



Gulf Regional Planning Commission

Statement of Qualifications for **Traffic Studies**

June 19, 2020

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Mr. Paul Gavin
Executive Director
Gulf Regional Planning Commission
1635 Popps Ferry Road, Suite G
Biloxi, MS 39532
via email: kyarrow@grpc.com

Re: Statement of Qualifications for Traffic Studies

Dear Mr. Gavin and Selection Committee Members:

Garver is pleased to present our qualifications for traffic studies for the Gulf Regional Planning Commission (GRPC). This statement of qualifications will detail how Garver's Transportation Planning and Traffic Team has the local presence and regional expertise to help you complete your proposed projects. As you review our qualifications, please note the following characteristics that differentiate Garver from our competitors.

Full-Service Transportation Planning and Modeling Capabilities. Garver's Transportation Team includes nearly 250 personnel with extensive experience in all aspects of transportation planning, design, and construction. This includes 17 specialized traffic planners, engineers, professional traffic operations engineers, and IMSA certified technicians who work extensively on transportation planning and traffic engineering projects. Our staff regularly provide all the services listed in the qualification scope, including existing facility analysis, capacity analysis, crash and other data analysis and development of recommendations for addressing any shortcomings. Additionally, our team of transportation engineers regularly provides quality review of plans for phasing and constructability concerns. This complementary, full-service team is ideally suited to address the scope of work presented in the RFQ.

Experience in Mississippi. Over the past decade, Garver has had the opportunity to prepare traffic studies throughout Mississippi and the surrounding states. These include studies of large and small corridors, several of which are along the Mississippi Gulf Coast. As a result of this work, our staff has developed a strong reputation, not only with our clients but also with the Mississippi Department of Transportation (MDOT). Garver has been providing engineering services in Mississippi to local agencies and MDOT for more than 30 years. Garver's Transportation Team includes several engineers currently performing transportation studies throughout the state and the Gulf Coast region. Additionally, Kreg Overstreet, PE, LEED AP has design and construction experience with cities and other entities across the Mississippi Gulf Coast. Our team members have the experience and the relationships necessary to present your projects to relevant agencies and earn their approval.

Extensive Planning Expertise. Garver's Transportation Team will work with you to provide data and conceptual plans that are practical and offer focused solutions for your specific needs and goals. In addition, Garver has extensive experience throughout the Garver footprint of designing innovative and cost-effective solutions to transportation needs of all types.

Let Garver provide you with the exceptional and responsive service you deserve. We look forward to the opportunity to partner with the Gulf Regional Planning Commission on this contract. Please do not hesitate to contact Kreg Overstreet at 228-380-1240 or JKOverstreet@GarverUSA.com to request additional information as you make your selection. Thank you for your consideration.

Sincerely,
GARVER

A handwritten signature in blue ink, reading 'Kreg Overstreet'.

Kreg Overstreet, PE, LEED AP
Local Liaison

A handwritten signature in blue ink, reading 'Jeff Pierce'.

Jeff Pierce, PE
Project Manager



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Firm Qualifications



Firm Qualifications

General Firm Information

Founded in 1919, Garver has been in business for over 100 years. Not many companies can boast that they have grown a service-based business through the numerous market changes that have occurred in the past century. Garver continues to provide quality services that our clients trust and value, and we have used that successful formula to grow in numbers and in geographical reach. Garver is an employee-owned multi-disciplined firm headquartered in North Little Rock, Arkansas. Garver is excited about its new Gulf Coast office, which has the backing of nearly 800 employees. Offering a wide range of services focused on transportation, construction, facilities design, federal, survey, aviation, and water, Garver sits in the top 125 of the *Engineering News-Record's* (ENR) prestigious Top 500 Design Firms list and is consistently recognized as a best firm to work for. Garver was also named ENR's Texas & Louisiana's 2020 Design Firm of the Year. This award recognizes our firm's accomplishments across a five-state region that includes Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

OVER
100

**Years of
Service**

NEARLY
800

**Employees
Company-Wide**

#122
NATIONWIDE

2020
**Engineering
News-Record**
Top 500 Design Firm



Traffic Analysis and Design

Garver's Transportation Planning and Traffic Team is dedicated to improving the safety, reliability, and efficiency of transportation systems. We have the experience and skill diversity necessary to tackle projects ranging from corridor studies involving complex traffic forecasting and simulation to pedestrian access and connectivity, as well as design projects such as signing, signalization, and intersection improvements.

Traffic Studies

Garver has performed traffic studies for virtually every type of traffic engineering situation that may be encountered, from simple, isolated intersections to complex interchange studies involving trip generation and unconventional intersections. Our staff has developed traffic studies that include gathering traffic data in the field, studying past and present traffic information, forecasting traffic volumes; performing signal warrant, geometric, operational, and safety analyses; and preparing reports outlining our analyses and recommendations for improvements. Our **I-10/US 49 PEL Study** is an example of Garver's capacity and traffic analysis capabilities.

Safety Analysis

Garver is experienced in evaluating crash data to determine crash frequency, crash rates, and severity index. Garver typically uses the latest five years of crash data and GIS to identify problem locations and to provide recommendations to improve safety. The results of our safety analysis can be shown in a variety of forms such as crash diagrams, histograms, pie charts, GIS cluster maps and heat maps.

Additionally, we use the *Highway Safety Manual* (HSM) methodology to evaluate the crash reductions expected from a proposed design. We also have performed Road Safety Audits (RSA) to further investigate crash patterns and make recommendations for improvements. RSAs can be beneficial to determining safety issues, including those that have not been represented in data yet, and providing low-cost recommendations for improvements to roadways and intersections.



Traffic Operations

Garver's Traffic Operations Team will perform analyses to determine characteristics such as capacity, level of service, queueing, and signal progression for existing and future conditions. The outcome of the analyses can offer an indication of how the existing intersection or roadway section operates, what can be expected in the future, and how modifications will affect traffic operations.

For all traffic analyses, Garver brings a multi-tiered approach that includes standard *Highway Capacity Manual* (HCM) methodologies as well as microsimulation. This dual macroscopic/microscopic approach to traffic operations allows us to supplement the shortcomings of either methodology and often find the root cause of traffic congestion. We deploy the use of several macroscopic software programs to assist in our traffic operations analyses.

Multimodal Level of Service

A national effort is underway to accommodate and improve safety for all modes of transportation and to enhance livability. This concept is referred to as Complete Streets. It encourages more walking and bicycling, improves safety, increases the overall capacity of the transportation system, and reduces air pollution. Additionally, the Complete Streets concept has shown evidence of aiding redevelopment and economic growth. Garver provides expertise in multimodal mobility studies to achieve an effective Complete Streets design.

This includes a multimodal level of service analysis for all road users (pedestrians, bicyclists, transit, and vehicles) and a detailed traffic and safety analysis. Through this process, different multimodal design elements are analyzed, including the trade-offs between road users to help make recommendations for safety, bikeways, sidewalk and lighting improvements, pedestrian crossing enhancements, access and mobility, operational improvements, road diets, and transit enhancements. Finally, these conceptual designs are vetted with stakeholders through a public outreach process before full design and construction. The **Beatline Road PEL Study** is an example of our Complete Streets capabilities.

Intersections and Roundabouts

Intersection design requires a specialized understanding of design criteria, traffic operations, and standards. As part of design, we consider pavement markings, intersection radii, turn bays, and pedestrian facilities.

As an alternate to traditional intersections, Garver has designed roundabouts, which can be safer, increase traffic flow, require less maintenance, and improve aesthetics as compared to traditional intersections. Our roundabout designs have varied from simple two-lane intersections to complex multi-lane designs. Garver also has experience in analyzing and designing more complex projects such as a continuous flow intersection (CFI), J-Turn intersections, and diverging diamond interchanges (DDI).



Signals

Garver's traffic signal designs include new traffic signal installation, traffic signal replacements, temporary traffic signal plans, and traffic signal modification plans. Special features have included preemption for fire stations or railroads, signal ahead signs with flashing beacons, and phasing overlaps.

For signal timing plans at existing signals or new signals, we use Synchro software to determine level of service and verify that the signal will operate adequately. In addition to providing operational information, we frequently test signal settings and phasing strategies in Synchro/SimTraffic software for both isolated and coordinated intersections. We also have developed coordinated time of day signal timings for busy urban corridors.

Access Management

Poorly planned or fragmented development patterns often cause capacity and safety constraints along busy arterials and highways. The location and number of full access driveways and the need to place traffic signals at irregular intervals can create many conflicts within a traffic stream. This can lead to an increase in the number of crashes, excessive corridor delays, and low travel speeds.

Access management principles are used to maximize the performance of a corridor and enhance safety. Garver has experience with a variety of access management techniques, including constructing raised medians, restricting certain through/ left-turn movements, adding turn lanes, and encouraging shared driveways and inter-parcel access. Our **US 90 Study** in Pascagoula included access management recommendations.



Staff Capabilities

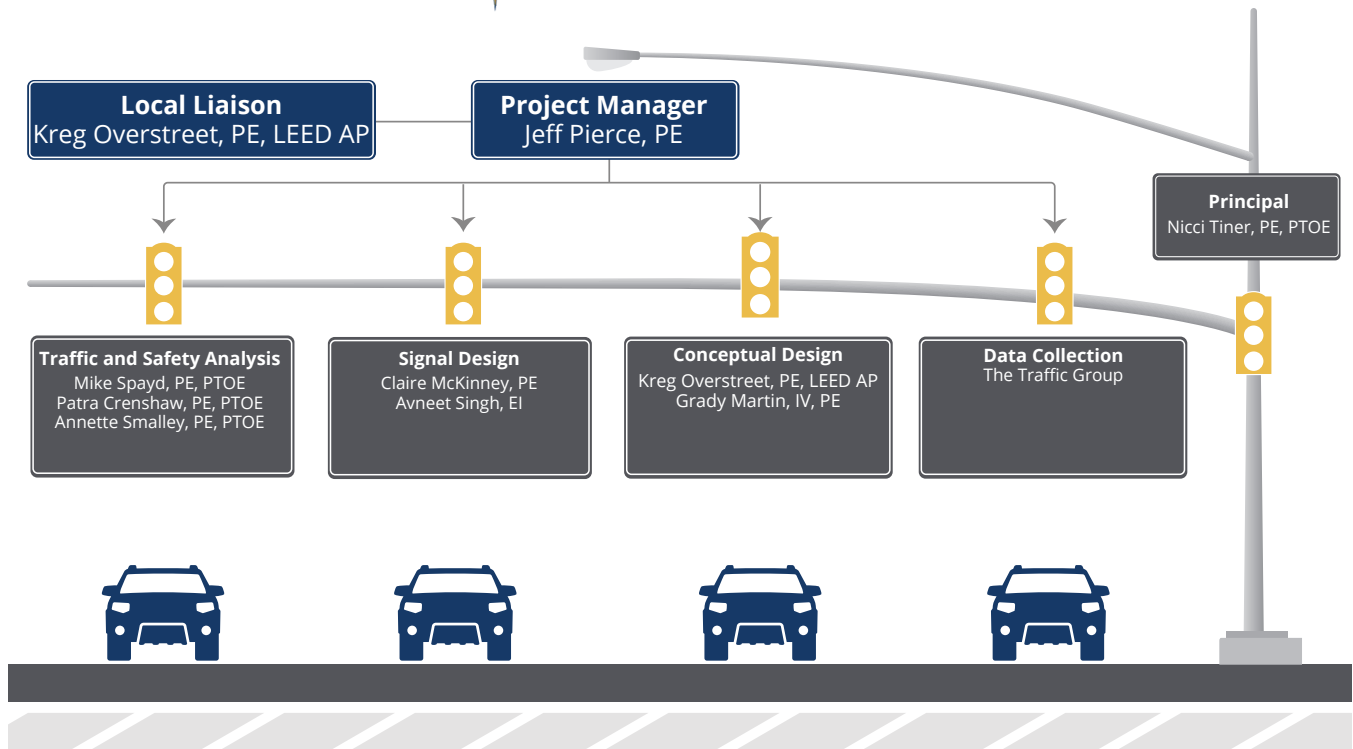


Staff Capabilities

The Garver Team offers a wealth of resources to meet critical schedules, but our greatest asset is our knowledgeable, experienced, and disciplined team members. **The organizational chart on the following page lists our team members who will assist the Gulf Regional Planning Commission (GRPC) with traffic studies. Jeff Pierce, PE will serve as Garver's project manager for this contract.** Jeff has extensive experience conducting a variety of studies that include analyzing traffic data and performing signal warrant analyses, operational analyses, geometric analyses, and safety studies. His experience with Synchro/SimTraffic and HCS includes evaluating everything from simple intersections to freeway facilities.

Led by Project Manager Jeff Pierce, PE, our Team has the experience and skill diversity to complete your projects successfully. Garver has the ability to analyze any traffic condition. We are capable of investigating traffic conditions via traditional means (HCM) as well as more advanced methods such as microsimulation. Our Team is proficient in a variety of software programs (Synchro/SimTraffic, VISSIM, Sidra, and Highway Capacity Software), and our analyses produce quantitative comparisons for selecting between different design options.

To complement our in-house expertise, we have added the The Traffic Group (TTG) to our team for data collection. Garver and TTG have worked on more than 40 projects together throughout the region. TTG is one of the nation's leading traffic engineering and transportation planning firms. For over three decades, TTG has undertaken thousands of traffic engineering studies for federal/state/local government agencies and private-sector clients. TTG has conducted over three million counts over the last 30+ years and typically conducts 115,000 counts annually nationwide. With these statistics, TTG operates one of the largest data collection departments in the United States.



The Garver Team includes **professional engineers, traffic operations engineers, and IMSA-certified traffic signal technicians** who will work together to bring a comprehensive, “leave no stone unturned” approach to addressing your traffic engineering needs.



Jeff Pierce, PE

Project Manager

Education

Bachelor of Engineering,
General Engineering

Registration

Professional Engineer
MS, 12252

Jeff Pierce is senior project manager with 32 years of transportation engineering and planning experience. Jeff's responsibilities include conducting Safe Transportation for Every Pedestrian (STEP) Studies, Planning and Environmental Linkage (PEL) Studies, corridor studies, road user cost analysis, benefit cost analysis, reviewing roadway signing plans, and developing and reviewing Interchange Justification Reports (IJR). He retired from MDOT in 2012 after serving the last nine years of his career as the State Planning Engineer. During that time, Jeff managed MDOT's Planning Division as it developed transportation planning policies, programs, and public involvement for all modes of transportation.

Experience

I-10/US 49 Planning and Environmental Linkage (PEL) Study

Gulfport, Mississippi

Project manager responsible for the PEL study to develop and evaluate alternatives to improve a congested interchange in a growing urban area with two railroad crossings, a water channel, proposed new development in three of four quadrants, and considerable environmental constraints. The project included traffic, safety, and environmental analysis.

Beatline Road Planning and Environmental Linkage (PEL) Study

Long Beach, Mississippi

Project manager responsible for identifying improvements that will enhance mobility and safety along Beatline Road. The study goal was to increase capacity and eliminate the discontinuity at the CSX Railroad, thereby creating a continuous north-south connection between I-10 and US 90.

Safe Transportation for Every Pedestrian (STEP) Innovation Studies

Little Rock and Jonesboro, Arkansas

Project manager responsible for three STEP studies that recommended improvements at hazardous unsignalized pedestrian crossing locations. The studies involved site visits, data collection and analysis, and recommendations for improvements consistent with federal guidelines. Final recommendations included sidewalk and crossing improvements, a rectangular rapid flash beacon (RRFB), a high-intensity activated crosswalk beacon (HAWK), and a full signal at an existing intersection.

Highway 107

Pulaski County, Arkansas

Project manager responsible for the planning study to analyze the traffic and safety needs for the Highway 107 corridor, a route that experiences fatal and serious injury crash rates more than twice the statewide average for similar facilities.



Nicci Tiner, PE, PTOE

Principal

Education

Bachelor of Science
in Civil Engineering

Registration

Professional Engineer
MS, 15025

Professional
Traffic Operations
Engineer, 520

Nicci Tiner is a vice president who is responsible for managing Garver's Transportation Planning and Traffic Team. As the team leader, she assigns projects to staff, schedules projects, and performs overall quality assurance/quality control of projects. Nicci has 31 years of engineering experience. Her planning experience includes conducting studies to determine existing and future transportation needs. This consists of developing traffic forecasts using projected volumes based on annual growth rates and trip generation, evaluating the traffic and safety operations of intersections and corridors, and participating in public involvement meetings. Her design experience includes intersections; ITS; traffic signals; signing; and maintenance of traffic.

Experience

I-10/US 49 Planning and Environmental Linkage (PEL) Study

Gulfport, Mississippi

Senior project manager responsible for participating in coordination meetings and providing QA/QC review of the traffic operations analysis.

US 90

Pascagoula, Mississippi

Senior project manager responsible for performing the QA/QC review of traffic-related components throughout all stages of the project. This included review of the equipment inventory report, safety study, access management recommendations, traffic analysis, and construction plans for the signals, signing, and ITS components.

Multimodal Mobility Studies

Tulsa, Oklahoma

Senior project manager responsible for performing a QA/QC review of the multimodal study for multiple corridors in the downtown area. The study included Level of Service (LOS) analysis for vehicles, bicycles, pedestrians, and transit and intersection LOS in Synchro and SimTraffic.

Dave Ward Drive

Conway, Arkansas

Senior project manager responsible for performing the QA/QC review of the corridor planning documents such as the travel demand, purpose and need, and the alternatives analysis reports.

US 49

Simpson County, Mississippi

Senior project manager responsible for performing the QA/QC review of the volume development and the traffic and safety report. This project included reviewing all US 49 intersections and median crossovers (93 in total).



Kreg Overstreet, PE, LEED AP

Local Liaison; Conceptual Design

Education

Bachelor of Science
in Civil Engineering

Registration

Professional Engineer
MS, 15577

LEED Accredited
Professional

MDOT Local Public
Agency Certification

Kreg Overstreet is a project manager at Garver with 21 years of experience working on road, airport, and sewer and water system projects. He is certified in the Leadership in Energy & Environmental Design (LEED) Program administered by the United States Green Building Council. Kreg is also knowledgeable in state construction practices as well as projects involving federal, state, and multi-agency funds. Kreg has provided design and construction services for numerous projects throughout Mississippi. His design experience includes new roadway design, roadway improvements, ADA ramps, pump stations, drainage improvements, parking lots, sidewalks, utility relocation, roundabout design, multi-use paths, signing, and striping.

Experience

Seaway Road

Gulfport, Mississippi

Design and construction services manager responsible for this project that included reconstructing approximately two miles of Seaway Road, approximately one mile east of Three Rivers Road to Lorraine Road. The project included widening to a four-lane boulevard section with center median, curb/gutter, drainage, utility relocations, and a signal.

Porter Avenue

Ocean Springs, Mississippi

Project manager responsible for performing the QC review of this project and guiding this project through the LPA bidding and construction process. This project included full reconstruction of a 20-foot-wide roadway from west of Williams Avenue to Martin Avenue with curb and gutter and underground drainage. Additional elements include 28 on-street parking stalls, approximately 1,200 feet of 5-foot sidewalk, and reconstruction of two drainage outfalls.

Popp's Ferry Road

Biloxi, Mississippi

Project manager responsible for designing and preparing construction plans and specifications to widen Popp's Ferry Road from a two-lane open-ditch section to a five-lane curb-and-gutter section with sidewalk and multi-use path and a new sewer lift station. Right of way acquisition, construction stormwater controls, vehicular and pedestrian traffic control plans, cost estimates, and quantity estimates were also provided for this project.

Mississippi Gulf Coast Community College (MGCCC) Jefferson Davis Campus Access Road

Gulfport, Mississippi

Project manager responsible for designing a new two-lane entrance road to the MGCCC Jefferson Davis Campus from Pass Road in Biloxi north to Eula Road (0.4 miles). This design includes sidewalks, lighting, roadway and roundabout design. Phase two extends the roadway to Runnymede Drive (0.25 miles).



Mike Spayd, PE, PTOE

Traffic and Safety Analysis

Education

Master of Science
in Civil Engineering,
Transportation

Bachelor of Science in
Mechanical Engineering

Registration

Professional Engineer
MS, 19304

Professional
Traffic Operations
Engineer, 2825

Mike Spayd is a traffic engineer with 16 years of experience. Mike has led a variety of engineering studies, including major corridor studies, traffic impact studies, interchange justification/modification studies, access management studies, road safety audits, parking availability studies, traffic signal warrant studies, and traffic signal retiming studies. He has worked on ITS architecture and deployment plans, roadway signing and marking plans, temporary traffic control plans, and intersection and signal design. Mike has experience analyzing complex interchange and intersection configurations and is proficient in a variety of traffic engineering analysis and simulation programs.

Experience

I-10/US 49 Planning and Environmental Linkage (PEL) Study

Gulfport, Mississippi

Traffic engineer responsible for complex volume generations involving three large developments and capacity analysis using Synchro and SimTraffic of the busy US 49 corridor and adjacent interchanges at Lorraine Road, Canal Road, Three Rivers Road, and Airport Road Extension. Other responsibilities included all project documentation and leading monthly traffic discussions with MDOT and the City of Gulfport.

US 90

Pascagoula, Mississippi

Traffic engineer responsible for analyzing corridor-wide crash data and submitting a report documenting all crash trends and safety issues in the first phase of this comprehensive project. Over 1,000 crash entities were mapped and grouped by location cluster across a five-mile corridor. Preliminary recommendations were developed to mitigate the locations with the highest number/rate of collisions.

I-35 over Waterloo Road

Edmond, Oklahoma

Traffic engineer responsible for analyzing existing and future conditions along a busy arterial corridor and interchange in suburban Oklahoma City. Project responsibilities included developing calibrated Synchro/SimTraffic models, complex volume projections involving trip generation for a mixed use development, and analysis of three interchange/corridor configurations, including a Diverging Diamond Interchange (DDI). Subsequent task orders included interim analysis to signalize the existing configuration and refined analysis of the corridor extents for 2025 and 2040 conditions to relocate frontage roads further from the DDI. An AJR document was developed for the reconstruction of the interchange.



Patra Crenshaw, PE, PTOE

Traffic and Safety Analysis

Education

Master of Science
in Civil Engineering,
Transportation

Bachelor of Science
in Civil Engineering,
Transportation

Registration

Professional Engineer
AL, 30094

Professional
Traffic Operations
Engineer, 4386

Patra Crenshaw is a traffic engineer with 16 years of experience. Patra has a wide range of experience in traffic engineering and roadway design. Her responsibilities have included collecting traffic data, preparing traffic signal timings and design, performing traffic operational analyses using HCS and Synchro, performing multimodal analyses, and developing construction cost estimates. Patra also has vast experience performing safety studies, including evaluating crash data, developing crash rates, and performing *Highway Safety Manual* predictive method analysis. Her previous experience includes serving as a traffic signal design engineer with the Alabama Department of Transportation.

Experience

I-10/US 49 Planning and Environmental Linkage (PEL) Study

Gulfport, Mississippi

Traffic engineer responsible for performing the safety analysis, which included an evaluation of existing crashes and calculating the crash rate.

Beatline Road Planning and Environmental Linkage (PEL) Study

Long Beach, Mississippi

Traffic engineer responsible for evaluating the existing traffic conditions and performing the safety analysis that included reviewing historic crash data and determining crash rates.

US 80 at SR 471

Brandon, Mississippi

Traffic engineer responsible for conducting a traffic study. The study included developing traffic volumes, performing traffic forecast, and conducting operational analysis of existing and build conditions.

Gresham and Middle Road Corridor/Planning Study

Florence, Alabama

Traffic engineer responsible for developing traffic volumes, performing traffic forecast, analyzing safety, and conducting operational analysis of existing, no-build, and build conditions. To develop future traffic volumes, trips were generated based on the preferred land use option. Signal control and roundabouts were analyzed for multiple intersections throughout the study corridor.

Safe Transportation for Every Pedestrian (STEP) Innovation Studies

Little Rock and Jonesboro, Arkansas

Traffic engineer responsible for evaluating potential countermeasures for high pedestrian crossing locations along the study corridors. Potential countermeasures were selected based on field observations and Federal Highway Administration (FHWA) STEP countermeasure tables.



Anette Smalley, PE, PTOE

Traffic and Safety Analysis

Education

Master of Science
in Civil Engineering

Bachelor of Science,
in Civil Engineering

Registration

Professional Engineer
AR, 16459

Professional
Traffic Operations
Engineer, 3945

Annette Smalley is a traffic engineer with nine years of experience. Annette is responsible for conducting a variety of traffic studies that typically include analyzing existing traffic, projecting future no-build and build traffic, performing safety and pedestrian studies, conducting signal warrant analyses, conducting operational and geometric analyses for no-build and build scenarios, and developing improvement recommendations for immediate implementation as well as future implementation. Annette has experience with a variety of programs, including Synchro, SimTraffic, HCS, and PC-Travel.

Experience

I-10/US 49 Planning and Environmental Linkage (PEL) Study

Gulfport, Mississippi

Traffic engineer responsible for conducting the traffic component of the study. Responsibilities included conducting the site visit, the volume forecast, portions of the trip generation, and the operational analysis. Responsibilities also included documenting the results of the analysis.

Beatline Road Planning and Environmental Linkage (PEL) Study

Long Beach, Mississippi

Traffic engineer responsible for the traffic study. Volumes were developed for existing, future no build, and build alternatives. Operational analyses were conducted for existing, future no build, and build alternatives using HCS for the corridor and Synchro and SimTraffic for the intersections within the study area. Recommendations were provided based on these analyses.

Safe Transportation for Every Pedestrian (STEP) Innovation Studies

Little Rock and Jonesboro, Arkansas

Traffic engineer responsible for conducting traffic analyses and producing traffic reports. Analysis for the traffic report included conducting a site visit, processing volume data, conducting a safety analysis, identifying and investigating potential countermeasures according to the Federal Highway Administration (FHWA) guidance, and developing recommendations for improving pedestrian connectivity and safety.

I-35 over Waterloo Road

Edmond, Oklahoma

Traffic engineer responsible for assisting with the traffic study. Responsibilities included conducting operational analyses utilizing HCS software and Synchro/SimTraffic software to analyze operations along roadway segments and within intersections. Responsibilities also included assisting with the safety study and developing design volumes from raw volume data.



Claire McKinney, PE

Signal Design

Education

Bachelor of Science
in Civil Engineering

Registration

Professional Engineer
MS, 28988

IMSA Traffic Signal
Technician – Level I

IMSA Work Zone
Temporary Traffic
Control Technician

Claire McKinney is a traffic engineer and has nine years of experience. Claire's responsibilities and project experience include performing intersection analyses, designing traffic signals, computing traffic and roadway quantities, developing signing plans, developing maintenance of traffic plans, designing Intelligent Transportation Systems (ITS), and drafting with MicroStation and AutoCAD. Claire is also skilled in a variety of traffic engineering analysis programs, including Synchro, SimTraffic, PC-Travel Time software, HCS, and VISSIM. Claire also has experience with Geographic Information Systems using ArcGIS.

Experience

US 90

Pascagoula, Mississippi

Traffic engineer responsible for developing access management alternatives and subsequently developing traffic volumes for the selected alternative. Responsibilities included using these volumes along with a level of service analysis and traffic simulations to determine needed lane configuration and signal timings. Once the study was approved, responsibilities included designing signalization for 10 intersections, including railroad preemption. The project also included ITS design with PTZ, fixed, and radar cameras, Bluetooth devices, and DMS boards along the seven-mile corridor.

I-269 Paving Plans – Phase B

Marshall County, Mississippi

Traffic engineer responsible for the design of an Intelligent Transportation System (ITS) and signal design at four intersections and two interchanges within the project limits. The signal design included the installation of fiber to allow the signals to communicate along the entire transportation system.

US 45

Lee County, Mississippi

Traffic engineer responsible for the traffic analysis, signal design, and signing plans. The analysis included evaluating crashes at three intersections, evaluating existing and future operations, and utilizing trip generation for the expansion of the industrial park and redesign of US 45 at Fashion Way to a directional intersection. The project included installing traffic signals at the intersections of US 45 at Pratts Road and US 45 at Southwest Avenue with communication between the intersections.



Avneet Singh, EI

Signal Design

Education

Bachelor of Science
in Civil Engineering

Registration

Engineer Intern
MS, 30061

Avneet Singh is a traffic engineer on Garver's Transportation Planning and Traffic Team. Avneet's project experience includes developing signal and signing plans and performing site visits for numerous projects throughout Mississippi. Her primary responsibilities include editing/creating sheets, checking quantities, and creating signs. She also has experience with MicroStation and SignCAD.

Experience

I-10/US 49 Planning and Environmental Linkage (PEL) Study

Gulfport, Mississippi

Traffic designer responsible for plan production for this PEL study that included desktop and field data collection, traffic forecasting, safety analysis, environmental and planning analyses, conceptual traffic engineering, alternatives development, conceptual design (to determine constructability), cost estimates, alternatives screening, communications, and agency coordination to successfully deliver a recommended set of alternatives for further evaluation.

I-59 at SR 29 Interchange

Ellisville, Mississippi

Traffic designer responsible for performing a site visit, monitoring traffic volumes, and creating Synchro model.

West Stonebrook Parkway and Anthem Drive

Frisco, Texas

Traffic designer responsible for traffic signal design at the intersection of Stonebrook Parkway and Anthem Drive.

Colbern Road Reconstruction (Route 350 to Douglas Street)

Lee's Summit, Missouri

Traffic designer responsible for traffic signal design for this arterial widening project, Colbern Road from Missouri (MO) Route 350 to 2,000 feet east of Douglas Street.

Highway 67 – Main Street to Vandenberg Boulevard

Jacksonville, Arkansas

Traffic designer responsible for traffic signal design for this project that includes widening 2.55 miles of Highway 67.



Grady Martin, IV, PE

Conceptual Design

Education

Bachelor of Science
in Civil Engineering

Registration

Professional Engineer
MS, 20758

MDOT Certified in
Traffic Safety, Erosion
Control, and LPA
Administration

Grady Martin is a transportation engineer with 12 years of experience. Grady has a broad range of experience working on projects ranging from water and sewer modeling and design, drainage studies, roadway design, and construction administration. He has worked on local projects along the Mississippi Gulf Coast as well as state and federal-funded projects. Grady has experience with AutoCAD Civil 3D, AutoCAD Storm & Sanitary Sewer Analysis, Bentley Water & Sewer GEMS, and GIS software.

Experience

Biloxi Infrastructure Repair Program

Biloxi, Mississippi

Transportation engineer responsible for preparing construction documents and reports; modeling water, sewer, and drainage facilities; and providing construction administration support. The program focused on the repair/replacement of over 1.2 million linear feet of water, sewer, and storm drainage system lines; 72 pumping stations; and over 100 miles of streets and roadways damaged by the storm.

Three Rivers Road/Airport Road Roundabout

Gulfport, Mississippi

Transportation engineer responsible for preparing construction documents and reports; modeling water, sewer, and drainage facilities; and providing construction administration support. This was a MDOT LPA-funded project.

Keesler Gate Entry Road

Biloxi, Mississippi

Transportation engineer responsible for preparing construction documents and reports; modeling water, sewer, and drainage facilities; and providing construction administration support. This was a joint City of Biloxi and Keesler Air Force Base project.

Brickyard Bayou Drainage/Floodplain Study

Biloxi, Mississippi

Transportation engineer responsible for preparing construction documents and reports.



Project Experience



Project Experience

With declining revenues and ever present transportation needs, traffic engineering plays a key role in maximizing the performance of the current system and wisely allocating the use of precious budgetary resources. By having a dedicated Transportation Planning and Traffic Team at Garver, we can provide technical expertise and develop context-sensitive solutions to your projects.

At Garver, we understand the challenges that our clients face, and we find the best solutions. We take personal ownership of our projects because the infrastructure we design connects us with our work, our families, and our clients. We take pride in our commitment to connecting our world through engineering excellence.

Transportation planning and traffic analysis is one of our specialties. Our Team has a proven history of providing traffic engineering services on an on-demand basis for many municipalities and state departments of transportation. Our experience includes performing traffic studies, access management studies, multimodal level of service studies, and safety studies for all types of transportation facilities.

Garver's engineers and planners are exceptional at considering all factors in developing a traffic study. We have performed and reviewed traffic studies for virtually every type of traffic engineering situation that may be encountered from simple, isolated intersections to complex interchange studies involving trip generation and unconventional intersections. We have also conducted multiple studies that focused on pedestrian safety. We understand the importance of providing a transportation system that is safe for all road users, including pedestrians.

The matrix and brief project descriptions on the following page highlights some of our representative experience. These projects exemplify the Garver Team's depth of expertise and experience and ability to understand your project requirements.

	SAFETY STUDIES	BEFORE/AFTER DATA ANALYSIS STUDIES	TRAVEL TIME STUDIES	CORRIDOR STUDIES	INTERSECTION CAPACITY/LOS STUDIES	VEHICLE DELAY/ QUEUING ANALYSIS	TRAFFIC IMPACT STUDIES	TRAFFIC SIGNAL WARRANT STUDIES	TRAFFIC SIMULATION	MULTIMODAL	SIGNAL DESIGN	CONCEPTUAL DESIGN
I-10/US 49 PEL Study Gulfport, Mississippi	✓	✓		✓	✓	✓	✓	✓	✓			✓
Beatline Road PEL Study Long Beach, Mississippi	✓	✓		✓	✓	✓		✓	✓			✓
US 90 Pascagoula, Mississippi	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
I-10 Diamondhead Interchange Diamondhead, Mississippi		✓			✓	✓		✓	✓			✓
Multimodal Mobility Studies Tulsa, Oklahoma	✓	✓		✓	✓	✓			✓	✓	✓	✓
STEP Innovation Studies Various Locations, Arkansas	✓	✓	✓		✓	✓		✓	✓			✓
Spring Street Shared-Use Path Starkville, Mississippi										✓	✓	
Gresham Road and Middle Road Florence, Alabama	✓	✓		✓	✓	✓	✓		✓			✓
Downtown Master Plan Huntsville, Alabama		✓		✓	✓	✓	✓		✓	✓		
Dave Ward Drive Conway, Arkansas	✓	✓		✓	✓	✓	✓	✓	✓			✓
Markham Street Conway, Arkansas		✓		✓	✓	✓		✓	✓	✓		✓
Traffic Signal Timings Norman, Oklahoma		✓	✓			✓			✓			
Highway 7 - Highway 9W Lafayette County, Mississippi	✓	✓	✓		✓	✓		✓	✓			✓
The Greens at Auburn Auburn, Alabama		✓			✓		✓	✓	✓			

➤ WE’VE HIGHLIGHTED PROJECTS THAT WE’RE PROUD OF AND ARE REPRESENTATIVE OF OUR CAPABILITIES, BUT WE UNDERSTAND THAT WE MAY NEED TO SCALE OUR WORK TO FIT GULF REGIONAL PLANNING COMMISSION’S NEEDS.

I-10/US 49 PEL Study Gulfport, MS

Contact

Sammy Holcomb
Mississippi Department of
Transportation
601-359-7001

Completion Date

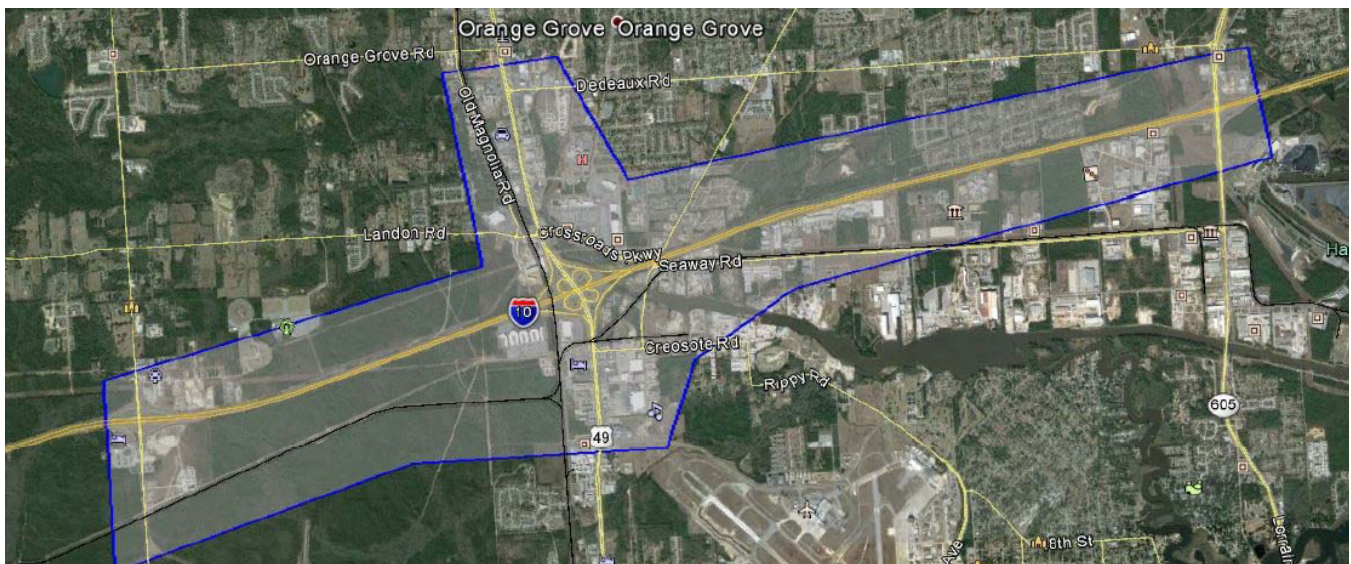
2017



Project Description

The I-10/US 49 Interchange is located in a growing urban area with heavy commercial development, and further development is scheduled in the surrounding area. To address the existing and future mobility and safety issues, Garver conducted a Planning and Environmental Linkage (PEL) study. The PEL study included desktop and field data collection, traffic forecasting, safety analysis, environmental and planning analyses, conceptual traffic engineering, alternatives development, conceptual design (to determine constructability), cost estimates, alternatives screening, communications, and agency coordination to successfully deliver a recommended set of alternatives for further evaluation.

Recommended alternatives included routes on new location, roadway widening, and intersection improvements. Final alternatives were evaluated on the following measures: traffic operations, safety, environmental impacts, cost, and feasibility. Final recommendations included a prioritized set of short-term solutions to alleviate existing congestion and long-term improvements that can be implemented subject to available funding to address long-term safety and mobility issues. Based on our results, the City received a \$20 Million Better Utilizing Investments to Leverage Development (BUILD) Grant from the United States Department of Transportation (USDOT).



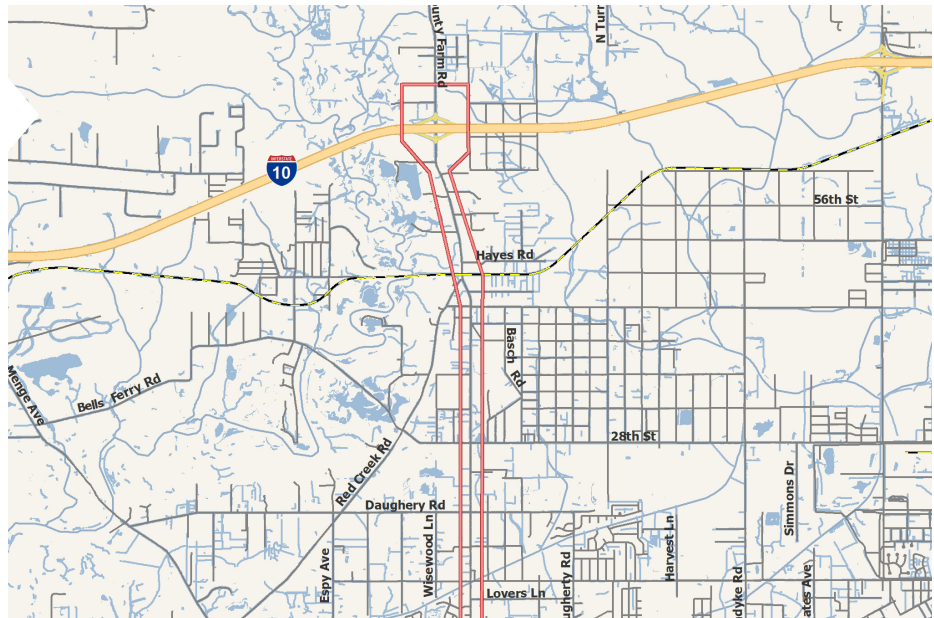
Beatline Road PEL Study Long Beach, MS

Contact

Sammy Holcomb
Mississippi Department of
Transportation
601-359-7001

Completion Date

2018

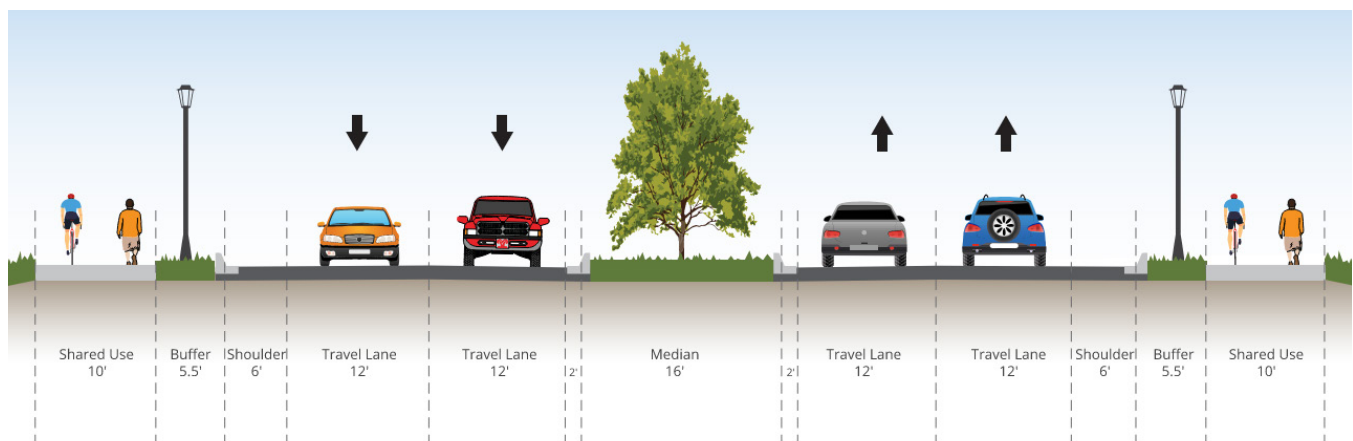


Project Description

Garver conducted a Planning and Environmental Linkage (PEL) study to determine the feasibility of improving Beatline Road to a four-lane boulevard. Traffic analysis showed that congestion resulting from future traffic growth will lead to failing levels of service prior to the design year 2040. The purpose of the project is to:

- Reduce congestion and improve mobility along the project corridor
- Provide bicycle and pedestrian facilities along the project corridor
- Enhance driver safety along the project corridor
- Provide a consistent north/south connection along Beatline Road/County Farm Road between I-10 and US 90

The study team identified two alternatives to improve safety and mobility while optimizing opportunities for economic development, enhancing freight movement, providing an improved evacuation route in the event of a natural disaster, and avoiding or minimizing impacts to the human and natural environment. The final recommendation included a four-lane facility with bicycle/pedestrian accommodations to be constructed in three phases pending available funding.



US 90

Pascagoula, MS

Contact

Mark Thomas, PE
Mississippi Department of
Transportation
601-359-7001

Completion Date

2018



Project Description

Garver performed full traffic and design services for safety improvements along the US 90 corridor, a five-mile four to six-lane divided arterial. The initial phase of the project included an inventory of existing signal equipment, a compilation and review of crash data, and the development of a safety assessment that showed high crash rates, especially at the intersections with Chicot Street and Hospital Street.

Based on the assessment, construction plans were prepared, which included access management measures (median closures, conversion to right-in, right-out), roadway widening, full signal design, and ITS design (CCTV, Bluetooth, Radar, FO backbone, and traffic signal interconnect). A Systems Engineering Analysis (SEA) Report followed the recommended ITS project development process to document the ITS installations, fulfilled the minimum SEA requirements as outlined in the current version of MDOT's *Systems Engineering Management Plan* (SEMP), and fulfilled FHWA Rule 940 and the MDOT requirement for "Milestone Type C – Project Plan and SEA Approval."



As a final phase of the project, updated coordinated signal timings were produced for implementation along the corridor once construction is complete. Signal timings included FYA evaluation, updated vehicle clearance intervals, and introduction of system-wide coordinated bandwidth with anticipated benefits reducing travel time by 10% and delay by 35%. Based on crash modification factors (CMFs), the recommendations from the study should decrease the number of crashes in the future even as traffic continues to grow.

I-10 Diamondhead Interchange

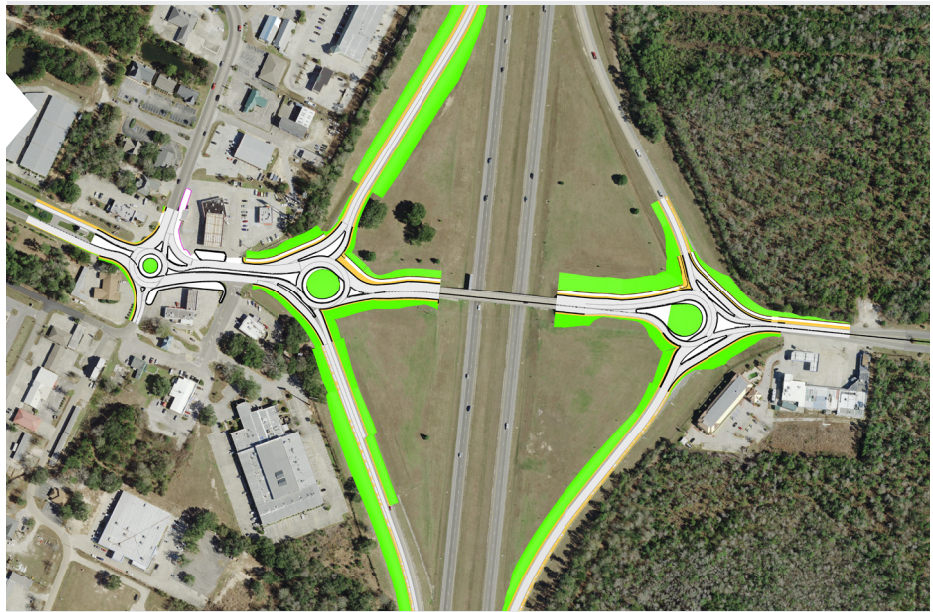
Diamondhead, MS

► Contact

David Seal, PE
Mississippi Department of
Transportation
601-359-7001

► Completion Date

In Progress



Project Description

Garver is providing roadway, traffic, ITS, and lighting services to modify the I-10 interchange at Diamondhead. The modifications include upgrading the ramp intersections from stop-controlled to roundabouts as well as converting the stop-controlled intersection at Aloha Drive to a roundabout. This I-10 interchange serves as the City of Diamondhead's primary interstate access and commuter work route. The project intent is to increase the Level of Service (LOS) in the area, while minimizing right of way acquisitions and maximizing safety.

The primary movements in the area are southbound on Gex Drive to westbound I-10 in the mornings and eastbound I-10 to northbound Gex Drive in the evenings. Currently, during the evening peak period, MDOT prohibits left turns at the eastbound exit ramp and diverts all traffic south along Gex Drive to the existing roundabout at the Yacht Club to make a U-turn movement back north. Garver conducted a detailed traffic study of the area to determine the proposed improvements required to provide a safe commute at an acceptable level of service.

To accommodate projected traffic volumes, additional lanes are being added to these interstate ramps, an additional lane added northbound along Gex Drive, and roundabouts added at the ramp intersections. Garver was initially scoped to provide a signal at the Aloha Drive intersection. After conducting traffic analysis utilizing both Sidra and Synchro software, Garver determined that the signal would not function at an acceptable LOS without requiring considerably more right of way along the approaches. The tight urban footprint of the roadway approaches led Garver to propose the third roundabout at this location.

Garver is currently finalizing the Phase A right of way plans. The project includes additional capacity along three of the four interstate ramps, additional capacity and access management along Gex Drive, a multi-use path across the interstate, as well as conceptual signing, ITS, and lighting plans. The eastbound exit and westbound entrance ramps were designed to accommodate MDOT's intent to add additional lanes to I-10 in the immediate future.



Multimodal Mobility Studies

Tulsa, OK

Contact

Brooke Caviness, PE
City of Tulsa
918-596-9243

Completion Date

2015



Project Description

Garver performed multimodal mobility studies (MMS), including a multimodal level of service (MMLOS) analysis using methods outlined in the *Highway Capacity Manual* on E. 21st Street, E. Pine Street, E. 15th Street, and S. Union Avenue. The purpose of these studies was to evaluate design alternatives that will effectively provide a multimodal street to accommodate all road users, including vehicles, pedestrians, transit, and cyclists. In addition, traffic and safety analyses were conducted to identify the need for turn lanes, signal timing adjustments, pedestrian crossing locations, bike lanes, sidewalks, and enhancements along each corridor.

To develop recommendations, Garver conducted field observations, data collection, traffic forecasting, transit data collection, existing traffic signal timing, speed study, lighting study, safety analysis, and operational and geometric analysis. Conceptual alternatives were developed in coordination with the City of Tulsa with consideration to the planned roadway sections listed in the Tulsa Metropolitan Area Major Street and Highway Plan, safety and operational analysis, future traffic projections, and land uses.

Each four-mile corridor was broken down into segments utilizing either a design level analysis or planning level analysis. The major difference between the planning and design level analyses was the level of detail in the data collected and the level of analysis conducted.

Garver was able to determine the level of service (LOS) for vehicles, pedestrians, bicycles, and transit along the roadway segment as well as the LOS for pedestrians and bicycles at the signalized intersections. LOS for transit is not defined for intersections, and LOS for vehicles at signalized intersections must be determined with supplemental software. Therefore, Synchro/SimTraffic software were used for this analysis to determine the vehicular LOS at the signalized intersections within the design level analysis study areas.

Based on the results of the multimodal mobility studies, recommendations were made for the corridors in regard to proposed roadway conceptual designs, operational and geometric improvements, transit improvements, bicycle and pedestrian accommodations, access and mobility, safety, lighting, and pavement.

STEP Innovation Studies

Little Rock/Jonesboro, AR

► Contact

Jessie Jones, PE
Arkansas Department of
Transportation
501-569-2201

► Completion Date

2019



Project Description

The Federal Highway Administration (FHWA) is promoting pedestrian safety through the Every Day Counts program with the Safe Transportation for Every Pedestrian (STEP) initiative. STEP studies promote the use of road diets, pedestrian hybrid beacons (PHBs), pedestrian refuge islands, raised crosswalks, and crosswalk visibility enhancements such as improved lighting, signage, and markings to balance pedestrian safety with vehicular mobility in locations with high pedestrian traffic.

Garver compiled vehicle, pedestrian, and bicycle counts, analyzed crash data and reports, reviewed roadway geometric data and pedestrian sight lines, and coordinated with local stakeholders to evaluate existing conditions and develop countermeasures at the following high pedestrian locations: Highway 10 Cantrell Road, Little Rock; Highway 141 North Church Street, Jonesboro; and Highway 91 Johnson Avenue, Jonesboro.



The recommended countermeasures included enhanced pedestrian accommodations at all locations, a full traffic signal at both the Highway 10 and Highway 91 sites, and a pedestrian hybrid signal at the Highway 141 location.

Spring Street Shared-Use Path

Starkville, MS

► Contact

Edward Kemp, PE
City of Starkville
662-323-2525

► Completion Date

2019



Project Description

Garver provided construction plans for a shared-use path connecting the southeast intersection corner of SR 12 and Spring Street to the Amphitheater area on Mississippi State University's (MSU) campus. This project includes upgrades to the existing signals, installation of new signals, and modifications to existing facilities to be ADA compliant. This project was a collaboration with the City of Starkville, MSU, and MDOT's Local Public Agency (LPA) Division.

Gresham Road and Middle Road

Florence, AL

► Contact

Jesse Turner
Northwest Alabama
Council of Local
Governments
256-389-0500

► Completion Date

2019



Project Description

The Gresham Road (County Road 46) and Middle Road (County Road 61) study corridor provides connection between the City of Florence, Town of St. Florian, and Lauderdale County. The purpose of the study was to identify the issues that exist within the existing roadway network and to propose a solution that is in line with the project goals and local development plans. The study incorporates land use, transportation, and environmental screening into one project to cohesively examine the corridor. Garver developed a series of conceptual corridor improvements based upon traffic analyses and anticipated land use(s). Proposed improvements were developed for both short and long term time frames in an effort to address the corridor's most pressing transportation needs in a timely manner.

Downtown Master Plan

Huntsville, AL

► Contact

Rob Robinson, AIA
Urban Design Associates
412-263-5200

► Completion Date

2017



Project Description

As part of the planning team for the Downtown Master Plan Update for the City of Huntsville, Garver evaluated the feasibility of a road diet for Clinton Avenue. Multimodal level of service analysis for Clinton Avenue was performed using the Complete Streets Level of Service (CSLOS) software. The traffic impacts of development proposed for the Downtown Master Plan were also assessed in conjunction with the road diet for Clinton Avenue. Garver also conducted assessment of proposed transportation network modifications and participated in the design workshop.

Dave Ward Drive

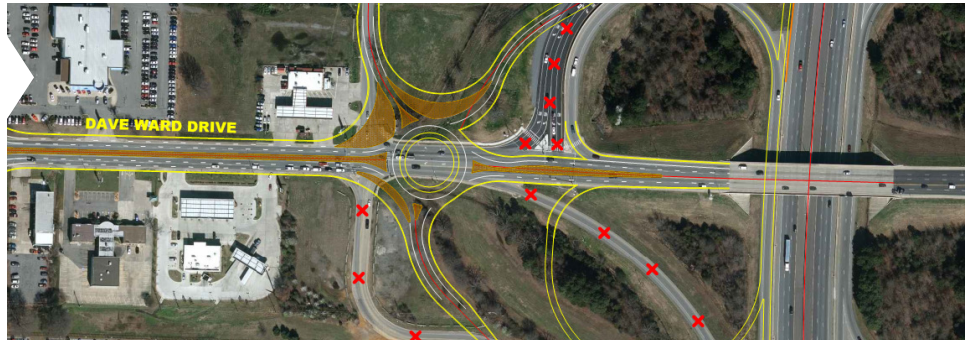
Conway, AR

► Contact

Andrew Warren, PE
Arkansas Department of
Transportation
501-569-2063

► Completion Date

2019



Project Description

Garver provided traffic studies and developed planning level improvement alternatives for Highway 65B (Dave Ward Drive) between Highway 365 and I-40. The traffic study included future volume projections, which involved trip generation forecasts utilizing the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Improvement alternatives included complex roundabout configurations that were modeled using SIDRA software. Garver also conducted public involvement activities, including public meetings, stakeholder meetings, and public officials meetings.

Markham Street

Conway, AR

Contact

Casey Covington, PE, AICP
Metroplan
501-372-3300

Completion Date

2019



Project Description

Garver provided traffic studies, environmental documentation, and design services to reconstruct Markham Street into a walkable connection for the approximately 2,500- foot long corridor between downtown Conway and Hendrix College. Garver worked closely with the City of Conway to evaluate the performance of the Markham Street corridor, determine traffic control needs at two study intersections, and provide adequate number and length of turn lanes at the study intersections. The final design included pedestrian, bicycle, and streetscape features; separated one-way cycle paths; parallel parking; and bio-retention planters.

Traffic Signal Timings

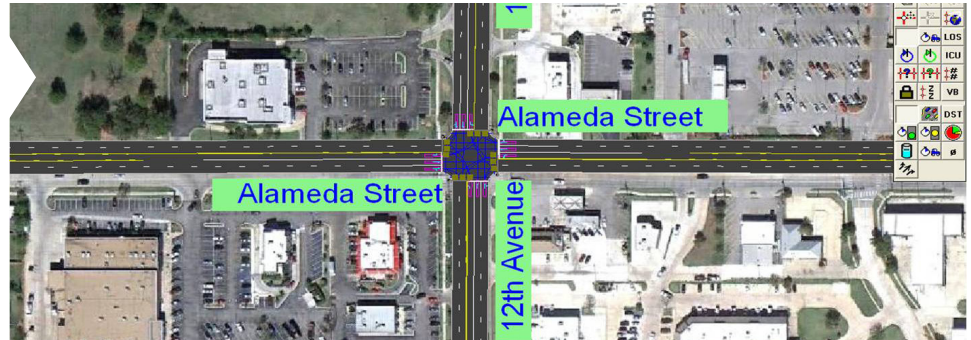
Norman, OK

Contact

David Riesland, PE
City of Norman
405-329-0528

Completion Date

2020



Project Description

Garver prepared coordinated signal timing plans along 12th Avenue East/Classen Boulevard, Robinson Street, W. Tecumseh Road, 24th Avenue NW, Lindsey Street, and SH 9 (total of 59 intersections) for the morning, noon, and evening peak periods. Updates to intersection cycle lengths, movement splits, offsets, and phasing sequences were implemented to introduce system-wide bandwidth along these corridors with significant delay reductions for mainline traffic. Timing plans on these corridors included Flashing Yellow Arrow (FYA) implementation and analysis, inclusion of twice per cycle left turn phasing, timings plans at three interchanges on I-35, and consideration of pedestrian-only signals on the University of Oklahoma (OU) campus. Synchro/SimTraffic was used to develop the signal timings.

Highway 7 – Highway 9W

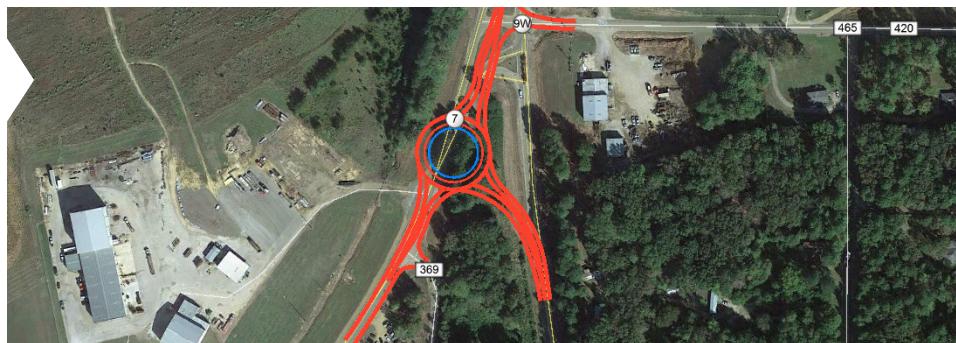
Lafayette County, MS

► Contact

Mark Thomas, PE
Mississippi Department
of Transportation
601-359-7001

► Completion Date

2018



Project Description

Garver evaluated the impact on vehicles from a trucking company being able to enter Highway 7 from a nearby County Road once a stop-controlled intersection south of Oxford, Mississippi is replaced with a roundabout. The results of the study showed that the trucks would not have adequate gaps to enter the roadway by the design year, and further improvements would be needed.

The Greens at Auburn

Auburn, AL

► Contact

Hugh Jarratt
The Greens at Auburn
479-521-6686

► Completion Date

2019



Project Description

Garver conducted a traffic impact study to determine how a proposed development will affect the capacity and level of service of the existing roadway system. Operational analysis was performed for the existing conditions, future no build conditions, and future post development conditions. Based on the results, Garver provided recommendations for proposed improvements including the need for traffic signals to address operational issues due to the development.

