YUNG KOPROWSKI, PE, PTOE

SUMMARY:

Yung Koprowski has specialized in the traffic and transportation fields since 2007. She believes transportation is key to economic development and improving public health. She has a passion for improving the way people move throughout Arizona communities, whether by foot, bike, bus, or car.

Yung's professional experience is focused on traffic engineering and transportation planning, specifically in safety, intelligent transportation systems (ITS), traffic operations, and active transportation (walking, biking, transit). She has actively managed, participated in, and successfully completed numerous studies and designs involving the towns and cities of Avondale, Buckeye, Carefree, Cave Creek, Gilbert, Glendale, Mesa, Peoria, Phoenix, Surprise, Scottsdale, Tempe, and Queen Creek as well as for ADOT, MAG, MCDOT, PAG, NCHRP, and Yavapai County.

EXPERIENCE:

February 2017 to Present Y2K Engineering, LLC, Principal

Yung launched Y2K Engineering to be a role model for women. Running her own company also allows her to serve clients and colleagues with a high level of purpose and well-being. Yung is well-organized and self-manages to stay on top of deadlines. She has held leadership positions in many professional organizations and possesses strong local recognition.

December 2009 to February 2017 Lee Engineering, LLC, Project Manager

Yung led project and contract pursuits, performed business development activities, and maintained client relationships. She effectively delegated tasks to staff of all experience levels. Yung provided technical leadership, support, and quality control oversight on a broad range of traffic and transportation projects.

January 2007 to December 2009 – Morrison Maierle, Inc., Traffic Analyst

Yung prepared traffic impact analyses, safety studies, and signal timing models. Traffic impact analyses include trip generation studies, future projections, and detailed figures. Reports illustrated signal and signage configurations along with lane configurations for clients' proposed

EDUCATION AND TRAINING:

B.S., Civil Engineering, Cum Laude, Arizona State University, Tempe, Arizona, January 2008

Leadership in Engineering Administration Program, American Council of Engineering Companies, Phoenix, Arizona, Class of 2011

Road Safety Audits and Road Safety Audit Reviews, National Highway Institute, Tucson, Arizona, 2014

AREAS OF EXPERTISE:

- Traffic Engineering
- Traffic Operations
- Transportation Planning
- Transportation Studies
- Corridor Improvement Studies
- Intersection and Corridor Design Concepts
- Road Safety Assessments
- Safety Studies
- Systems Engineering
- ITS Design
- Bike & Pedestrian Design
- Bike & Pedestrian Studies
- Before & After Evaluation
- Origin-Destination Studies

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projects. She managed various projects and met with clients to fully understand their needs. She directed co-workers to facilitate project completion, performed business development activities, and attended selection interviews.

PROJECTS:

City of Scottsdale Photo Enforcement Evaluation, City of Scottsdale, AZ – Project Manager. The City of Scottsdale has been using photo enforcement technology since 1996 to reduce crashes related to red-light running at signalized intersections and speed-related crashes on arterial roadway segments. Yung managed a project to conduct a before and after collision analysis of all enforcement locations and control sites. The analysis, which is being used to inform decision making with city officials, indicates that Scottsdale's implementation of photo enforcement is having a positive safety impact by reducing crashes at enforced locations and may also be having a positive safety impact on nearby intersections.

Pedestrian Safety Action Plan Update, ADOT, Statewide, AZ – Project Engineer. Assisted with the update of the statewide PSAP to identify practical and achievable strategies to reduce the frequency of pedestrian-motor vehicle crashes, fatalities, and injuries on the state highway system. Yung led the crash analysis effort using the Pedestrian and Bicycle Crash Analysis Tool (PBCAT) to assess geographic, demographic, trends, contributing factors, and characteristics to pedestrian crashes on the State Highway System. She assisted with review of high crash and high risk locations and development of countermeasures where they will provide the most benefit.

Corridor Profile Studies: I-17: SR 101L to I-40 and I-40 East to New Mexico Border and I-10 / SR 85, ADOT, Statewide, AZ – Project Engineer. These studies use a performance-based process to define baseline corridor performance, diagnose corridor needs and deficiencies, develop corridor solutions, and prioritize strategic corridor investments. Yung reviewed safety and mobility performance data on the corridors and provided expertise regarding system modernization techniques that enhance safety, improve mobility, and enhance reliability via safety countermeasures, active traffic management, traveler information, and bottleneck reduction.

RTSIMS User's Manual Development, Maricopa Association of Governments, AZ – Project Manager. Yung developed a comprehensive User's Manual for RTSIMS that would enable any new user, with sufficient knowledge of crash data variables, to become proficient in using this software to perform crash analysis. The User's Manual addresses how to utilize standard and custom reports to construct queries based on crash data variables in the ALISS database.

Strategic Transportation Safety Plan, Maricopa Association of Governments, Maricopa County, AZ – Project Engineer. Yung served as a Project Engineer, in association with Texas A&M Transportation Institute, to prepare the comprehensive update of the 2005 Strategic Transportation Safety Plan (STSP). Yung participated in all facets of the project including stakeholder involvement, research, crash analysis, and preparing the data-driven, multi-year comprehensive plan. She conducted the crash analysis to determine the current state of transportation safety in the region using MAG's RTSIMS crash analysis tool. The STSP allows MAG safety programs and member agencies to work together in an effort to align goals, leverage resources and collectively address the region's safety challenges. The 2015 MAG STSP identifies 47 strategies and initiatives for eliminating transportation fatalities and serious injuries in the region.

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Safety Improvement Project Assessments, City of Phoenix, AZ – Project Manager. Yung prepared two formal Project Assessments with 15% schematic design plans for signalized intersection locations where RSAs identified specific safety improvements to apply for HSIP funding. Improvements included signal timing changes, bus stop enhancements, ADA, PROWAG, and MUTCD compliance, and reconstructing corners to shorten pedestrian crossings.

Road Safety Assessments, Maricopa Association of Governments, Phoenix, Glendale, Buckeye, Queen Creek, AZ – Project Engineer. Yung coordinated, participated in, and documented three formal road safety evaluations of signalized and STOP-controlled high risk intersections within two-mile roadway segments. Primary concerns and observations include high pedestrian activity, the area becoming urban in nature, negatively offset left-turns, lack of pedestrian infrastructure, unprotected drainage structures, and lack of roadway lighting. Primary opportunities included numerous signal and infrastructure improvements to enhance the pedestrian experience, access control, and roadway lighting.

Road Safety Assessments, Pima Association of Governments, Pima County, AZ – Project Engineer. Yung coordinated, participated in, and documented three formal road safety evaluations of signalized and STOP-controlled high risk intersections within two-mile roadway segments. Primary concerns and observations include high pedestrian activity, the area becoming urban in nature, negatively offset left-turns, lack of pedestrian infrastructure, unprotected drainage structures, and lack of roadway lighting. Primary opportunities included numerous signal and infrastructure improvements to enhance the pedestrian experience, access control, and roadway lighting.

Transportation Master Plan Update Assistance, City of Scottsdale, AZ – Project Manager. Yung served as extension of staff to develop web-based content for public involvement, perform specific topic research of value to the Plan preparation, and provide review of the Transportation Plan Update in relation to compatibility with neighboring jurisdictions and for general compliance with Federal, State, and Regional laws and requirements.

Unsignalized Intersection Information Guide, NCHRP 03-104, U.S.A. – Project Engineer. Yung provided technical support, as a subcontractor to VHB, to develop a guide for state and local agencies to identify treatments to improve the safety, mobility and accessibility of unsignalized intersections for all users (trucks, automobile drivers and other motorists, bicyclists and pedestrians). Yung is a contributing author and has presented information about the Guide at several technical meetings throughout the Southwest.

24th Street Bike Lanes Feasibility Study, City of Phoenix, AZ – Project Manager. Performed scoping and design for the addition of bicycle facilities on 24th Street from Van Buren to Magnolia (south of I-10). 24th Street crosses light rail, heavy rail, borders the airport, and has a freeway interchange on this corridor. This project required coordination with Union Pacific Railroad, ADOT, and the Phoenix Aviation Department. A recommended build option for bicycle facilities along 24th Street was documented in a design concept report accompanied by 15% plans.

Main Street Separated Bike Lanes and Complete Streets, Maricopa Association of Governments, City of Mesa, AZ – Project Manager. Developed a Project Assessment (PA) and 15% design concept for bike lanes physically separated from automobile traffic on Main Street between Gilbert Road and Power Road with enhanced landscaping and buffered sidewalks to create a safe and comfortable environment for all roadway users. Two preferred alternatives were selected and analyzed in detail from an initial nine design concepts.

AASHTO U.S. Bicycle Route System, ADOT, Statewide, AZ – Project Engineer. Served as Project Engineer for the identification and analysis of U.S. Bicycle Routes within the Phoenix metropolitan area. During this project Yung worked to evaluate route alternatives; garner stakeholder and agency input regarding route alternatives; and secure resolutions and letters of support from jurisdictions along the route. Routes 90 achieved USBR designation in 2015.

Comprehensive Bicycle Master Plan, City of Phoenix, AZ – Project Engineer. Developed a comprehensive 20-year Bicycle Master Plan to establish priorities for bicycle facility improvements throughout the City of Phoenix. The project involved public input through a series of meetings and an online interactive map, along with external and internal agency input to identify missing bicycle facility links within the community and prioritization of bicycle facility needs. The Bicycle Master Plan was adopted by City Council in November 2014 and Phoenix voters approved a sales tax increase in August 2015 that is anticipated to implement the bicycle infrastructure projects identified.

83rd Ave & TBird Rd Intersection Imp – Study, City of Peoria, AZ – Project Manager. Performed an evaluation of the Thunderbird Road corridor including SR 101, 84th Avenue, and 83rd Avenue to recommend improvements for capacity, safety, efficiency, access, and traffic control. The primary purpose of the analysis was to identify the best capacity improvement for the 83rd Avenue and Thunderbird Road intersection by evaluating the existing peak traffic demands under various improvement scenarios. Implementation of innovation signal timing strategies and ITS deferred over three million dollars in construction cost to widen the roadway.

Williamson Valley Road Traffic Study, Yavapai County, AZ – Deputy Project Manager. Conducted a traffic study on 11 miles of Williamson Valley Road to determine what safety, access, and mobility improvements may be needed for current traffic conditions as well as full build-out. The study identifies and prioritizes recommendations for improvements (intersection realignment, access control, signals, roundabouts) which provide the greatest safety and mobility benefits and/or cost savings to implement.

Addendum for the Congestion Management Process (CMP), Pima Association of Governments, Tucson, AZ – Project Manager. Yung served as the Project Manager to assist the Pima Association of Governments with enhancing specific areas of the existing 2010 CMP report and incorporating the latest CMP guidance provided by FHWA. The outcome of this project was the Addendum to the CMP, Performance Report, and a fully- functioning online data dashboard which will allow PAG and its local agencies to continually monitor performance measures and targets.

SVMPO 2016 Origin & Destination Study, Sierra Vista Metropolitan Planning Organization, Sierra Vista, AZ – Project Manager. This project provided the City of Sierra Vista and the Sierra Vista MPO with insights into cross border visitors from Mexico, their trip purpose, their origination/destination plans, their expenditures and store preferences, and other related information to assist Sierra Vista in attracting and expanding businesses within the City (as well as understanding the current economic impact of these visitors). Origin-Destination data was obtained from two waves of in- person surveys and three months of ARID Wi-Fi deployment which Yung coordinated permits for and installed herself.

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East Valley Arterial Travel Time Map, City of Mesa, AZ - Project Manager. Yung conducted the Systems Engineering Analysis and design of 130 anonymous Bluetooth™ / Wi-Fi re-identification sensors that expand the system within the City of Mesa, and introduce and install new systems to the City of Tempe and the Town of Gilbert. The deployment of these 130 sensors at traffic signal-controlled intersections allows the partnering agencies to monitor congestion on arterial roadways using travel time data obtained in real time.

Analysis of Bluetooth and Wi-Fi Technology to Measure Wait Times of Personal Vehicles at AZ-MX Ports of Entry, AZ – Project Manager. Analyzed the penetration rate of Anonymous Re-Identification (ARID) technology to measure wait time of U.S. and Mexico bound personal vehicles at six United States-Mexico Ports of Entry (POEs) in Arizona. The purpose of this study is for ADOT and stakeholders to have an understanding of ARID data collection technology, validity of measuring wait time at POEs, and recommendations on where to install permanent ARID technology, in priority order. Yung worked with the ADOT Office of P3 Initiatives and International Affairs on this project.

Anonymous Re-Identification Sensors to Detect Travel Time and Traffic Incidents, City of Mesa, AZ - Project Engineer. Yung prepared the Project Assessment (PA), Systems Engineering Analysis (SEA) and design (PS&E) for this ITS project involving the implementation of Anonymous Re- Identification (ARID) sensors at 82 intersections within the City of Mesa to automatically detect and alert traffic operations staff of a suspected crash or other unexpected incident or condition. The purpose of providing this travel time data collection system using ARID technology for the City of Mesa is to improve the ability to manage non-recurring events (e.g., crashes) and mitigate their adverse impacts.

Real-Time Adaptive Traffic Control System Evaluation, City of Mesa, AZ – Engineering Designer. Provided engineering design for project evaluating the system performance of Sydney Coordinated Adaptive Traffic Systems (SCATS) in the area of Superstition Springs Mall in Mesa, Arizona. Yung installed anonymous wireless address matching (AWAM) devices to collect travel time data as well as completed travel time runs using in-vehicle GPS receivers. She also provided technical assistance and performed analysis of travel time and delay data.

Non-Recurring Congestion Study, Maricopa Association of Governments, Maricopa County, AZ – Engineering Analyst. In association with Texas A&M Transportation Institute, conducted a study to determine the impact of Non-Recurring Congestion (NRC) on freeway and arterial traffic operations. The second study objective was to identify effective countermeasures that would help regain some of the lost road capacity due to NRC, thus reducing the immediate and very costly demand for the construction of new road capacity. Yung provided technical assistance, installed anonymous wireless address matching (AWAM) devices to collect arterial travel time data, and performed analysis of 76 arterial corridors.

West Side Adaptive Signals, City of Mesa, AZ - Project Engineer. Yung prepared the Project Assessment (PA), Systems Engineering Analysis (SEA) and design (PS&E) for an ITS project involving the implementation of adaptive signal control technology (ASCT) at 18 intersections within the City of Mesa to improve the overall efficiency of the roadway network surrounding Fiesta Mall and Mesa Community College.

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West Side Adaptive Signal Evaluation, City of Mesa, AZ - Project Manager. Yung performed a thorough field performance evaluation of the KITS KADENCE system in comparison to the City of Mesa's existing TOD timing plans already in use within the study area. Various measures of effectives (MOEs) pertaining to certain traffic conditions were observed, recorded, and calculated to serve as the basis of comparison. The findings and conclusions determined the value of the investment and whether the performance results merit expansion of additional applications within the City.

Bell Road Adaptive Signal Control Technology Systems Engineering Assistance, MCDOT - Project Engineer. Provided consulting assistance to the Maricopa County Department of Transportation (MCDOT) for this multi-phase System Engineering and Design project. Yung prepared the Concept of Operations, System Requirements, and the application that resulted in $2.5 million construction and $300K design awarded in Federal CMAQ funding for the installation of traffic adaptive signal control technology along Bell Road in Maricopa County, the cities of Surprise, Peoria, Glendale, Phoenix, and Scottsdale (Frank Lloyd Wright Boulevard).

USA/AA/SWA West Belly Air Cargo Facility and East Cell Phone Lot Relocation Analysis, City of Phoenix Aviation Department, Phoenix, AZ – Project Engineer. Yung collaborated with City of Phoenix Aviation Department in analyzing the traffic impacts of relocating the West Belly Cargo Facility and East Cell Phone Lot from their current locations to the northeast side of Sky Harbor International Airport. The analysis identified existing and future traffic demand of the facilities, determined if the existing infrastructure could accommodate the additional traffic demands, and recommended improvements to achieve satisfactory traffic operations.

ADOT Statewide DMS Master Plan, ADOT TTG, Statewide, AZ – Engineering Analyst. Conducted research and prepared a plan that revised urban freeway DMS criteria, identified future DMS locations within the Phoenix and Tucson FMS areas, updated the Statewide Rural DMS map sites. Yung performed the literature review of existing DMS criteria and created a master database and map of DMS locations. She prepared a report with new criteria and procedures for installing permanent DMS to be used as a guide by DMS designers on future projects. http://www.azdot.gov/Highways/TTG/PDF/DMS-Masterplan.pdf.

PUBLICATIONS:

1. Koprowski, Y., *"Bluetooth vs. GPS Travel Time Data,"* presented at Institute of Transportation Engineers 2012 Technical Conference and Exhibit, Pasadena, California, and published by the ITE Library, March 2012.

2. Larwin, T. F.; Koprowski, Y., *"Off-Board Fare Payment Using Proof-of-Payment Verification,"* Transportation Cooperative Research Program Synthesis 96, TRB, Washington, D.C., 2012. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_96.pdf

3. Unsignalized Intersection Improvement Guide (UIIG): Practical Guidance for improving the safety, mobility and accessibility at unsignalized intersections, on-line Guide supported by ITE, 2015. Prepared by VHB, with Dr. Hugh W. McGee as the principal investigator. VHB staff that developed technical content included Jonathan Soika, Rebecca Fiedler, Matthew Albee, Anne Holzem, and Kim Eccles. VHB staff that developed the website and Toolkit materials included Eric Vierra, Gaetan Siry, Jason Nicholson, and Jorge Quinones. VHB was supported by Michael Cynecki and Yung Koprowski of Lee Engineering, LLC and consultants Anthony Giancola, Frank Spielberg, and Capt. Glenn Hansen, http://www.ite.org/uiig/

4. Koprowski, Y. and Beckley, M., *"Analysis of Bluetooth and Wi-Fi Technology to Measure Wait Times of Personal Vehicles at Arizona-Mexico Ports of Entry,"* presented at Institute of Transportation Engineers Western District Annual Meeting and awarded Best Paper by a Young Professional, Albuquerque, New Mexico, July 2016.

SKILLS

- Microsoft Excel, Word, and PowerPoint
- Synchro
- AutoCAD
- Prezi
- Adobe Photoshop and InDesign
- Accident Location Identification Surveillance System (ALISS) Crash Data
- Bluetooth / Wi-Fi Anonymous Wireless Address Matching

AFFILIATIONS

- American Society of Civil Engineers (ASCE), Member, 2016 New Face of Civil Engineering Honoree
- American Society of Highway Engineers (ASHE), Member, 2015/2016 President
- Institute of Transportation Engineers (ITE), Member, Arizona Section Spring Conference Chair 2014-2017
- ITE Pedestrian and Bicycle Council Executive Committee 2011-2013
- Intelligent Transportation Society of Arizona (ITS Arizona), 2011/2012 President
- WTS Metropolitan Phoenix Chapter, Member

HONORS/SCHOLARSHIPS & AWARDS

- 2016 ASCE New Faces of Civil Engineering Professional Honoree
- 2010 ASHE National Board Younger Member of the Year
- 2010 ASHE Sonoran Section Younger Member of the Year
- 2009 ITE Transportation Consultants Council Young Professionals Scholarship Program Recipient
- 2008 ASCE EWEEK Engineering Student of the Year
- 2007 WTS Metropolitan Phoenix Sharon D. Banks Memorial Undergraduate Scholarship

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