

Joanna Reagle, Senior Project Manager

Memberships: Institute of Transportation Engineers, Member

Institute of Transportation Engineers, Mid-Atlantic Section

Education: B.S. in Civil Engineering, Penn State, 1989

High Impact Presentations - Dale Carnegie - April 2017

The Dale Carnegie Course, November 2017

Teaching: Engineering Management 515 – Public Involvement, Drexel University 2013 –

Guest Lecturer

Civil Engineering 585 – Transportation Planning and Capacity, Drexel University

2015-2018 - Guest Lecturer

Joanna leads KMJ's public and stakeholder engagement activities. She has 24 years' experience in the transportation industry, working with public sector clients to solve the problems that keep them up at night. She uses her expertise to organize and execute peer-to-peer meetings, one-day symposiums, webcasts and public open houses. Joanna has the ability to make complex matters consumable. She has worked on long-range transportation planning studies, traffic engineering studies, environmental impact studies, ITS and travel information analysis and studies, and technical training. She has prepared and delivered training programs for various agencies. Joanna is also responsible for the firm's internal training and professional development program.

Relevant Projects

ITS Program Management, Administrative and Technical Support, I-95 Corridor Coalition – Project manager who provides technical and logistics support to the I-95 Corridor Coalition Traveler Information Services Program Track staff and members. This assignment involves technical expertise and leadership as well as the ability to clearly communicate complex concepts. As part of the program track support, KMJ conducts meetings/webcasts to bring member agencies together to discuss pertinent travel information topics. Through these meetings members have the opportunity to share relevant information and exchange ideas. KMJ has also developed and conducted several special workshops for coalition members in various cities and venues. A recent workshop was conducted to understand how states in the Mid-Atlantic/Southern Region display road weather condition information and to determine best practices for collecting and disseminating weather related travel conditions by public agencies. Topics for these workshops have included traveler information, weather, emergency services, use of social media and other related topics. Each workshop has attracted more than 100 participants from all over the world. KMJ communicates with the agency representatives to ascertain the status of their programs, their agency needs and programmatic goals. The agencies include DOTs, transit agencies, port authorities and other quasi-governmental organizations throughout the nation. (2004-2019)

Page 2 Joanna Reagle

■ I-95 Corridor Coalition Program Management, Administrative and Technical Support for the Vehicle Probe Project — Project manager responsible for overseeing and coordinating KMJ's efforts with the coalition, data provider, validation team, and UMD contract/funding staff to facilitate information exchange and collaboration regarding the Vehicle Probe Project. Provides support to the VPP validation team by reviewing and editing the monthly validation reports. KMJ guides these reports through the approval process and provides the information to the agency members of the VPP Team. KMJ provides support to the VPP Management Team through regular webcasts and coordination to ensure that issues are being identified and addressed in a timely fashion. KMJ organizes and conducts quarterly webcasts for the member agencies using the VPP data to keep the apprised of important project issues and provide a forum for exchange related to agency use of the data. Assists the VPP Suite User Group comprised of DOTs and MPOs actively using the performance measures tools through quarterly webcasts and regular coordination with members and the co-chairs. Worked with the Suite developers and users to identify new features that would best serve the members. (2004-2019)

- City of Philadelphia American Street Improvement Project Traffic Engineering, City of Philadelphia Department of Streets Project Manager responsible for coordinating and overseeing KMJ's efforts on this project. KMJ coordinated among stakeholder groups and public coordination throughout this project. KMJ planned, organized and facilitated all meetings including the Project Steering Committee Meetings, Lunchtime Business Meetings and Public Open Houses. KMJ also prepared the traffic control plans and the design of 24 ADA curb ramps. The City of Philadelphia received federal funding to make improvements along the approximate two-mile North American Street corridor between Girard and Indiana Avenues. The aim of this project is make American Street work better for its users and to provide improved streetscape amenities, including green storm-water infrastructure, while continuing to accommodate the transportation needs of this diverse corridor. (2016-2017)
- Pennsylvania Turnpike Commission Transportation Operations and ITS, Smart Work Zones Project Manager responsible for overseeing all of KMJ's work on this project. The Pennsylvania turnpike Commission (PTC) is working to create a Smart Work Zone Concept of Operations to detect, display and disseminate traffic impacts associated with roadway construction efforts. KMJ worked with Gannett Fleming to provide comprehensive research to identify best practices for the PTC's Smart Work Zone Systems. The best practices memo was comprised of a literature review, which researched federal and state agency-published documents, academic primary research, and tech showcases, along with four state DOT interviews with nationally recognized smart work zone experts. This memo summarized types of devices deployed, overall deployment approaches, application types, communications protocols, traveler information techniques, connected vehicle applications, procurement mechanisms, project costs, and success measures. (2017)
- Pennsylvania Turnpike Commission Transportation Operations, Wrong Way Driving Study Project Manager responsible for overseeing all of KMJ's efforts on this project. The Pennsylvania Turnpike Commission (PTC) is seeking a solution to combat wrong way driving practices. KMJ is responsible for Stakeholder survey, outreach and documentation. KMJ created an in-depth online survey for PTC Interchange managers, District Managers, Maintenance and TOC Staff. Based on this survey, KMJ conducted several interviews with PTC employees who could identify problems and produce solutions to wrong way driving on the turnpike and surrounding roadways. These survey and interview results helped shape a mitigation plan to reduce common factors (poor pavement markings,

Page 3 Joanna Reagle

poor signage, distracted driving, ect.) that caused drivers to travel the wrong way on the turnpike. (2017)

- Pennsylvania Turnpike Commission Transportation Operations and ITS Training Project Manager responsible for overseeing and coordinating all training materials. The Pennsylvania Turnpike Commission (PTC) is continually working to create a more effective, efficient, and safe toll road. KMJ worked with AECOM, PTC, and Daktronics to create a training program for PTC Traffic Operations Center (TOC) Staff. That provided step-by-step visual and textual instructions on proper operation of DMS signs in Daktronics Vanguard software. KMJ conducted two training sessions on the PTC's new Full Color DMS. Training sessions included Duty Officers (DOs) that emphasized usage of the message library for consistency, accuracy, and simplicity. (2016)
- Pennsylvania Turnpike Commission, GCE Contract No. 4400003106 Project Manager for KMJ's efforts on this GCE contract. Specifically, planning and facilitating a series of Peer-to-Peer webcasts with other toll agencies to share/exchange information on pertinent topics. These webcasts give agencies an opportunity to convey information and exchange ideas to improve operations. The Pennsylvania Turnpike (PTC) opened in 1940 as the Nation's first toll road. KMJ is providing support to the ITS/Traffic Section of the PTC and has updated its ITS Long-range Plan to include future-looking initiatives such as, connected and automated vehicles, road weather systems, work zones and enhanced situational awareness. These future initiatives will be phased in through the Capital Planning and other processes. The Long-range Plan Update is one of several plans that will be rolled into the Transportation Operations Plan (TOP) Plan. KMJ jointly facilitated the Operations Technology committee for the Infrastructure Preservation strategic planning effort in 2013-2014. KMJ also contributed to the National Best Practices report prepared in 2013; summarizing interviews from toll agencies around the country and identifying best practices for the Pennsylvania Turnpike Commission to consider. (2012-2017)
- Pennsylvania Turnpike Commission Procurement of Real Time Traffic Flow Data − Project Manager for this validation effort. The Pennsylvania Turnpike Commission (PTC) sought to have real-time speed and travel time information for selected sections of the Turnpike System. The dissemination of such information is a key component in the efficient use of transportation facilities, which in turn can be used to inform travelers. As part of this project, the PTC sought an independent source to collect travel time information to ensure the accuracy and reliability of the real-time data collected by the vendor. KMJ along with Texas A&M Transportation Institute jointly conducted a validation of the vendor's real-time traffic information on the Pennsylvania Turnpike. The report summarized data collected across 29 miles of rural and urban sections of the Turnpike and compared the vendor's traffic data to meet PTC accuracy requirements. KMJ mapped out locations for sections of the Turnpike and installed BlueTOAD™ devices to collect high quality, timely, reliable, and relevant traffic speed and travel time information. (2014-2016)
- Pennsylvania Department of Transportation District 6-0 E01381/E03106 TMC Support Services Project Manager responsible for the development of the VPP Suite performance measures tools training program. She oversees the program to provide technicians with a detailed explanation on each of the tools and hands-on instruction as to how the tools can expand their use of the systems within the TMC for PennDOT's benefit. As part of a multi-disciplinary team, KMJ's Traffic Management Center (TMC) Technicians staff the District 6-0 Regional TMC. The TMC technicians monitor and operate the District 6-0 ITS Components, such as CCTV, DMS, incident management,

Page 4 Joanna Reagle

ramp metering, and travel times to effectively and efficiently manage the roadway network. KMJ provides ongoing training to the TMC technicians as part of this contract. The technicians have been instructed by KMJ on basic traffic signal operations including components, timing, and software to enrich their understanding of traffic flow and allow them to better perform their tasks at the TMC. In conjunction, KMJ provided training on seven different types of traffic signal software used to communicate with hundreds of traffic signals throughout District 6-0. The technicians currently use the software in coordination with the District Traffic Signal Supervisors to monitor communication and check timings and phasing on District 6-0 traffic signals. (2008-2017)

- NYMTC Transportation Information Gateway Project Manager responsible for reviewing and overseeing stakeholder involvement documents and presentations prepared by KMJ for the Transportation Information Gateway development. The New York Metropolitan Transportation Council (NYMTC) is a member agency-guided MPO that serves as a planning forum for NYC, Long Island, and the Lower Hudson Valley. To help address transportation-related needs and forecasting future conditions, NYMTC is implementing a specialized web-based transportation application (the Transportation Information Gateway) to function as a data warehouse, so member agencies can contribute databases to be viewed internally or by the public. Acting as a liaison between the NYMTC stakeholders and the Cambridge Systematics development team, KMJ fosters constructive dialogue to meet project requirements and address test-user feedback. As an integral part of the iterative "agile" software development process, KMJ created an intuitive, self-contained user feedback suite which contains detailed instructions pertinent to the current iteration, lists of known issues and project requirements, and a feedback input form. KMJ has also developed a method for extracting rich metadata from user feedback for distribution to both the developers and the steering committee to better understand avenues for future project development. (2014-2017)
- Montgomery County Planning Commission PA 100 Controlled Access & Future Growth Study Project Manager responsible for overseeing KMJ's efforts related to stakeholder involvement for this project. KMJ planned and conducted a charrette to identify traffic, access, and safety issues from the public officials and stakeholders in the area; and, an open house to review alternatives and study findings with the public, as well as plan for and conduct a final presentation to adopt the results of the final report. (2013).
- Winter Weather Response Plan, City of Philadelphia Department of Streets Assisted with facilitation efforts and preparations for focus groups with staff, and stakeholder and external partner interviews to understand available technology and state-of the-practice methods for snow removal, including chemical treatment, equipment, situational awareness and technology. The City of Philadelphia (COP) Department of Streets was re-examining its winter weather operations, including use of and application of chemical product, technology to gain situational awareness, and overall efficiency in its operations. The COP sought short term and long term high level recommendations to upgrade the City's Winter Weather Response system. (2015)
- Pennsylvania Department of Transportation E02300 BHSTE-ITS Open-End Agreement WO#5, WO#7 & WO#8 Assisted with the quality assurance associated on three assignments which included Performance Measures (WO#5), Congested Corridors Program (WO#7), and Highway Occupancy Permit Process and Smart Transportation Growth (WO#8). In the performance measures assignment, KMJ helped to identify specific, attainable, and relevant performance measures to be utilized by other transportation agencies to monitor and manage recurring and non-recurring congestion. In the

Page 5 Joanna Reagle

Congested Corridors Program assignment, KMJ provided support in the identification of innovative and cost-effective solutions for congested corridors in Pennsylvania applicable to signal arterial corridors. In the Highway Occupancy Permit Process and Smart Transportation Growth assignment, the objective is to develop a procedure for the State to support economic development and smart growth through the highway occupancy permitting process. Developed questionnaires and interviewed developers and other stakeholders to document their experiences and identify issues. (2011-2013)

- Pennsylvania Department of Transportation Bucks & Montgomery Land Use Study (District 6-0: E02033) Project manager responsible for overseeing work completed for the intersections identified in Phase 1 of project. Assisted in the preparation of the study documents including the project overview, municipal summaries, and intersection analysis/recommendation summaries. Field assessments were conducted at each location to identify issues. Intersection summaries were created outlining issues and identifying low cost/short term along with moderate cost/mid-term improvements. In the intersection summaries, findings were summarized, and improvements were outlined and illustrated graphically. (2013-2014)
- Pennsylvania Department of Transportation District 8-0 E02030 Maintenance and Traffic Units Open End Engineering Agreement Senior planner responsible for WO#2. She identified and summarized the Roles and Responsibilities of the PennDOT District 8-0 RTMC Staff to facilitate the transfer to the new combined RTMC facility. KMJ supported the team on this WO by capturing and summarizing staff roles and responsibilities through personal and telephone interviews. KMJ will continue supporting the RTMC relocation effort through future work orders. (2010-2015)
- Overbrook Farms Traffic Study and Transportation Plan, Philadelphia, PA Responsible for planning, conducting, and summarizing the results of the Charrette and walking tour as part of the overall community transportation study. Responsibilities included working with the local residents to understand their issues and concerns regarding traffic and parking in the study area. (2010)
- Delaware Department of Transportation (Agreement 1389) Traffic Engineering & ITS Open End, Task Order 8 Training Senior planner responsible for the preparation and conduct of Customer Service and other training for DelDOT Traffic Management Center, engineering and related staff. A combination of discussion, group exercises, and lecture were used to convey the material to the group. This hands-on course included basic knowledge in customer service presented through lecture, group exercises and coaching. (2007-2010)
- Philadelphia Navy Yard Bus Study, Philadelphia Industrial Development Corporation (PIDC), Philadelphia, PA Project manager responsible for overseeing KMJ tasks, such as travel time data collection to evaluate the bus service needs at the Navy Yard. The analysis of the effectiveness and efficiency of bus services always begins with an effort to collect timely, fresh data. The goal of the data collection task is to compile key service indicators to help frame a discussion of how well the existing transit routes are servicing their various clients and how efficiently the routes are being operated. KMJ is conducting an initial review of potential service routes. KMJ conducted travel time analysis including data collection in support of the new route development tasks. (2011-2012)
- Pennsylvania Department of Transportation Districts 6-0 and 11-0 E01040 BHSTE Open End Agreement for Various ITS, Congestion Management, Traffic Engineering, and Incident

Page 6 Joanna Reagle

Management Services – WO#10 Incident Response Plan Development, & WO#16 RCRS Detour Routes Assignment – Quality assurance officer responsible for quality control for Incident Response Plan (IRP) development and review for regional Transportation Management Centers in PennDOT Engineering District 6-0 and District 11-0. The IRP's document the appropriate actions, ensure response consistency, and provide adequate guidance in the event that a neighboring district is required to assist in the incident management responsibilities. This agreement also included an RCRS (Road Condition Reporting System) Emergency Detour Route assignment. As Project Manager, Ms. Reagle worked with PennDOT District 6-0 to transfer iDRuMs (Interactive Detour Route Mapping) for corridors in District 6-0 created by DVRPC to the PennDOT RCRS (Road Condition Reporting System) to be used when major incidents require closure of portions of major corridors in District 6. (2011-2012)

- Pennsylvania Department of Transportation District 6-0 E01271/ E02948 ITS Design and Support WO#1 & WO#2 Assisted with quality assurance associated with the evaluations of ITS technologies to monitor and manage traffic congestion. Two assignments were completed including the evaluation of Bluetooth readers to collect and report travel time and speed information along I-76 and a study to document conditions along I-476 in anticipation of the ramp metering system completion. (2009-2013)
- Pennsylvania Department of Transportation E01041 BHSTE Open End Agreement for Various ITS, Congestion Management, Traffic Engineering, and Incident Management Services RTMC Training Prepared training materials and delivered customer service training for the Regional Traffic Management Center in PennDOT Engineering District 8-0. The training program focused on improving all communications and stressed the importance of speaking with an appropriate and enthusiastic tone, listening to the customers, speaking in terms that they can understand, and satisfying both the emotional and technical needs of each customer. (2008)
- Pennsylvania Department of Transportation District 8-0 E01021 Highway Occupancy Permit (HOP) Application Reviews Assisted in the quality assurance for KMJ HOP application reviews, including traffic impact studies, signal permit plans, level of service and capacity analyses, trip forecasting (generation, distribution, modal split, and assignment), signal warrant analyses, turn lane and phasing warrant analyses, signal timing, phasing, coordination, data collection, and preparation of final review comments. (2007-2012)
- Bucks County Regional Traffic Study, Delaware Valley Regional Planning Commission, Bucks County, PA Senior planner to prepare the traffic calming feasibility study for 16 roadways in Bucks County, PA. Ms. Reagle planned for and participated in public meetings. The PennDOT publication 383 was used as a guide to develop the regional plan. The comprehensive study determined whether local traffic calming measures could play a role in addressing regional issues related to truck traffic and speeding. Following the assessment of initial eligibility, a series of traffic calming measures were identified and documented in the report. (2007)
- Long-Range ITS Plan and Architecture, Pennsylvania Turnpike Commission, Statewide, PA Responsible for stakeholder involvement, including conduct of workshops and interviews. All internal and external stakeholders participated in a series of workshops to ascertain their perception of the ITS needs of the PTC. A follow up workshop was conducted to validate the responses and rank the needs. A draft report documenting the needs as related by the stakeholders was prepared. (2007)

Page 7 Joanna Reagle

A Course in Practical Traffic Engineering Concepts, Delaware Center for Transportation, DE

 Assisted in preparing a series of courses on traffic engineering subjects, such as traffic flow theory, pedestrian theory and practice, volume studies, field studies, and the MUTCD to name a few. Each course included a presentation, discussion, an in-class exercise and a learning evaluation tool. These courses were given to Delaware Department of Transportation staff as part of their on-going in-house training program. (2004)

- Environmental Impact Study Capacity Enhancement Program (CEP), Philadelphia International Airport, Philadelphia, PA— Responsible for the transportation elements of this environmental impact statement prepared for the Philadelphia International Airport (PHL). Impacts to the internal and external transportation circulation system were explored and documented for the CEP. The three alternatives included re-alignment of the airport runway system that would have potential. impact to the adjacent highway and freight rail network. Ms. Reagle was also responsible for coordinating and overseeing the data collection and analysis related to the surface transportation sections for the Philadelphia International Airport environmental impact study for the Runway 17-35 Improvement Program and she participated in the public meetings for this project. (2007)
- South Jersey Waterfront Master Plan, Delaware River Port Authority Provided stakeholder and public involvement consulting services to the team on this project to prepare a comprehensive master plan for the Southern New Jersey Waterfront. The study provided a rational decision-making framework for how best to meet public and commercial needs while preserving environmental resources. Components of the study included but were not be limited to: public and private port facilities; commercial and retail development; residential housing; public access; transportation; parking; water resources; utilities; and environmental and natural resources. The counties included were Salem, Gloucester, and Camden. (2005-2007)
- I-476/PA 309 Corridor Unified Traffic Management and Signal Coordination Plan Stakeholder Involvement Coordinator for multiple jurisdictions to develop a Unified Traffic Management and Signal Coordination Plan within the Pennsylvania Turnpike Northeast Extension (I-476) / PA 309 Corridor to handle both routine traffic conditions and diversions from the Turnpike. A critical component of the diversion plan is the ability to coordinate traffic signal timing along the arterial network thus creating a progression capable of moving traffic in the desired direction through the corridor. (2005)
- Route 309 Expressway Improvement Project, Pennsylvania Department of Transportation (District 6-0) Project manager overseeing the traffic engineering analyses conducted for the design of the mainline and interchanges. She also analyzed the effects of traffic diversions at almost 90 intersections and developed initial intersection improvement plans for the intersections most impacted by the reconstruction project. In addition, she was involved in the development of the traffic management plan for the Route 309 Expressway to be implemented during the reconstruction and the coordination of the incident management plan for the reconstruction. Ms. Reagle coordinated the public involvement efforts through a 16-member Task Force as well as the conduct of public meetings to inform and involve the public in the reconstruction project.
- Central Susquehanna Valley Transportation Project, Pennsylvania Department of Transportation (District 3-0) – Project manager for the conduct of the Needs Analysis report including the technical elements of the traffic engineering analyses. As part of this effort, she planned

Page 8 Joanna Reagle

and managed the conduct of traffic counts and numerous field studies, as well as two separate origin/destination surveys. Ms. Reagle managed all aspects of the traffic engineering effort including intersection and roadway capacity analyses and accident analyses. In addition, she developed the future traffic projection model including the incorporation of the socio-economic data, origin/destination survey results, and the traffic counts to determine the future traffic conditions throughout the study area. Ms. Reagle also prepared the Needs Study document and supporting technical data for review by the Environmental Agencies.

- Harrisburg Central Business District Congestion Management System Study, Tri-County Regional Planning Commission Project manager for the project responsible for the data collection effort, the development of the goals and standards for the project, and the traffic engineering analyses. This effort included the evaluation of existing traffic conditions including vehicle and pedestrian operations and parking and loading zone operations. In addition, she determined and evaluated the impact of future developments in and around the CBD. This study identified the elements of congestion management that were believed to be most applicable to the conditions, both existing and future, in the Harrisburg Central Business District. Strategies ranged from intersection geometric improvements to revisions in Ordinances for the City of Harrisburg.
- Kirkwood Highway Safety Improvement Study, as part of the Highway Safety Improvement Program (HSIP), Delaware Department of Transportation Project engineer analyzed the traffic conditions and the accident situation to determine improvements that would potentially reduce accidents while maintaining acceptable traffic flow on Kirkwood Highway, a four-lane urban arterial and satisfactory access to the neighborhood streets along the corridor.
- Wilmington Urban Corridors Study, Delaware Department of Transportation and the City of Wilmington, DE Ms. Reagle worked with the community to determine their specific transportation needs and identified the existing deficiencies in the transportation network. She coordinated the data collection efforts and traffic analyses for the study corridors. This effort included the evaluation of existing traffic conditions including vehicle, pedestrian and transit operations, and parking and loading zone operations. In addition, an origin/destination survey was conducted and accident analyses were completed.