

November 14, 2014

MaryAnn.Jacobs@modot.mo.gov

Subject: Local Program (LPA) On-Call Professional Services - Traffic Engineering

Dear Ms. Jacobs:

The Missouri Department of Transportation (MoDOT) and CDM Smith currently enjoy a strong partnership in transportation planning and traffic engineering, and we are eager to continue expanding that relationship through the traffic engineering LPA on-call services contract.

GENERAL EXPERIENCE OF THE FIRM

CDM Smith has been providing traffic engineering services for more than 60 years. We offer a range of services, including roadway planning and design, rail planning and design, civil engineering, drainage, geotechnical, traffic engineering, water, sewer, and utility planning and design, structural design, urban and regional planning, transportation planning, environmental, economic and financial analyses—all supported by citizen and stakeholder participation activities.

PAST PERFORMANCE

CDM Smith consistently ranks among the *Engineering News-Record's* top 20 engineering firms in the country for both transportation and highways. Our traffic engineering services include infrastructure planning, design and program development. This work typically includes strategic planning and the analysis of alternative strategies to serve future needs; and providing technical assistance in the development and implementation of major transportation programs. Our core group of traffic engineers specializes in operational analysis, traffic control design, transportation improvement prioritization and safety studies. The team has substantial experience in traffic planning, operational analysis, traffic circulation, parking studies, traffic safety studies, signal system design and traffic impact assessments. Brief descriptions of these projects include:

Route 350 Economic Study, Raytown, Missouri. CDM Smith completed a corridor study for MoDOT for 350 Highway in the City of Raytown that specifically examined the link between transportation improvements and economic development. The study considered the economic development effects of a different road configuration by looking at the potential land use changes and development that could occur under different scenarios that would change 350 Highway from one-way roadway pairs to a unified two-way stretch of road. CDM Smith used SYNCHRO to analyze the various scenarios on the road system, including model development, trip distribution, turn lane needs analysis, and signal timing modifications.



I-70 Second Tier EIS Study, Kansas City, Missouri. CDM Smith was selected by the Missouri Department of Transportation to conduct a Second Tier EIS study of I-70 from the

downtown loop to the Blue Ridge Cutoff Interchange in Independence. The study includes collecting traffic data, developing traffic modeling and forecasts for several mainline and interchanges alternatives, and presenting these findings to multi-stakeholder groups in the metro area.

I-35/Pleasant Valley Interchange Project. CDM Smith designed and analyzed the safety and traffic impacts of providing an auxiliary lane from Vivion Road interchange to I-435/I-35 interchange. CDM Smith conducted a safety analysis along the study area and documented the impacts of the proposed changes. CDM Smith analyzed the crash data as per FHWA guidelines and assessed the impacts of the proposed auxiliary lanes to safety along I-35. CDM Smith also used Highway Capacity Software to analyze traffic operations. The project included analysis for signalized intersections, freeway on/off-ramps, merge and diverge areas and weaving sections.

I-470 Purpose and Need Study, Jackson County, Missouri. CDM Smith was retained by MoDOT to conduct a Purpose and Need Study in Jackson County. The aim of the I-470 Purpose and Need Study was to develop the purpose of and determine need for

improvements to I-470 along a 15-mile corridor from 39th Street to Blue Ridge Boulevard in Jackson County. Among other items, the study included a safety data analysis and evaluated engineering features such as horizontal and vertical alignment, merge and diverge functionality, and intersection improvement opportunities at I-470 ramp terminals to determine the root causes of existing and future needs of the I-470 corridor. The study also developed short-term, non-capacity improvements unrelated to the purpose and need that could be implemented. The study is a cooperative effort involving the MoDOT, Mid-America Regional Council, cities of Lee's Summit, Independence, and Kansas City.

Route 71/150 Interchange Traffic Study. CDM Smith was retained by MoDOT to conduct the traffic operations modeling for three interchange concepts, including a single-point urban diamond, a standard diamond, and a modified urban diamond at the US 71 (now I-49) and Route 150 interchange. Traffic estimation procedures included extensive development at the former Richards Gebauer Air Force Base, as well as expected commercial and retail development on the eastern side of Route 71 (I-49).

Route 47 Major Investment Study. CDM Smith was responsible for the preparation of the MIS for potential transportation improvements in the western fringe of the St. Louis Regional Area. The corridor is approximately 30 miles long in a north/south direction. Land development pressures are beginning to impact the study area, leading to concerns about what types of transportation improvements might be needed to serve long term development in the area, and possibly reduce the inter-regional travel pressure between I-44 and I-70.

Fort Leonard Wood Intermodal Needs Study. In response to Base Realignment and Closures Commission (BRAC) recommendations and expected future growth, MoDOT selected CDM Smith to evaluate the feasibility of making transportation investments to meet the growing needs of the fort and the surrounding area. These evaluations included investigating the overall engineering, environmental, transportation, and financial feasibility of making those investments. Phase I centered on Missouri Avenue and addressed potential short- and long-term

solutions that would most effectively solve existing and projected deficiencies in the Missouri Avenue Corridor. The preferred alternative comprised both short-term (intersection improvements, bicycle/pedestrian facilities, lighting) and long-term (additional capacity on Missouri Avenue) solutions. The second phase of the study took a more regional and multimodal approach with a focus on regional bridges and roadway improvements.

Traffic Engineering Study, Roe Avenue, Roeland Park, Kansas. CDM Smith conducted a traffic engineering study of Roe Avenue. CDM Smith evaluated and recommended a revised signal timing plans for a series of six traffic signals to enhance the peak period commuter traffic flow through the corridor. The study included developing interim improvements to facilitate existing and 20-year future retail and residential development.

Traffic Services, Roeland Park, Kansas. CDM Smith conducted a traffic engineering study of Roe Avenue, a project that grew into an ongoing relationship where CDM Smith acted as the City's on-call traffic engineer. Services included: collecting traffic volumes, intersection analysis of Roe Boulevard and 55th Street, school zone signing and pavement marking study, intersection safety audit at Roe Boulevard and 48th Street, sight distance evaluations, and a review of signal installation.

QUALIFICATIONS OF PERSONNEL



Jim Powell, PE, PTOE: Mr. Powell has more than 35 years of transportation engineering experience in operations, planning, and design in the Midwest and Colorado. His project work has encompassed field work through project management and report preparation. He specializes in traffic signal design and control, a key building block for intelligent transportation systems, plus intersection operations and capacity analysis. Mr. Powell is active at the national level in traffic signal operations/capacity through the Transportation Research Board.



Nathan Hladky, PE, PTOE: Mr. Hladky brings nine years of experience performing roadway engineering projects, including traffic analyses to support the design of roadways, highways, and interchanges. He excels

at identifying alternatives to improve safety and movement, from geometric improvements, traffic signals, possible interchange consolidation, collector-distributor systems, to transit improvements.



Randy Rowson, AICP: Mr. Rowson has more than 20 years of experience in the field of transportation. Since joining CDM Smith in 1999, he has served as transportation planner and the lead traffic engineer in the Kansas

City office. He specializes in transportation planning, site impact analysis, and intersection analysis. He has been involved with the preparation of environmental documents, traffic impact studies and traffic technical reports. Mr. Rowson's relevant projects include: traffic analysis for I-70 Second Tier Environmental Study, Kingdom City, MO; New Longview Farms traffic study for Lee's Summit, MO; traffic operations analysis for Front Street and I-435 Interchange Traffic Study, Kansas City, MO; and I-470 Purpose and Need Study, Kansas City, MO.



Praveen Pasumarthy, PE, PTOE: Mr. Pasumarthy joined CDM Smith in 2004 as a transportation engineer. His project experience includes traffic operational analyses, corridor feasibility studies, access management

studies, traffic impact studies, traffic simulation modeling, traffic signal retiming studies, parking studies, and traffic signal design. He also has experience in preparing statewide transportation plans, economic and financial analyses and public involvement. Mr. Pasumarthy's skill set also includes extensive knowledge of numerous transportation related computer software programs including VISSIM, CORSIM, PASSER, HCS, SYNCHRO/SIMTRAFFIC, MicroStation, AutoCAD, ArcGIS, NBIAS and HERS-ST.

FAMILIARITY/CAPABILITY

As described previously, CDM Smith team members are experienced in traffic engineering and incorporate this task in design of every project. We are familiar with MoDOT LPA policies and procedures, and have been/are currently involved in various design and study projects studies throughout the state, including the MoDOT State Freight Plan, Truck-Only Study, and interstate interchange design projects.

ACCESSIBILITY

We have structured the team such to provide redundancy of personnel, enabling MoDOT to have access to the appropriate traffic engineering specialists. Team members hail from CDM Smith's Kansas City, Missouri office as well as our Chicago, Illinois office and are capable of working on site, as required by each project. Each person will be accessible via e-mail and cell phone/landline when not working on site at a MoDOT project.

CDM Smith is committed to work with MoDOT in a flexible manner to ensure the consistent quality delivery of our work. Please feel free to contact me at 816.444.8270 if you have any questions concerning this letter of interest.

Respectfully Submitted,

Barbara L. Wells, PE
Client Service Manager
CDM Smith Inc.



Transportation Services for Public Agencies

Planning and Policy

CDM Smith brings a comprehensive, multi-disciplined problem-solving approach to every client. We embrace and foster a team approach, which is especially important in transportation planning, as no study or project has a single focus. Planning is about integrating infrastructure and quality of life elements to enhance our lifestyles and the environment. CDM Smith offers a full range of transportation planning services including:

- Customer focused program evaluation
- Evacuation planning
- Freight, modal, and intermodal plans
- Geospatial technologies
- Guidebook and guidance manual development and training
- Modeling
- Multimodal planning
- Multi-state corridor studies
- Policy studies
- Stakeholder outreach and involvement

Trade and Transportation Studies and Corridor Studies

More than 40 "priority" corridors have been designated by the U.S. Congress since the passage of the ISTEA transportation bill. Many have a trade and even international trade orientation, most are oriented toward economic development. CDM Smith has worked on more than 14 of these designated corridors to analyze multimodal conditions and recommend projects, technology improvements, and improve access, mobility, and trade competitiveness.

Freight Planning

Integrated freight systems are important to the economy and safety of the motoring public. CDM Smith recognizes that a systems approach to transportation planning and engineering is fundamental to the development of effective transportation delivery and services. CDM Smith has successfully integrated multi-disciplinary teams to develop some of the world's most innovative freight plans.

Geospatial Technologies and GIS

The demand for processing and understanding information in a spatial context has grown rapidly during the last two decades. In response to this, CDM Smith has established itself as a leader in planning, developing, implementing, and maintaining geographic information systems in support of complex transportation projects.

Travel Demand Modeling

Travel demand modeling and forecasting have been mainstays of CDM Smith for over 50 years. We have been responsible for developing computer-based models and supporting databases that provide a rational basis for evaluating proposed transportation system improvements in hundreds of urbanized areas, multi-jurisdiction transportation corridors, regions, and states.

State DOT and MPO Planning

CDM Smith's state DOT and MPO Planning practice focuses on the development of multimodal transportation plans that help prioritize transportation needs against available funding. We help developed state and metropolitan federally-mandated long-range transportation planning, corridor and sub-area planning, congestion management, thoroughfare, and strategic planning.



I-70 Dedicated Truck Lanes Feasibility Study: CDM Smith assisted the I-70 Corridor Coalition to evaluate the feasibility of creating an 800-mile dedicated truck only lanes corridor. This project was the most comprehensive business case evaluation of dedicated truck lanes ever conducted; thereby advancing the understanding of this innovative design concept.



Statewide Corridor Planning Guidebook: CDM Smith conducted a research study to provide guidance on developing corridor plans that can effectively link long-range transportation plans to shorter-term state transportation improvement programs (STIPs).



Airport Cooperative Research Program (ACRP) 02-10: Practical Greenhouse Gas Emission Reduction Strategies for Airports: CDM Smith developed a handbook, interactive decision-support tool, and awareness training materials focused on reducing greenhouse gas emissions. 125 greenhouse gas reduction strategies were identified. A unique, interactive decision-support tool called AirportGEAR (Airport Greenhouse Gas Emission Assessment and Reduction) was created to assist users with the evaluation of technical data and select strategies.

Environmental Services

NEPA and Permitting

CDM Smith provides “one stop shopping” for National Environmental Policy Act studies and documentation. We know the regulations, design and implement successful public outreach, prepare reader friendly documents, and have developed award winning tools, techniques, and processes to streamline the NEPA process. CDM Smith can also help secure federal, state, and local environmental permits during construction and operation.

Greenhouse Gas and Sustainability

CDM Smith is a recognized leader in sustainability planning, greenhouse gas accounting and mitigation, and climate change adaptation for all modes of transportation. As a full service firm with interdisciplinary expertise our capabilities are based in real-world experience and our knowledge of cutting-edge developments in these growing fields.

Water Resource Capabilities for Transportation Projects

CDM Smith is a recognized leader for storm water management in the transportation industry. CDM Smith provides a full range of services including program management with implementation, reporting, BMP design, and TMDL water quality services to address permit compliance requirements associated with discharging storm water run-off from DOT rights-of-way. In addition, CDM Smith has experience with the construction aspect of project delivery with experience in storm water pollution plan design, on-site inspection capability, training and certification in the area of erosion and sediment control, and with traditional highway drainage system design and post-construction water quality control design.

Hazardous Materials

CDM Smith’s experience includes thousands of assignments encompassing all facets of hazardous, toxic, and radioactive waste remediation services from preliminary investigations through remedial action implementation and long-term operations and monitoring. Complementing our focus on practical applications, CDM Smith’s research and development activities have led to innovative technologies and cost-effective solutions.



Environmental Remediation and Decommissioning Services: CDM Smith performed hazardous waste remediation, transportation, disposal, site restoration, and regulatory reporting in support of The John A Volpe National Transportation Systems Center and their sponsor FAA at Very High Frequency Omnidirectional Range (VOR) radar sites.



Milton-Madison Bridge: CDM Smith coordinated a joint effort between the Kentucky Transportation Cabinet, the Indiana Department of Transportation, and the Federal Highway Administration, to prepare the NEPA documents for the bridge replacement/rehabilitation project for the historic U.S. 421 bridge between Milton, KY and Madison, IN.



Louisiana 1 Improvements: CDM Smith handled all aspects of this improvement project including route planning, environmental permitting, navigational channel permitting, right-of-way acquisition, roadway design, structural design, toll studies and design, and construction assistance.



General Engineering Consultant – Interstate 95, Section 100: As part of a joint venture, CDM Smith provided total program management for the design and construction of one of the most congested sections of I-95 in Maryland. The scope of the project includes the widening of I-95 and the construction of four Express Toll Lanes.

Engineering, Construction, and Program Management

Engineering and Design: Roadway, Structures and Bridges, Geotechnical

CDM Smith provides a full range of services for all types of roadways, such as roadway and interchange design, roadway surfacing, and rehabilitation; hydrology and hydraulics; right of way; utility coordination; survey; streetscaping and landscaping; and value engineering. We are a leader in contemporary bridge technology, involving nearly every bridge configuration and type of transportation structure. We also integrate geotechnical engineering, pavement design, and foundation/site-related construction services into the design of our transportation projects.

Construction Management/Construction Engineering and Inspection

For nearly 30 years, CDM Smith has been providing not only CEI services, but overall management of the construction process. Our services have expanded into airport and marine terminal construction, industrial facilities, and parking structures, and this work is supported by claims review and analysis, construction scheduling, and work zone safety and education.

Design/Build

CDM Smith has earned a reputation as a national leader in design/build projects emphasizing innovation and fast track delivery, with dozens of completed projects throughout the U.S. On transportation design/build projects, we have provided design project management, engineering and design services, QA/QC, and CEI.

Program Management

We provide total program management for transportation projects; services include development of design criteria, plan and bid reviews, QA procedures review, value engineering, procurement, conducting partnering sessions, invoice review, and construction management. Our approach includes providing personnel with compatible experience and relationships to be able to serve as an extension of the client's staff.

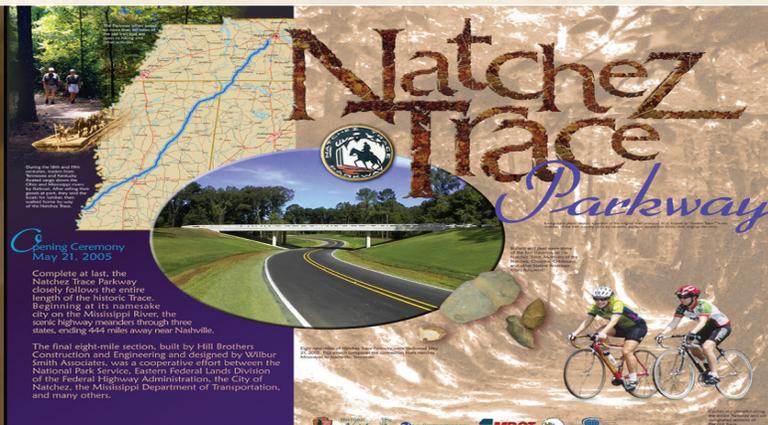
Parking Services

CDM Smith's parking services offers comprehensive planning, studies, traffic analysis, design, inspection, and rehabilitation of parking structures and facilities (both surface and garage). We also serve parking clients in the privatization of parking facilities.

Signage and Wayfinding

The effective movement of visitors in unfamiliar environments requires well-conceived wayfinding systems and signage programs that guide users along the journey to their destinations. For decades, we have provided comprehensive services for the planning, design, and implementation of functional and attractive wayfinding systems.

Natchez Trace Parkway Design/Build National Park Service: CDM Smith provided design and construction documents including geotechnical engineering, roadway design, hydraulics and hydrology, and bridge design for this historical national treasure.



Lewis and Clark Expressway - Sterling Avenue and Cement City Road Final Design: This project consisted of new horizontal and vertical alignments for 2 miles of urban collectors with 3 bridges over Sugar Creek and one bridge over the BNSF railroad through an environmentally sensitive brownfield site with petroleum contamination. CDM Smith also provided design for a new Jack C. O'Renck Park location.





Operations and Maintenance Business Information Link (OMBIL): Since 1993, CDM Smith has supported the U.S. Army Corps of Engineers with a performance-based management system that ensures efficient investment in its vast inventory of nationwide services including waterborne navigation, hydro-power, and recreation facilities.

Asset Management, Economics, and Economic Development

Asset Management

CDM Smith has been a national leader implementing asset management programs in transportation for over five decades. Our expert staff views asset management as a business model applying AASHTO and TRB principles to guide clients on best practices and make informed resource allocation decisions across the lifecycles of entire asset portfolios. Asset management services include:

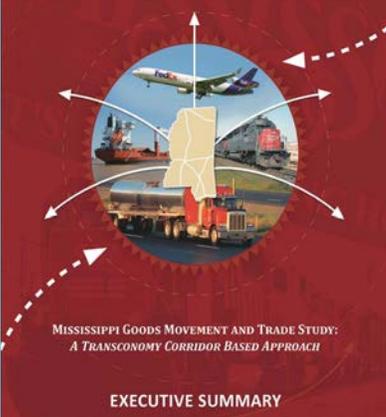
- Developing policy and doctrine to better align and advance organizational goals and regulatory compliance
- Incorporating and establishing service standards
- Establishing procedures to streamline data management and IT utilization
- Developing and deploying performance-based metrics, measures, and analysis techniques to standardize and support objective decision making
- Developing structured, yet interactive, data-driven business case analysis methodologies
- Implementing performance monitoring procedures and plans
- Purposing and implementing integrated information systems including GIS, maintenance management, financial, personnel, and inventory management systems.
- Implementing and complying with GASB and other reporting objectives

Economics and Economic Development

Our new economy will be export-driven and innovation focused. Globalization has created new market opportunities around the world and businesses compete on the basis of accessibility and reliability of multimodal transportation networks.

CDM Smith is a leading provider of economic development and market analysis consulting services. We combine extensive industry knowledge, distinguished professionals, and innovative analysis to help our clients create innovative solutions. Our range of services include:

- Agriculture and rural development
- Benefit-cost analyses
- Economic development studies
- Economic evaluations
- Economic feasibility studies
- Economic impact studies
- Economic modeling
- Fiscal/cost of growth studies



The Mississippi Statewide Goods Movement and Trade Study: CDM Smith profiled existing economic, trade and transportation conditions in the state to create a comprehensive knowledge base about its multimodal transportation network.

Site selection Matrix- Major Industrial Facilities - The Delta Regional Authority: CDM Smith was selected to develop a multi-state site evaluation matrix to identify potential sites for a very complex industrial facility.

