Lenexa</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Independence</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Mission</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>UGOVT</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Raymore</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Shawnee</td>
<td>1</td>
</tr>
<tr>
<td>Cycling improperly</td>
<td>MODOT</td>
<td>1</td>
</tr>
<tr>
<td>Detection Not Working Correctly</td>
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<td>1</td>
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<tr>
<td></td>
<td>Bonner Springs</td>
<td>1</td>
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<tr>
<td></td>
<td>Fairway</td>
<td>3</td>
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<tr>
<td></td>
<td>Independence</td>
<td>3</td>
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<tr>
<td></td>
<td>Leawood</td>
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<td></td>
<td>Lenexa</td>
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<tr>
<td></td>
<td>Merriam</td>
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<td></td>
<td>Leavenworth</td>
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<td></td>
<td>Lee’s Summit</td>
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<td>MODOT</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Shawnee</td>
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<tr>
<td></td>
<td>UGOVT</td>
<td>1</td>
</tr>
<tr>
<td>Long Wait For Green</td>
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<td>Ped Recalling</td>
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<td></td>
<td>Independence</td>
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<tr>
<td>Poor Progression</td>
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### Other

<table>
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<tbody>
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<td>Indication Burned Out</td>
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<tr>
<td>Green Time to short</td>
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<td>1</td>
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<tr>
<td>Intersection not running Correct plan</td>
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<td>5</td>
</tr>
<tr>
<td></td>
<td>Lee’s Summit</td>
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<tr>
<td></td>
<td>Lenexa</td>
<td>1</td>
</tr>
<tr>
<td>Program Replacement Controller</td>
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<td></td>
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<tr>
<td></td>
<td>Leawood</td>
<td>2</td>
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<td>TransSuite Database Comparison Diff</td>
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</tr>
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<td></td>
<td>Independence</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Shawnee</td>
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</tr>
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</table>

**Total** 193
Figure 11 – Number of Traffic Signal Events

Figure 11 shows the trends in the number of traffic signal events OGL responded to over the past 6 quarters.

![Signal Issues Responded To](image)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Flash</th>
<th>Veh Det</th>
<th>Ped Det</th>
<th>Differences</th>
<th>Other</th>
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<td>64</td>
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<td>2019 3rd Qtr</td>
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<td>54</td>
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<td>2020 1st Qtr</td>
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<td>2020 2nd Qtr</td>
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<td>24</td>
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<td>2020 3rd Qtr</td>
<td>26</td>
<td>55</td>
<td>12</td>
<td>26</td>
<td>50</td>
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</table>
MARC’s OGL program operates from STP Federal revenues on a reimbursement basis from MoDOT and KDOT who administer the STP funds. The local match for 2019-2020 is collected annually with a two-year agreement which coincides with the time frame of the two-year MoDOT and KDOT STP Federal funding agreements.

STP funds are allocated prior to the regional STP/CMAQ call for projects process that occurs every two years. It is the responsibility of the OGL Steering Committee to approve the budget for the program. The budget is then authorized by MARC’s Total Transportation Policy Committee (TTPC).

Local funds from 26 agencies are combined with federal STP funds to comprise the total operations budget. The federal to local funding split is approximately 50/50. Reimbursement of federal funds from MoDOT and KDOT are at 80% federal, 20% local rate. In Kansas, all agreements are in the form of a single combined agreement for the 15 agencies. The Missouri agreements are by individual agencies.

Budget Summary:

To be provided at a later date.
IMMEDIATE RELEASE
Aug. 20, 2020

For more information:
News Contact: Jeanny Sharp (785) 217-5091, Jeanny.Sharp1@ks.gov

New transportation technology program funding available

Projects that promote safety, improve access or mobility and update transportation technology can receive financial assistance in a new Innovative Technology Program created by the Kansas Department of Transportation.

All transportation modes and technologies are eligible, including roadway (on and off the state highway system), rail, aviation, Unmanned Aircraft Systems (UAS), Connected and Automated Vehicles (CAV), alternative fuels, public safety data, bicycle/pedestrian and public transit. Non-governmental application also will be considered.

“As a leader in UAS, it’s important that we implement new technologies safely. Citizens at Local Consult meetings across the state last year stressed the need for technology opportunities to better position Kansas for the future,” said Secretary Julie Lorenz. “This program will help both rural and urban areas of the state improve the transportation system.”

An informational webinar about the program will take place at 10:30 a.m. on Thursday, Sept. 3. To participate, the webinar link is https://attendee.gotowebinar.com/register/9091955517133125391

The program has $3 million per fiscal year available. A minimum of 25% non-state cash match is required, and additional consideration will be given to applications that contribute more.

The deadline for applications is Sept. 18 and selected projects will be announced in late
Traffic signal operations play an important role in the safe and efficient movement of people, goods, and vehicles through our roadway systems. According to the 2012 National Traffic Signal Report Card, the overall quality of traffic signal operations in the US is not satisfactory. In particular, the report stresses the need for routine signal timing updates to keep pace with changes in population growth and traffic patterns.

**Federal Highway Administration Arterial Management Program** ([http://ops.fhwa.dot.gov/arterial_mgmt/training.htm](http://ops.fhwa.dot.gov/arterial_mgmt/training.htm)) lists the Traffic Signal Academy as a training source.

As they face limited fiscal resources agencies at all levels must find ways to optimize available technology while applying innovative concepts to systems already in place. To aid in solving this problem the Traffic Signal Academy will focus on academic research findings and established best practices in signal timing procedures and policies. This reliable information can help improve benefit-to-cost ratios by operating new or existing systems with greater efficiency.

The academy offers a comprehensive discussion on standards, warrants, installation and maintenance guidelines, and strategies to minimize the adverse effects of liability issues. Investing in traffic signal training, from design to operations to maintenance, demonstrates a robust commitment to continuous improvement in the nation’s transportation system.

**Testimonials**

The classes I’ve attended have helped expand my knowledge of the subject. The presentations have been well thought out and contain timely visuals to help get the difficult points across. - **Matt Meservy, P.E.** - AECOM

The classes were very stimulating as well as motivating. I had an opportunity to learn more about the work I do in a much simpler way. The videos and visuals were very helpful and the Manuals received contained important information for future references and guidance. - **Mike Towles, TDOT Design Division, ITS**

I don't think I have ever participated in a workshop that contained so much substance and useful information. - **Wesley Stokes - J.M. Teague Engineering, PLLC - Waynesville - North Carolina**

**Contact Traffic Signal Academy**

865.974.0298 • 1.800.252.7623

FAX 865.974.3889

308 Conference Center Building

Knoxville, Tennessee 37996-4133

Email: AKOHLS@UTK.EDU
Course Description

Day 1 (MUTCD and Signalized Intersections)

A brief introduction to the history of traffic signals will illustrate the evolution of intersection traffic control through the years. The process of justifying the installation of a traffic signal will be discussed, exemplified and supported by a thorough explanation of the current MUTCD Warrants. Additional information on Part 4 of the MUTCD will be presented, focusing on the design and positioning of signal indications and illustrated with examples and tables. New MUTCD provisions, such as the optional use of “flashing yellow arrow” for permissive only or protected-permissive modes will be discussed. Guidance to design of pedestrian control features will also be provided. A description of commonly used terms in the traffic signal industry will include the definition of phase, a detailed explanation of the standard NEMA ring-and-barrier diagrams, the treatment of left-turn phases being followed by a presentation on operational characteristics of traffic signals.

Day 2 (Signal Timing)

A discussion on traffic signal timing objectives, benefits and characteristics will lead to the presentation of basic traffic flow principles and traffic signal timing strategies. Isolated signal timing, covering pre-timed and actuated operation will be followed by relevant information on coordinated signal timing. A step-by-step signal timing example will provide the opportunity to explore guidelines on the calculation of signal timing parameters for different modes of operation under different scenarios, covering cycle length, change and clearance intervals, vehicular and pedestrian intervals, etc. An overview of analysis procedures and signal timing tools will briefly instruct on how to evaluate signalized intersection performance.

Day 3 (Detection and Advanced Operations)

Simulation examples will illustrate the functionality of several controller parameters related to current guidelines on detection system design. The concepts of dilemma and induction zone will be discussed and, low-speed and high-speed detection designs will be covered. A detailed presentation will provide appropriate values used by agencies on Volume Density settings and information on advanced controller features as well as on video detection will be presented. Relevant guidelines and references on Traffic Signal Priority Control, Traffic Responsive Control, Adaptive Traffic Signal Control and the System Engineering Analysis will be covered. Diamond Interchange Operations will be discussed and controller settings included. Preemption concepts will also be covered.

Day 4 (Traffic Signal Installation and Maintenance)
Students will become familiar with components of a traffic signal system and with appropriate traffic signal maintenance procedures. The Center for Transportation Research Traffic Signal Laboratory is a unique learning environment that allows the user to be exposed to the complexities involved with setting up and maintaining traffic signal controllers, conflict monitors, load switches, detection and communication systems on both NEMA TS-1 and TS-2 cabinets. Installation and maintenance guidelines of traffic signal supports and indications will also be provided. General information on the design and interpretation of traffic signal plans and a checklist for preventive and responsive maintenance will also be discussed. Appropriate information regarding liability and negligence will be presented in addition to guidelines to reduce exposure to lawsuits.

Day 5 (Traffic Signal Controller Programming)

Students will experiment with controller parameters on a realistic simulation environment and will be presented with information on how to navigate traffic signal controller menus, including programming instructions and interactive examples on timing parameters, detection, coordination and advanced functions.

Day 6 (Traffic Signal Systems in Oversaturated Conditions)

Agencies are frequently challenged with moving traffic in congested conditions and situations where the traffic demand exceeds the capacity of the system. The focus of this workshop is to diagnose types and causes of oversaturated conditions at signalized intersections, identify appropriate operational objectives based on observed conditions and discuss available mitigating strategies that can have an appreciable effect on overall system performance.

Contact Traffic Signal Academy

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Email: AKOHL5@UTK.EDU

Knoxville, Tennessee 37996 | 865-974-1000
The flagship campus of the University of Tennessee System (http://tennessee.edu)
August 28, 2020

Randy McCourt, PE, PTOE
International President
Institute of Transportation Engineers
1627 Eye Street, NW, Suite 600
Washington, DC 20006

Dear Mr. McCourt:

On June 15-16, 2020, the American Association of State Highway and Transportation Officials’ (AASHTO) Committee on Traffic Engineering (CTE) convened for their annual meeting. On the agenda was a member presentation and discussion on ITE’s recently published Guidelines for Determining Traffic Signal Change and Clearance Intervals recommended practice. A brief overview of the history of this subject was provided, as well as details on particular elements of the guidelines that were substantially different from research and practice, namely NCHRP Report 731, Guidelines for Timing Yellow and All-Red Intervals at Signalized Intersections.

Of concern from this presentation were not just what the guidelines recommended, but also the process by which these guidelines were published. That the Technical Advisory Committee and peer review panel were not reconvened to reach consensus on substantial changes to the recommended practice raises concerns over the review and validity of an important safety aspect of traffic signal operation.

CTE’s primary concern is the inclusion of the extended kinematic equation in the published guidelines. The equation itself introduces outcomes that violate allowable yellow change interval in the Manual on Uniform Traffic Control Devices, and the lack of technical peer review brings into question its validity. In these calculations, especially at higher speeds for left turns, the length of yellow would be so long that anyone moving through a traffic signal would be at risk of making a different decision from the person following them, thus negating the importance of human factors in setting change and clearance intervals. The goal of setting yellow time should be to maximize safety, not to simply minimize entry after the end of yellow.

In light of upcoming research such as the Solicitation Number: 1536 - Traffic Signal Change and Clearance Interval Pooled Fund Study, and considering both the methodology by which these guidelines were completed and the outcome of their product in the extended kinematic equation, the CTE requests that ITE rescind the guidelines as published. Our Committee will be advising our state agency members to not adopt the guidelines and await completion of upcoming research through pooled fund studies sponsored by the Federal Highway Administration.
Sincerely,

Meg B. Pirkle, P.E.
Chief Engineer, Georgia Department of Transportation
Chair, AASHTO Committee on Traffic Engineering

cc: Neil Boudreau, Vice-Chair, AASHTO Committee on Traffic Engineering