



AN ULTRA-
RESPONSIVE SMALL
FIRM DEDICATED TO
NIMBLY MEETING
THE VARYING NEEDS
OF INDIVIDUAL
CLIENTS AND
PROJECTS.



T² TRAFFIC
AND
TRANSPORTATION
DBE/WBE



**Missouri's
Local
Program**
*for community
development*

2020-2023

**ON-CALL
PROFESSIONAL
SERVICES**



Tsquared Traffic & Transportation, LLC
226 CENTRAL AVENUE
ST. LOUIS, MO 63119
314.375.3748



T² TRAFFIC AND TRANSPORTATION

(Tsquared or T²) is located in St. Louis, MO and was established in July 2016 as a woman-owned business (DBE, WBE, SBA certified) by Carrie A. Falkenrath, PE, PTOE, PTP, RSP. After twenty years as a Missouri transportation and traffic consultant, she saw a need in the local industry for a small firm that could scale its services to nimbly meet the flexible needs of individual projects and clients, by providing a full range of expertise from software analyst to project manager. **Tsquared is ideally structured to deliver small projects hand-in-hand with Local Public Agencies.** At T², Project Managers are their Project Engineers – ensuring clients work directly with the person most knowledgeable about their projects.

Tsquared works with clients of all sizes and backgrounds including Public Agencies and Institutions, Municipalities, Neighborhoods, Private Owners/Developers, Non-Profit Organizations, and Engineering, Planning, and Architecture Firms to provide services including:

- Traffic Impact Analyses / Studies (TIA, TIS)
- TEAP Applications & Studies
- Safety Studies / Highway Safety Manual (HSM) Analyses
- Traffic Signal Timing and Operations Evaluations
- Community Planning / Transportation System Planning / Site Access & Development Planning
- Active Transportation / Multimodal (Bicycle/Pedestrian/Transit) Planning
- Traffic & Multimodal Operations Analysis, Modeling & Simulation with VISSIM, SYNCHRO, SIDRA, and HCS
- NEPA Documentation including Access Justification Reports (AJR)
- Traffic Data Collection
- Traffic Calming Studies
- Corridor Studies
- Parking Studies
- School Studies
- Access Management Studies
- Complete Streets Projects
- Stakeholder Coordination
- Public Engagement
- Multi-agency Collaboration
- Project Management
- Grant Applications and Assistance
- Trip Generation Forecasting
- Work-Zone Impact Analysis
- Professional Expert Services
- QA/QC, Peer Review, Value Engineering



With a breadth and depth of transportation experience in **planning, operations, and design**, T² applies a holistic approach to projects. The goal of every assignment is to identify uniquely tailored solutions, drawing from innovative and proven tools, with a logical approach to implementation while developing a consensus among all involved owners, stakeholders, and designers. Many of Tsquared's existing clients and collaborators are larger multidisciplinary firms offering a full range of Civil Engineering services if additional needs arise.

Tsquared's approach to project management and delivery has proved successful, and the firm has steadily expanded its clients, partners, and completed projects. T² is proud to have met the budgets and scheduled deadlines of every project in our history, leading to many repeat clients and a reputation for exceeding client expectations.



CARRIE A. FALKENRATH, PE, PTOE, PTP, RSP is the Principal Engineer at T² Traffic & Transportation. Carrie has 23 years of valuable engineering, planning, and management experience on a variety of transportation projects and teams of nearly every size. A Missouri native, she is a licensed Professional Engineer in 9 states, an Adjunct Professor, an active member in professional organizations and has received multiple awards from her transportation peers recognizing her career. Carrie specialties are transportation planning and analysis and her strengths are collaboration and communication; she is routinely commended for her presentation style and ability to listen to, learn from, and connect with project partners, both internal and external.



MISSOURI PROJECTS

MoDOT Projects

I-64 at Jefferson AJR for NGA*
MoDOT Safety Improvements D-B*
Big Bend over I-44 Reconstruction*
US 50 at Route AT/North Outer 44*
I-44 Bridge Rebuild Design-Build*
Route 19 over Interstate-70*
Route 21 at Lowry Lane*

LPA Projects

Compton Ave. Bridge Reconstruction*
Regional ITS Data Sharing Initiative*

MUNICIPAL Projects

Geyer Road Pedestrian Hybrid Beacon
Ballwin Comprehensive Plan*
Ballwin Signage Study
Geyer Road Phase 2*
Kirkwood Commercial Market Analysis*
Geyer Road Data Collection

Private Projects

216 W. Lockwood Parking Plan
Winter Brothers Chesterfield Site
"Kirkworks" Traffic Impact Analysis (TIA)
Silver Dollar City Data Collection*
Walgreens Professional Expert
Lockwood Apartments Parking Study
Bridgeton Square Development TIS*

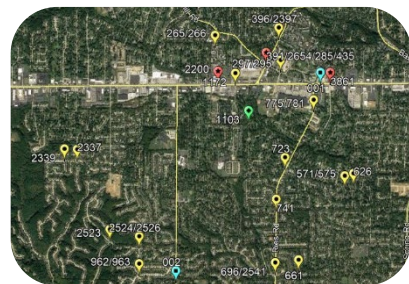
**Performed as Subconsultant*

MUNICIPAL PROJECTS

BALLWIN SIGNAGE STUDY

City of Ballwin, MO

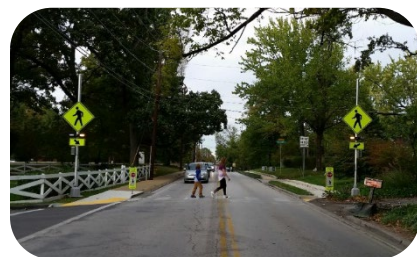
T² recently completed Phase 1 of this evaluation of STOP signage at 27 specific locations identified by the City PD as problematic. T² determined 13 required further study. In the interim, T² provided short- and long-term mitigation for every location and a scope and fee estimate for a Phase 2 study that includes creating a City Stop-signage Implementation Policy. T² then assisted the City's successful TEAP application for Phase 2.



SOUTH GEYER ROAD PEDESTRIAN HYBRID BEACON STUDY

City of Kirkwood, MO

T² performed extensive data collection and observations to investigate pedestrian accommodations within a segment of a major collector roadway within the City, resulting in recommendations to address high vehicular volumes and speeds adding additional support to pedestrian movements.



216 W. LOCKWOOD PARKING PLAN

M. Hinkle (Webster Groves, MO)

T² completed this parking plan for the adaptive reuse of an auto repair shop into a mixed-use development in the center of a thriving CBD with a mixture of dedicated, customer, employee, permit, time-restricted, and unrestricted parking. T² performed a parking inventory and utilization survey of the entire district and defined locations of underutilized shared parking that would meet the future parking needs for the multiple uses of the proposed development for the City's approval.



MoDOT PROJECTS

BIG BEND OVER I-44 RECONSTRUCTION PLANNING STUDY

(Kirkwood, MO)

For this conceptual study to replace an aging arterial bridge, T² devised a plan to partner with MoDOT staff utilizing state equipment to collect traffic data in the corridor to reduce costs. T² then worked with bridge and roadway designers to identify potential interchange geometries taking care to support pedestrian movements and analyzing preferred alternatives utilizing SYNCHRO

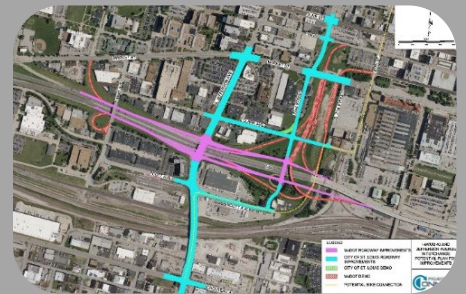


software, documenting the methodology and analyses and presenting findings to MoDOT staff. T² then performed additional analyses on the Maintenance of Traffic (MOT) plan for the proposed construction staging, including traffic diversion estimates and evaluation of lane restrictions within the project corridor.

ACCESS JUSTIFICATION REPORT: I-64 ACCESS MODIFICATIONS AT JEFFERSON AVENUE

(St. Louis, MO)

T² served as the Technical Lead for the analysis and documentation of an AJR for MoDOT to submit to FHWA for review and project approval. The project investigated potential alternatives for the redesign of an urban I-64 interchange, including their connections and coordination with the surrounding arterial network. T² was responsible for the safety investigation (HSM methodologies), operational modeling and analysis (VISSIM microsimulation software), documentation support, and coordination with (and presence) of St. Louis, MoDOT, and FHWA MO Division stakeholders.



"Tsquared's Traffic Analysis of the possible interchange options provided the insight that the City of St. Louis and St. Louis Development Corporation needed to make informed decisions on the engineering design to make this project a success."

This work was done in a timely fashion with a high level of professionalism."

Deanna Venker—Commissioner of Traffic, City of St. Louis

US ROUTE 50 WITH ROUTE AT/NORTH OUTER 44 STUDY

(Franklin County, MO)

T² supported this investigation to redesign a critical intersection adjacent to I-44 with significant safety concerns. The study originated in an effort to fully evaluate a proposed high-speed roundabout utilizing SYNCHRO and SIDRA software. The project team additionally identified and investigated multiple alternative design concepts, including offset and grade-separated intersections for comparison. T²



participated in the conceptual design planning and was responsible for QA/QC of the full traffic analysis including traffic projections, software evaluations of all design scenarios, and documentation.

