Welcome & Introductions

1. Approval of April 22 Committee Minutes* (page 2)
2. Two Minute Agency Updates
3. New TransSuite Web User Interface, Use and Rollout
4. OGL System Performance Measure Update (page 4)
5. US 71 Traffic Responsive System (page 8)
6. Regional TTS Traffic Signal Data Sharing Agreement-Agency Review Status (page 9)
7. Regional ATMS Systems Engineering Project Status
8. MO CMAQ, KCMO, Blue Springs & Grandview Construction Project
9. Quarterly Operations Update (page 14)
10. Quarterly Budget Report (page 28)

Other Business

Next Regularly Scheduled Meeting: Quarterly 4th Mondays, October 28, 2019 and January 27, 2020

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. Kevin Manning, Chair, welcomed all and conducted introductions.

1. Two-minute agency updates
   - Olathe’s adaptive system on Blackbob has been postponed until the 2.0 version of the Intelight controller firmware is available, sometime in June.
   - KDOT is interested in supporting safety projects amongst partners. If agencies are interested in pursuing safety projects contact Dave Northup or Carla Anderson for more information. KDOT is also encouraging use of Highway Safety Manual Procedures.
   - FHWA BUILD grant program (previously TIGER grant program) is being published today. It provides $900 million for infrastructure funding. In urban areas, there is a $6 million minimum and 20% local match required. In rural areas, there is a $1 million minimum. Deadline is June 15, 2019. [https://www.transportation.gov/BUILDgrants](https://www.transportation.gov/BUILDgrants)

2. January 28, 2019 committee minutes – Brian Shields made a motion to accept the minutes. The motion was supported and approved unanimously.

3. Regional Traffic Signal Data Sharing with 3rd Parties – Ray Webb updated the committee on efforts with MODOT working with TTS to provide them live signal status. MARC has been pursuing our own agreement with TTS since we maintain the TransSuite system for the local MODOT district. There will be an option for additional agencies to sign on and opt-in if they also desire to participate. TTS provides some sort of performance measures data in exchange for the data. MODOT is also pursuing working with LTD for similar services. Noel gave a brief demonstration on the Miovision performance measures system they
have been evaluating. Olathe is happy with the product and may decide to specify it for all new signal installations going forward.

4. **Cybersecurity Efforts** – An updated security memo was included in the meeting Packet. Barry emphasized the need for MARC staff to be made aware ASAP if a TransSuite user leaves employment at the city. Their user account with OGL is separate from their user account at the city. MARC staff also recommend agencies use specific cabinet locks. Keep usernames and passwords secure.

5. **MO CMAQ-KCMO, Blue Springs and Grandview Construction Project** – Scott Cutshall updated the committee on the status. Contractor’s work is about 20% complete.

6. **Quarterly Operations Update** – OGL staff highlighted a few operations items. The operations report was included in the meeting packet.
   - New signal coordination plans were installed on M-45
   - OGL and Leawood networks are now connected so that we will be able to share video and integrate a few more non-OGL signals.
   - The operations report now includes a new section documenting responses to crashes and roadwork.
   - MODOT has been connecting many non-OGL signals across the district. A reminder was given to all partner agencies that they are welcome to add intersections to the MARC-maintained TransSuite system if they provide the communications. There are 732 OGL intersections currently, but across the four TransSuite servers in the region, approximately 1550 intersections are online and monitored.
   - Conference calls are held with TransCore monthly, the next one is May 15, 13:00. All are welcome to participate in the software fix and enhancement discussions.
   - We are still troubleshooting long upload/download times with Intellight controllers.
   - TransSuite has been working on enhancing their web interface. MARC staff hope to move users to that in the future as it is a more secure method of connecting through the Internet. The hope is that they will also be able to provide two-factor authentication for that user interface.
   - TransCore will be building an enhancement to the software to allow us to do Traffic Responsive across Center-to-center. OGL hopes to use this functionality on US-71 at-grade intersections and neighboring Prospect intersections.
   - Agencies with SEPAC controllers with 4.01 firmware are encouraged to pursue upgrading to the 4.57 firmware.

7. **2019-2020 Local and STP Agreements Status and 2019 Invoicing** – All agreements are complete except one that will go to council April 25th. 2019 invoices were sent last week. The next agreements may need to have additional content spelling out ownership of traffic signal data. Some agencies have also expressed interest in a longer term for the contract, but it is unclear how funding can be included for a longer term.

8. **Quarterly Budget Report** – An error was discovered in the budget report files that resulted in over-reporting the amount of local funds we are accumulating. The January budget report incorrectly showed $1,637,180 in local funds. Currently the corrected figure for this quarter is $439,367. By January of 2020 we project that balance to be over $900,000. This may affect our options in our system engineering process.

9. **Regional Systems Engineering Software Requirements Project Status** – The concept of operations document is nearing completion. The list of requirements has been drafted and is being reviewed by the team. We are at least 3 months away from releasing an RFP.

**Next Regularly Scheduled Meetings:** July 22, October 28, January 27

**Adjournment** – Meeting was adjourned at 2:30 PM
Performance Management Program

Goals

• Optimize operations by including performance measures in the operational process
• Communicate OGL’s benefits and effectiveness to stakeholders and beneficiaries
• Identify regional performance measures

Progress

A subcommittee was formed, consisting of various partner agencies, to help OGL create a performance management program. The subcommittee’s activities to date include:

• One page benefits summary (included as an attachment)
• Investigated possible regional performance measures and data sources
  o This has included working with MARC, KDOT, and MoDOT for existing contracts and tools
  o Demonstrations of private provider data, including Inrix, Waze, and others
• Olathe, OGL, and Overland Park are evaluating more granular performance measures such as from the Utah SPM system, Miovision, and Waze
• Piloted a dashboard based on RITIS/HERE data
• Provided Performance Management Report

System Monitoring

Two levels of system monitoring have been identified:

• Basic (Regional) monitoring
  o Provides a method of monitoring the operation of all OGL corridors
  o Dashboard based on RITIS data
    ▪ Indicated potential issues that need to be investigated
    ▪ Illustrated trends over time, helping to identify and prioritize the corridors that need updated coordination plans

• Detailed (Segment) monitoring
  o Applied on a signal-by-signal or corridor basis
  o Uses detector- and controller-based data (some use 0.1 sec. "HD" data)
  o Various measures, generally around the Automated Traffic Signal Performance Measures (ATSPM) piloted by Utah DOT and Purdue University
  o Cost prohibitive for most agencies to install everywhere but can be installed on high-priority or troublesome segments
## Regional Performance Measure Tools Comparison

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| Inrix | • Includes some arterial PM tools  
• “HD” segments are granular enough for arterials  
• Arterial PM tools are Integrated with RITIS for “HD” segments | • No one has a license yet  
• Past bids have been more expensive than HERE data | ~$125,000 for Kansas |
| Here | • MoDOT has HERE data  
• Integrated with RITIS | • Fewer tools for arterials  
• Longer segments  
• Kansas would need a contract | MO – funded  
KS – TBD |
| Waze | • Partnership and contribute data (no monetary cost) | • Lower density / sample size  
• Possible future license cost  
• No access to historical data  
• No analysis tools | $0 |
| **Visualization/Analysis Tool** | | | |
| RITIS (includes Inrix & Here) | • Existing regional license through MARC  
• Some analysis tools  
• Download data | • Need HERE or Inrix data for Kansas  
• Some data issues  
• Little emphasis on arterials | Funded through MoDOT / MARC |
| Custom | • OGL has direct control | • Cost / Time  
• Lose out on development by others | ~$200,000 + annual maintenance |
WHAT IS OGL?
Operation Green Light (OGL) is a regional effort to improve traffic flow and reduce vehicle emissions in the Kansas City area. Coordinated through the Mid-America Regional Council (MARC), it is supported by local agencies, driven by their expert staff, and powered by technology.

WHAT WE DO
OGL works with federal, state, and local agencies to develop and implement a regional network of signals. This system provides uniform traffic management across jurisdictional boundaries in Kansas City allowing for better collaboration among all agencies.

The system coordinates traffic signal timing plans and communication between traffic signal equipment, improving the flow of traffic in the region.

OGL tracks signal-related malfunctions in the field and provides improved maintenance and infrastructure to partner jurisdictions.

OGL is paving the way in the traffic sector within the Kansas City region through innovation and collaboration.

ANNUAL BENEFITS

220 MILLION FEWER VEHICLE STOPS

1.9 MILLION HOURS SAVED

1.8 MILLION GALLONS SAVED

3,000 TONS OF POLLUTANTS AVOIDED

$35.2 MILLION DOLLARS SAVED
Moving Forward

OGL is constantly working with partner agencies to look for new and innovative strategies that can be implemented within the Kansas City region to further improve traffic conditions. Some of the strategies and technologies we are currently investigating and implementing include:

- Arterial diversion routes for incidents occurring on interstates
- Adaptive and responsive signal control
- Use of crowd-sourced data in decision making
- Actively preparing for the integration of connected and automated vehicles

Benefits of Participation

There are many benefits to partnering in the OGL program. OGL staff coordinate better traffic flow along every corridor by constantly monitoring real-time operations, assisting with timing changes for roadwork projects and incidents, and supporting agency traffic signal maintenance activities. OGL partners often pursue additional funding for traffic signal system improvements together, increasing the chances of being selected. OGL paves the way by providing leadership and coordination in the evaluation of new strategies and technologies to improve the system and benefit every Kansas City area traveler.

Data Sources: Traffic volume data on designated OGL corridors from MoDOT and KDOT published AADT reports. Population estimates from most recent US Census. Timing benefits averaged from all measured initial corridor timings from 2008 through 2015, including calculated values for delays, fuel, pollution, and the value of time.
Traffic Responsive Operational Concept Update

Intro
OGL has been investigating a pilot project for traffic responsive operation. Traffic responsive is generally considered to be a “middle ground” between coordinated traffic signal operations, and fully adaptive traffic signal operations.

Concept of Operations
After reviewing several corridors, OGL staff selected the three at-grade signals along US-71 (55th Street, 59th Street, and Gregory Boulevard). These intersections experience heavy peak directional traffic and congestion regularly. We see enough variability in traffic where a peak period plan will often terminate on schedule, but traffic volumes have not diminished sufficiently to be served by the mid-day timing plans, resulting in significant delays. The traffic responsive system could be used to extend operation for a peak period plan or begin a peak period plan early based on inputs from system detectors.

The system is expected to utilize new system detectors located upstream from the signals along US-71. MoDOT placed portable radar detectors at varying distances upstream of the signals; both NB at US-71 & Gregory Boulevard and SB at US-71 & 55th Street. The data is being analyzed to determine the optimal location for system detector placement. A sample of this data is shown below.

We plan to use the traffic responsive module recently turned on within TransSuite for the traffic responsive operation. One modification is required, however, because of the coordination between the US-71 signals (controlled by the OGL TransSuite server) and those just to the west along Prospect (controlled by the KCMO TransSuite server). The system will need to be modified to allow traffic responsive operation to send commands to signals on different systems across the Center-to-Center (C2C) interface.

Next Steps
- Finalize optimal detector locations
- Determine cost and procurement method, design, and install new system detectors
- Engage TransCore to implement C2C interface

Sample Volume + Occupancy Data from SB US-71 @ 55th St.
MoDOT Connected Vehicles Memo

Purpose: to outline the next development in transportation technology

What is the Highway Safety and Traffic Division doing?

The Highway Safety and Traffic Division is determined to provide safe and efficient movement of traffic on roads throughout the State. One of the major ways of reducing unnecessary delay is by managing and operating traffic signals, which includes over 2,000 traffic signals. These traffic signals are run by traffic signal controllers near the intersections at roadside cabinets. Nearly 1,500 are also connected to one of the 3 Traffic Management Centers (TMCs). These TMCs, along with providing freeway management service, can also monitor and control all the traffic signals, while providing timing changes in an efficient and cost-effective manner.

Through this investment, the Highway Safety and Traffic Division has looked for ways to maximize the use of this system. One of the ways is by providing the traffic signal information to vehicle manufacturers for Connected Vehicles applications. These applications hold the potential to improve vehicle efficiency, reduce stops at red lights, and improve safe driving at signalized intersections. Traffic Technology Services Inc. (TTS), a technology company based in Portland, OR, has reached out and provided a data partnership via a Data Authorization Agreement (“Agreement”).

What will the impact be for the Citizens of Missouri?

After a few months, certain Audi drivers, including more car manufacturers and app developers in the coming years, will receive information on the traffic lights. Drivers will know the time-to-green and the recommended speed to make the green lights.

Missouri will join a growing list of other State DOTs working on digitizing their traffic signal infrastructure. CalTrans, Florida DOT, Virginia DOT, and others are actively participating to prepare for a connected and autonomous vehicle future.

Audi is the first, and not only, automotive original equipment manufacturer (OEM) that is doing this. TTS has also collaborated with other OEMs and Tier 1 suppliers, including BMW, Kia, Mercedes, Continental and others. These are only a sample of the over 100 different developers TTS is currently in development with, which includes those in navigation development, hardware development, commercial vehicle manufacturing, smart cities providers, and autonomous shuttle service providers.

The Highway Safety and Traffic Division will receive statewide data from TTS as an in-kind service. This will help improve traffic signal timing operations through the use of different data sets.
How will TTS roll this out?

Upon approval of the Agreement, TTS will then reach out to the three (3) traffic management centers via the District Engineer or their representative. These representatives will be kept abreast of the work the ATMS vendor (McCain for Southwest District and TransCore for St. Louis and Kansas City District) and TTS are doing for the connections:

Currently, TTS will start with the following MoDOT representatives:

1. St. Louis District – Brian Umfleet, District Traffic Engineer
2. Southwest District – Marc Lewis, TMC of the Ozarks Manager
3. Kansas City District – Derek Olson, District Traffic Engineer

The goal is that TTS and the ATMS vendor will do all work at no-cost to the Commission, given that all development, operations, and maintenance work happens outside of the core traffic signal system software. The processes already refined by the other 40 systems connected provide no undue burden to staff time and resources.

What are the next steps?

Upon approval of the Agreement, as reviewed by Commission Legal and by the Highway Safety and Traffic Office, TTS will issue purchase orders to the Commission’s existing ATMS vendors (TransCore and McCain). The ATMS vendors will work with each TMC’s Network Administrator to set-up a secure connection to TTS’ servers in Portland, OR. These vendors will then turn on the system, already residing within the TMC’s Traffic Signal software (via TransSuite TCS, and via an upcoming patch of McCain’s Transparity). TTS will then build their system off of the incoming data, send a QC/QA team in the field to validate each intersection, and work with the Commission on announcements. From there, the system will broadcast information via TTS’ servers over the cellular network to vehicles. Drivers in both equipped and adjacent vehicles will be able to benefit from this information exchange.

Resources:

AGENCY PARTICIPATION AGREEMENT

This Agency Participation Agreement, (the “Participation Agreement”) is entered into as of _____________, ___ 2019 (the “Effective Date”) by and among the Mid-America Regional Council (“MARC”), Traffic Technology Services, Inc. (“TTS”), and __________________ [name of participating Agency] (“Participating Agency”), in conjunction with the Data Authorization Agreement (hereinafter the “Underlying Agreement”) between MARC and TTS date on or about _____________, ___ 2019.

RECITALS

Participating Agency is an Operation Green Light Member Agency (as such terms are defined in the Underlying Agreement), and desires to join the Underlying Agreement as a Participating Agency, subject to the terms and conditions of the Underlying Agreement, as expressly supplemented and modified by this Participation Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration the receipt of which is hereby acknowledged, the parties agree as follows:

1. Incorporation of Underlying Agreement. TTS, MARC and Participating Agency agree that all of the terms and conditions of the Underlying Agreement are incorporated herein by this reference. For purposes of applying the Underlying Agreement to this Participation Agreement, Participating Agency shall have all of the obligations, rights and remedies of MARC as set forth in the Underlying Agreement. Any capitalized term not defined herein shall have the meaning ascribed to it in the Underlying Agreement.

2. Adoption of Underlying Agreement. Participating Agency acknowledges and agrees that it is participating under the Underlying Agreement and that MARC and/or TTS may modify the Underlying Agreement at any time. Participating Agency agrees to all of the terms and conditions set forth in the Underlying Agreement as so modified, and hereby consents to, agrees to be bound by, any extensions, deletions or other modifications of the terms and conditions of the Underlying Agreement agreed upon by MARC and TTS, provided that TTS agrees to provide Participating Agency with notice of any such amendment or modification promptly when made. Any such amendments or modifications shall be binding on Participating Agency thirty days following TTS’s written notice to Participating Agency describing the amendment or modification. TTS acknowledges and agrees that all terms, conditions, rights and remedies under the Underlying Agreement are fully enforceable against it by Participating Agency, provided, however, that: (a) Participating Agency has no obligation under this Participation Agreement for the obligations of MARC or any other Participating Agencies under the Underlying Agreement; (b) Participating Agency has no rights to set or modify the agreed upon term between TTS and MARC; and (c) Participating Agency has no right to terminate the Underlying Agreement or any other Participating Agency’s Participation Agreement.
3. **Limitations Among Participants.** Participating Agency is not liable for any obligations of MARC or any other Participating Agency, as applicable, under the Underlying Agreement or any of their respective Participation Agreements. MARC is not liable for any obligations of any Participating Agency under the Underlying Agreement or any of their respective Participation Agreements. **UNDER NO CIRCUMSTANCES SHALL MARC OR ANY PARTICIPATING AGENCY HAVE ANY RESPONSIBILITY FOR OR BE JOINTLY OR SEVERALLY LIABLE FOR THE OBLIGATIONS OF EACH OTHER OR ANY OTHER PARTICIPATING AGENCY.**

4. **Term.** This Participation Agreement will commence on the date first written above and will be coterminous with the Underlying Agreement. Notwithstanding the foregoing, the Participating Agency may terminate this Participation Agreement at any time on thirty (30) days' notice to the other parties.

5. **Departure of Agency.** In the event that Participating Agency no longer meets the definition of “Member Agency” under the Underlying Agreement, then any of MARK, TTS or the Participating Agency may terminate this Participation Agreement on written notice to the other parties.

6. **Address for Notices.** All notices, requests, demands and other communications to Participating Agency required or permitted under this Participation Agreement shall be provided to the address set forth below:

    Absent notice to the contrary in writing, all communications to TTS shall be sent to:
    
    Traffic Technology Services, Inc.
    Attn: Contracts & Agreements
    17933 NW Evergreen Pkwy, Suite 240
    Beaverton, OR 97006
    or email: suppliers@traffictechnology.com

    Absent notice to the contrary in writing, all communications to the MARC shall be sent to:
    
    Mid-America Regional Council
    600 Broadway, Suite 200
    Kansas City, MO 64105
    Attention: Ray Webb
    And by email to: rwebb@MARC.ORG
Absent notice to the contrary in writing, all communications to the Participating Agency shall be sent to:

________________________________________

________________________________________

________________________________________

IN WITNESS WHEREOF, the parties hereto have executed this Participation Agreement as of the date first written above.

**MARC**

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**TTS**

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**PARTICIPATING AGENCY**

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Mid-America Regional Council’s Quarterly Report For Operation Green Light

2nd Quarter 2019 Report
July 22, 2019

Prepared For:
OGL Steering Committee

Prepared By:
OGL Operations Team
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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 2nd Quarter of 2019 and highlights of signal timing and agency coordination. OGL currently monitors/operates 732 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 14 repair tickets. OGL uses the repair tracking database to manage work orders and billing for the contractor, but currently doesn’t differentiate between normal repair work and radio upgrades.

Corridor/Signal Timing Efforts

- 6/13 – New coordination plans were implemented on Douglas St in Lee’s Summit, MO

Training Sessions/ Panels/ Events

- 4/3 & 4/4 – Chris Jenkins attended TrafficWare ATMS training in Independence, MO
- 4/16 & 5/7 – Ray Webb participated in Program Planning for TSMO webinar
- 5/1 – ITS Heartland Technical Tour was hosted @ the OGL office
- 5/9 – Chris Jenkins & Scott Cutshall attended the KCITE meeting in Overland Park, KS
- 5/16 – Ray Webb participated in ITE webinar
- 6/20 – Chris Jenkins attended WTI training for PTZ and wireless radios

Additional Information

- OGL staff set up and scheduled the Miovision equipment to conduct 11 counts. Most of these were 13-hour turning movement counts and the remaining were 24-hour ADT counts.
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 2nd Quarter of 2019:
- 4/23 – TransSuite was updated to ver 19.2.0
- OGL procured 3 Miovision Connect units to be attached to existing portable camera setups to record travel time information.
- OGL borrowed portable trailers with radar units from MoDOT to put along US71 for traffic counts and advance detection for the traffic responsive operations project
Interagency Coordination

During the 2nd Quarter, OGL staff participated in the following interagency activities:

- 4/1 – Ray Webb held conference call with MoDOT/KDOT for OGL funding and contracts
- 4/1, 4/8, 4/15, 4/22, 4/29 – Barry Viss worked at the KCMO TMC
- 4/2 -- OGL, Olathe, OP, KCMO, and MoDOT and Olsson staff held Incident and Performance management meetings
- 4/3, 4/17 – OGL and Olsson held bi-weekly conference calls for contract work
- 4/3 – Barry Viss met with KCP&L in Fairway to prepare for roadwork closures
- 4/8 – MARC and consultant staff met to discuss TSMO and ICM actions
- 4/12, 4/26 – OGL and KCK staff discussed connecting K7 signals to OGL network and other project coordination
- 4/16 – OGL staff and Olsson staff met to discuss updates to the OGL Technology Study
- 4/18 – OGL staff participated in the OGL Regional TransSuite Monthly Status meeting
- 4/22 – OGL staff attended Signal Communications Core Team for upcoming MoDOT project
- 4/22 – OGL team lead the April OGL Steering Committee meeting
- 4/23 – OGL staff met with MODOT to discuss outstanding issues, cameras, detector malfunction tracking, etc.
- 4/26 – OGL staff and several other agency representatives attended an Inrix data demo and discussion.
- 4/29 – 5/1 Ray attended ITS Heartland
- 5/2 – Ray Webb and Barry Viss and Iteris staff met with KCMO staff to discuss the ATMS System Engineering project
- 5/2 – Chris Jenkins met with MoDOT KC & Central district staff to discuss TransSuite and signal communications
- 5/6, 5/13 – Barry Viss worked at the KCMO TMC
- 5/8 – OGL staff had call with GBA staff regarding Roeland Park and communications on Roe Blvd.
- 5/15, 5/29 – OGL and Olsson held bi-weekly conference calls for contract work
- 5/16 – OGL staff participated in the OGL Regional TransSuite Monthly Status meeting
- 5/17, 5/28 – OGL staff met with KC Scout staff to plan for a KCITE operations training to be held in July
- 5/20 – Ray Webb and Barry Viss met with KCK staff about ATMS System Engineering
- 5/21 – OGL and MoDOT staff met with Trafficware to discuss ATMS operations
- 5/22 – OGL staff and Olsson staff met to discuss updates to the OGL Technology Study
- 5/28 – Barry Viss met with Olathe and a Miovision representative about their SPM software.
- 5/29 – OGL staff and representatives from several agencies attended a TransSuite webinar demonstrating and training on their Web UI.
- 6/3, 6/17, 6/24 -- Barry Viss worked at the KCMO TMC
- 6/7 – OGL staff, Iteris, and several agency representatives met to discuss System Requirements for the ATMS System Engineering Process.
- 6/12, 6/26 – OGL and Olsson held bi-weekly conference calls for contract work
- 6/18 – OGL staff met with Belton staff to discuss OGL operations
- 6/20 – OGL staff participated in the OGL Regional TransSuite Monthly Status meeting
- 6/25 – OGL staff met with KC Scout staff to plan for a KCITE operations training to be held in July

MARC
Mid-America Regional Council

Operation Green Light
Turning Stop Lights into Go Lights
Quarterly Repair Ticket Statistics by Month
In the 2nd Quarter of 2019, OGL staff created and responded to 14 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 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.

![Pie chart showing equipment types and their percentages.]

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.

![Pie chart showing equipment types and their percentages.]
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.

![Pie chart showing severity levels]

- Critical: 7%
- Major: 21%
- Minor: 72%

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.

![Bar chart showing repair tickets by month and severity type]

2018/2019
Summary of Critical Events

The OGL staff responded to 1 critical event during the 2nd Quarter of 2019.

On June 13th, the Ceragon backhaul link between Pod5 KCMO City Hall and Pod6 Barry Rd went down and wasn’t functioning properly. OGL staff was unable to get the link working again remotely so a repair ticket was issued. Upon investigation, the ethernet port on the router at City Hall that the equipment was plugged into was bad. The equipment was plugged into a different port and communications were reestablished and all equipment is working properly now.

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 for 2019 has not begun yet.

Incident Management

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

- Bottlenecks: 40%
- Work Zones: 10%
- Bad Weather: 15%
- Traffic Incidents: 25%
- Poor Signal Timing: 5%
- Special Events: 5%

Noticing that Traffic Incidents, Work Zones, Bad Weather, and Special Events account for approximately 55% of congestion, OGL has recently 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 253 incidents in the second quarter of 2019. 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 178 of them. The remainder resulted in notification sent to KC Scout or the agency involved or monitoring of the situation only.
Some examples include:

A design-build project by MoDOT on I-435 is continuing on the south side of the metro. OGL staff continues to monitor this corridor and alternate routes commuters are using and making timing adjustments. Most of this work involves timing changes on Route W / Bannister Rd.

A bridge project by MoDOT at M152 & I-35 in Liberty began. This has had significant impact on traffic operations on both M-152 and on I-35. OGL staff continues to monitor this corridor and alternate routes commuters are using and making timing adjustments. Most of this work involves timing changes on M152 but a large number of modification have been made on M291 and I35 area signals.

Real-time response to multiple traffic crashes on intersections and arterials were completed that ranged from placing the signal in free and modifying the appropriate phases to change the set schedule to either send or keep the plan schedule.

Construction work on I-435 in Kansas has caused traffic to use K7 NB in the PM more frequently. K7 at Kansas Avenue is often placed in free and modified to help with increased volumes.

Flooding that closed Hwy 24 created different traffic patterns on more than one occasion causing several signals operations to be modified.

I-70 was closed EB and WB on Sunday 6/30. OGL coordinated with KC Scout to make signal modifications at I-70 and BRCO and surrounding intersections to respond to the closure.

SMP and Mission road involved a major water line project that entailed lane closures. OGL responded to daily work with the contractors to modify timing and phasing as appropriate.
## Traffic Signal Event Tracking

<table>
<thead>
<tr>
<th>Issue</th>
<th>Jurisdiction</th>
<th>Count</th>
<th>Issue</th>
<th>Jurisdiction</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Directions Flashing</td>
<td>MODOT</td>
<td>19</td>
<td>Ped Recalling</td>
<td>MODOT</td>
<td>17</td>
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<td>6</td>
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<td>NKC</td>
<td>1</td>
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<tr>
<td>Prairie Village</td>
<td></td>
<td>2</td>
<td></td>
<td>Lenexa</td>
<td>1</td>
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<tr>
<td>Liberty</td>
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<td>3</td>
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<td>Belton</td>
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<tr>
<td>NKC</td>
<td></td>
<td>1</td>
<td></td>
<td>Mission</td>
<td>1</td>
</tr>
<tr>
<td>Independence</td>
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<td></td>
<td>Leawood</td>
<td>2</td>
</tr>
<tr>
<td>Merriam</td>
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<td>3</td>
<td></td>
<td>Merriam</td>
<td>1</td>
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<tr>
<td>Fairway</td>
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<td>Phase Backing Up</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cycling improperly</td>
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<td>Poor Progression</td>
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<td>Program Replacement Controller</td>
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<tr>
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<tr>
<td>Merriam</td>
<td></td>
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<td>TransSuite Database Comparison Diff</td>
<td>Lee's Summit</td>
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<td>Shawnee</td>
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<tr>
<td>Shawnee</td>
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<tr>
<td>Leawood</td>
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<td>1</td>
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</tbody>
</table>

**Total**: 236
MARC’s OGL program operates from STP Federal revenues on a reimbursement basis from MoDOT and KDOT who administer the 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 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 with individual agencies.

**Budget Summary:**
- The budget is for two years starting April 2019
- All but MoDOT and Gladstone local funds have been invoiced for 2019. This is due to their FY budget timing
  - Outstanding: Belton, Blue Springs, Lees Summit, Mission Woods, MoDOT, Prairie Village, KCK, Westwood
- Legal fees exceed the 13% average due to work on the TTS agreement, video policy and operations funding agreement
- The funds available $314,164.75 is the remaining local funds from the previous budget cycle
- Local OGL #65375 (deferred balance) of $63,370.98 is a separate fund for expenses not covered by STP funds
- Ending balance of local funds is $642,300.15.
### Mid-America Regional Council (MARC)
MO & KS OGL Operations #65220

#### 2-Year Budget Period Beginning April 1, 2019

**Report Ending** 06/30/2019

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Two-Year Program Budget</th>
<th>Cumulative To Date</th>
<th>Balance (yet to be spent)</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries, Fringe Benefits, Indirect Costs</td>
<td>$1,370,206.00</td>
<td>$133,567.16</td>
<td>$1,236,638.84</td>
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<tr>
<td>Consultants/Contracted Services</td>
<td>585,451.47</td>
<td>66,152.60</td>
<td>519,298.87</td>
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<tr>
<td>Legal Fees</td>
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<td>3,312.80</td>
<td>6,687.20</td>
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<tr>
<td>Meeting/Travel (In/Out of Region &amp; Registration)</td>
<td>8,200.00</td>
<td>889.78</td>
<td>7,310.22</td>
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<td>Rent</td>
<td>17,800.00</td>
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<tr>
<td>Telephone/Maint., (Internet, mobile, ConferSave, USB modems)</td>
<td>16,000.00</td>
<td>857.30</td>
<td>15,142.70</td>
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<tr>
<td>Miscellaneous (classified ads)</td>
<td>-</td>
<td>1,110.20</td>
<td>(1,110.20)</td>
<td>0.0%</td>
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<tr>
<td>Insurance</td>
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<td>Postage</td>
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<td>-</td>
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<tr>
<td>Equipment/Computer/Supplies</td>
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<td>3,260.79</td>
<td>230,381.74</td>
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<td>Service Agreements</td>
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<tr>
<td>Automobile Gas/Maintenance</td>
<td>14,000.00</td>
<td>268.13</td>
<td>13,731.87</td>
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<td>Professional Memberships</td>
<td>1,000.00</td>
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<td>1,000.00</td>
<td>0.0%</td>
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<tr>
<td>Training</td>
<td>2,000.00</td>
<td>-</td>
<td>2,000.00</td>
<td>0.0%</td>
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<tr>
<td>Utilities</td>
<td>12,000.00</td>
<td>766.37</td>
<td>11,233.63</td>
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<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>$2,282,400.00</strong></td>
<td><strong>$213,177.97</strong></td>
<td><strong>$2,069,222.03</strong></td>
<td><strong>9.3%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenues (Reimbursement from DOT’s at 80/20)</th>
<th>Two-Year Program Budget</th>
<th>Cumulative To Date</th>
<th>Balance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>STP Funding, KDOT</td>
<td>$420,000.00</td>
<td>$51,162.71</td>
<td>$368,837.29</td>
<td>12.2%</td>
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<tr>
<td>STP-Funding, MoDOT</td>
<td>980,000.00</td>
<td>119,379.68</td>
<td>860,620.32</td>
<td>12.2%</td>
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<tr>
<td>Local Gov’t Funding-Required 20% match</td>
<td>350,000.00</td>
<td>42,635.58</td>
<td>307,364.42</td>
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<tr>
<td><strong>Total Revenues for Federal Grant</strong></td>
<td><strong>$1,750,000.00</strong></td>
<td><strong>$213,177.97</strong></td>
<td><strong>$1,536,822.03</strong></td>
<td><strong>12.2%</strong></td>
</tr>
</tbody>
</table>

| Local Gov’t Revenue above 20% match | $532,400.00 | - | - | - |

| **Combined Revenues** | **$2,282,400.00** | **$213,177.97** | **$2,069,222.03** | **9.3%** |

| Local Government Revenues | | | |
|---------------------------|-----------------|---------|
| Funds available from previous budgets | $314,164.75 | |
| Funds collected for current budget period #65220 | 247,550.00 | |
| Funds billed for current budget period not yet received. | 59,850.00 | |
| Local Operation Green Light Program #65375 (deferred balance) | 63,370.98 | |
| **Total available** | 684,935.73 | |
| Less: Amount for required match | (42,635.58) | |
| Less: Amount above required match | - | |
| Less: Transfer to 65375 | - | |
| **Ending Balance 06/30/2019** | $642,300.15 | |
| **Reserve/Emergency (local funds)** | $300,000.00 | |