

Copy

Statement of Qualifications

# Congestion Mitigation Air Quality Program

RFQ#16-011-28

Submitted to:



Shelby County, TN

Submitted by:

**Kimley»Horn**

January 2016

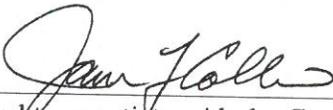
## Proposal Response Sheet

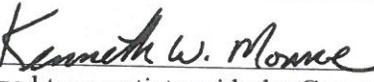
### Shelby County Government – RFQ #16-011-28 Congestion Mitigation Air Quality Program

Name of firm: Kimley-Horn  
Firm's Website: www.kimley-horn.com

Mailing Address:  
6625 Lenox Park Drive, Suite 117  
Memphis, TN 38115  
Phone: 901 374 9109  
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P.O. Box 932514  
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Payment Terms: N/A

Authorized Representative:  Print: James F. Collins, P.E.  
Signature (Person authorized to negotiate with the County on behalf of the organization/firm.)  
Email address: james.collins@kimley-horn.com

Authorized Representative:  Print: Kenneth W. Monroe, P.E., PTOE  
Signature (Person authorized to negotiate with the County on behalf of the organization/firm.)  
Email address: kenny.monroe@kimley-horn.com

The signature (s) above indicates that certifies that:

- (i) the Proposer's signatory is an agent authorized to submit proposals on behalf of the organization/firm;
- (ii) all declarations in the proposal and attachments are true to the best of reasonable knowledge;
- (iii) all aspects of the proposal, including cost, have been determined independently, without consultation with any other prospective Proposer or competitor for the purpose of restricting competition;
- (iv) the offer made in the proposal is firm and binding for 90 days after receipt of the proposal by the County; and
- (v) all aspects of this RFP and the proposal submitted are binding for the duration if this proposal is selected and a contract awarded.

Vendor # A0411 **(Required)** EOC #: EOC-V-0916-24713 **(Required)**

*If EOC certification was obtained through a Teaming agreement and the EOC number starts with a "T", please complete the next page. If this does not apply, disregard the next page.*

\_\_\_\_ Check here if you qualify as a MBE\_\_\_\_, HBE\_\_\_\_ or WBE\_\_\_\_ (Minority, Hispanics or Woman owned Business Enterprise) If so, please indicate the classification below:  
African American    Hispanic American    Asian American    Native American    Other \_\_\_\_\_

\_\_\_\_ Check here if you are a qualified LOSB (Locally owned Small Business) vendor. Certification for this status is received through the EOC Administration. *This is not a self-certifying classification.*

## Proposal Response Sheet

### Shelby County Government – RFQ #16-011-28 Congestion Mitigation Air Quality Program

Are you currently in an EOC Teaming Agreement? If so please complete the following:

Please name the firm you agreed to team with in order to be qualified to do business with Shelby

County Government: \_\_\_\_\_

You are aware that part of being approved with a “Teaming Agreement” you agreed to team with the certified LOSB identified on your agreement on “ALL” County projects? \_\_\_\_\_

Will this company participate in the completion of services for this proposal? \_\_\_\_\_

If not, why? \_\_\_\_\_

If you answered no to the above question, is your Teaming LOSB vendor aware that you are bidding on this project for the County? \_\_\_\_\_

Have you included another firm to participate in the completion of the services: \_\_\_\_\_

If so, who? \_\_\_\_\_

*(Include the complete business name, address, phone and contact person)*

Are they a certified LOSB with Shelby County? \_\_\_\_\_ Include LOSB# \_\_\_\_\_

**\*\*Please note that all of the information contained on this page will be used during the evaluation of the responses\*\***

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# General Requirements

## Cover Letter

January 7, 2016

Ms. Tosha Davenport, Purchasing Specialist  
Shelby County Government  
160 N. Main St. Suite 900  
Memphis, TN 38103

RE: RFQ #16-011-28

Dear Ms. Davenport and Members of the Selection Committee:

Innovative solutions are developed when the right team of creative people with relevant experience is focused on the challenge at hand. **Kimley-Horn** has carefully assembled such a team for Shelby County. We are committed to delivering exceptional service and innovative solutions that will make your Congestion Mitigation Air Quality (CMAQ) Program a success.

As you review our response to your RFQ, please consider the following benefits the Kimley-Horn team offers you:

***You get people with the right skill sets where and when you need them—keeping your project moving forward.*** The Kimley-Horn team members proposed for this project have worked together on more than 40 projects. Kimley-Horn has extensive experience in the areas of design, signal timing, and coordination with the Tennessee Department of Transportation (TDOT). With Kimley-Horn, you have access to a complete team of engineers working together to deliver the best solution for you.

**You'll get informed guidance on local standards, issues, and stakeholder concerns.** The Kimley-Horn team has worked with each municipality within Shelby County, bringing an understanding of agency dynamics that will ensure the projects move forward swiftly and with the appropriate coordination with all associated agencies. With Kimley-Horn, you get a team with superior local knowledge, relationships, and presence. We understand what it will take to manage your CMAQ program successfully.

**You get a trusted partner with proven success.** We are proud of our recent shared success with you on the last CMAQ program—the most successful of its kind in Tennessee. In addition, Shelby County and the proposed Kimley-Horn team members have previously worked together on multiple successful projects. You know you can count on us to deliver. With Kimley-Horn, you get peace of mind knowing that your goals will be met.

The Kimley-Horn team looks forward to the opportunity to continue the successful history we have experienced together.

Thank you for your consideration of our qualifications.

Sincerely,



James F. Collins, P.E.

Project Director

901 374 9109

james.collins@kimley-horn.com



Douglas A. Swett, P.E.

Project Manager

901 334 5330

douglas.swett@kimley-horn.com



## Firm Information

Kimley-Horn  
6625 Lenox Park Drive, Suite 117  
Memphis, TN 38115  
901 374 9109

## Point of Contact

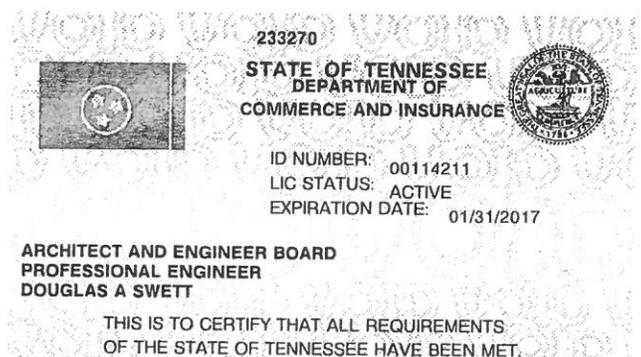
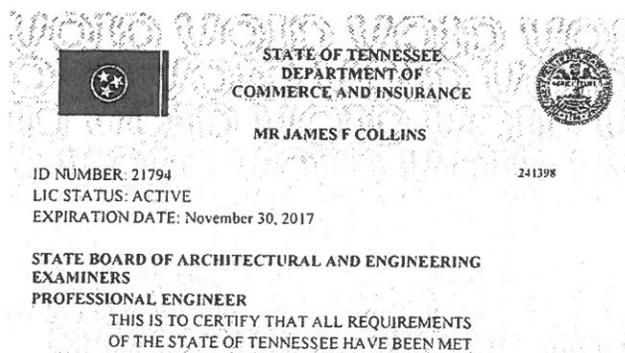
James F. Collins, P.E.  
Project Director  
901 374 9109 (office)  
901 832 6393 (mobile)  
james.collins@kimley-horn.com

## Title IV Compliance

Kimley-Horn commits to comply with the equal employment and affirmative action regulations of various federal, state, and local governmental entities, including Title VI of the Civil Rights Act of 1964 as amended. Our complete Equal Employment Opportunity And Affirmative Action Policy Statement is included on page 4.

## Proof of Engineering Licensure

Our project director, James Collins, P.E. and project manager, Douglas Swett, P.E. are registered professional engineers in Tennessee (#21794 and #114211, respectively). Scans of their licenses are below.



**EQUAL EMPLOYMENT OPPORTUNITY (EEO) AND  
AFFIRMATIVE ACTION POLICY (AAP) STATEMENT  
OF KIMLEY-HORN AND ASSOCIATES, INC.  
Effective May 1, 2015**

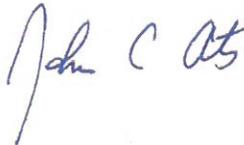
It is the policy of Kimley-Horn, and my personal commitment to provide fair and equal treatment of all current and prospective employees without regard to race, color, age, religion, sex, sexual orientation, gender identity, marital status, national origin, qualified disability, medical condition, or any other reason under applicable federal, state, or local laws. This commitment to fairness means that we provide equal opportunities in all areas of employment, including recruitment, selection, job changes, promotions, terminations, wages or other forms of compensation, benefits, training, and other privileges, terms, and conditions of employment. Kimley-Horn commits to comply with the equal employment and affirmative action regulations of various federal, state, and local governmental entities, including Title VI of the Civil Rights Act of 1964 as amended.

Similarly, the policy of Kimley-Horn is to provide fair and equal treatment in all areas of employment to disabled veterans, recently separated veterans, active duty wartime or campaign badge veterans, and Armed forces service medal veterans. Qualified employees also have all rights contained in the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended (VEVRAA) or its implementing regulations.

Kimley-Horn takes affirmative action to ensure that all employment practices are free of discrimination. A written Affirmative Action Plan is prepared annually to document responsibilities, implementation and dissemination plans, mechanism for internal monitoring, and goals. Any employee or applicant may receive a copy of the plan by contacting the Affirmative Action Officer.

Barry L. Barber, Senior Vice President, and Joy A. Pado, Vice President, have been designated as the firm's Title VI, EEO and Affirmative Action Officers and assigned overall responsibility for the coordination, implementation, and direction of the Affirmative Action Plan and EEO Program. The Board of Directors reviews the Affirmative Action Plan and regularly monitors performance against the plan. In addition, all other employees are expected to perform their job responsibilities in a manner that supports equal employment opportunity for all.

Any employee or applicant for employment who believes he or she has been treated in a way that violates this policy should contact their supervisor; a member of the Regional Human Resources team; Mr. Barber; Ms. Pado; or John C. Atz, President. Responsible parties will promptly investigate allegations of discrimination or harassment in a confidential manner, and Kimley-Horn will take appropriate action in response to these investigations. Any employee committing any discriminatory practice will be subject to discipline up to, and including, termination. We will not tolerate any retaliation against any employee or applicant for employment who raises a concern about a potential violation of this policy or provides any information in connection with any complaint.



John C. Atz, PE, CEO

5/1/15

Date

## ② Capacity to Perform Required Services

The Kimley-Horn team has an extensive portfolio of transportation related design projects nationwide. We offer Shelby County a comprehensive, industry-leading project team that will bring a balanced approach to your project.



Leading our team as project director will be **James Collins, P.E.** James has 37 years of experience in transportation planning, traffic engineering, ITS planning and design, roadway planning and design, and construction administration. His background includes a 12-year career with the City of Memphis, working as City Engineer, Deputy City Engineer, and Chief Street Design Engineer. This affords him a vast understanding of the issues faced by residents and businesses in an urban environment. James served as the project director or project manager for a group of City of Memphis traffic signal system projects and led the development of the Communications Master Plan and the Regional ITS Architecture. He also served as the project manager for the previous Shelby County CMAQ programs. James' broad range of experience will allow him to oversee the project progress and provide nationwide resources within Kimley-Horn for key tasks.



**Douglas Swett, P.E.** will serve as project manager and will handle the day-to-day communications with the County as well as be the primary point of contact with the TDOT Office of Local Programs. Douglas is a transportation engineer with nearly 10 years of experience. He has worked on a variety of projects, including traffic data collection, traffic impact analyses, traffic signal design, traffic signal system communication, and coordinated traffic signal timing. Doug's design experience includes transportation planning, traffic operations, signal timing, and traffic modeling throughout multiple cities in Shelby County, including Bartlett, Collierville, Germantown, Lakeland, Memphis, and Millington. For the Shelby County CMAQ projects, Douglas helped prepare National Environmental Policy Act (NEPA) documents, performed design and construction engineering services, and successfully led projects through the TDOT Local Programs process.



**Todd Jones, E.I.** will assist with tasks associated with data collection, preliminary engineering, final design, and bid book preparation. Todd is an engineering analyst specializing in transportation planning and traffic operations. His project experience includes design, bid phase, and construction phase services for traffic signal projects. Todd's emphasis is on traffic signal design, coordinated signal timing development and implementation, communications systems design, Americans with Disabilities Act (ADA) accessibility at intersections conforming to public right-of-way accessibility guidelines (PROWAG) standards, temporary traffic control plans, and managing multiple construction engineering inspection (CEI) projects based on TDOT Local Programs Guidelines. He is proficient in intersection and corridor-level traffic analysis software packages, including Synchro and Highway Capacity Software, as well as drafting software, Microstation V8i, and AutoCAD.



**Zhiyong Guo, P.E., PTOE, Ph.D.** will assist with tasks associated with signal system communications design, signal timing, and field fine tuning. Zhiyong offers 15 years of experience in traffic engineering and operations, travel demand and transportation network modeling, traffic signal and signal systems design, and coordinated traffic signal timing. He has experience working on more than 300 traffic signals in Shelby County in the area of new traffic signal design, signal modifications, interconnect, and signal timing. Zhiyong successfully managed a large group of traffic signal and signal system design, signal timing, and construction projects, including five concurrent signal system projects in the City of Memphis.



**Powers Hill Design, LLC (PHD)** will assist with preliminary engineering, NEPA, final design, and field fine tuning tasks. **Nisha Powers** has served as an engineering consultant in the Memphis community for 18 years. She has established a record of successful project management for critical infrastructure and community development projects. **Steve Hill, P.E.** has more than 30 years of engineering experience in the West Tennessee region. He has successfully completed projects involving planning, design and construction of expansions, improvements, and modifications to various public infrastructure, including roadways, drainage, and utilities. **Andrew Lutz, E.I.** has 2 years of experience in the West Tennessee region. During his time with the Center for Partnerships in GIS (CPGIS), Andrew worked on projects relating to stormwater system digitization. With the experience gained from this work, he developed several geodatabases that were incorporated into an all-new GIS intensive curriculum for the University of Memphis, Department of Civil Engineering. Andrew's experience also includes use of U.S. Census Bureau, Bureau of Transportation Statistics (BTS), Federal Highway Administration (FHWA), and various other transportation and environmental data in project planning and feasibility analyses. **Greg Deverell** is a civil designer with nearly 20 years of site development and transportation project experience. He is certified by the Tennessee Department of Environment and Conservation (TDEC) in Fundamentals of Erosion Prevention and Sediment Control for Construction Sites (Level 1) and Design Principles for Erosion Prevention and Sediment Control for Construction Sites (Level 2).



**P D C Services**

**Precision Data Collection Services (PDC)** will assist with data collection tasks. **Donna Emery** and **Jerry Blancett** each have 16 years of experience in traffic data collection and consulting. The duo specializes in traffic data analysis, computer generated studies, coordinating with engineering firms for collection of data, speed studies, travel time studies, and inventory and occupancy studies.

## 3 Qualifications

### Company Overviews

**Kimley-Horn** is one of the nation's premier planning and design consulting firms. We look out for your best interest, reduce your risk, and deliver great value. Our engineers, planners, and environmental scientists combine the creativity to develop insightful solutions with the rigor to deliver practical results that consistently exceed your expectations.

Since 1967, Kimley-Horn has delivered outcomes you can depend on—projects that can be successfully developed, permitted, and built on time and within budget.

With more than 80 offices from coast to coast, Kimley-Horn is your one-stop consultant for:

- Asset Management
- Aviation
- Environmental
- Integrated Water
- Intelligent Transportation Systems
- Land Planning
- Landscape Architecture
- Parking
- Roadway and Bridge
- Site Development
- Survey
- Technology
- Traffic Operations
- Transit
- Transportation

In each of these disciplines, we offer you practical solutions and premium levels of service.

Kimley-Horn is preapproved by TDOT to perform all the required services as outlined in the RFQ.



#### 2015 ENR Rankings

31	Top 500 Firms	10	Transportation – Highways
15	Top 100 Pure Design Firms	12	Water Treatment and Desalination
2	General Building – Multi-Unit Residential	15	Mass Transit and Rail
1	General Building – Retail	12	Transportation
8	Transportation – Airports	12	General Building
		22	Water Supply

Source: McGraw-Hill's *Engineering News-Record*; based on total annual fees

**Powers Hill Design (PHD)** was established in September 2005 in Memphis. The firm provides services for public and private sector clients, including site planning and development, grading and drainage design, roadway design, utility design, erosion control, traffic control, environmental/NEPA documentation, and public involvement, specializing in context-sensitive solutions. Other services include zoning and site development applications. PHD also serves as an advisor to local governments, providing strategic counsel and technical guidance for infrastructure and community development projects.

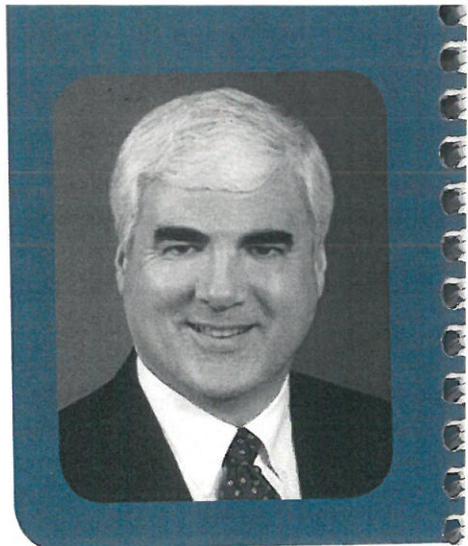
PHD's core business is civil engineering related specifically to all aspects of municipal government operations. With a project history that covers streets, drainage, land development, utilities, and site engineering, the firm has extensive experience designing and delivering public works projects that form the backbone of a city. That experience includes technical expertise along with an understanding of project design and delivery methods that are specific to local government.

**Precision Data Collection Services (PDC)** is a highly responsive, professional traffic data collection firm founded in 2002. The firm consults on all aspects of projects dealing with the movement of vehicles and pedestrians, including 24-hour machine counts, classification counts, turning movement counts, speed studies, travel time studies, origin-destination studies, pedestrian counts, inventory, and occupancy counts.

PDC's experience, motivation, and drive for excellence has helped maintain their reputation as a leader in the data collection field. The firm constantly updates their equipment and technology to provide professional, accurate, and timely service to their clients.



Please refer to our related project experience (pages 31-38) and resumes (pages 10-29) for more information about team's services and capabilities. In addition, resumes highlight each team member's role within our overall organization. A comprehensive organization chart is included on page 50.



**PROJECT DIRECTOR**  
James Collins

**PROJECT MANAGER**  
Douglas Swett

TASKS

**1 PROGRAM MANAGEMENT**  
James Collins; Douglas Swett

**2 DATA COLLECTION**  
Douglas Swett; Todd Jones; Donna Emery; Jerry Blancett

**3 NEPA/PRELIMINARY ENGINEERING**  
**TDOT Point of Contact** — Douglas Swett  
**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell  
**NEPA** — James Collins; Douglas Swett; Nisha Powers; Steve Hill

**4 FINAL DESIGN**  
**Final Design** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell  
**Bid Book Preparation** — Douglas Swett; Todd Jones  
**Bid Phase Services** — Douglas Swett; Todd Jones

**5 SIGNAL TIMING AND FIELD FINE TUNING**  
**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones  
**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones; Steve Hill; Andrew Lutz

# James F. Collins, P.E. | Project Director



## PROFESSIONAL CREDENTIALS

Bachelor of Science, Civil Engineering,  
University of Memphis, 1978

Professional Engineer in Tennessee, Mississippi,  
and Arkansas



## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Institute of Transportation Engineers

National Society of Professional Engineers

## RELEVANT EXPERIENCE

*James served as project manager, principal-in-charge, or QC/QA reviewer on the following projects.*

Congestion Management Program, Shelby County, TN

Poplar Avenue at International Drive Traffic Signal Design, Memphis, TN

CMAQ Signal System Design, Years 1 and 2, Memphis, TN

CMAQ Year 3 Poplar Avenue/East Parkway/Park Avenue Signal System Network, Memphis, TN

STP Winchester and Northwest Coordinated Traffic Signal System CEI Services, Memphis, TN

Poplar Avenue at Byhalia Road Traffic Signal Design, Collierville, TN

STP Isolated Traffic Signal Design, Memphis, TN

Regional ITS Architecture and Deployment Plan Update, Memphis, TN

TDOT Transportation Systems Management and Operations Program Plan, Statewide, TN

Veterans Parkway, Millington, TN

TDOT, Chattanooga SmartWay ITS System Expansion System Engineering Analysis, Chattanooga, TN

Intersection Improvement Planning and Design Services, Clarksville, TN

Memphis Urban Area MPO, On-Call Planning Services/Congestion Management System Monitoring, Memphis, TN

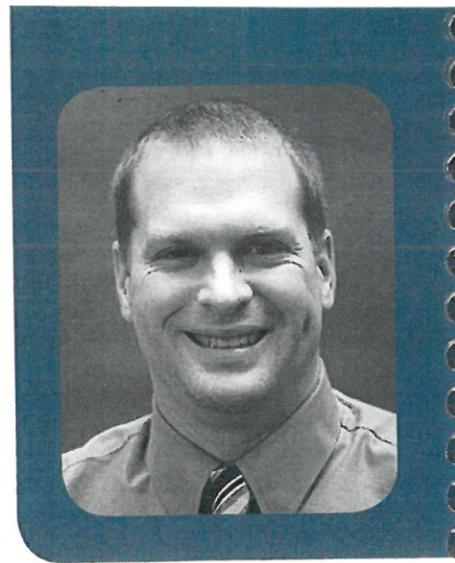
Roadway Widening and Streetscape Improvements to Elvis Presley Boulevard, Memphis, TN

TDOT, Traffic Signal System Feasibility Study and Design, Clarksville, TN

Memphis Urban Area MPO, Destination 2030, Long Range Transportation Plan, Memphis, TN

Memphis Urban Area 2040 Long Range Transportation Plan (Direction 2040), Memphis-Shelby County, TN

CMAQ ADA Improvements, Shelby County, TN



**PROJECT DIRECTOR**

James Collins

**PROJECT MANAGER**

Douglas Swett

TASKS

**1 PROGRAM MANAGEMENT**

James Collins; **Douglas Swett**

**2 DATA COLLECTION**

**Douglas Swett**; Todd Jones; Donna Emery; Jerry Blancett

**3 NEPA/PRELIMINARY ENGINEERING**

**TDOT Point of Contact** — **Douglas Swett**

**Preliminary Engineering** — James Collins; **Douglas Swett**; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell

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**Field Fine Tuning** — James Collins; Zhiyong Guo; **Douglas Swett**; Todd Jones; Steve Hill; Andrew Lutz

# Douglas A. Swett, P.E. | Project Manager



## PROFESSIONAL CREDENTIALS

Bachelor of Science, Civil Engineering,  
Mississippi State University, 2005

Professional Engineer in Tennessee and Mississippi



## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Institute of Transportation Engineers

## RELEVANT EXPERIENCE

*Douglas served as project manager or engineer on the following projects.*

Congestion Management Program, Shelby County, TN

Poplar Avenue at International Drive Traffic Signal Design, Memphis, TN

CMAQ ADA Improvements, Shelby County, TN

CMAQ Year 3 Poplar Avenue/East Parkway/Park Avenue Signal System Network, Memphis, TN

STP Winchester and Northwest Coordinated Traffic Signal System CEI Services, Memphis, TN

Poplar Avenue at Byhalia Road Traffic Signal Design, Collierville, TN

STP Isolated Traffic Signal Design, Memphis, TN

Regional ITS Architecture and Deployment Plan Update, Memphis, TN

Design Services for Union Avenue Restriping Project, Memphis, TN

Shelton/Verlington/Wolf River Boulevard Intersection Study and Improvements, Collierville, TN

Poplar Avenue at Collierville Arlington Road Traffic Signal Design, Collierville, TN

On-Call Traffic and Transportation Planning Services, Germantown, TN

On-Call Traffic Engineering, Collierville, TN

Virginia DOT, I-66 Corridor Improvements Project, Fairfax and Prince William Counties, VA

Veterans Parkway, Millington, TN

Poplar Avenue at Peterson Lake Traffic Signal Design, Collierville, TN



SHELBY COUNTY, TN

**PROJECT DIRECTOR**

James Collins

**PROJECT MANAGER**

Douglas Swett



TASKS

**1 PROGRAM MANAGEMENT**

James Collins; Douglas Swett

**2 DATA COLLECTION**

Douglas Swett; **Todd Jones**; Donna Emery; Jerry Blancett

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**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; **Todd Jones**

**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; **Todd Jones**; Steve Hill; Andrew Lutz

# E. Todd Jones, E.I. | Project Analyst



## PROFESSIONAL CREDENTIALS

Bachelor of Science, Civil and Environmental Engineering, Tennessee Technological University, 2014

Engineering Intern in Tennessee



## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

## RELEVANT EXPERIENCE

*Todd served as project analyst on the following projects.*

Congestion Management Program, Shelby County, TN

CMAQ ADA Improvements, Shelby County, TN

CMAQ Year 3 Poplar Avenue/East Parkway/Park Avenue Signal System Network, Memphis, TN

STP Isolated Traffic Signal Design, Memphis, TN

STP Winchester and Northwest Coordinated Traffic Signal System CEI Services, Memphis, TN

On-Call Traffic and Transportation Planning Services, Germantown, TN

STP Pedestrian Sidewalk Program, Memphis, TN

International Paper, International Drive Crosswalk, IP Building IV, Memphis, TN

Roadway Widening and Streetscape Improvements to Elvis Presley Boulevard, Memphis, TN



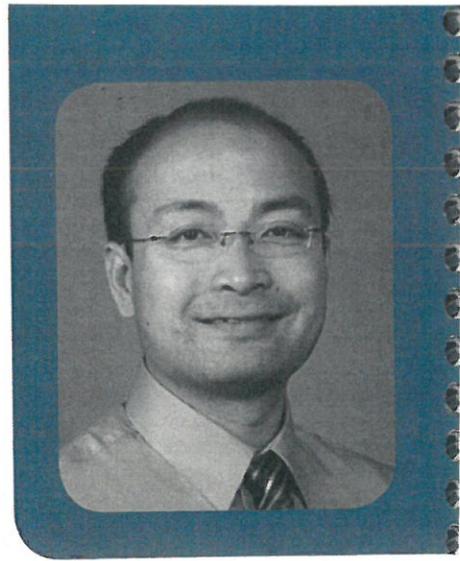
## SHELBY COUNTY, TN

### PROJECT DIRECTOR

James Collins

### PROJECT MANAGER

Douglas Swett



TASKS

1

### PROGRAM MANAGEMENT

James Collins; Douglas Swett

2

### DATA COLLECTION

Douglas Swett; Todd Jones; Donna Emery; Jerry Blancett

3

### NEPA/PRELIMINARY ENGINEERING

**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; **Zhiyong Guo**; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell

**NEPA** — James Collins; Douglas Swett; Nisha Powers; Steve Hill

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5

### SIGNAL TIMING AND FIELD FINE TUNING

**Signal Timing** — James Collins; **Zhiyong Guo**; Douglas Swett; Todd Jones

**Field Fine Tuning** — James Collins; **Zhiyong Guo**; Douglas Swett; Todd Jones; Steve Hill; Andrew Lutz

# Zhiyong Guo, P.E., PTOE, Ph.D. | Project Engineer



## PROFESSIONAL CREDENTIALS

Doctor of Philosophy, Civil Engineering, Vanderbilt University, 2006

Master of Science, Computer Science, Vanderbilt University, 2004

Master of Science, Civil Engineering, Vanderbilt University, 2003

Bachelor of Science, Transportation Engineering, Xi'an University of Architecture and Technology, 1996

Professional Engineer in Tennessee and Ohio

Professional Traffic Operations Engineer



## PROFESSIONAL AFFILIATIONS

Institute of Transportation Engineers

## RELEVANT EXPERIENCE

*Zhiyong served as project manager or engineer on the following projects.*

Congestion Management Program, Shelby County, TN

Poplar Avenue at International Drive Traffic Signal Design, Memphis, TN

CMAQ Signal System Design, Years 1 and 2, Memphis, TN

CMAQ Year 3 Poplar Avenue/East Parkway/Park Avenue Signal System Network, Memphis, TN

STP Winchester and Northwest Coordinated Traffic Signal System CEI Services, Memphis, TN

Poplar Avenue at Byhalia Road Traffic Signal Design, Collierville, TN

STP Isolated Traffic Signal Design, Memphis, TN

STP Poplar/Germantown Coordinated Traffic Signal System Design and CEI, Memphis, TN

CMAQ Year 3 Traffic Signal System Design and CEI Services, Memphis, TN

CMAQ Year 2 Coordinated Traffic Signal Design and CEI Services, Memphis, TN

Design and Implementation Support Services for CCTV Traffic Surveillance and Monitoring Camera System, Memphis, TN

Central Business District Signal System Study and Design, Memphis, TN

Traffic Signal Design at Shelton/Verlinton/Wolf River Boulevard and Byhalia at Wolf River Boulevard, Collierville, TN

Design and CEI Services for Wolf River Boulevard and Forest Hill-Irene Road Intersection Improvements, Germantown, TN



**PROJECT DIRECTOR**

James Collins

**PROJECT MANAGER**

Douglas Swett



T A S K S

**1 PROGRAM MANAGEMENT**

James Collins; Douglas Swett

**2 DATA COLLECTION**

Douglas Swett; Todd Jones; Donna Emery; Jerry Blancett

**3 NEPA/PRELIMINARY ENGINEERING**

**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; **Nisha Powers**; Steve Hill; Andrew Lutz; Greg Deverell

**NEPA** — James Collins; Douglas Swett; **Nisha Powers**; Steve Hill

**4 FINAL DESIGN**

**Final Design** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; **Nisha Powers**; Steve Hill; Andrew Lutz; Greg Deverell

**Bid Book Preparation** — Douglas Swett; Todd Jones

**Bid Phase Services** — Douglas Swett; Todd Jones

**5 SIGNAL TIMING AND FIELD FINE TUNING**

**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones

**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones; Steve Hill; Andrew Lutz

# Nisha Powers | Project Consultant

POWERS HILL DESIGN (LOSB)



## PROFESSIONAL CREDENTIALS

Bachelor of Science, Civil Engineering,  
University of Tennessee, Knoxville, 1997



## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

## RELEVANT EXPERIENCE

*Nisha served as project consultant on the following projects.*

Congestion Management Program, Shelby County, TN

STP Winchester and Northwest Coordinated Traffic Signal System CEI Services, Memphis, TN

Elvis Presley Boulevard Road Improvements, Memphis, TN

Main Street to Main Street Multimodal Connector, Memphis, TN

TDOT 2-Year NEPA Documentation Contract (2010-2012 and 2012-2014, Statewide, TN)

Overton Square Garage Detention Basin, Memphis, TN

Fairgrounds, East Parkway South Modifications, Memphis, TN

Uptown West Master Plan, Memphis, TN

Uptown West Rail Study, Memphis, TN

Canada Road Improvements, Lakeland, TN

Holmes Road Improvements, Shelby County, TN

MATA ADA Feasibility Study, Memphis, TN

Emergency Logistics Route, Shelby County, TN



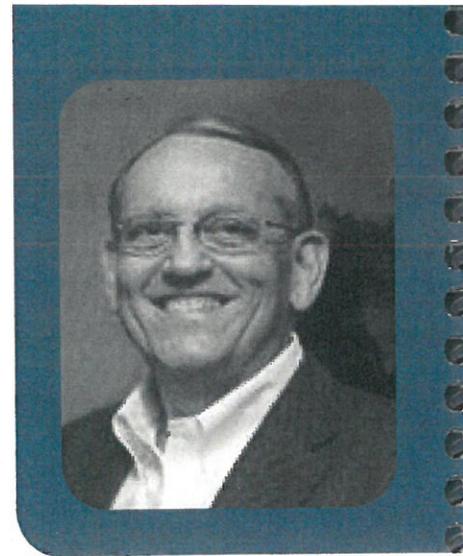
# SHELBY COUNTY, TN

## PROJECT DIRECTOR

James Collins

## PROJECT MANAGER

Douglas Swett



TASKS

### 1 PROGRAM MANAGEMENT

James Collins; Douglas Swett

### 2 DATA COLLECTION

Douglas Swett; Todd Jones; Donna Emery; Jerry Blancett

### 3 NEPA/PRELIMINARY ENGINEERING

**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; **Steve Hill**; Andrew Lutz; Greg Deverell

**NEPA** — James Collins; Douglas Swett; Nisha Powers; **Steve Hill**

### 4 FINAL DESIGN

**Final Design** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; **Steve Hill**; Andrew Lutz; Greg Deverell

**Bid Book Preparation** — Douglas Swett; Todd Jones

**Bid Phase Services** — Douglas Swett; Todd Jones

### 5 SIGNAL TIMING AND FIELD FINE TUNING

**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones

**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones; **Steve Hill**; Andrew Lutz

# Steve Hill, P.E. | Project Engineer

POWERS HILL DESIGN (LOSB)



## PROFESSIONAL CREDENTIALS

Bachelor of Science, Civil Engineering,  
Tennessee Technological University, 1978

Professional Engineer in Tennessee, Arkansas,  
Louisiana, and Mississippi



## PROFESSIONAL AFFILIATIONS

American Council of Engineering Companies

American Public Works Association

American Society of Civil Engineers

National Society of Professional Engineers

## RELEVANT EXPERIENCE

*Steve served as project engineer on the following projects.*

Congestion Management Program, Shelby County, TN

STP Winchester and Northwest Coordinated Traffic Signal System CEI Services, Memphis, TN

Elvis Presley Boulevard Road Improvements, Memphis, TN

Main Street to Main Street Multimodal Connector, Memphis, TN

Milton Wilson Boulevard Road Improvements, Arlington, TN

Uptown Memphis West Master Plan, Memphis, TN

Holmes Road Improvements, Shelby County, TN

Whitehaven Stormwater Master Plan, Memphis, TN

CMAQ Signal System Improvement Design, Shelby County, TN

Bicycle Pedestrian Plan, Memphis, TN

Emergency Logistics Route, Shelby County, TN

Fairgrounds, East Parkway South Modifications, Memphis, TN

South Junction Site Development, Memphis, TN

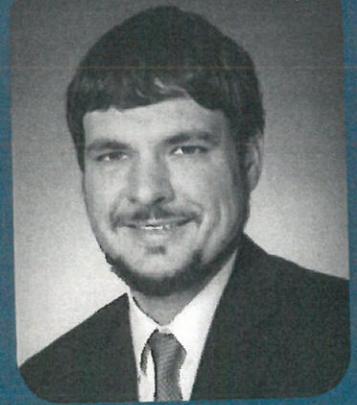


**PROJECT DIRECTOR**

James Collins

**PROJECT MANAGER**

Douglas Swett



TASKS

**1 PROGRAM MANAGEMENT**

James Collins; Douglas Swett

**2 DATA COLLECTION**

Douglas Swett; Todd Jones; Donna Emery; Jerry Blancett

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**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; **Andrew Lutz**; Greg Deverell

**NEPA** — James Collins; Douglas Swett; Nisha Powers; Steve Hill

**4 FINAL DESIGN**

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**Bid Phase Services** — Douglas Swett; Todd Jones

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**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones; Steve Hill; **Andrew Lutz**

# Andrew Lutz, E.I. | Project Analyst

POWERS HILL DESIGN (LOSB)



## PROFESSIONAL CREDENTIALS

Bachelor of Science, Civil Engineering,  
University of Memphis, 2012

Engineer Intern in Tennessee



## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Institute of Transportation Engineers

## RELEVANT EXPERIENCE

*Andrew served as project analyst on the following projects.*

CMAQ Signal System Improvement Design, Shelby County, TN

Depot Square Street Improvements, Arlington, TN

Hughes Park Detention Basin, Arlington, TN

Idlewild Detention Basin Design, Memphis, TN

Natural Gas System GIS Development and Regulations Compliance, Memphis, TN

Sanitary Sewer Inspection GIS, Memphis, TN

NEPA Documentation, Statewide, TN

Town Engineer Services Assistance, Arlington, TN

I-40 HOV to HOT Conversion Feasibility Study, Memphis, TN

Rail Safety Resource Allocation Algorithm, Statewide, TN

Overton High School Safe Routes to Schools, Memphis, TN

Rozelle-Annesdale Elementary Safe Routes to Schools, Memphis, TN

ITE Trip/Parking Generation Improvements Memphis, TN

University District Pedestrian Improvement Plan, Memphis, TN

Traffic Collision Database and Statistical Analysis, Germantown, TN

Digital Utility Mapping, Memphis, TN

VMT Estimation Model, Statewide, TN



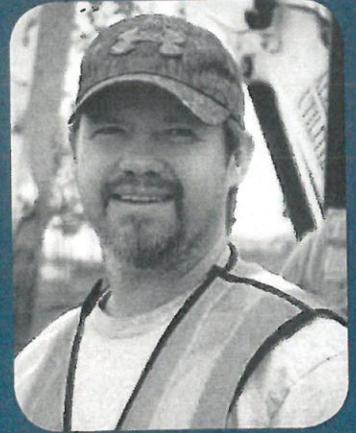
# SHELBY COUNTY, TN

## PROJECT DIRECTOR

James Collins

## PROJECT MANAGER

Douglas Swett



TASKS

### 1 PROGRAM MANAGEMENT

James Collins; Douglas Swett

### 2 DATA COLLECTION

Douglas Swett; Todd Jones; Donna Emery; Jerry Blancett

### 3 NEPA/PRELIMINARY ENGINEERING

**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; **Greg Deverell**

**NEPA** — James Collins; Douglas Swett; Nisha Powers; Steve Hill

### 4 FINAL DESIGN

**Final Design** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; **Greg Deverell**

**Bid Book Preparation** — Douglas Swett; Todd Jones

**Bid Phase Services** — Douglas Swett; Todd Jones

### 5 SIGNAL TIMING AND FIELD FINE TUNING

**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones

**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones; Steve Hill; Andrew Lutz

# Greg Deverell | Civil Designer

POWERS HILL DESIGN (LOSB)



## PROFESSIONAL CREDENTIALS

Associate of Science, Civil and Mechanical Engineering, State Technical Institute, Memphis, 1991

## RELEVANT EXPERIENCE

*Greg served as civil designer on the following projects.*

CEI for STP Signal Coordination, Winchester Road, Memphis, TN

CEI for Central Avenue, Memphis, TN

Main Street to Main Street Multimodal Connector, Memphis, TN

Overton Square Garage Detention Basin, Memphis, TN

Elvis Presley Boulevard Road Improvements, Memphis, TN

Fairgrounds, East Parkway South Modifications, Memphis, TN

South Junction Site Development, Memphis, TN

Brunswick Road Sewer Improvements, Shelby County, TN

Hanna Pump Station, Memphis, TN

Milton Wilson Boulevard Road Improvements, Arlington, TN

Uptown Memphis West Master Plan, Memphis, TN

Holmes Road Improvements, Shelby County, TN

Sledge Road Bridge, Shelby County, TN

MATA ADA Feasibility Study, Memphis, TN

Wastewater Treatment Plant Disinfection System, Memphis, TN

Senior Citizens Center, Lakeland, TN



**PROJECT DIRECTOR**

James Collins

**PROJECT MANAGER**

Douglas Swett

T  
A  
S  
K  
S

**1 PROGRAM MANAGEMENT**

James Collins; Douglas Swett

**2 DATA COLLECTION**

Douglas Swett; Todd Jones; **Donna Emery**; Jerry Blancett

**3 NEPA/PRELIMINARY ENGINEERING**

**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo;  
Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell

**NEPA** — James Collins; Douglas Swett; Nisha Powers; Steve Hill

**4 FINAL DESIGN**

**Final Design** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers;  
Steve Hill; Andrew Lutz; Greg Deverell

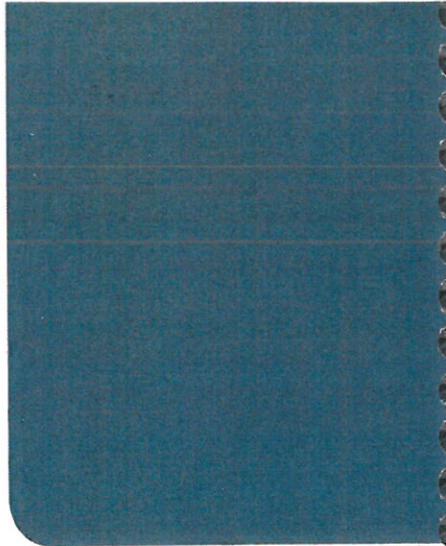
**Bid Book Preparation** — Douglas Swett; Todd Jones

**Bid Phase Services** — Douglas Swett; Todd Jones

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**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones

**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones;  
Steve Hill; Andrew Lutz



# Donna Emery | Data Collector

PRECISION DATA COLLECTION SERVICES (LOSB)



## PROFESSIONAL CREDENTIALS

Business Coursework

Certified Insurance Counselor

## RELEVANT EXPERIENCE

*Donna served as data collector on the following projects.*

Congestion Management Program, Shelby County, TN

Baptist Cancer Center Traffic Impact Analysis, Germantown, TN

Traffic Signal Warrants Analysis, Franklin, TN

Sears Crosstown Traffic Impact Analysis, Memphis, TN

Shelby Farms Park Traffic Speed and Impact Study, Memphis, TN

Traffic Signal Warrants Analysis County Line Road, Madison, AL

Poplar Avenue and Bray Station Road Traffic Impact Analysis, Collierville, TN

Hacks Cross Road and Stateline Road Traffic Analysis, Shelby County, TN

Lausanne Collegiate School Traffic Study, Memphis, TN

Walnut Grove Road at Forest-Hill Irene Road Signal Warrant Analysis, Memphis, TN

Old Brownsville Road Widening, Bartlett, TN

Traffic Signal Retiming, Bartlett, TN

Transportation Master Plan, Starkville and Corinth, MS

Citywide Signal System, Germantown, TN



**PROJECT DIRECTOR**

James Collins

**PROJECT MANAGER**

Douglas Swett

TASKS

**1 PROGRAM MANAGEMENT**

James Collins; Douglas Swett

**2 DATA COLLECTION**

Douglas Swett; Todd Jones; Donna Emery; **Jerry Blancett**

**3 NEPA/PRELIMINARY ENGINEERING**

**TDOT Point of Contact** — Douglas Swett

**Preliminary Engineering** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell

**NEPA** — James Collins; Douglas Swett; Nisha Powers; Steve Hill

**4 FINAL DESIGN**

**Final Design** — James Collins; Douglas Swett; Zhiyong Guo; Todd Jones; Nisha Powers; Steve Hill; Andrew Lutz; Greg Deverell

**Bid Book Preparation** — Douglas Swett; Todd Jones

**Bid Phase Services** — Douglas Swett; Todd Jones

**5 SIGNAL TIMING AND FIELD FINE TUNING**

**Signal Timing** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones

**Field Fine Tuning** — James Collins; Zhiyong Guo; Douglas Swett; Todd Jones; Steve Hill; Andrew Lutz

# Jerry Blancett, Sr. | Data Collector

PRECISION DATA COLLECTION SERVICES (LOSB)



**PROFESSIONAL CREDENTIALS**

Business Coursework

## RELEVANT EXPERIENCE

*Jerry served as data collector on the following projects.*

Congestion Management Program, Shelby County, TN

City Signal System, Clarksville, TN

School Zone Traffic Calming Analysis, Memphis, TN

Transportation Build Out Master Plan, Oxford, Starkville, and Corinth, MS

US Highway 72 Reconstruction, Huntsville, AL

Poplar Avenue and Bray Station Road Traffic Impact Analysis, Collierville, TN

Hacks Cross Road and Stateline Road Traffic Analysis, Shelby County, TN

Lausanne Collegiate School Traffic Study, Memphis, TN

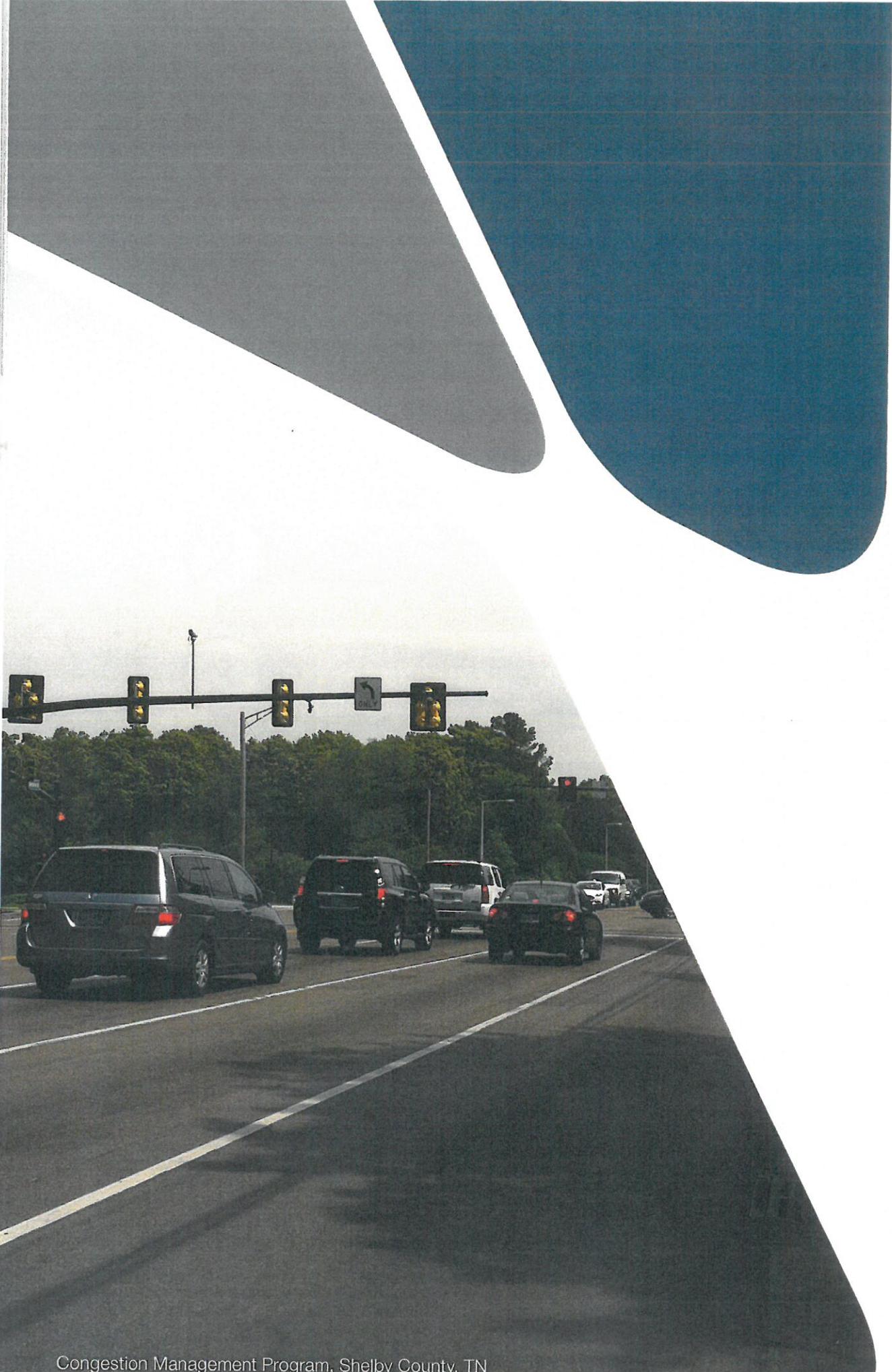
Walnut Grove Road at Forest-Hill Irene Road Signal Warrant Analysis, Memphis, TN

Old Brownsville Road Widening, Bartlett, TN

Traffic Signal Retiming, Bartlett, TN

Transportation Master Plan, Starkville and Corinth, MS

Citywide Signal System, Germantown, TN



## 4 Experience

### CONGESTION MANAGEMENT PROGRAM

Shelby County, TN

Kimley-Horn is providing design and construction phase services for more than 300 traffic signals throughout Shelby County. Improvements include obtaining inventories of all existing signalized intersections, conducting analyses and developing recommendations for improvements to existing signalized and unsignalized intersections, development of coordinated signal systems, implementation of video detection systems, and implementation of emergency vehicle preemption systems. The project includes evaluations to determine which signals would benefit from coordinated signal operations and the development of signal and signal system timing plans to ensure efficient operations.

Under this project, Kimley-Horn is providing complete services from identification of the projects to contract closeout, including project programming, NEPA documentation, design, contract document preparation, bid phase, and limited construction phase services. This project is following the steps outlined in the Office of Local Program's Local Government Guidelines for the Management of Federal and State Funded Projects. As part of this project, we have proven our ability to coordinate and work with multiple agencies, including local municipalities, TDOT, and the Federal Highway Administration (FHWA).



**CLIENT CONTACT** — Shelby County Government, Darren Sanders, 901 222 7700

**FIRM ROLE** — Prime

**COST** — \$2 million (design), \$18,379,742 (construction)

**STAFF ROLES** — James Collins, Project Manager; Douglas Swett, Project Engineer;  
Zhiyong Guo, Project Engineer; Todd Jones, Analyst;  
Nisha Powers, Consultant; Steve Hill, Project Engineer;  
Donna Emery, Data Collector; Jerry Blancett, Data Collector

## POPLAR AVENUE AT INTERNATIONAL DRIVE TRAFFIC SIGNAL DESIGN Memphis, TN

Kimley-Horn provided design and bid phase services for the mast arm traffic signal at the intersection of Poplar Avenue and International Drive. The project included the design of the new traffic signal, right-of-way acquisition, signing and striping plans, traffic signal fiber optic communication plans, development of signal timing plans, and field fine tuning. The signal design included the use of video detection and emergency vehicle preemption. The signal is designed to City of Memphis standards and specifications. Kimley-Horn provided these services for the project based on TDOT Local Programs Guidelines.



**CLIENT CONTACT** — Shelby County Government, Darren Sanders, 901 222 7700

**FIRM ROLE** — Prime

**COST** — \$34,904 (design), \$300,000 (construction)

**STAFF ROLES** — James Collins, Principal-in-Charge; Douglas Swett, Project Manager;  
Zhiyong Guo, Project Engineer



Poplar Avenue at International Drive Traffic Signal Design, Memphis, TN

## CMAQ SIGNAL SYSTEM DESIGN, YEARS 1 AND 2 Memphis, TN

Kimley-Horn developed plans and specifications to connect 65 traffic signals, including the development of cable layout plans that indicate the routing and design of the fiber optic communications cable systems and the development of signal timing plans for the coordinated operation of the traffic signals. The existing signal timing was reviewed and updated at all locations as required to efficiently accommodate traffic. Tasks included development of new traffic signal specifications, preparation required air quality analyses to demonstrate the air quality improvements that will be achieved with the projects, and development and implementation of new signal timing plans.



CLIENT CONTACT — City of Memphis, Randy Tatum, 901 576 6710

FIRM ROLE — Prime

COST — \$1,601,115 (design, including CEI), \$4,057,887 (construction)

STAFF ROLES — James Collins, Project Manager; Zhiyong Guo, Project Engineer



CMAQ Signal System Design, Years 1 and 2, Memphis, TN

# CMAQ YEAR 3 POPLAR AVENUE/EAST PARKWAY/PARK AVENUE SIGNAL SYSTEM NETWORK

Memphis, TN

Kimley-Horn developed construction plans and traffic signal timings for the connection and coordination of 55 traffic signals along Poplar Avenue, Central Avenue, Southern Avenue, Park Avenue, East Parkway/Airways, and Highland Avenue. Included in this project are the overall design and systems engineering for conversion of the interconnect communication system to Ethernet and development of communications protocol. In addition, Kimley-Horn conducted air quality analysis, coordinated right-of-way and utility reviews, and prepared NEPA documentation and bid documents required for approval by state and federal agencies. The project also included before and after travel time and delay studies as well as timing plan implementation and field fine tuning. Kimley-Horn provided CEI services for this project based on TDOT Local Programs Guidelines. Working closely with the City of Memphis engineering staff, TDOT staff, and City traffic signal maintenance staff, Kimley-Horn successfully conducted the pre-construction conference, secured railroad crossing permits, reviewed project submittals, and conducted monthly progress meetings. Through a series of field walk-through meetings with the client and the contractor, utility conflicts and right-of-way deficiencies were identified and solutions were implemented based on the changing conditions in the field. Kimley-Horn successfully conducted field inspection and final acceptance testing of all traffic signal system components. The construction was successfully completed in 2014.

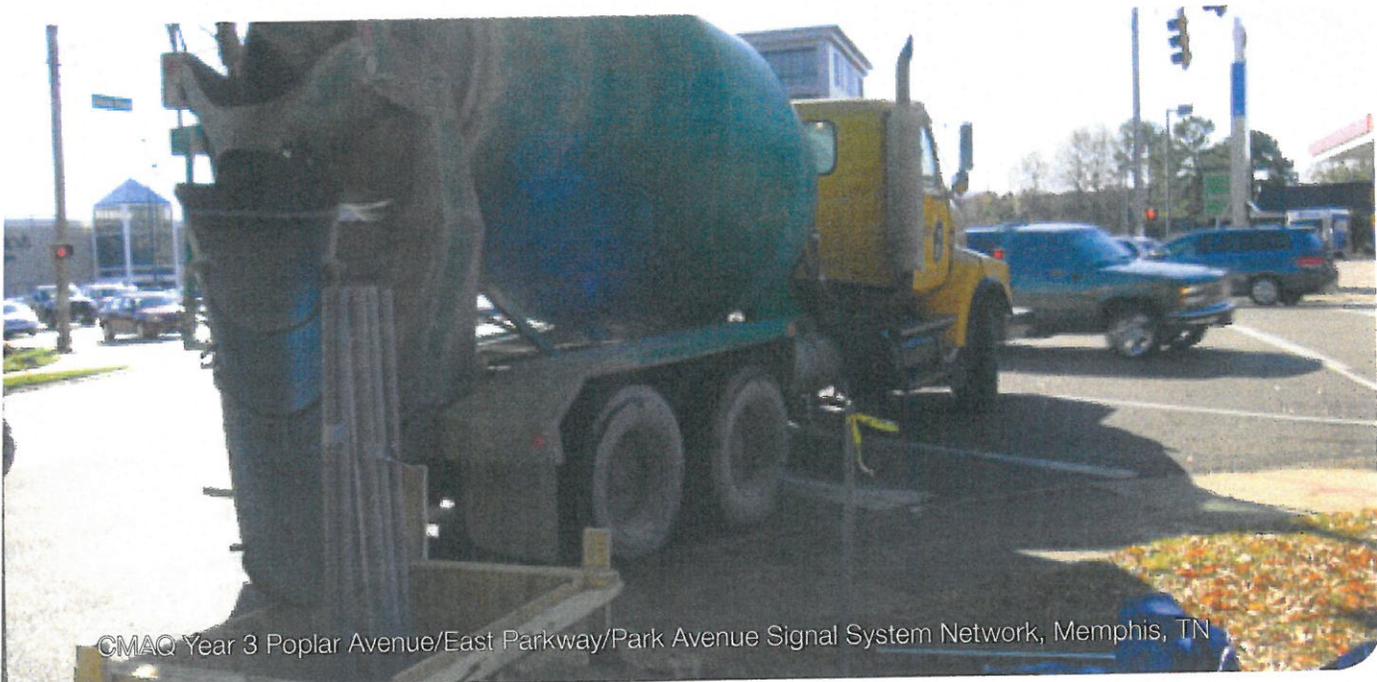


CLIENT CONTACT — City of Memphis, Randy Tatum, 901 576 6710

FIRM ROLE — Prime

COST — \$1,287,800 (design, including CEI), \$2,765,599 (construction)

STAFF ROLES — James Collins, Project Director; Douglas Swett, Project Engineer; Zhiyong Guo, Project Manager; Todd Jones, Analyst



STP WINCHESTER AND NORTHWEST COORDINATED TRAFFIC SIGNAL  
SYSTEM CEI SERVICES  
Memphis, TN

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As the prime consultant for the STP Northwest project, and a subconsultant for the STP Winchester Road project, Kimley-Horn currently is providing CEI services for two coordinated traffic signal system construction projects based on TDOT Local Programs Guidelines. The projects consist of installing underground conduits and fiber-optic communication fibers along 28 miles of roadway and connecting 80 existing traffic signals on Winchester Road, Jackson Avenue, North Parkway, Summer Avenue, and Sam Cooper Boulevard.

Working closely with the City of Memphis engineering staff, TDOT staff, and City traffic signal maintenance staff, Kimley-Horn provided bid phase services, successfully conducted the pre-construction conference, reviewed project submittals, and conducted monthly progress meetings. Through a series of field walk through meetings with the client and the contractor, utility conflicts and right-of-way deficiencies were identified and solutions were implemented based on the changing conditions in the field. The construction for the STP Winchester project was completed on time and the construction for STP Northwest project is anticipated to be completed in 2016.

As part of the STP Winchester project, Kimley-Horn provided design, bid phase, and CEI services for the new mast-arm traffic signal at the intersection of Winchester Road and New Getwell Road.



**CLIENT CONTACT** — City of Memphis, Randy Tatum, 901 576 6710

**FIRM ROLE** — Prime

**COST** — \$564,000 (design), \$6.3 million (construction)

**STAFF ROLES** — James Collins, Principal-in-Charge; Douglas Swett, Project Engineer;  
Zhiyong Guo, Project Manager; Nisha Powers, Consultant; Steve Hill, Project  
Engineer; Greg Deverell, Designer

## POPLAR AVENUE AT BYHALIA ROAD TRAFFIC SIGNAL DESIGN

Collierville, TN

Kimley-Horn provided services to the Town of Collierville for the reconstruction of the traffic signal at Poplar Avenue and Byhalia Road. This project included the installation of a temporary signal during construction to allow for the installation of the mast arm poles and the design of the new traffic signal. Services provided included preparation of traffic signal plans; preparation of signal timing plans, including coordination with the other signals along Poplar and Byhalia; bid phase services; limited construction phase services; and the implementation and field fine tuning of the new signal timing plans.



**CLIENT CONTACT** — Town of Collierville, Dale Perryman, 901 457 2345

**FIRM ROLE** — Prime

**COST** — \$20,000 (design), \$350,000 (construction)

**STAFF ROLES** — James Collins, QC/QA Reviewer; Douglas Swett, Project Manager;  
Zhiyong Guo, Project Engineer



Poplar Avenue at Byhalia Road Traffic Signal Design, Collierville, TN

## STP ISOLATED SIGNAL DESIGN

Memphis, TN

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Kimley-Horn is responsible for the design of 12 traffic signal installations for the City of Memphis. The purpose of the project is to modernize existing traffic signals by replacing existing span wire signals with new mast arm signals. This project includes NEPA documentation, traffic capacity analysis, preliminary and final design, ADA accessibility design to meet PROWAG standards, and signal timing and field fine tuning.



**CLIENT CONTACT** — City of Memphis, Randy Tatum, 901 576 6710

**FIRM ROLE** — Prime

**COST** — \$253,000 (design), \$3 million (construction)

**STAFF ROLES** — James Collins, Project Manager; Douglas Swett, Project Engineer; Zhiyong Guo, Project Engineer; Todd Jones, Analyst

## REGIONAL ITS ARCHITECTURE AND DEPLOYMENT PLAN UPDATE

Memphis, TN

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Kimley-Horn updated the regional ITS architecture and deployment plan for the Memphis Urban Area, which includes Shelby County in Tennessee and DeSoto County in Mississippi. The project was led by the Memphis MPO, with close coordination from state and local stakeholders, including representatives from Tennessee, Mississippi, and Arkansas. The regional ITS architecture and deployment plan provided a long-range plan for the deployment, integration, and operation of ITS in the Memphis Urban Area. The project examined how ITS could be used to improve traffic management, emergency management, public transportation, and traveler information. Several workshops were conducted with stakeholders to discuss regional needs, existing and planned deployments, and opportunities for integration and information sharing. The Regional ITS Architecture and Deployment Plan Update fulfilled the requirements of FHWA and FTA for regional ITS architectures and allows the region to remain eligible for federal funding on ITS projects. This project was part of a larger statewide ITS architecture system that included 10 city/regional plans and a statewide plan.



**CLIENT CONTACT** — Memphis Urban Area MPO, Sajid Hossain, 901 576 7183

**FIRM ROLE** — Prime

**COST** — \$74,770 (design), construction costs were not associated with this project

**STAFF ROLES** — James Collins, Principal-in-Charge; Douglas Swett, Project Engineer

# TDOT TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS (TSM&O) PROGRAM PLAN

Statewide, TN

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Kimley-Horn currently is developing the TDOT TSM&O Program Plan. The TSM&O Program Plan is a high-level plan that will recommend a structure for implementing and mainstreaming TSM&O into TDOT. The project is being performed under contract to the TDOT Traffic Operations Division with close coordination with the TDOT TSM&O Coordinating Committee.

Key components of the project will include:

- Review of TSM&O best practices from other states
- Integration of TSM&O into state policy and regional and statewide plans
- Establishment of standard analytical procedures for identifying deficiencies and evaluating candidate projects related to TSM&O
- Inventory of existing and planned TSM&O activities
- Alignment of the TSM&O Program Plan with the statewide ITS architecture
- Establishment of a formalized process for use, maintenance, and update of the TSM&O Program Plan

Kimley-Horn will attend meetings with the TSM&O Coordinating Committee throughout the project to facilitate discussion, present findings, and obtain guidance on the direction of the TSM&O Program Plan.



CLIENT CONTACT — TDOT, Brad Freeze, 615 741 5017

FIRM ROLE — Prime

COST — \$60,000 (design), construction costs were not associated with this project

STAFF ROLES — James Collins, Project Manager

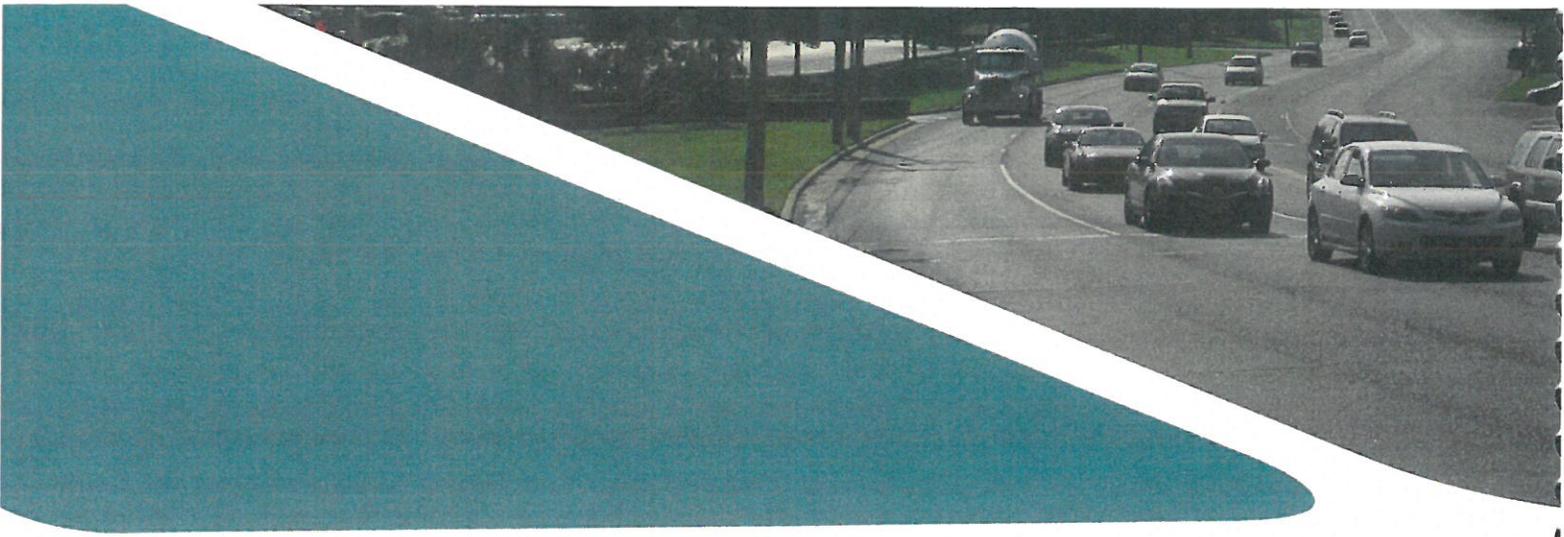
## 5 Methodology

### Project History and Understanding

In 2015, through a competitive project proposal process, TDOT awarded the Shelby County Government additional funding for the Shelby County Congestion Management Program (SCCMP). The additional funding was awarded partly because of the excellent progress that has been made obligating funding and completing projects since the project began in 2003. Kimley-Horn is proud to be Shelby County's partner on this project since the beginning.

These additional funds were provided through the Congestion Mitigation Air Quality Improvement Program (CMAQ) because Shelby County is designated as a maintenance area for carbon monoxide and ozone. This program operated in areas of Shelby County outside the City of Memphis from 2003 to 2010. Since 2010, the program has included all of the jurisdictions in Shelby County. The purpose is to provide a program whereby signal related improvements can be implemented to reduce congestion, improve traffic flow, and improve air quality regardless of internal jurisdictional boundaries and with a regional vision.

Over the past five years, this program has provided over \$23 million in funding for the design and implementation of signal related projects to improve air quality throughout Shelby County. Kimley-Horn has played a vital role in designing projects and coordinating with TDOT to maximize the funding obligation during that time. Kimley-Horn not only has participated in the design and implementation of projects, but also coordinated with multiple engineering firms as the program manager for Shelby County.



## Purpose of the Project

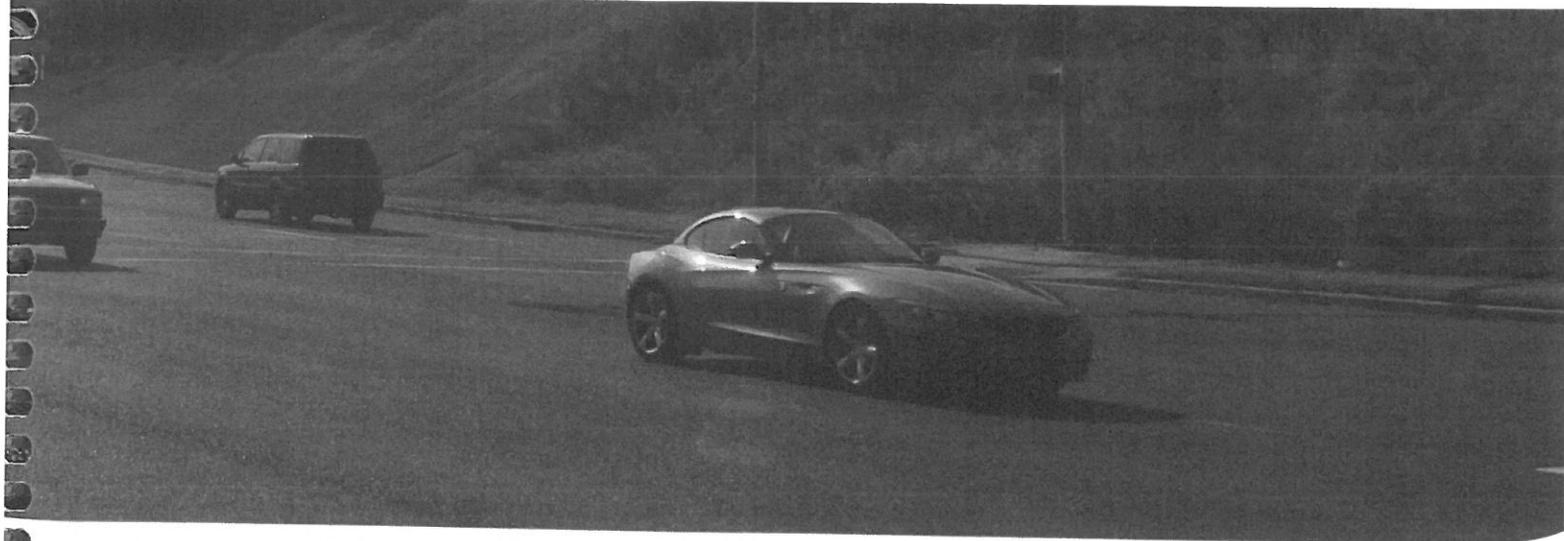
Building on the county-wide Communications Master Plan that was developed in 2001 by Kimley-Horn, Shelby County has identified 15 separate projects to be designed and constructed under this contract. The scope of these projects consists of signal retiming, isolated intersection improvements, and fiber installation corridor projects. The purpose of these projects is to provide a more efficient transportation network that will result in reduced congestion, improved traffic flow, and improved air quality.

This project will consist of program management, environmental documentation, preliminary and final design, program coordination, bid phase services, construction engineering and inspection, and signal timing and field fine tuning.

The program includes many elements to improve the flow of traffic, including the following:

- Signalized intersection operational improvements
- Signal system improvements and expansion
- Traffic signal detection device upgrade
- Installation of emergency preemption devices
- Signal timing services

The **major activities** of this program as approved by TDOT will include the installation of interconnect cable between signalized intersections along the congested routes where the most improvement to air quality can be achieved, installation of an Ethernet communications system, upgrades to the existing signalized intersections to allow signal coordination, improved vehicle detection systems, installation of emergency vehicle preemption systems, development of new signal timing plans, and implementation of new signal coordination plans. The interconnect cable will be installed underground in conduit within the existing right-of-way. The installation of the Ethernet communications system will allow for a more efficient use of the new and existing interconnect cables and will be accomplished by modifying the communications equipment and software in the signal controller cabinets and at the operations centers for the local jurisdictions. The improved vehicle detection and emergency vehicle preemption will be installed at signalized intersections where these devices do not presently exist.



## Funding

Funding of the program is paramount to its success. In these times of ever shrinking local government revenues, a key element of obtaining the support of the local jurisdictions for this project was that improvements had to be identified that did not require any local funds to match the federal funds.

Completing projects within the designated schedule is the most critical aspect of funding. With a large and complex program such as SCCMP, there are many tasks that need to be completed to secure the funding. Kimley-Horn has a proven track record of successfully completing this process. We have been so successful that not only have all of Shelby County's program funds been allocated, but Shelby County has received additional funding that was unable to be obligated in other areas of the state.

Kimley-Horn has developed a plan to implement this program that will allow us to ensure that all available funding is obtained during the required time period. This schedule is shown on page 53.

## Scope of Services

The following is a description of the scope of services proposed by the Kimley-Horn team for this project. With the exception of the program management services, which apply to the whole program, the services listed below are the typical services that will be provided for the approved 15 projects. A table detailing the complete breakdown of the anticipated Locally Owned Small Business (LOSB) participation can be found on page 56.

### **TASK 1 — PROGRAM MANAGEMENT**

Effective management of this program is key to successfully achieving the objectives of Shelby County, which include receiving and expending all of the available funding, positioning this program for continued funding in future years, providing opportunities for participation and growth of Locally Owned Small Businesses, and implementation of projects that improve air quality and reduce congestion. Kimley-Horn will provide a Project Manager charged with keeping this program on task and moving forward. This project manager will serve as an extension of the County staff, providing regular updates on the status of all segments of the project, managing the progress of all the projects, and maintaining continuous communications with the various TDOT departments involved in the program.

A major element of keeping all of these project segments on schedule will be managing the process of reviews and approvals by TDOT. Our long-standing relationships and history of providing quality deliverables to TDOT will allow us to make sure that these reviews and approvals occur as quickly as possible. Simply having a good relationship with the Local Programs Office is not enough. The project manager also must have relationships built on mutual respect with the Environmental Division's NEPA staff, the Utilities Division, the Right-of-way Division in the headquarters and Region offices, the plans review staff within the Design Division, the Permits Division, the Construction Division, and the Local Programs Office.

One of the most critical aspects of this program to Shelby County is being reimbursed by TDOT for program expenditures. The County assumes an unnecessary financial burden if the reimbursements are not processed promptly and cannot continue to operate programs such as SCCMP without proper and quick reimbursements. The reimbursement process can be cumbersome and time consuming. Kimley-Horn will assist Shelby County with reimbursements by processing each invoice submitted by consultants, verifying the invoices contain all required forms and information, assembling the documentation required by the County for payment to the consultants, assembling TDOT-required documentation for reimbursement, and submitting one complete reimbursement package for each PIN each month to TDOT. This reimbursement process must be done monthly to ensure that Shelby County is receiving timely reimbursements for program expenditures. With Kimley-Horn's assistance, Shelby County can reduce the time and financial burdens previously experienced.

## **TASK 2 — DATA COLLECTION**

Data collection will be provided by PDC and Kimley-Horn. PDC will conduct traffic counts at each of the intersections in the project. Turning movement counts will be performed during the AM, Mid-Day, and PM peak-hours. These counts will be used to perform the air quality analysis required as part of the environmental documentation in Task 3 and the signal timing in Task 5.

Kimley-Horn will perform field inventories of each subject intersection within each proposed project. The inventories will identify the condition of the existing equipment at the intersection and the improvements that will be required at each intersection. The field visit also will consist of a review of the accessibility at the intersection. This review will help determine what ADA improvements will need to be included in the design plans. PDC will be responsible for approximately 75% of Task 2.



### **TASK 3 — ENVIRONMENTAL DOCUMENTATION AND PRELIMINARY ENGINEERING**

Since the project will involve the use of federal funds, the NEPA requirements will be in effect. In most cases, the proposed improvements will take place within existing right-of-way, will not impact access to adjacent properties, and will not impact wetlands, streams, or waters of the state. For those projects that may impact one of these items, the impacts will generally be very minor. Therefore, it is anticipated that all projects will be eligible for obtaining a Categorical Exclusion (CE) and in many instances a Programmatic Categorical Exclusion (PCE).

The application for the CEs or PCEs will be prepared and submitted to TDOT. This will include obtaining clearance from the U.S. Fish and Wildlife Administration and the State Historic Preservation Officer (SHPO), with the SHPO approval being obtained through the Environmental Division at TDOT. To reduce the number and duration of reviews, we will group similar projects together for submittal of the NEPA documents. For this contract, there will be three separate NEPA documents for the signal timing projects, isolated signal upgrades, and coordinated signal projects.

As a part of the preparation of the environmental documentation, preliminary engineering plans will be prepared. These plans will be used to determine whether there are impacts on adjacent properties, wetlands, streams, waters of the state, endangered species, and historic properties. If the projects are determined to have any of these impacts, Kimley-Horn will take the appropriate steps to minimize those impacts and work with the necessary agencies to coordinate the design and construction.

Kimley-Horn will use the services of PHD to assist in the preparation of the preliminary engineering plans and the NEPA documents. It is anticipated that PHD will provide 25% of the services in Task 3.

### **TASK 4A — FINAL DESIGN**

Kimley-Horn will prepare the construction plans, obtain certifications for permit approvals or concurrence that a permit is not required, obtain certification that no right-of-way will be required, and provide utility coordination. Kimley-Horn will use the services of PHD to assist with the communications layout sheets and the design modifications to the traffic signals. It is anticipated that PHD will provide 25% of the services in Task 4A.

Kimley-Horn will prepare the design plans for the proposed improvements in conformance with the standards of the City of Memphis, Shelby County—the jurisdiction in which the project will be constructed, and TDOT. The exact contents of the design plans will vary by project segment, but in addition to title sheets, quantities sheets, and notes sheets, the plans sets may consist of the following:

- 1. Intersection Layout Plan** — This will consist of the overall proposed layout of the traffic signals based on GIS data, aerial photos, and field observations.
- 2. Intersection Details Plan** — This may consist of signal phasing diagram, color sequence diagram, display and general wiring diagrams, and an estimated construction quantities list. Kimley-Horn will prepare construction details for signal poles and other items that are not covered by applicable standard drawings and specifications.

**3. Summary of Intersection Work** — This will provide a chart of the elements of work and equipment to be provided at each intersection. When multiple intersections are included in a plans set, this sheet helps provide clarity to the contractor and inspectors regarding the work to be accomplished at each intersection. While Kimley-Horn provides this sheet with all of the bids sets we prepare for projects involving multiple intersections, some other design teams do not. In cases where we have provided CEI services for projects designed by other teams, contractors have requested that we provide this sheet to help clarify the construction activities.

**4. Signal Systems Communication Plan** — This will consist of plans sheets indicating the general routing of the communications cable, a system detector location plan, a communications cable schematic plan, a communications channel schematic plan, splice diagrams, and cable details. This plan must take into account the number of “hops” or connections that will be made by each pair of fiber strands to operate correctly with the equipment in the field hubs. It is critical that the communications plan reflect the Ethernet communications plan that is presently being implemented in Memphis and Shelby County. This county-wide communications system will be consistent with the ITS Regional Architecture. This step also will include assigning IP addresses for all of the devices in the signal cabinets.

One of the time sensitive aspects of this program is obtaining reviews and comments on the construction plans from all associated parties. Kimley-Horn will oversee and manage the submittal process to ensure a quick and efficient review by each of the following agencies:

- Shelby County
- Memphis Traffic Signal Maintenance
- Local jurisdictions
- Local utility companies
- TDOT Right-of-Way Division
- TDOT Permit office
- TDOT Design Division
- TDOT Construction Division

Upon completion of the final construction plans, Kimley-Horn will prepare a final construction quantities list suitable for inclusion as part of a bid document. Kimley-Horn also will provide an opinion of probable construction cost based on recent bids for similar projects.



The intent is for Kimley-Horn to be the sole point of contact for TDOT, the utility companies, and the railroad companies, to minimize confusion regarding this program as well as the processing time for each review.

One of the most time sensitive aspects of this coordination process will be railroad permitting. Once preliminary engineering is completed and the environmental documents have been approved, Kimley-Horn will assemble and submit permit applications for railroad crossings and locations where entrances onto railroad rights-of-way are required for construction. Kimley-Horn will coordinate with the railroad companies during the permit approval process and the construction phase to ensure quick processing and reviews.

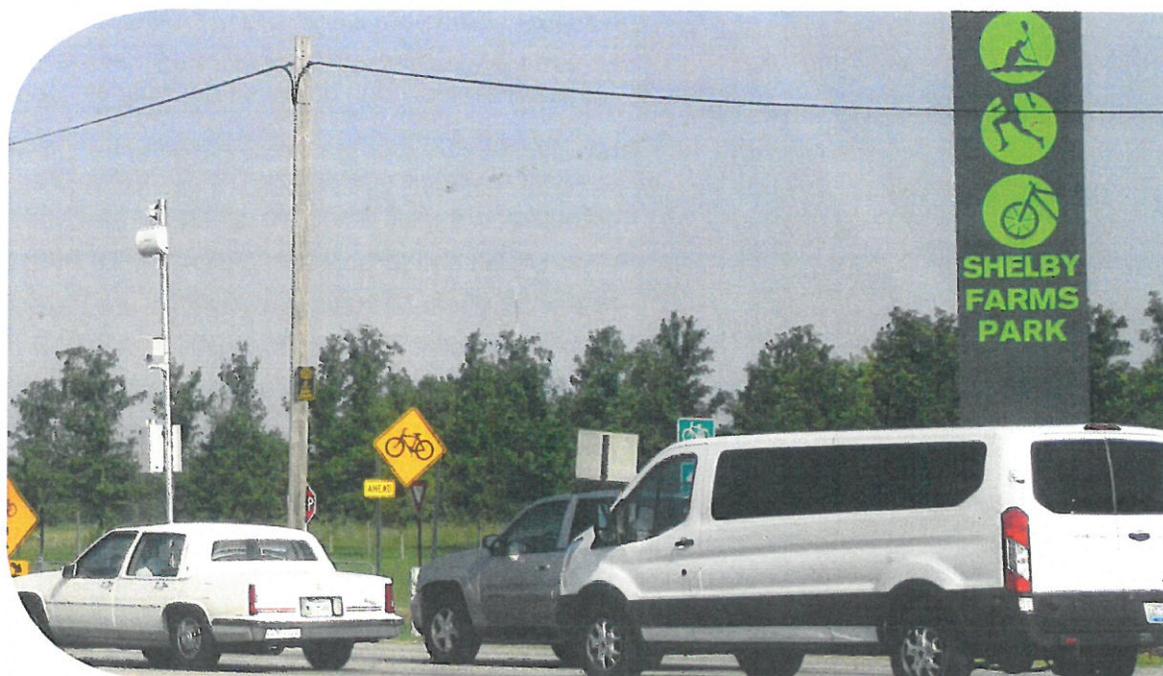
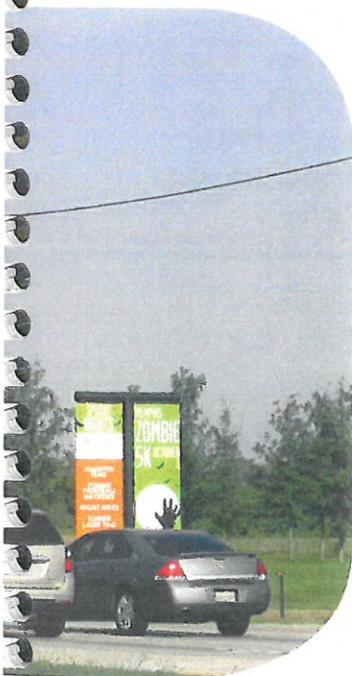
Kimley-Horn will assist other consulting teams with utility coordination as provided on the previous program. The construction plans will be distributed electronically through the Kimley-Horn Sharefile site to document receipt of the plans by the utility companies. This process allows us to provide TDOT with the necessary documentation detailing the strict adherence to the required coordination process.

#### **TASK 4B — BID BOOK PREPARATION**

Kimley-Horn will prepare and seek approval of the project Bid Book. Similar projects will be grouped into logical project bid sets. The schedule for this step will vary depending on the size of the bid packages. The contents of the construction plans and bid books will vary based on the improvements provided for each project segment. Kimley-Horn will coordinate the preparation of the bid books with TDOT Local Programs to ensure that the bid books are acceptable to both Shelby County and TDOT.

#### **TASK 4C - BID PHASE SERVICES**

Upon receipt of the TDOT authorization to proceed with obtaining bids, Kimley-Horn will assist Shelby County with advertising and receiving bids from TDOT prequalified contractors and in accordance with the rules and regulations of the Shelby County Purchasing Department. Kimley-Horn will assist the County in conducting a pre-bid meeting as well as respond to RFIs throughout the bidding process. Kimley-Horn will review the bids for conformity with Shelby County, TDOT, and FHWA requirements and make a project award recommendation to the County and TDOT. Upon concurrence from TDOT and the County to award the contract, Shelby County and Kimley-Horn will work with the contractor to execute the contract and issue a notice to proceed with construction.



## TASK 5 — SIGNAL TIMING PLANS AND FIELD FINE TUNING

The construction plans can be prepared and implemented exactly as intended but, if the signals are not timed properly, the projects will not achieve their primary objective to reduce congestion and improve air quality. Kimley-Horn is the only local consulting firm that has the demonstrated experience to prepare and implement traffic signal timings, both for isolated signals and signal systems. This is the final critical step in the program.

Based on the traffic signal phasing developed during the design phase and Task 4A, Kimley-Horn will develop the traffic signal timings to be implemented at the project intersections. The signal timing plans will include timing plans for both AM and PM peak periods at a minimum. Kimley-Horn will determine if a mid-day peak plan, an off-peak plan, or a weekend plan will be necessary. These timing plans will be based on peak-hour traffic volumes obtained in Task 2. Kimley-Horn will present this information to the local jurisdiction for concurrence regarding the number of timing plans to be implemented. Kimley-Horn will prepare and submit the coding sheets for the selected timings plans to the contractor and the City of Memphis Traffic Signal Maintenance Department for implementation.

Upon final acceptance and activation of the traffic signals, Kimley-Horn will conduct field fine tuning of the proposed signal timings to provide efficient traffic signal operations. The field fine tuning work will be conducted for all periods during a typical work day for which a separate timing plan is developed. Finalized signal timings will be submitted to the City of Memphis Traffic Signal Maintenance Department after the field fine tuning work.

This final step in the process also includes conducting travel time runs along the coordinated signal segments and evaluating isolated signals operations. This evaluation after the project has been fully implemented will document the level of congestion reduction and air quality improvement achieved as part of this program. This information will be used to document the improvements achieved and resulting from this program as well as to project the expected improvements for future projects.

Kimley-Horn will use PHD assist in the field fine tuning work associated with these projects as well as performing the travel time runs described above. It is anticipated that PHD will be responsible for 15% of the services outlined in Task 5.

## **OPTIONAL TASK 6 — CONSTRUCTION PHASE**

Upon reviewing Appendix C, Roadway and Bridge Field Construction Procedures in the TDOT Local Government Guideline for the Management of Federal and State Funded Transportation Projects, Kimley-Horn understands that TDOT prefers that different consultants perform the design service and CEI services. Therefore, it would be TDOT's preference that Kimley-Horn not act as a prime CEI consultant should the County select Kimley-Horn to provide design services on this project. However, if the County desires Kimley-Horn to provide CEI services, Kimley-Horn will provide the appropriate field and office staff required to assist the County in compliance with the guidelines for Locally Managed Projects. The following is an outline of the CEI services that may be required.

### ***A. Preconstruction Conference***

Kimley-Horn will prepare and conduct the preconstruction conference at the time and location determined by the County. Kimley-Horn will respond to issues that arise at the meeting. Kimley-Horn will prepare and distribute meeting minutes.

### ***B. Project Administration***

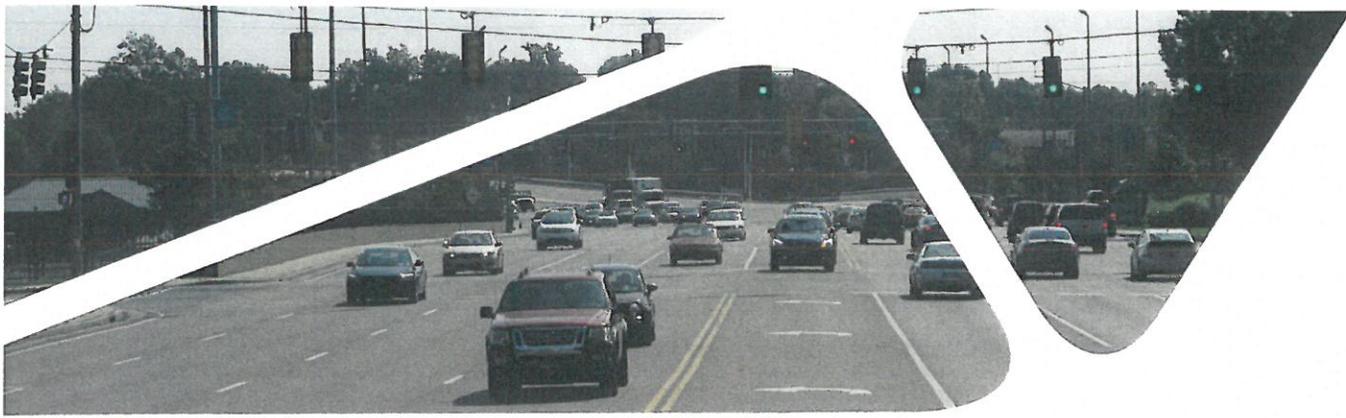
Kimley-Horn will provide project administration and coordinate with the assigned TDOT project supervisor. When requested, Kimley-Horn will prepare for and attend FHWA inspections that may be conducted on the project related to project work, progress, or records. Kimley-Horn will prepare for, cooperate with, and assist auditors that may be assigned to review project records, payments, reports, etc. Kimley-Horn will provide the inspectors with assistance to monitor the work being done on the contract. Prior to starting work, Kimley-Horn will submit to the County a listing of personnel assigned to the project for review and approval. In addition, a list of emergency contacts and phone numbers will be supplied to the County. The project administrator also will obtain from the contractor a list of contractor's personnel that will be responsible for any occurrence that may arise on the project for the life of the project.

### ***C. Provide Construction Inspection***

Kimley-Horn will provide construction inspection services and assistance to monitor the work provided under this contract. All field technicians will be certified in the applicable TDOT certification workshops. Kimley-Horn has worked with the Memphis Traffic Signal Maintenance Department and will make sure to use all of their checklists to determine if the traffic signal work is properly completed. The inspections and testing conducted as part of this project is different than what is normally provided with TDOT projects and, therefore, requires specialized expertise beyond what TDOT normally requires from their CEI consultants. This project requires the specific traffic signal testing expertise that our team has.

### ***D. Supplemental Agreements — Construction Change Orders***

Kimley-Horn will notify the County of the necessity for any Supplemental Agreements/Construction Changes. Kimley-Horn will negotiate prices for additional pay items with the contractor while adhering to the "TDOT Average Unit Price" listing when possible and coordinate acceptance of prices with the County. Kimley-Horn will prepare the Supplemental Agreement/Construction Change and submit it to the County for final review and processing. Any work that cannot be negotiated with the prime contractor will be pursued by Force Account as defined in the TDOT Standard Specifications and recorded on forms supplied by TDOT. Kimley-Horn will review any value engineering change proposals and prepare recommendations for the County.



### ***E. Shop Drawings and Submittal Reviews***

Kimley-Horn will review and approve or take other appropriate action with respect to shop drawings and submittals, but only for conformance with the contract documents. Kimley-Horn also will coordinate the review of the traffic signal equipment submittals with the City of Memphis Signal Maintenance Department.

### ***F. Quality Assurance, Testing for Acceptance, and Training***

Kimley-Horn will provide certified personnel for field, plant testing, and inspection. Kimley-Horn will monitor the testing provided by the contractor in the field as defined in the contract, plans, or specifications and document testing on TDOT standard forms. Kimley-Horn will miscellaneous check application rates, dimensions, and bearings to ensure conformance to plans and specifications. Kimley-Horn also will review certifications of material submitted for conformity to the specifications. We will include a final materials and tests certification in the Final Records submitted to the County.

### ***G. Progress Payments***

Kimley-Horn will document and assemble quantities for monthly progress payments to the contractor from actual project field records, as directed by special provisions in the contract, from Supplemental Agreements/Construction Changes or from Force Accounts. Test reports will be on file prior to payment. Pay quantities will be submitted to the County for review and payment.

Copies of approved subcontracts, as well as copies of actual DBE subcontractors' contracts, will be on file prior to the first progress payment.

### ***H. Distribution of Correspondence***

Kimley-Horn will submit a copy of all correspondence between the Kimley-Horn, contractor, subcontractors, and TDOT concerning matters related to the project. Kimley-Horn will maintain an office file copy for submission with the project final records.

### ***I. Inspection of Work***

Kimley-Horn will provide inspection services to determine if the work is in conformance to plans and specifications for items that will be incorporated into the project. Kimley-Horn will observe, measure, and record all quantities for payment. Kimley-Horn will record field measurements in project records for review by the County, TDOT, or auditors, which will be recorded on a standard form (field book) as normally used by TDOT and/or on field inspection forms to be submitted to the County. Kimley-Horn will check traffic control daily and, as required or requested by the County, will notify the contractor of deficiencies or problems. Kimley-Horn will document weekly (or as often as necessary) project traffic control on TDOT forms and distribute as required. Kimley-Horn will inspect daily erosion control items for conformance to the plans as well as effectiveness in the field and will notify the contractor of deficiencies. Kimley-Horn will prepare to justify pay quantities in case the contractor or Department has questions. Kimley-Horn will maintain an accurate daily diary, signed by the inspector.

#### **J. Contractor's Payrolls, Employee Interviews and Contract Compliance**

Kimley-Horn will receive and check the contractor's payrolls for conformance to state wage rates as defined in the contract. Late payrolls (i.e., 2 weeks late) are seen as justification to withhold progress payment. Kimley-Horn will notify the prime contractor of late payrolls and request immediate submission. Kimley-Horn will notify the County prior to withholding payments. Kimley-Horn will conduct employee interviews on TDOT forms normally and compare to the submitted payrolls for accuracy. Kimley-Horn will notify the prime contractor of inaccuracies and resolve discrepancies. Kimley-Horn will adhere to Special Provisions concerning reports to be submitted to the Contract Compliance office.

#### **K. Reports**

There are numerous reports, documents, etc., that must be generated in the process of contract administration. Kimley-Horn will maintain either electronic or paper copies of all reports in compliance with the TDOT standard operating procedures.

#### **L. Final Records**

Kimley-Horn will compile and submit project records in TDOT standard format to the County after project completion. Kimley-Horn will make corrections when/if notified and resubmit the records and a final estimate for the project at the appropriate time as well as submit all final forms (e.g., FHWA-47, CC3, etc.) with the final records.

## **Methods and Software**

The evaluation methods for this project are explained above. Kimley-Horn is committed to using the most current and proven techniques to meet and exceed the County's expectations and objectives. The following software programs will be used to provide the services previously outlined in this section:

- ARCGIS v10.2.2 – NEPA Project Mapping
- AutoCAD Civil 3D 2105 – Final Engineering
- Synchro 9 – Signal Timing and Signal Coordination
- Highway Capacity Manual 2010 – Signal Timing and Signal System Coordination
- ShareFile – Project Management and Coordination

## **Costs and Fees**

Fees will be negotiated upon selection and the scope that is assigned.

# Project Organization



**SHELBY COUNTY, TN**

## **PROJECT DIRECTOR**

James Collins, P.E.

## **PROJECT MANAGER**

Douglas Swett, P.E.

TASKS

### **1 PROGRAM MANAGEMENT**

James Collins, P.E.; Douglas Swett, P.E.

### **2 DATA COLLECTION**

Douglas Swett, P.E.; Todd Jones, E.I.; Donna Emery<sup>2</sup>; Jerry Blancett<sup>2</sup>

### **3 NEPA/PRELIMINARY ENGINEERING**

**TDOT Point of Contact** — Douglas Swett, P.E.

**Preliminary Engineering** — James Collins, P.E.; Douglas Swett, P.E.; Zhiyong Guo, P.E., PTOE, Ph.D.; Todd Jones, E.I.; Nisha Powers<sup>1</sup>; Steve Hill, P.E.<sup>1</sup>; Andrew Lutz, E.I.<sup>1</sup>; Greg Deverell<sup>1</sup>

**NEPA** — James Collins, P.E.; Douglas Swett, P.E.; Nisha Powers<sup>1</sup>; Steve Hill, P.E.<sup>1</sup>

### **4 FINAL DESIGN**

**Final Design** — James Collins, P.E.; Douglas Swett, P.E.; Zhiyong Guo, P.E., PTOE, Ph.D.; Todd Jones, E.I.; Nisha Powers<sup>1</sup>; Steve Hill, P.E.<sup>1</sup>; Andrew Lutz, E.I.<sup>1</sup>; Greg Deverell<sup>1</sup>

**Bid Book Preparation** — Douglas Swett, P.E.; Todd Jones, E.I.

**Bid Phase Services** — Douglas Swett, P.E.; Todd Jones, E.I.

### **5 SIGNAL TIMING AND FIELD FINE TUNING**

**Signal Timing** — James Collins, P.E.; Zhiyong Guo, P.E., PTOE, Ph.D.; Douglas Swett, P.E.; Todd Jones, E.I.

**Field Fine Tuning** — James Collins, P.E.; Zhiyong Guo, P.E., PTOE, Ph.D.; Douglas Swett, P.E.; Todd Jones, E.I.; Steve Hill, P.E.<sup>1</sup>; Andrew Lutz, E.I.<sup>1</sup>

**Subconsultants** — 1 Powers Hill Design (LOSB); 2 PDC Services (LOSB)

## 6 Schedule

One of the most critical aspects to this CMAQ program is the schedule. As shown on the following page, Kimley-Horn has developed an aggressive schedule designed to meet the deadlines necessary to ensure program funding. When you choose the Kimley-Horn team, you can take comfort in knowing that your project will stay on track with clearly defined goals, tasks, and milestones.

Kimley-Horn has a proven record of performing on time and within budget. The key to our success is managing the right resources at the right time. Kimley-Horn will schedule bimonthly progress meetings with Shelby County to communicate progress to date and the next steps to be taken. To monitor our staff workload, Kimley-Horn employs an intensive forecasting technique known as our "cast-ahead" process. This effort involves assessing our project milestones and staff loading on a weekly, monthly, and six-month basis, drilling down to the project team level. Individual staff member loading is assessed to the person level in the one-week and one-month time frames and the operating unit level in the six-month time frame. A database is used to track all project commitments/milestones and staff commitments firmwide. Using this intensive process, we can identify overloads and shortfalls many months in advance and develop strategies to overcome them. By having a clear picture of staff workload at all times, Kimley-Horn will be optimally positioned to meet Shelby County's expectations on this project.

Frequent communication and clear definition of the responsibilities of team members are critical elements in maintaining schedules. With that in mind, our project-specific work plan identifies critical project milestones and deliverable dates. We will actively manage our team resources to meet the agreed-upon schedules and keep your project on track.

T A S K S

2018 2019

A S O N D

		A	S	O	N	D	2018	2019
1	<b>PROGRAM MANAGEMENT</b>	[Bar]						
2	<b>DATA COLLECTION</b>							
	Preliminary Traffic Counts Field Inventories							
3	<b>NEPA/PRELIMINARY ENGINEERING</b>							
	Assemble Agency Coordination Documents Preliminary Engineering Drawings Agency Coordination Review Develop Final Site Development Checklist Final Site Development Checklist Approval NTP with Final Design <b>Final Design Funding Obligated</b>							
4	<b>FINAL DESIGN</b>							
	Develop 80% Design Drawings Utility Coordination Develop 100% Design Drawings TDOT Certification Review Receive TDOT Certifications NTP with Construction <b>Construction Funding Obligated</b> Bid Phase <b>Start Construction</b>							
5	<b>SIGNAL TIMING AND FIELD FINISH</b>							
	Develop Signal Timing Plans Field Fine Tuning Work							



## 7 Level of LOSB Participation

All of the members of the Kimley-Horn team have been selected because of the specific expertise they provide for this program. In addition, we have identified areas in which the LOSB firms participating in the project can be mentored to expand their capabilities and expertise.

We are fortunate to have LOSB firms on our team that can provide the data collection, design, signal timing, field fine tuning, and construction inspection services. As part of this project, Kimley-Horn is committed to mentoring our LOSB partner firms and helping them develop expertise in aspects of signal design, signal timing, and field fine tuning that can expand their level of expertise.

A summary table of the estimated LOSB participation is shown on the following page.

FIRM	% OF TASK	ESTIMATED TASK % OF TOTAL FEE	ESTIMATED % OF TOTAL PROJECT
<b>PROGRAM MANAGEMENT</b>			
Kimley-Horn	100.0%	5.0%	5.0%
<b>DATA COLLECTION</b>			
Kimley-Horn	25.0%	10.0%	2.5%
PDC (LOSS)	75.0%	10.0%	7.5%
<b>NEPA/PRELIMINARY ENGINEERING</b>			
Kimley-Horn	75.0%	15.0%	11.25%
PHD (LOSS)	25.0%	15.0%	3.75%
<b>FINAL DESIGN</b>			
Kimley-Horn	75.0%	20.0%	15.0%
PHD (LOSS)	25.0%	20.0%	5.0%
<b>LOCAL PROGRAMS COORDINATION</b>			
Kimley-Horn	100.0%	5.0%	5.0%
<b>BID PHASE</b>			
Kimley-Horn	100.0%	5.0%	5.0%
<b>SIGNAL TIMING</b>			
Kimley-Horn	85.0%	40.0%	34.0%
PHD (LOSS)	15.0%	40.0%	6.0%
<b>TOTALS</b>			
PDC (LOSS)			7.5%
PHD (LOSS)			14.75%
Kimley-Horn			77.75%
<b>Estimated Total LOSS Percentage</b>			<b>22.25%</b>