



***Karen M. Jehanian, P.E., President***

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- Licenses:*** Professional Engineer in Pennsylvania (PE043119E)  
Professional Engineer in Delaware (10478)
- Memberships:*** American Society of Civil Engineers  
American Society of Highway Engineers  
Institute of Transportation Engineers – (Fellow)  
Intelligent Transportation Society – New York Chapter (Former Board Member)  
Intelligent Transportation Society – Pennsylvania Chapter (Former President)  
Society of Women Engineers  
Women’s Transportation Seminar – (Advisory Board Member, Philadelphia)  
Transportation Research Board Affiliate
- Education:*** MBA, Drexel University, 2000  
B.S. in Civil Engineering, Drexel University, 1982  
The Dale Carnegie Course and Leadership Training  
High Impact Presentations – Dale Carnegie
- Honors:*** ASCE Philadelphia Section Transportation Engineer of the Year 2009  
2002 Circle of Distinction Award, Drexel University College of Engineering  
Member, Anthony J. Drexel Society Leadership Committee  
2013 Co-op Hall of Fame Inductee
- Boards:*** Drexel University Close School of Entrepreneurship External Board  
Hampshire at Haverford Condominium Board (President)
- Teaching:*** Engineering Management 515 – Public Involvement, Drexel University 2013 –  
Guest Lecturer  
Adjunct Faculty, Drexel University Close School of Entrepreneurship 2015  
Civil Engineering 585 – Transportation Planning and Capacity, Drexel University  
2015/2016/2017– Guest Lecturer

Karen is known as an innovator and thought leader in the transportation and business community. With more than 35 years in the transportation consulting business, she is a direct stakeholder in her clients’ successes. Karen focuses on understanding her client’s needs, works proactively to sort out issues, anticipates problems, and identifies viable solutions. Her specific interest areas are transportation planning, stakeholder services, ITS and strategic planning. She has also had the opportunity to have worked with IT professionals giving her a clear understanding of the software development cycle and system integration issues related to public/private use of data collected by each entity. She has also developed and taught various transportation-related courses to public agencies.

**Relevant Projects**

- **ITS Program Management, Administrative and Technical Support, I-95 Corridor Coalition** – Technical lead and TISPTC program manager that provides technical and logistics support for the Traveler Information Program Track of the I-95 Corridor Coalition 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. 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)
- **City of Philadelphia American Street Improvement Project – Traffic Engineering, City of Philadelphia Department of Streets** – Principal in charge of overseeing KMJ’s involvement in this project. KMJ is responsible for the coordination among stakeholder groups and public coordination throughout this project. KMJ is facilitating all meetings including the Project Steering Committee Meetings, Lunchtime Business Meetings, Public Open Houses and Study Area Tours. KMJ is planning for, organizing and conducting each of these events. KMJ is also responsible for the Traffic Control Plans and the design of 24 ADA curb ramps along the corridor. The City of Philadelphia has received federal funding to make improvements along the 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)
- **I-95 Corridor Coalition Program Management, Administrative and Technical Support for the Vehicle Probe Project** – Principal responsible for quality assurance in 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. 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 supports the validation team by reviewing, and editing the validation reports. Assists the VPP Suite User Group comprised of DOTs and MPOs actively using the performance measures tools through webcasts and coordination. Worked with the Suite developers and users to identify new features that would best serve the members. KMJ guides these reports through the approval process and provides the information to the agency members of the VPP Team. 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. (2004-2019)
- **Pennsylvania Turnpike Commission – Transportation Operations and ITS, Smart Work Zones** – Principal in charge for overseeing and reviewing 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

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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** – Principal in charge for overseeing all of KMJ’s efforts. 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, poor signage, distracted driving, etc.) that caused drivers to travel the wrong way on the turnpike. (2017)
- **Philadelphia International Airport On-Call Planning Services, Philadelphia PA-** Principal in charge of KMJ’s efforts on this project. The Philadelphia International Airport seeks to improve ground transportation options by providing a Transportation Network Companies (TNC) Parking facility. KMJ is responsible for the parking utilization analysis in the existing TNC Lot, and provided recommendations for a potential new valet/TNC Lot. KMJ also evaluated two traffic signals at the International Plaza Driveway and the Cell Phone Lot Driveway to determine congestion issues and potential improvements. This involved verifying existing conditions, calculating clearance timings and conflict factors, and measuring sight distance. KMJ conducted 14-hour manual turning movement traffic counts at both intersections and conducted capacity analysis using Synchro 9.
- **Pennsylvania Turnpike Commission – Transportation Operations and ITS Training** –Principal in Charge of overseeing KMJ’s efforts on this project. 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 Department of Transportation E03413 District 6-0 Low Cost Safety Improvements - WO #1, WO#3 & WO#5** – Principal in Charge of KMJ’s efforts on this project. PennDOT District 6-0 is seeking innovative low cost safety approaches to improve high crash locations and corridors within the district. KMJ is responsible for three work orders: WO#1 - Intersection Safety Implementation Plan (ISIP), WO#3 – New Falls Road and WO#5 – Levick Street. In the ISIP assignment, KMJ is preparing improvement plans and signal design for various intersections in all five D6 counties. For New Falls Road, KMJ is preparing traffic signal plans for five signalized intersections. KMJ was also responsible for preparing traffic signal plans for ten intersections as well as an interconnect plan for the 1.3-mile roadway of Levick Street. (2016-2020)
- **City of Philadelphia Lincoln Drive Resurfacing and Restoration - Traffic Signal Design, City of Philadelphia Department of Streets-** Principal responsible for quality assurance and quality control for all aspects of KMJ’s involvement including the oversee of traffic signal design, equipment placement, and preparing of final traffic signal permit plans. This work is part of the city-wide traffic

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engineering design services to assist with highway projects, including the preliminary and final design of traffic signals, streets and roads, traffic calming measures, school zone safety improvements, street re-paving packages, ADA ramps, Intelligent Transportation Systems (ITS), traffic studies, design of line stripping, traffic control signage and trails. KMJ is responsible for conducting field observations and preparing final traffic signal permit plans for six intersections along Lincoln Drive. (2012-2016)

- **City of Philadelphia Roosevelt Boulevard Multimodal Corridor Program -Traffic Engineering, City of Philadelphia Department of Streets-** Principal in charge for overseeing all aspects of KMJ's work on this project. The City of Philadelphia Department of Streets has taken on the robust effort to transform the bustling yet problematic Roosevelt Boulevard to a modern multimodal transportation corridor. KMJ is responsible for preparing the Synchro Model for 40 complex intersections along the Roosevelt Boulevard Corridor, between Broad Street and Devereaux Street. KMJ also conducted field observations, verified roadways and traffic signal conditions and collected data to verify the Synchro Model. (2015-2019)
- **Historic Street Condition Study, City of Philadelphia Department of Streets** – Responsible for establishing the objective rating system based upon both quantitative and qualitative criteria. KMJ performed the field investigations and prepared the base analytical database/spreadsheet used to assess the historic street blocks. The rating criteria included the area of, depressed/sagging road; block/brick missing; patching/pave-over; material inconsistent with the historic; and, condition of curb gutters. Each block was rated by each of the five criteria and assigned a numerical value from 1 to 20, then summed. The higher the total score, the lower the integrity of the block. The data can be sorted by planning district, councilman district, and a number of other ways to assist the DOS in its prioritizing process. Budget numbers were established to assist in the prioritization process. This was the first update in more than 15 years. (2013-2016)
- **Winter Weather Response Plan, City of Philadelphia Department of Streets** – Responsible for all staff facilitation, team leadership and innovative problem solving techniques. Prepared for and conducted focus groups with staff, conducted 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)
- **City of Philadelphia Traffic Operations and ITS (TOITS) – Bustleton Avenue South, City of Philadelphia Department of the Streets** – Principal responsible for quality assurance for all projects under this assignment. Oversaw the preparation, preliminary and final design plans for 11 signalized intersections, and safety review reports for the entire Bustleton Avenue South corridor. The City of Philadelphia Department of Streets sought to identify, plan, design and construct improvements to make streets and intersections safer for all roadway users. This program is the design and implementation of traffic signal and operational safety improvements along several corridors in the City of Philadelphia through a federal TIGER 3 Grant. (2012-2013)
- **City of Philadelphia Traffic Operations and ITS (TOITS), Allegheny Avenue and Academy Road Traffic Signal Retiming, City of Philadelphia Department of Streets** – Principal responsible for quality assurance for all projects under this assignment. KMJ was responsible for developing updated traffic signal timings for 21 intersections on Allegheny Avenue and 23 intersections on

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Academy Road. The City's objective was to improve traffic flow while providing for appropriate pedestrian clearance, yellow, and all-red times. Retiming traffic signals is one of the most cost effective ways to improve traffic flow, increase capacity, and reduce congestion. (2013-2015)

- **City of Philadelphia Traffic Operations and ITS (TOITS), Lindbergh Boulevard and Hunting Park Avenue Traffic Signal Retiming, City of Philadelphia Department of Streets** – Principal responsible for quality assurance for all projects under this assignment. KMJ was responsible for traffic signal retiming along 14 intersections on Lindbergh Avenue and 15 intersections on Hunting Park Avenue. The City of Philadelphia sought to improve mobility and the flow of traffic along major corridors within the City. Signal retiming remains as one of the most cost effective ways to improve traffic flow, increase capacity, and reduce congestion. (2013-2014)
- **NYMTC Transportation Information Gateway** - Principal in charge of KMJ's work tasks. 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)
- **Pennsylvania Turnpike Commission - Procurement of Real Time Traffic Flow Data** - Principal responsible for quality assurance for all KMJ tasks within this project. The Pennsylvania Turnpike Commission (PTC) is working 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 are jointly conducting a validation of the vendor's real-time traffic information on the Pennsylvania Turnpike. The report summarizes data collected across 29 miles of rural and urban sections of the Turnpike, and is compared to 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)
- **River Avenue Improvement Initiative, Camden County, NJ** - Principal responsible for quality assurance for all analyses conducted as part this project. The Coopers Ferry Development Association initiated a signal retiming study for River Avenue in Camden, New Jersey, in response to resident complaints. This corridor is used by motorists as an alternative to NJ Route 130 in Pennsauken Township, New Jersey. Traffic signal retiming was identified as a way to discourage use of the River Avenue corridor by heavy vehicles while maintaining intra-neighborhood travel times. As part of this project, KMJ is determining the new traffic signal timings along the River Avenue, in compliance with the current general practices, rules and guidelines followed by Camden County, New Jersey. (2015)

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- **Pennsylvania Department of Transportation E01381/E03106 TMC Support Services, District 6-0** – Principal in charge of KMJ’s Traffic Management Center (TMC) Technicians staff and oversight of the training program. 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, 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 and, 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. KMJ also provides training to the TMC technicians on the VPP Suite performance measures tools. Technicians are provided with a detailed explanation on each of the tools and then guided through hands-on instruction as to how the tools can expand their use of the systems within the TMC for PennDOT’s benefit. (2008-2017)
- **30th Street Station Precinct Joint Master Plan** – Project Principal/QA officer for this study. A 30th Street Station District Joint Master Plan is being developed with AMTRAK, Drexel University, and Brandywine Realty Trust. This Master Plan will take into account development in and around the 30th Street Station area, including Drexel University’s Innovation Neighborhood. KMJ is responsible for collecting and evaluating the current vehicular traffic conditions in the area surrounding 30th Street Station; as well as comparing the current conditions to several studies previously conducted in the area. KMJ is also responsible for evaluating future conditions with new development in the area and determining recommendations for future congestion reduction. (2014-2016)
- **City of Philadelphia Historic Streets Curb Ramp Design, City of Philadelphia Department of Streets-** Principal responsible for conducting and overseeing the conceptual design of 12 ADA curb ramps throughout the City of Philadelphia. This work order is for the reconstruction of three historical streets (Maiden Street in Manayunk and American Street and Waverly Streets in Center City) as well as community outreach to convey information about the project to residents and businesses. Creative solutions were required at all locations due to the historical nature of the roadways and adjacent buildings. For example, a raised crosswalk was implemented for one crossing on American Street due to the historical buildings and staircases on the corners as well as high curbs and steep grades along the sidewalk. (2015-2017)
- **Pennsylvania Department of Transportation E01041 BHSTE Open End** – Principal responsible for quality assurance for all projects under this assignment. Oversaw the training process during the start-up phase of the RTMC, as KMJ prepared training materials and delivered customer service training for the RTMC technicians. As part of the Traffic Engineering, ITS, Congestion Management, and Incident Management Services Open-End contract, PennDOT sought to accomplish two goals: 1) staffing its newly formed Regional Traffic Management Center (RTMC) and 2) training its staff. As an RTMC, District 8 had 24/7 operations, coordinated with emergency management agencies, local police and fire, as well as, the public. As such, understanding basic customer service concepts, such as responsive communication, was necessary for the new staff members to provide knowledgeable, accurate, and reliable information to their customers. (2012)

- **City of Philadelphia Citywide Traffic Signal Retiming Initiative, City of Philadelphia Department of Streets** – Principal responsible for quality assurance for all projects under this assignment. Oversaw KMJ’s efforts providing analysis, data collection, data management, travel time and delay studies and other analyses conducted to compare conditions before and after traffic signal retiming for several major corridors within the City of Philadelphia. Bluetooth™ technology was used to conduct the evaluation. The City of Philadelphia seeks to improve mobility and the flow of traffic along 21 major corridors within the city. Signal retiming remains as one of the most cost effective ways to improve traffic flow, increase capacity, and reduce congestion. (2010-2014)
- **Pennsylvania Department of Transportation E02300 BHSTE-ITS Open End Agreement WO#1 & WO#7** – Principal responsible for quality assurance for all assignments under this work order. Two specific assignments associated with this project include the Traffic Signal Implementation Plan (WO#1) and Congested Corridors Program (WO#7). In the Traffic Signal Implementation Plan assignment, KMJ is supporting development of the “Pennsylvania Traffic Signal Maintenance and Operations Program.” In an effort to manage congestion on signalized arterials, PennDOT is exploring new ways to manage the signalized roadway system. In the Congested Corridors Program, KMJ is providing support in the identification of innovative and cost-effective solutions for congested corridors in PA applicable to signalized arterial corridors. (2011-2013)
- **Pennsylvania Turnpike Commission, GCE Contract No. 4400003106** – Principal in charge of preparing the 2015 **ITS Long-range Plan Update**. 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 Systems Management and Operations (TSMO) Plan. KMJ is supporting the **Emergency Transportation Operation Procedures (ETOP)** to develop a document that defines needed procedures, implements high priority actions, details the emergency transportation operations organizational structures, and assigns responsibilities to accomplish the PTC’s transportation emergency operations objectives. KMJ is also 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. KMJ is also conducting the **Emergency Call Box Removal Plan Analysis** to provide a recommended course of action to the PTC based upon wireless cell coverage gaps, critical infrastructure, CCTV camera locations and construction project limits. In addition, 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 Department of Transportation E02030 District 8-0 Maintenance and Traffic Units Open End Engineering Agreement** – Principal responsible for quality assurance. WO#2 to identify and summarize the Roles and Responsibilities of the PennDOT District 8-0 RTMC Staff to facilitate 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)
- **Pennsylvania Department of Transportation E01254/E02599 District 6-0 Traffic Signal/Safety Support** – Quality assurance officer responsible for overseeing the preparation of traffic signal permit

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drawings (both new permits and permit revisions), the preparation of traffic signal construction plans, as-built plans, traffic data collection and analysis, safety reviews, the preparation of interconnect/communication plans, coordinated signal system design, and additional consultation services on an as needed and assigned basis. (2007-2018)

- **Pennsylvania Department of Transportation E01271/ E02948 District 6-0 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 using E-ZPass technology 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. (2009-2018)
- **City of Philadelphia On-Call ADA Design & Construction, City of Philadelphia Department of Streets** – Principal responsible for quality assurance associated with KMJ’s role in the as-built reviews of 83 recently constructed curb ramps throughout the City of Philadelphia. The City of Philadelphia Department of Streets is undertaking a robust effort to evaluate recently constructed curb ramps within the City to ensure they are ADA compliant. As part of this work, field investigations were conducted to measure all controlling criteria needed to assess each ramp’s compliance with PennDOT and Streets’ Department ADA standards. This field work was performed using smart-levels and PennDOT’s CS-4401 form and developing photo logs. A Quality Control (QC) checklist was also completed noting general conditions, pedestrian access route, ponding, triangular landing area, detectable warning surface, cheek wall, step & handrail, and on-street parking. Summary sheets for each ramp work order were created indicating the compliance status of each ramp (Acceptable or Ramps in Need of Repair/Reconstruction). Where ramps were deemed in need of repair/reconstruction, deficiencies found from the field investigations were noted. Identified deficiencies can then be corrected by the contractor to ensure the curb ramps are ADA compliant. (2013-2016)
- **Pennsylvania Department of Transportation E02542 Roundabout Support, Lancaster County** – Principal responsible for quality assurance associated with KMJ’s role in this pilot study for locating roundabouts. KMJ’s tasks included identifying roadway locations in Lancaster County with congestion issues, crash history, and other safety concerns. The identified locations were ranked based on the Equivalent Property Damage Only (EPDO) value, similar to the process PennDOT District 8-0 uses to evaluate intersection improvements under the Safety Improvement Plan. Each identified intersection and corridor was then ranked based on the crash history, average daily traffic, congested corridors, posted speed limits, existing grades, existing intersection controls, potential for displacements, and the presence of 4(f) properties. Findings were summarized and presented in the “Lancaster County Roundabout Pilot Study” report. (2013)
- **Pennsylvania Department of Transportation Highway Occupancy Permit (HOP) Application Reviews (District 2-0: E01107/E02521; District 6-0: E01208; District 8-0 E01021/E02053/E02970)** – Responsible for quality assurance for these projects to review HOP applications, including traffic impact studies, signing and striping plans, 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. (District 2-0: 2007-2021) (District 6-0: 2007-2012) (District 8-0: 2007-2015)



- **Pennsylvania Department of Transportation E02033 Bucks & Montgomery Counties Land Use Study** – Project manager responsible for analyzing land use patterns, growth trends, environmental constraints and transportation needs. The Pennsylvania Department of Transportation (PennDOT) sought short and long-term transportation solutions in an area encompassing central Bucks and Montgomery Counties in the southeastern area of the state. From these exercises, a group of transportation recommendations was produced. (2010-2014)
- **Montgomery County Planning Commission PA 100 Controlled Access & Future Growth Study** – Principal 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)
- **City of Philadelphia On-Call Signal Integration, City of Philadelphia Department of Streets** – Principal responsible for quality assurance and quality control for all aspects of KMJ's involvement. The City of Philadelphia Department of Streets sought to integrate its existing signal system and implement an expanded Advanced Traffic Management System (ATMS). The City of Philadelphia has upgraded about 800 of its 3,000 traffic signals to Type 170 controllers. These upgrades will improve traffic signal coordination and mobility saving the driver both time and money. KMJ has developed and deployed a consistent, repeatable and fail-safe process to produce intersection graphics and representative phasing movements for each intersection. This consistent process-driven approach will save the City money and provide a top quality product. (2011-2013)
- **Pennsylvania Department of Transportation E01259 BHSTE Open End Agreement for Various Engineering Services and Environmental Studies - WO#7 ITS and Operations Planning Guidance** – Quality assurance officer responsible for the coordination with every PennDOT region and their associated planning organizations to document the current ITS planning practices. This combined with an investigative review of federal guidance and best practices was summarized in technical memorandums used to shape the ITS and Operations Planning Guidance Document. KMJ also completed the final review of the document to maximize the benefits of ITS and Operations through a standardized planning process. (2010-2011)
- **Pennsylvania Turnpike Commission, Traffic Engineering Services Open End, Contract No. 4400002182 WO#2 Service Plaza Dynamic Traveler Information Services, Statewide, PA** – Quality Assurance officer responsible for reviewing the work product that determined the state of practice for providing traveler information at service plazas along the Pennsylvania Turnpike. The work consisted of conducting meetings with internal stakeholders (e.g. Communications and Public Relations, Operations, Engineering, Legal/Concession Services, etc.), assessing the current and improved conditions of the service plazas from traveler information perspective, and providing recommendations for future implementations. (2011-2012)
- **Pennsylvania Department of Transportation E01040 BHSTE ITS Operations Support Services Incident Response Plan Development, Districts 6-0 and 11-0** – 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. (2011-2012)

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- **Pennsylvania Department of Transportation E01258 BHSTE Open End Agreement for Various Engineering Services and Environmental Studies – WO#6 Capitol Complex Emergency Evacuation Plan** – Principal responsible for oversight of data collection and assessment and analyses using VISSIM micro-simulation modeling tool in evaluating the efficiency and operability of the proposed Emergency Evacuation Plan for the Capitol Complex Area in Harrisburg, PA. Conclusions on the evaluation and the recommended improvements were presented in a report to PennDOT. (2012)
- **Delaware Department of Transportation Traffic Impact Study Services (Agreements 1528 & 1654-1655)** – Project Principal/QA officer for these traffic impact study reviews. This work includes data collection, field verification of intersections, development/review of current and projected traffic volumes, and analysis/review of existing and future traffic conditions both with and without the proposed site to identify potential impacts as a result of the development. In-depth investigations of the Synchro and/or HCS analyses will also be completed by KMJ staff to ensure proper modeling of the traffic operations. A list of recommendations is developed for the Final TIS review letter. (2013-2016)
- **Salvation Army Kroc Center Signal Warrant Analysis and Signal Design, City of Philadelphia Streets Department** – Quality Assurance Officer responsible for the traffic impact assessment, signal warrant analysis, and traffic signal design at the main entrance of the 130,000 square foot Joan Kroc Community Center. The Kroc Center doubles the assistance the Salvation Army provides by including programs addressing the economic, educational, health, recreational and spiritual needs of the regional community. A new driveway along Wissahickon Avenue was required to provide access to the center. As such, The City of Philadelphia required a traffic study to document the need for a traffic signal as well as the design of that traffic signal. (2010)
- **Overbrook Farms Traffic Study and Transportation Plan, Philadelphia, PA** – Project Manager 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)
- **USDOT Road Weather Management Performance Metrics Development** – Principal responsible for quality assurance. The goal of this performance metrics project was to define a set of hypotheses and performance metrics and test those hypotheses with respect to road weather information to enhance safety, capacity and efficiency and minimize environmental impacts. The implementation of these metrics will enhance and help determine the effectiveness of FHWA's Road Weather Management Program as applied to traffic management (including traveler information), maintenance management, emergency management, transit management, transportation system performance, and driver performance. Eleven performance metrics were culled from over 60 generated by consultant and advisory group efforts. (2007)
- **Delaware Department of Transportation (Agreement 1389) Traffic Eng & ITS Open End, Task Order 8 – Training** – Project Director and Trainer 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)

- **Systems Engineering Support for Deployment of Dynamic Message Signs on I-295, Maine Department of Transportation, Westbrook, ME** – Project manager who reviewed existing MaineDOT Statewide ITS Architecture, ITS Strategic Plans and other relevant documents; prepared a systems engineering requirements checklist in accordance with 23 CFR 940; and prepared a summary report to document how a proposed Dynamic Message Sign (DMS) Deployment Project was consistent with the systems engineering requirements. The checklist was prepared at the onset of the procurement process so that it could be applied as the acquisition and installation of the DMSs were carried out. The summary report linked the elements of the deployment to relevant aspects of systems engineering requirements and identified gaps. (2007-2008)
- **Project Management Oversight, Federal Transit Administration, New York City, NY** – Program Director providing Project Management Oversight support to Urban Engineers, Inc. for the Second Avenue Subway and other projects in New York City for the Metropolitan Transportation Authority, sponsored in part by the Federal Transit Administration of the U. S. Department of Transportation. This effort has included providing an on-site technical writing support function to review, format and quality check all outgoing documents as well as review of contract document control and configuration management implementation for compliance with Quality Implementation Procedures. Current KMJ tasks include project schedule and risk assessment analyses. (2005-2020)
- **Project Management Oversight, Federal Transit Administration, Various Locations** – Conducted construction safety assessments, quality assurance and quality control assessments, construction progress reviews and updates for major transit projects in FTA Regions 1 and 4. Projects ranged from one-mile trolley expansions to major system-wide upgrades and vehicle procurements involving interface with FTA headquarters, regional and local grantee agencies. Technical reviews included station/pedestrian/traffic conflicts, assurance of Transit ITS standards and inclusion of relevant ITS elements in new transit projects. Specific applications included automated vehicle location (AVL), system wide radio, computer-aided dispatch and various transit signal and vehicle procurements. Grantees included: Massachusetts Bay Transportation Authority, Washington Metropolitan Area Transit Authority, Memphis Area Transit Authority, and Hillsborough Area Regional Transit Authority. (1999-2002)
- **Pennsylvania Department of Transportation E00692 District 8-0 ITS Open End, Harrisburg Area ITS Oversight** – Project Manager for the review of contractor submittals related to testing and training for the PennDOT Engineering District 8-0 Traffic Management Center (TMC) and ITS deployment. Project activities included performing reviews of manufacturers' factory acceptance and site acceptance testing procedures for dynamic message signs, closed circuit TV, and highway advisory radio systems for PennDOT. The reviews analyzed compliance of the manufacturers' testing plans with relevant PennDOT procurement specifications and pointed out any deficiencies and omissions in those testing plans. The reviews also suggested improved testing procedures when warranted. The team also witnessed the final system acceptance testing at the TMC. (2007-2012)
- **Pennsylvania Department of Transportation RFQ 06-09 (C08) BHSTE 511 Support** – Project Manager responsible for providing technical support to the Department's 511 deployment team, including 511 best practices related to system features, procurement mechanisms, public-private partnership activities and marketing. This effort also involved leading the (internal and external) stakeholder involvement process to ensure that relevant issues were addressed during the project development process. (2007-2008)

- **Bucks County Regional Traffic Study, Delaware Valley Regional Planning Commission, Bucks County, PA** – Project Manager to prepare the traffic calming feasibility study for 16 roadways in Bucks County, PA based on previously performed data collection and traffic engineering and safety studies. Ms. Jehanian planned for and participated in public meetings and testified during the public hearing. The PennDOT publication 383 as 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. (2007)
- **Long-Range ITS Plan and Architecture, Pennsylvania Turnpike Commission, Statewide, PA** – Project Manager responsible for assisting in the preparation of a long range ITS Plan and Statewide Architecture for the PTC, both requiring consensus among the various PTC departments on their programmatic ITS priorities. KMJ conducted stakeholder workshops and interviews to ascertain the ITS needs of all internal and external stakeholders of the PTC. KMJ also developed a moderator guide which addressed ITS needs, goals and assumptions for ITS initiatives, and lessons learned from prior ITS implementations. KMJ conducted a workshop to validate the responses and rank the needs and prepared a report. (2007)
- **Erie County 2030 Transportation Plan Review, Erie County, Erie, PA** – Project Manager responsible for the review of the existing Erie County 2030 Transportation Plan, adopted on November 19, 2003, to prepare for an update to comply with SAFETEA-LU and related regulations contained in 23 CFR 450.314 et al. The review was conducted in two major sections: 1) Comparison of subjects covered in the existing Erie Transportation Plan to mandated, minimum elements of a Transportation Plan as set forth in Section 6001 of SAFETEA-LU; and, 2) Specific, additional Plan components or adjunct documents required by SAFETEA-LU. (2006)
- **Bringham Street Traffic Study, Germantown Friends School, Philadelphia, PA** – Project Manager for a number of studies conducted in conjunction with the Germantown Friends School (GFS) Master Plan and implementation thereof, including transportation master planning, parking, and general traffic operations studies. The latest project was a traffic study to assess the impacts of relocating one of the GFS parking facilities, including presentations at community meetings and zoning board of adjustment. (2006)
- **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. Jehanian coordinated the transportation modeling process with the Delaware Valley Regional Planning Commission (DVRPC). This program was one of the first federally streamlined projects in the nation and the second EIS to be completed for PHL to address airside capacity. (2007)
- **Transportation Finance Needs Assessment, Delaware Valley Regional Planning Commission, Statewide, PA** – Served as Project Manager on this assignment to identify and project transportation needs for the Pennsylvania region. By inventorying peer regions, KMJ identified best practices in finance revenue and expenditures reporting. (2006)

- **Zoning Board of Adjustment – Expert Testimony, Keystone Outdoor Advertising Company –** KMJ Consulting, Inc. has provided expert testimony with regard to driver distraction for outdoor advertising signs, both static and electronic. Ms. Jehanian has testified before the Philadelphia Zoning Board of Adjustment in the matter establishing that static billboard advertising signs do not cause significant driver distraction and that there is no cause and effect between these signs and traffic accidents. (2006)
- **A Course in Practical Traffic Engineering Concepts, Delaware Center for Transportation, DE** – Prepared and conducted 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. All course print materials and PowerPoint presentations were prepared by KMJ's in-house staff. These courses were given to Delaware Department of Transportation staff as part of their on-going in-house training program. (2004)
- **South Carolina Advanced Traveler Information System, South Carolina Department of Transportation, Statewide, SC** – Project Manager responsible for the *Review the National ATIS Status* task which involved the review of the guidelines and state-of-the-practice of ATIS on a national level addressing such issues as existing best practices, lessons learned, existing private participation in ATIS on a national level, and future technologies. This effort included both a literature review as well as an interview process with operators of existing ATIS systems. The research was summarized in a technical memorandum. (2004)
- **Transportation Improvement Needs Analysis, City of Corry, Southeast Erie County, PA** – Served as Project Manager responsible to identify and document potential funding sources for this transportation improvement project in PennDOT's District 1-0, Erie County. The effort included conducting interviews and research to determine the applicable funding sources and availability of funding. Both traditional and non-traditional funding sources were uncovered as part of this effort. (2001)
- **Robert Morris Hotel Traffic Engineering Services, 1701 Partners LP, Philadelphia, PA** – Principal in charge responsible for oversight of conceptual improvement plan to graphically illustrate the final design studied within the traffic study. Development of the historic Robert Morris Hotel required a passenger loading zone along 17th Street, between the Benjamin Franklin Parkway and Arch Street. The passenger loading zone would reduce 17th Street from three lanes to two lanes. KMJ gathered necessary traffic data, modeled the study area using SYNCHRO/SimTRAFFIC, made signal timing modification recommendations and produced a letter report to the City of Philadelphia Streets Department to summarize the analyses and conclusions. (2008)
- **223 Washington Square Loading Dock Analysis, Turchi Inc., Philadelphia, PA** – Principal in charge responsible for ZBA testimony, report preparation and overseeing the evaluation of the roadway network and its ability to support delivery and service traffic to and from a proposed loading dock in the Washington Square district of Center City Philadelphia. KMJ completed turning radii analyses and illustrative plans using Bentley's Microstation and Autoturn software packages. The letter report included an evaluation of intersection sight distance relative to AASHTO and City of Philadelphia Streets Department requirements. Expert testimony before the City's Zoning Board of Adjustment was provided relative to the loading dock, truck access and vehicular parking. (2008)



- **Integrated Network for Transportation Information (INTI), ITS America, Washington, DC** – One of a team of consultants to ITSA to define the INTI conference, its goals, outcomes and procedures. The team prepared relevant white papers and organized and conducted the technical program for this groundbreaking conference to set the pace for the transfer of information in America. The white papers prepared by KMJ discussed the relevance and business model for the Cable television industry in America. As a follow up to the conference, the team compiled the outcomes and prepared a summary paper to ITS America for its use. (2000)
- **Transportation Management Plan, Doylestown Borough, Doylestown, PA** – Conducted a transportation management study for the borough with the main emphasis on traffic calming within the borough. The study process included planning and conducting two public meetings/workshops to present and discuss the traffic calming toolbox and transportation management process. Integral to this effort was the identification of traffic and pedestrian patterns. The following outputs were generated by the study: Existing Conditions Overview, Gateway Analysis and Strategies, Local Issues and Recommendations, Traffic Calming Toolbox for Doylestown Borough, Transportation Management Process, Funding Sources, Priorities, and Timeline. (2000)
- **Parking Feasibility Study, Enterprise Center, Philadelphia, PA** – Conducted a parking feasibility and transportation study for the expansion of this business incubator, commercial, and retail center in West Philadelphia. The parking feasibility was assessed as part of a regional transportation hub to provide parking and other amenities to increase the use of transit and attract development to the area. (1999)
- **Parking and Circulation Study, Germantown Friends School, Philadelphia, PA** – Conducted a parking and circulation analysis in conjunction with campus master planning effort. This included an analysis of the traffic and pedestrian patterns at the intersections bounding the main campus. In addition, internal pedestrian travel patterns were evaluated to master plan future access and travel ways into and within the campus. Detailed analyses were conducted to establish the level of parking existing and required by the user group. In addition, the drop-off and pick-up activity was documented and estimated for future uses and opportunities for relocation. (1999)
- **Route 10 Trolley, SEPTA, Philadelphia, PA** – As Project Manager, led the effort to conduct a two-phased project to first design improvements at two isolated intersections along SEPTA's Route 10 trolley line and then evaluate the ability to improve transit travel time through a variety of traffic signal timing modifications. The Route 10 trolley is a light rail line that operates with vehicular traffic, moving on the green signal for the vehicular traffic. The study purpose was to evaluate trolley pre-emption and/or techniques, such as relocation of trolley stops, to improve the trolley travel time along this route. To facilitate the analysis, the TRAF-NETSIM software simulation package was customized to enable the analysis to simulate, animate, and analyze the integrated traffic and trolley operation.
- **Traffic Calming Circle Evaluation for the Shippan Avenue Corridor, City of Stamford, Stamford, CT** – Project Manager for this corridor-wide assessment of traffic calming needs in the City of Stamford. Ten intersections were evaluated to determine their eligibility for traffic calming measures. Criteria included sight distance, accident history, road width, traffic control, and distance to the next intersection. The criteria established as part of this effort were used citywide. Traffic calming circles were designed and implemented at two of the locations evaluated as part of this study.
- **Transportation Master Plan, Brigham and Women's Hospital, Longwood Medical Area, Boston, MA** – Served in a lead technical role in the preparation of a transportation master plan for this hospital.

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The study included an origin-destination survey using multilingual mail back questionnaires, the evaluation of pedestrian travel and vehicular travel, and an identification of the hospital's demographics. Modes split and vehicle occupancy rates were calculated for all categories of institution users. This information was used to project future travel demand for all modes. The result was an overall transportation master plan to carry Brigham and Women's Hospital through the 1990's. Also involved in a similar project for the Harvard Medical School in the Longwood Medical Area.

- **User Needs and Marketability, I-95 Corridor Coalition, Pennsylvania Turnpike Commission** – Project Director for this study to identify the information needs of travelers within the I-95 corridor, the market for this information, and the institutional issues or barriers related to providing this information to the traveling public. Conducted focus groups, individual interviews, and numerous meetings in cities along the I-95 Corridor as part of this market research study. Surveys, analysis, and market potential of information services for transit, rail, air, and auto travelers were conducted. The I-95 Corridor Coalition is a consortium of transportation agencies from Maine to Virginia interested in providing a seamless intermodal transportation system for travelers in the corridor.

#### **Publications:**

Young, S.E., Serulle, N.U., **Jehanian, K.M.**, Nair, R., Schoener, G., “Challenges to Effective Arterial Traffic Monitoring: Lessons from the I-95 Corridor Coalition’s Vehicle Probe Project,” Presented at the 18<sup>th</sup> Annual ITS World Congress, Orlando, FL October 16 to October 20, 2011.

**Jehanian, K.M.**, Hobeika, A.G., “Using ATIS Data to Enhance Highway Mobility Performance Measures’ Calculations,” Presented at the 12<sup>th</sup> Annual Meeting and Exposition of the Intelligent Transportation Society of America, April 29 to May 2, 2002, Long Beach, CA.

**Jehanian, K.M.**, Solarz, R.G., Davis, J.H., “Balancing Mobility Needs and Community Issues Using Traffic Calming Techniques,” presented at the ITE 70<sup>th</sup> Annual Meeting, August 6-9, 2000, Nashville, TN, and published in the proceedings.

Habesch, N.O., Awadallah, F., **Jehanian, K.M.**, “Video Image Processing – A Technology Evaluation for Freeway Applications,” presented at the 6<sup>th</sup> Annual ITS World Congress, Toronto, Canada (November 6 through 9) and published in the proceedings.

Habesch, N.O., **Jehanian, K.M.**, Awadallah, F., “Evaluation of Wide Area Detection Systems,” presented at the Rural Advanced Transportation and Technology Showcase, 1998 International Conference (August 31 to September 2, 1998) and published in the proceedings.

Habesch, N.O., **Jehanian, K.M.**, Ziemer, K.D., “An Evaluation of Philadelphia’s Satellite Communications Demonstration Project – The Mobile Platform,” presented at the ITE 68<sup>th</sup> Annual Meeting, August 9-12, 1998, Toronto, Ontario, Canada and published in the proceedings.

Ivanovic, M., **Jehanian, K.M.**, Ziemer, K.D., “ITS Technology Evaluation LED Based Variable Message Sign Intensity Testing,” IMSA Journal, July-August, 1997.

**Jehanian, K.M.**, Sha’aban, A.M., Gangisetty, R., “Advanced Technology for Incident Management” presented at the American University of Beirut’s Rehabilitation and Development of Civil Engineering Infrastructure Systems (June 9 - 11, 1997) and published in the proceedings.

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Hobeika, A.G., Sivanandan, R., **Jehanian, K.M.**, Ameen, M., “ATIS Users’ Needs in the I-95 Northeast Corridor,” TRB Research Record 1537, Washington, D.C, 1996.

Ameen, M.D., Hobeika, A.G., Jehanian, K.M., and Sivanandan, R., “User Needs in the I-95 Northeast Corridor,” ITS Quarterly, Spring 1996.

Gangisetty, R. and **Jehanian, K.M.**, “Can VSATs Unlock Gridlock?” Satellite Communications Magazine, May 1995.

Habesch, N.O., and **Jehanian, K.M.**, “Philadelphia’s Satellite Communication Demonstration Project” presented at the Fifth Annual ITS America Meeting in Washington D.C. (Mar. 15 - 17, 1995) and published in the proceedings.

Sha’aban, A.M., **Jehanian, K.M.**, Gangisetty, R., and Hobeika, G., “The Mobile Satellite Communication Platform for Incident Management” presented at the First World Congress on Applications of Transport Telematics and Intelligent-Vehicle Highway Systems in Paris (Nov. 30 - Dec. 3, 1994) and published in the proceedings.