

Qualifications to Provide Design Services for
Leavenworth County, Kansas

LEAVENWORTH COUNTY SALES TAX PROJECTS

April 24, 2015



TranSystems

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April 24, 2015

Michael Spickelmier, PE
Public Works Director
County of Leavenworth
300 Walnut, Suite 007
Leavenworth, KS 66048-0470

RE: Leavenworth County Sales Tax Projects

Dear Michael and Selection Committee Members,

Thank you for the opportunity to present our qualifications for the three roadway improvement projects. Leavenworth County has many needs and many demands on your sales tax funds. We understand the importance of these projects and your investment in them. TranSystems is also vested in Leavenworth County through our Silver Level membership with the Leavenworth County Development Corporation (LCDC). We understand investment dollars are limited and therefore their value must be maximized. TranSystems is committed to that goal.

TranSystems' proposed staff has experience working in Leavenworth County and together, they cover every area of expertise needed, with the exception of geotechnical services. We have teamed with Geotechnology to cover any necessary geotechnical investigations.

Our team will be led by project manager, Doug Parke, PE. Doug has 24 years of experience on many similar roadway projects. Most recently, Doug served as project manager for the new interchange in Leavenworth at US-73 and 20th Street. His experience with similar projects in the Leavenworth area involving significant coordination with the Kansas Department of Transportation (KDOT) will be a valuable asset to any one of your projects.

In addition to the experience of our project manager, TranSystems also provides the following advantages.

- ▶ **One-Stop Shop.** TranSystems can provide all the needed expertise, aside from geotechnical, under one roof. Less external coordination leads to higher quality services and increased project savings.
- ▶ **Proven Partnership.** Our proposed staff has experience working in Leavenworth County. In addition, we have also established positive working relationships with all the project stakeholders.
- ▶ **Investment.** TranSystems understands the vision and goals for all three projects. We are investors in LCDC and have also been involved in coordination for the Wyandotte County/Leavenworth County K-7 project.

Thank you again for this opportunity to serve you. If you have any questions or would like additional information please contact me directly at (816) 329-8775 or flweatherford@transystems.com.

Sincerely,

A handwritten signature in blue ink that reads "Frank Weatherford".

Frank Weatherford, PE
Principal



- 1** | Project Selection
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Preliminary Observations

TranSystems has conducted site visits of all three projects and reviewed the drainage patterns and traffic volumes for the roadway network. Our team would be pleased to perform the design and construction inspection services on any of the three projects. The following summarizes why TranSystems would be a valuable consultant to assist Leavenworth County with each project.

I47th Street from Fairmount Road to Parallel Road

TranSystems would provide significant benefits to the I47th Street project. Our team has the expertise for every element of the project and all tasks, except geotechnical investigation, will be self-performed by TranSystems. This includes the topographical and land surveying; roadway design and plan production; hydraulic analysis of the drainage structures and downstream scour repairs; bridge and structures design; legal descriptions; traffic engineering, including intersection design with turn lanes; utility management; and construction management and inspection. Conducted all of these services under one roof prevents errors and will provide you with a better coordinated project. Secondly, we will utilize staff experienced with projects in Leavenworth County who also have good relationships with Basehor city staff. After speaking with Basehor staff recently, we have obtained and reviewed the city's planning documents related to the I47th Street corridor.

McIntyre Road between K-7 and K-5

The McIntyre Road improvements are the most challenging project from the engineering perspective due to the vertical alignment of the roadway. We would be a good fit for this project because it is the most challenging of the three projects and our engineers have the experience to handle this complicated project. We understand the critical link McIntyre Road creates between K-5 and K-7 and how important this link is to the future of Lansing. Especially with the push by Lansing to have K-5 improved all the way to the interchange with I-435. TranSystems will take these future plans and this vision into account as we design the McIntyre Road project.

Eisenhower Road from I55th Street to Tonganoxie Road

TranSystems would bring our depth of experience working with the City of Leavenworth to the Eisenhower Road. This project has some challenges, including one vertical curve that needs to be evaluated and the constrained right-of-way just west of New Lawrence Road. There are also two significant utility stations where utility coordination will be crucial. Since 2000, TranSystems has helped our clients leverage their funds to obtain more than \$300 million in outside funding. We believe the Eisenhower project would be a good candidate to receive federal sub-allocated funds from the Mid-America Regional Council through the STP and possibly TA programs. If selected, TranSystems can help the county apply for these funds. We have successfully helped the Unified Government as well as the cities of Leavenworth, Kansas City, Riverside, Harrisonville, Joplin, and Grain Valley receive similar funds. The needs of this project fit well with our experience.

Project Preference

If we must pick one project as a favorite it would be I47th Street due to the wider variety of project issues, but we will gladly serve the county on any of the three projects.

Experience Summary

Previous Experience on Similar Projects

Project Name, <i>Location</i>	Client
Rural Two-Lane Highway	
Hollingsworth Road Improvements, <i>Kansas City, KS</i>	Unified Government
115th Street, <i>Kansas City, KS</i>	Unified Government
94th Street Improvements, <i>Kansas City, KS</i>	Unified Government
River Road Improvements, <i>Platte County, MO</i>	Platte County, MO
County Line Road over Dick's Creek, <i>Platte County, MO</i>	Platte County, MO
55th Street Improvements, <i>Kansas City, KS</i>	Unified Government
K-154, <i>Ford County, KS</i>	Kansas DOT
Suburban Four-Lane Roadway & Intersection <i>Traffic Analysis and Intersection Design</i>	
2nd Avenue and Limit Street Intersection, <i>Leavenworth, KS</i>	City of Leavenworth
Parallel Parkway Improvements, <i>Kansas City, KS</i>	Unified Government
69th Street Improvements at State Avenue, <i>Kansas City, KS</i>	Unified Government
Ward Road Improvements, <i>Lee's Summit, MO</i>	City of Lee's Summit
Blackwell Parkway, <i>Lee's Summit, MO</i>	City of Lee's Summit
Work with KDOT on Interaction with Local/State/Federal Highways	
US-73 and 20th Street Interchange Improvements, <i>Leavenworth, KS</i>	City of Leavenworth
Highway 92 River Bridge Replacement Study, <i>Leavenworth, KS</i>	Kansas DOT
2nd Ave. & Limit Street Intersection and Bridge Replacements, <i>Leavenworth, KS</i>	City of Leavenworth
Main and Center Intersection Improvements, <i>Gardner, KS</i>	City of Gardner
North 2nd Street and Locust Street Geometric Improvements, <i>Lawrence, KS</i>	City of Lawrence
Previous Work with Local Municipalities	
KDOT Off-Systems Bridge Inspection Program, <i>Statewide</i>	Kansas DOT
KDOT Road Safety Audits, <i>Various Locations</i>	Kansas DOT
Biennial Bridge Inspections (2011, 2013, and 2015)	City of Leavenworth
5th Street Stormwater Improvements, <i>Leavenworth, KS</i>	City of Leavenworth
10th Street and Metropolitan Improvements, <i>Leavenworth, KS</i>	City of Leavenworth
New Industrial Park Study, <i>Leavenworth County, KS</i>	Leavenworth County Port Authority

Hollingsworth Road Design, *Kansas City, KS*

Hollingsworth Road is located to the northwest of the Kansas Speedway, Community America baseball park and The Legends, that have acted as a magnet for the area's residential development. The Unified Government of Wyandotte County and Kansas City, KS (UG) selected TranSystems to evaluate improvement options for the rural route to better serve the growing local community.

TranSystems has a long history of working with the UG on roadway designs, including an award-winning major access artery that carries spectator traffic to the new Speedway. Currently underway are fast-track designs for two adjacent improvement projects of I 15th Street, an old county highway, which intersects with Hollingsworth Road and a half mile of which is included in this project for a total of 1.75 miles.

The TranSystems project team prepared a preliminary report to compare the impacts and costs of three typical sections including two-lane curb and gutter, four-lane curb and gutter, and two-lane roadway with shoulders. Based on the report, the UG selected the urban, two-lane curb and gutter option, with sidewalks on both sides, as most appropriate for this collector street.

Preliminary and final designs for the 1.25 miles of Hollingsworth Road and 0.5 mile of I 15th Street were then prepared by the team. The horizontal alignment is offset to minimize impacts to existing residents north of Hollingsworth road, an east-west route. A challenge was smoothing the roller-coaster profile of the road, which required major grading to cut peaks and fill valleys to provide a safe and drivable alignment. Environmental mitigation was also designed for surrounding creeks that flow into Wyandotte Lake, to clean up and restore the natural habitat.

In addition to roadway design, TranSystems provided right-of-way services including determination of easements and provision of written descriptions to assist the UG with property acquisition. The project team also designed storm sewer improvements for the project.

I 15th Street Improvements, *Kansas City, KS*

I 15th Street is a 20-foot-wide old state highway that runs through a lightly developed area not far from the Kansas Speedway, a minor league baseball park and the Village West mega-shopping complex that have acted as a magnet for new residents. The UG awarded TranSystems two contracts to reconstruct adjacent sections of the road from Hollingsworth Road (which TranSystems previously reconstructed under a separate contract) to Parallel Parkway, approximately 2.5 miles. This section of roadway serves as a major access arterial for the Speedway and Village West.

TranSystems has a long history of working with the UG on roadway design projects, including the award-winning improvement of Parallel Parkway completed in time for the grand opening of the Speedway. The separate Hollingsworth Road reconstruction included the intersection with I 15th Street and the 0.5 mile north of the intersection. The improved design better serves the current 55 residences and will likely attract new development to the open areas. Sanitary sewers were designed into the project to provide a previously missing community amenity.

The scope of work for improving this deteriorated and narrow old state road included environmental, survey, and roadway design services. The environmental services were extensive, consisting of Section 404 permitting, wetland determination, threatened and endangered species coordination, Phase I cultural

resources survey coordination, NPDES general construction permit, and a Stormwater Pollution Prevention Plan (SWPPP).

Surveying services included horizontal and vertical control, utility coordination, establishment of existing right-of-way and property lines, and legal descriptions. Lighting, drainage, and maintenance of traffic plans were provided as part of the roadway services. The design upgraded the road to a two-lane urban street with turn lanes at the intersections. All three related roadway improvement projects were fast-tracked by the UG.

94th Street Improvements, *Kansas City, KS*

The UG called on TranSystems, a frequent prime consultant on its roadway projects, to design the extremely fast track upgrade of 94th Street from a seal-coat asphalt rural route to a concrete urban two-lane collector with turn lanes at the intersections, curb and gutter, sidewalks on one side, and storm sewers. The road is the major collector route for the surrounding area serves the adjacent development.

The TranSystems team first performed a location study and then preliminary and final design for the reconstruction of the one-mile of 94th Street beginning at State Avenue and ending at Parallel Parkway. Eager to accommodate the new development, the UG let the construction as soon as the contract plans and documents were complete, just five months after TranSystems initiated the design.

Services provided by the TranSystems team included environmental, survey, and roadway design. Environmental services encompassed Section 404 permitting, wetland determination, threatened and endangered species coordination, Phase I cultural resources survey coordination, NPDES general construction permit and the SWPPP. Surveying services included horizontal and vertical control, utility coordination, establishment of existing rights-of-way and property lines, and development of legal descriptions. Street lighting design, drainage analysis, and a maintenance of traffic plan were provided as part of the roadway improvement design. Sanitary sewers were also provided.

The \$5 million rush project to provide the alternate route was completed in May 2008. The challenges of the fast-track design, in particular the necessary utility relocation and traffic control to maintain access during construction, were met in order to accommodate the requirements.

River Road Improvements, *Platte County, MO*

The River Road project is a rural county roadway improvement project with many aspects. The three-mile roadway included a gravel section that was to be paved, a very poor asphalt pavement that was to be reconstructed and a narrow bridge structure that was to be replaced and widened. The goal was to provide a roadway that served the driving public as well as bicycle traffic. The village of Waldron sits in the middle of the route and has narrow roads and poor alignments. The improvements in Waldron will be accomplished through a second phase of the project. Project challenges including a tight corridor to work in since River Road is located between the Missouri River bluff and the BNSF Railroads main line tracks. Drainage structures under the roadway were assessed for size and condition as well. The project will be a great multi-modal rural county improvement.

55th Street Improvements, *Kansas City, KS*

The purpose of this corridor assessment was to identify locations where improvements to pavement width and condition were needed and to determine the associated cost. Additional improvement options included replacement and/or enhancement to existing guard rail with the inclusion of crash worthy barrier, as well as clearing and grubbing of overgrown vegetation within the right-of way and the clear zone. Two improvement scenarios were proposed. The first, a base improvements scenario project consisting of slightly above minimum required improvements and the second, an enhanced scenario project consisting of base improvements plus additional value added improvements as identified through the study process. Up to as many as 20 borings were proposed. The borings allowed assessment of the pavement (and subsurface) conditions as well as recommendations on pavement thickness to achieve desired strength to support construction equipment to be made.

2nd Avenue and Limit Street Intersection, *Leavenworth, KS*

The City of Leavenworth identified the intersection of 2nd Avenue and Limit for upgrades in early 2009. This complex project consisted of the development of construction plans for improvements at the intersection, including the replacement of a bridge over Five Mile Creek. Engineering services on this project were split into three phases.

Preliminary surveys, which included establishing horizontal and vertical control and obtaining preliminary channel sections for hydraulic analysis, preparation of conceptual layouts, preliminary channel hydraulics and environmental scan, encompassed Phase I. The supplemental surveys, preparation of field check, right-of-way and final plans, specifications and estimates for the determined layout comprised Phase II. The final phase, estimated for completion in spring 2015, includes all construction phase services.

As part of the final design for the project, Phase II also included geotechnical investigations as well as hydraulic evaluation of bridge over Five Mile Creek. All plans were prepared in accordance with current standard KDOT procedures in the required format and detail.

The original scope included three options for Phase I (concepts). Following approval by the city commission, the city decided to only look at two options. A revised scope and fee was submitted to the city. In lieu of running the new contract through another commission meeting for signatures, the city decided to continue with the original scope and fee with a letter outlining the reduction in fee and scope. Both copies were submitted for filing.

TranSystems is also wrapping up services during construction, including assisting the city and KDOT during the project bidding, pre-construction conference, and project meetings. Additionally, TranSystems reviewed shop drawings and falsework design as well as performed load rating of as-builts bridges.

Parallel Parkway Improvements, *Kansas City, KS*

TranSystems provided design-build engineering services for the \$7 million reconstruction of one mile of major arterial street adjacent to the Tourism District near the Kansas Speedway. Responsibilities included geometric design, storm sewer design, traffic signal and street lighting design, utility coordination, grading and sanitary sewer design. The opening of the improved road was fast-tracked to coincide with the first

Experience Summary

major NASCAR race held at the Kansas Speedway, just 15 months after project kickoff. The Parallel Parkway project has won American Concrete Paving Association and Kansas League of Municipalities Municipal Concrete Awards. The key to success was TranSystems' close coordination with utilities and impacted property owners. Multiple meetings were held with the utility companies during the early phases to accelerate the utility relocation process. Easements were written and acquired for approximately 15 affected properties. TranSystems' responsibilities also included geometric design, storm and sanitary sewer design, traffic signal and street lighting design, and grading. The design incorporated provision for expansion from two lanes to three in each direction.



The improved artery was vertically realigned as well as offset aligned to minimize right-of-way impacts. New traffic signals were installed at Village West Parkway and 108th Street and the traffic signal at 110th Street was modified for turn lanes with longer mast arms. Dual left-turn lanes and right-turn lanes were designed to accommodate the traffic going to the 400-acre shopping and entertainment district. Construction was performed on half of the road at a time to minimize traffic disruption.

The improved artery was open for traffic on the day of the first NASCAR race. No compromises were made to get the job done in a mere 15 months. To the contrary, TranSystems and Clarkson Construction were recognized for the superior quality of their work by an ACPA Award and Kansas League of Municipalities Municipal Concrete Award.

69th Street Improvements at State Avenue, *Kansas City, KS*

The UG selected TranSystems to improve the capacity and geometrical layout of this intersection. The project team's approach to the problem was to realign 69th Street for a distance of 2,400 ft. and to reconfigure its offset intersection with State Avenue. The design included modifications to State Avenue as well as new islands, turn lanes, and signal modifications at the new intersection.

TranSystems' services began with a complete topographical survey including property lines and right-of-way for the roadways. Traffic engineering was then performed to study the problem and propose feasible solutions. Working with the client and the adjacent businesses, the project team narrowed the field of potential solutions to a preferred alternative before performing the detailed roadway and signal design tasks.

The final plans included roadway and drainage plans, pavement markings, signal plans, and a phased traffic control method to guide the traveling public through the construction site. Other services included legal descriptions, driveway access design, pedestrian accommodations and erosion control measures.

Blackwell Parkway, *Lee's Summit, MO*

TranSystems provided civil engineering services for the design and construction of approximately 10,500 linear ft. of Blackwell Parkway. This arterial roadway is situated on the west side of the new 700-acre Lee's Summit Legacy Park. The roadway was an upgrade of an existing narrow two-lane roadway to a new four-

lane roadway with a median. 7,300 linear ft. of the roadway was constructed to a parkway standard with wide medians and 3,200 linear ft. of the roadway was constructed to a 52 ft. back to back of curb arterial standard. The roadway includes improvements such as bikeways, utility relocations, right-of-way and easement acquisition, grading, storm sewers, street lighting, traffic signals, and landscaping.

US-73 & 20th Street Interchange, *Leavenworth, KS*

In the early 1990s, KDOT re-routed US-73 north of Leavenworth to improve geometrics. Long-range plans called for creation of a western bypass around the city to relieve congestion through downtown and KDOT built a bridge along US-73 in anticipation of the extension of the 20th Street bypass under the route.

TranSystems provided preliminary studies and conceptual designs for this project to connect the bypass to US-73. In 2005, TranSystems was again selected to provide final design services for the proposed new interchange at US-73 and 20th Street and for the northern extension of 20th Street. The interchange alternative had been demonstrated as more desirable for improving traffic flow and safety than a signalized intersection at 18th Street.



In the meantime, rush hour traffic to and from the nearby rear entrances to Ft. Leavenworth and the United States Penitentiary had to contend with an unsignalized intersection at US-73 and 18th Street. In addition to the considerable safety advantages of a new interchange, its location on 20th Street would greatly improve traffic circulation. Before the project 20th Street ended at Metropolitan Avenue and bypass traffic had to backtrack to the 18th Street intersection to access US-73.

The original plan had called for a standard diamond interchange but in the interval a US Army Reserve Center had been built on land that would have been used by one of ramps. TranSystems' design therefore modified the diamond with a folded loop for the east bound off ramp. To slow traffic traveling down a hill before it reaches this lower-speed ramp, the design provides for widening the existing bridge to provide a deceleration lane. The east bound on ramp is continued as an additional lane into town, providing better accommodation for in-bound traffic as US-73 transitions from a two-lane to five-lane highway facility.

A major challenge was coordination with Ft. Leavenworth and the Federal Penitentiary, both concerned about new traffic through the area and how their facilities would be accessed. The proposed right of way for the 20th Street extension north of Metropolitan goes through Penitentiary property. The potential for a land swap and the elimination of 18th Street/Santa Fe that brought traffic closer to its facilities helped persuade the Penitentiary to accept the project.

After passing under the US-73 bridge, the new two-lane, collector-status 20th Street extension provides intersections at the Honor Farm Drive service entrance to the Penitentiary and the Hancock Avenue gate into Ft. Leavenworth. Another issue was an old Ft. Leavenworth landfill on US Penitentiary property. The team is coordinating with the Kansas Department of Health and Environment to move monitoring wells that are in the project right of way. Utility conflicts also complicated the design.

Experience Summary

The final design solution for the \$5 million project successfully addressed outstanding issues and satisfied the stakeholders. The new interchange and western bypass along an extended 20th Street will bring long-sought congestion relief for Leavenworth residents and provide safer access to the two major federal complexes.

TranSystems was responsible for all aspects of the inspection and construction management of the US-73 and 20th Street interchange performed for the City of Leavenworth under the KDOT LPA program. This included all KDOT required testing on materials as well as the QA side of the QA/QC program for the concrete pavement.

10th Avenue Improvements, *Leavenworth, KS*

TranSystems provided the City of Leavenworth with design services for the reconstruction of approximately one-mile of this urban collector extending from Vilas Street through Pennsylvania Street. The project scope included the complete reconstruction and widening of 10th Avenue from a two-lane road to include an exclusive left-turn lane. The firm prepared construction plans, specifications, and construction cost estimates relating to all roadway grading, drainage, pavement marking/signing, signalization for one intersection, and traffic control items. This project is covered under the Surface Transportation Program with ISTEA.



Main and Center Intersection Improvements, *Gardner, KS*

To implement the KDOT's US-56 Corridor Management Plan, the City of Gardner wanted to improve the intersection at Center and Main streets in downtown Gardner. The city selected TranSystems to design these improvements, which are expected to include left-turn lanes for all approaches as well as right-turn lanes on the north, south and east legs of the intersection. Additionally, the intersection's signal will be upgraded to work with the proposed improvements.

TranSystems is working with the City of Gardner to engage the public in the development of the improvement plans for this intersection. Meetings will be held with KDOT and the adjacent land / business owners prior to fully developing conceptual layouts for the project. With this input several concepts will be developed and presented to city council and the general public. This process will enable the selection of a preferred alternative for which final plans will be developed.

TranSystems is performing topographic surveys as well as designing the roadways, a new traffic signal, pavement marking, signing, lighting and traffic control plans for construction. All design plans are being prepared according to current KDOT plan preparation standards. TranSystems will also be responsible for developing the existing property boundaries, rights-of-way and easements; and providing environmental clearances and related permits applications.

Availability & Schedule**Current Workload and Availability**

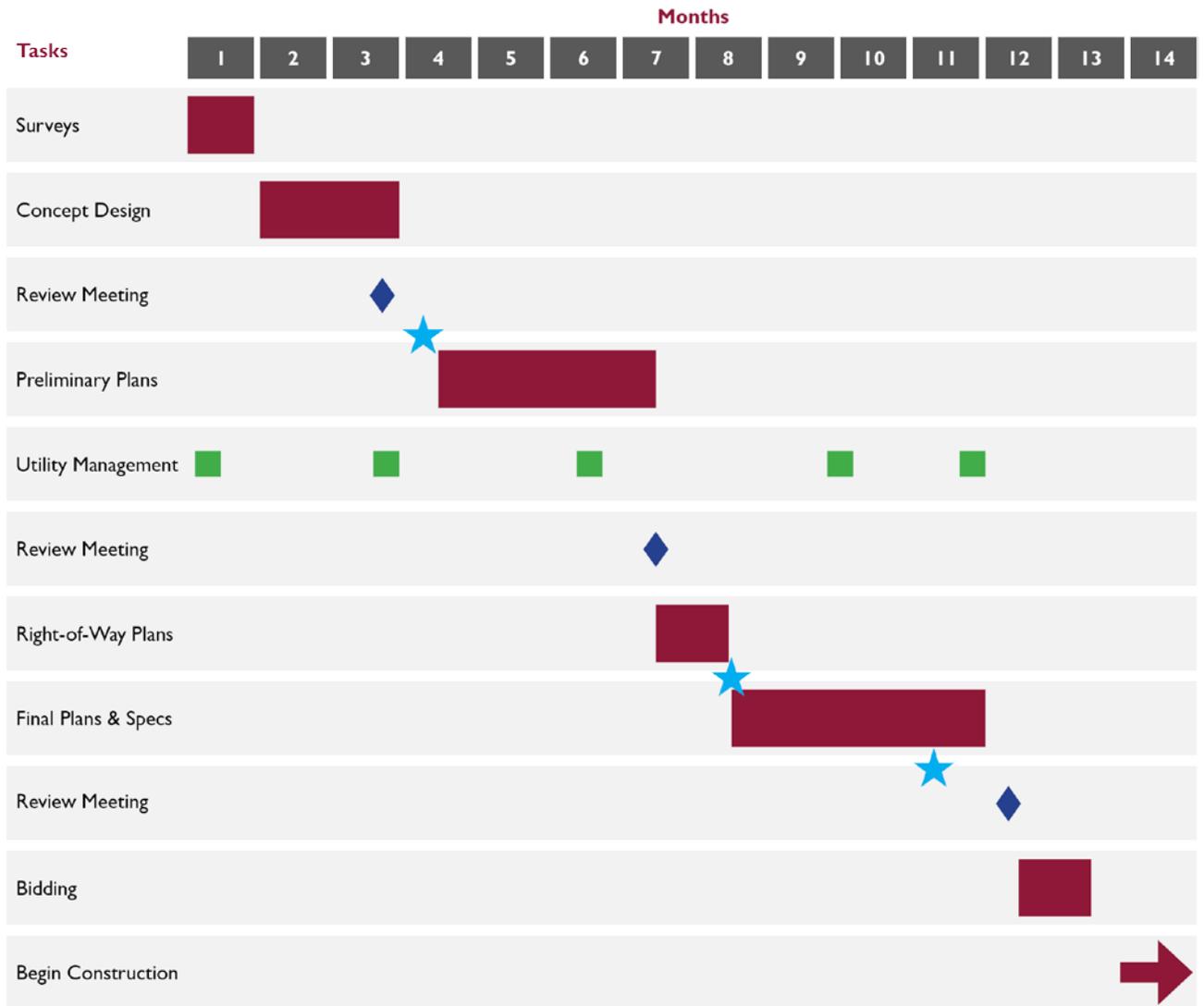
TranSystems' local team leaders and office management have reviewed current workloads for our proposed key staff members. Our investigation has shown that each of the following key staff members, along with the necessary support staff, are available to meet the needs for any of the three projects. Project manager, Doug Parke and the other team members are available to begin immediately.

NAME AND ROLE	CURRENT WORKLOAD <i>(Estimated End Date)</i>	AVAILABILITY
Doug Parke, PE Project Manager	KDOT US-69 Final Design (2017) 2nd Ave & Limit Street (May 2015)	50%
Frank Weatherford, PE Quality Control Manager	Various Project Oversight (Ongoing)	35%
Kirk Baldwin, PLS Engineering Survey	On-Call Surveying for Kansas City Southern Railway (Dec 2015) South Andover & I 30th Intersection, Andover, KS (August 2015)	50%
Jim Wingert, PE Lead Roadway Engineer	Overton Avenue Streetscape (Sep 2015) N. Brighton Engineering Services During Construction (Oct 2015)	60%
Jim Stanek, PE, PTOE Traffic Engineer	Various TEAP Projects (Ongoing) Mission Road Traffic Study (Dec 2015)	40%
Lindsay Madsen, PE Structural Engineer	NDOR QA Program (March 2016) Various small design projects (Ongoing)	60%
Aaron Moore, PE Hydraulic Design	KDOT Scour Program (May 2015) Various BNSF H&H Tasks (Ongoing)	50%
Roger Post, PE Construction Management	KDOT On-Call Construction Services Various Project Oversight (Ongoing)	35%
Sheryl Gallagher, PE <i>(Geotechnology)</i> Geotechnical Engineer	2nd Ave & Limit Street (May 2015) Various Project Oversight (Ongoing)	45%

Availability & Schedule

Schedule

The following schedule is realistic for a typical roadway project. TranSystems has the staff available to accelerate this schedule if items out of our control, such as utility relocation and right-of-way acquisition allows for a faster delivery.

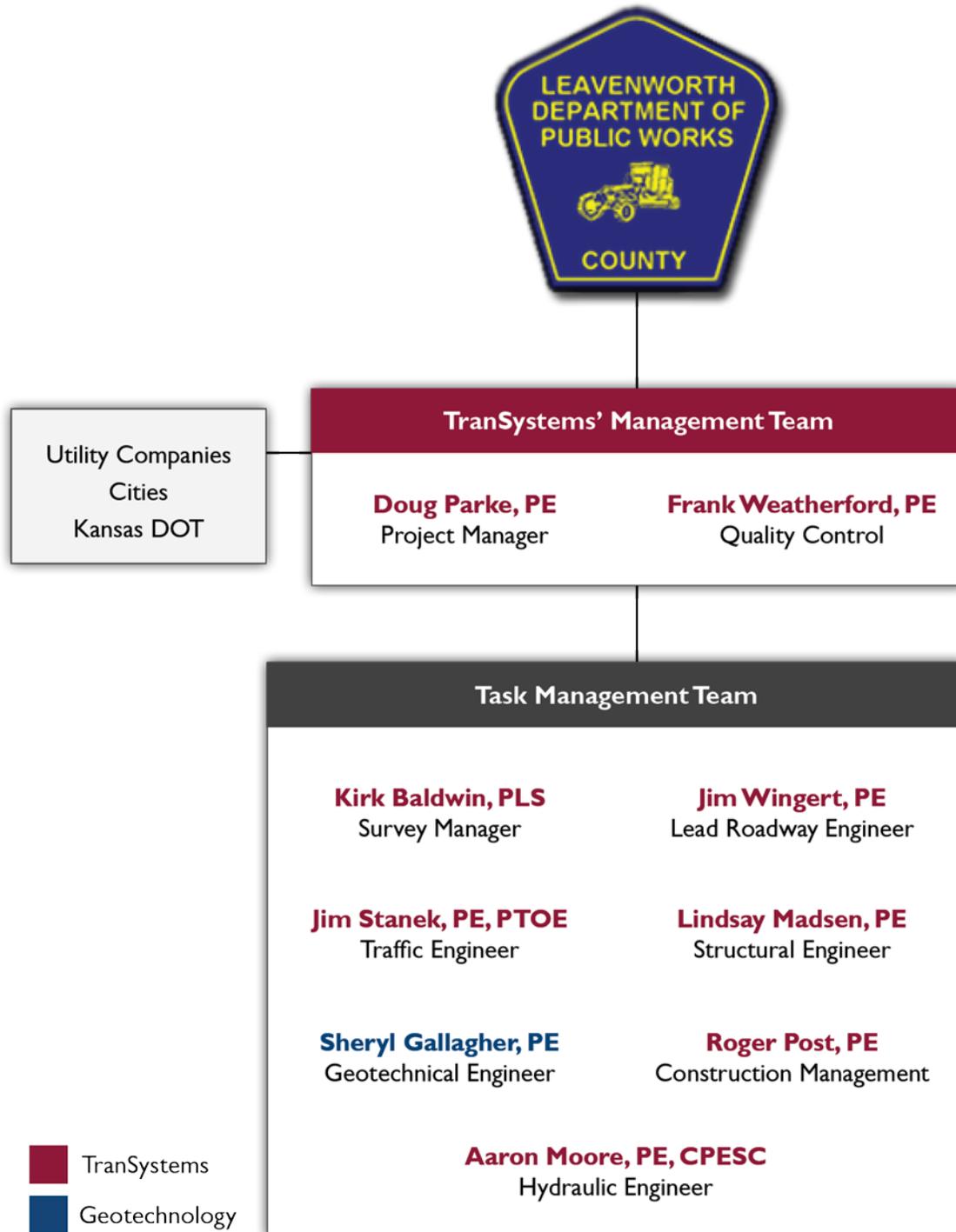


★ Potential Public Involvement Points

Qualifications & Approach

Organizational Chart

Brief resumes of TranSystems' key team members are included on the following pages.



Qualifications & Approach

Douglas Parke, PE Project Manager

Doug has served as project manager and design engineer, responsible for the completion of roadway plans for numerous local, state, and federal agencies. He is involved in all aspects of roadway design including rural and urban highway design, intersection/interchange modifications, roadway rehabilitation, and the design and analysis of enclosed storm sewers and culverts. Doug is experienced in coordinating the design efforts with federal, state, and local reviewing agencies. He also has extensive experience in construction management.

- ▶ 2nd Avenue & Limit Street Intersection Improvements, Leavenworth, KS
- ▶ US-73 and 20th Street Interchange Improvements, Leavenworth, KS
- ▶ 10th Avenue and Limit Street Intersection, Leavenworth, KS
- ▶ US-69 Highway, Linn County, KS
- ▶ Mission Road-95th to 103rd, Overland Park, KS

Frank Weatherford, PE Principal/Quality Control

Frank is a principal of the firm specializing in state departments of transportation and municipal transportation engineering, innovative financing, public involvement and program management. He also serves as principal-in-charge of civil engineering projects involving parking facilities, storm drainage systems and water distribution. In addition, he has managed site and civil projects for private clients and city governments.

- ▶ 2nd Avenue & Limit Street Intersection Improvements, Leavenworth, KS
- ▶ Parallel Parkway Improvements, Kansas City, KS
- ▶ K-7 Coordination, Wyandotte & Leavenworth Counties

Registrations

Professional Engineer (Civil): KS, 1994

Education

B.S., Civil Engineering
Kansas State University, 1989

Affiliations & Memberships

American Public Works Association
American Society of Civil Engineers

Years of Experience

26

Registrations

Professional Engineer (Civil): KS, 1990
Professional Engineer (Civil): MO, 1988

Education

B.S., Civil Engineering, 1983
M.S., Civil Engineering, 1986
University of Missouri

Affiliations & Memberships

American Council of Engineering
Companies
American Public Works Association
KCK Chamber of Commerce, 2012 Board
Chairman

Years of Experience

32

Qualifications & Approach

Kirk Baldwin, PLS Survey Team Leader

Kirk is the Survey Team Leader for the Kansas City office. During more than 20 years of experience in the field of Land Surveying, Kirk has held many roles. They have included engineering technician, rodman, instrument operator, crew chief/field surveyor, project lead surveyor and survey manager. Kirk has knowledge with both public and private clients and his experience includes railroad general surveys, DOT projects, general site surveys, boundary surveys, right-of-way surveys, property easement and deed preparations, construction calculations and constructions surveying layout.

- ▶ 2015 Safe Route to Schools Land Surveys, Kansas City, KS
- ▶ South Andover Road & 130th Street Intersection, Andover, KS
- ▶ I-35 Pavement Reconstruction 151st to Sante Fe, Olathe, KS
- ▶ 4th Street Widening, Cameron, MO

Registrations

Professional Land Surveyor: KS, 2012
Professional Land Surveyor: MO, 2014

Education

B.S., Drafting Technology
University of Central Missouri, 1991
A.S., General
Southwest Community College, 1987

Years of Experience

22

James Wingert, PE, LEED Green Associate Lead Roadway Engineer

Jim specializes in highway and roadway engineering design. Prior to joining TranSystems, he worked for the Iowa Department of Transportation as a roadway design engineer intern in the offices of Design and Traffic & Safety.

- ▶ 115th Street, Kansas City, KS
- ▶ 94th Street Improvements, Kansas City, KS
- ▶ North Brighton Avenue, Kansas City, KS
- ▶ 95th & Forester Signal Replacements, Overland Park, KS
- ▶ Mission Road: 53rd Street to Shawnee Mission Parkway, Fairway, KS

Registrations

Professional Engineer (Civil): IA, 2012
Professional Engineer (Civil): KS, 2009
Professional Engineer (Civil): MO, 2009

Education

B.S., Civil Engineering
Iowa State University, 2004

Affiliations & Memberships

American Public Works Association
American Society of Civil Engineers

Years of Experience

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Qualifications & Approach

James Stanek, PE, PTOE Traffic Engineer

Jim has extensive experience dealing with MUTCD compliance and safety matters. He has been involved in the Missouri and Kansas TEAP programs for 25 years, he completed 14 Road Safety Audits, and he executed a rural road corridor safety pilot project for KDOT and Saline County, KS. His responsibilities include traffic engineering design and analysis, with specific involvement on signalization projects, signing and pavement marking design, work zone traffic control and intersection geometric design. In the project manager role, Jim will coordinate with the city, develop and schedule work assignments, review all analyses and recommendations, and handle the project administrative duties.

- ▶ 10th Avenue Improvements, Leavenworth, KS
- ▶ 94th Street and State Avenue, Kansas City, KS
- ▶ Village West and Parallel Parkway, Kansas City, KS
- ▶ North 2nd Street and Locust Street, Lawrence, KS

Lindsay Madsen, PE Structural Engineer

As a skilled bridge design engineer, Lindsay has designed many bridge projects including the bridge design for Hwy. K-14, over Oxide Creek in Ellsworth County, KS. Her responsibilities include structural analysis and design, detailing, quantity calculations and check design calculations. Lindsay is well versed in Kansas DOT design policies and procedures and has a working knowledge of the AASHTO LRFD bridge design specifications.

- ▶ 2011, 2013 & 2015 Biennial Bridge Inspections, Leavenworth, KS
- ▶ 2nd Street over Three-Mile Creek, Leavenworth, KS
- ▶ 5th Street Bridge over Three-Mile Creek, Leavenworth, KS

Registrations

Professional Engineer (General): IN, 2008
Professional Engineer (Civil): KS, 2011
Professional Engineer (Civil): MO, 1991
Professional Traffic Operations Engineer: NA, 1999

Education

B.S., Civil Engineering
University of Nebraska, Lincoln, 1985

Affiliations & Memberships

Institute of Transportation Engineers
Kansas Association for Uniform Traffic Control

Years of Experience

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Registrations

Professional Engineer (Civil): IA, 2006
Professional Engineer (Civil): KS, 2012
Professional Engineer (Civil): MO, 2010
Professional Engineer (Civil): NE, 2005
Professional Engineer (Civil): TX, 2013

Education

B.S., Civil Engineering
Iowa State University, 2001

Affiliations & Memberships

American Institute of Steel Construction
American Society of Civil Engineers
National Society of Professional Engineers

Years of Experience

16

Qualifications & Approach

Roger Post, PE Construction Manager

Roger is principal of the firm with a strong background in construction management. He has more than 25 years of experience at TranSystems providing municipal infrastructure construction management as well as heavy highway, railroad and airport construction. Roger's wide-ranging background includes rigid and flexible pavements, traffic signal installations, mass grading and excavation, bridge rehabilitations and airport runway reconstructions.

- ▶ US-73 and 20th Street Interchange Improvements, Leavenworth, KS
- ▶ Hollingsworth Road, Kansas City, KS
- ▶ I 15th Street Construction Management, Kansas City, KS
- ▶ 94th Street Improvements, Kansas City, KS

Registrations

Professional Engineer (Civil): KS, 1993

Education

B.S., Civil Engineering
Kansas State University, 1988

Affiliations & Memberships

American Public Works Association
American Society of Civil Engineers

Years of Experience

27

Sheryl Gallagher, PE (Geotechnology) Geotechnical Engineer

Sheryl is experience in the analysis of subsurface site conditions, evaluation of soil and rock properties, providing recommendations for the design of shallow and deep foundations, supervision of field and laboratory investigation programs, and providing engineering support for construction projects. Sheryl has experience in a variety of projects involving levees, dams and power plants among others, and examples of her local roadway and bridge experience are presented below.

- ▶ 2nd Avenue & Limit Street Intersection Improvements, Leavenworth, KS
- ▶ 2nd Street over Three-Mile Creek, Leavenworth, KS
- ▶ 243rd Street over Buttermilk Creek, Leavenworth County, KS

Registrations

Professional Engineer: KS, MO, AR, IA, IL, NE, OK

Education

M.S., Civil Engineering
University of Kansas, 2006
B.S., Civil Engineering
South Dakota School of Mines & Technology, 1983

Affiliations & Memberships

American Society of Civil Engineers

Years of Experience

23

Plan for Survey

Our plan for the survey control is to use State Plan Coordinates based on the eastern zone of Kansas. We will tie into any local survey control network as well so that GIS networks can be referenced. Our plan for the topographical surveying is to use our Lidar survey equipment which provides highly accurate data very quickly. Our legal land surveys will find and reference all available sections corners, property pins and referenced land corners. We will prepare a base map of the topographical survey and the legal land survey and then tie the two together.

Ability to Complete Roadway Design to Owner's Specifications

We have outstanding capabilities for roadway and bridge/structures design. We have met the design standards for KDOT, City of Leavenworth, the Unified Government and many other Kansas municipalities. We do not anticipate a problem meeting the standards for Leavenworth County.

Utility Relocation Experience

We have a great deal of experience with utility management through the relocation process. We use a proactive approach to utility management. We first identify the utilities in the corridor and their locations. We then use our 3D design software to assist us in identifying utility conflicts. If needed we will request the utility to be pot holed to obtain a more precise location. Where possible we will **miss** the utility by adjusting our design. Second, we will **minimize** the impact to the utility by working directly with the utility. Finally we will **mitigate** the utility conflict by working with the utility to manage the relocation. We can provide electronic design files to the utilities to assist them with their relocation process.

**Miss,
Minimize,
and Mitigate.**

Construction Engineering and Administration Abilities

We have a long history and a deep bench of qualified staff to provide any level of construction engineering and administration. We have 40-plus staff in the Midwest that provide these services for our clients. We can provide a qualified staff member for partial construction inspection if that is your need. We have worked on projects that used a blended staff made up of TranSystems staff and some from our clients. We have done this with KDOT and Kansas City, MO. We can perform material testing and quality tests if you desire. Our subconsultant, Geotechnology, can also provide this service. We routinely work on projects for KDOT that receive Federal funds. We have also worked on projects that receive sub-allocated Federal funds through MARC such as STP, TA and CMAQ funding.

Project Understanding

147th Street from Fairmount Road to Parallel Road

This project is the conversion of a four-mile mostly gravel roadway to a modern paved two-lane rural roadway with shoulders and ditches for drainage. The project will help spur development for Basehor, especially at the south end of the roadway near Parallel. There are several cross road drainage structures,

Qualifications & Approach

including one bridge, that will require investigation, analysis, and then design of the accepted improvements. A key to the project will be managing the impact to the utilities. As the roadway becomes wider and a standard ditch section is provided, we expect there will be many utility issues. There are also many driveways that will need to be tied into the new roadway design. Improving the intersections of 147th Street and Parallel, Leavenworth Road, Donahoo Road, and Fairmont Road will be an important aspect of the project. We will give this portion of the design particular attention since the intersections are where the greatest safety concerns will be in the future. Likely intersection improvements include the addition of turn lanes, lighting, signing, and pavement markings. We also can investigate the potential use of roundabouts at these intersections if you would like.



147th Street Bridge

McIntyre Road between K-7 and K-5

The future vision for K-5 as a connection to I-435 is the key driver for the McIntyre Road project. As that vision for K-5 becomes a reality, this segment of McIntyre Road and its connection between K-5 and K-7 becomes very important to Lansing and Leavenworth County. The key design issue is the vertical profile. Currently the roadway is posted for 25mph and 35mph. With the desire to upgrade the roadway to a 45mph to 60mph roadway comes a great deal of change to the roadway profile. This change in profile will create a great deal of grading along the corridor, including significant grade changes on private property. The proposed change in profile also generates utility conflicts and the need to stage construction in order to provide access to the residents along McIntyre Road. This is the most challenging of the three projects.



McIntyre Road & 123rd Street

Eisenhower Road from 155th Street to Tonganoxie Road

To the east of this segment Eisenhower Road is a four-lane improved roadway with concrete pavement. The project goal is to extend this four-lane section with curb and gutter and sidewalk west to Tonganoxie Road. We believe there are two key issues that need to be resolved to achieve this goal. The first is improvement to the intersection of Eisenhower Road and New Lawrence Road and the area just to the west of this intersection. The corridor is fairly open except for the buildings immediately west of this intersection where they are rather close to the road. Designing the roadway through this segment of the corridor will be challenging and will need a good amount of public involvement with the affected citizens.



Eisenhower Road

Qualifications & Approach

The second issue is the vertical curve just east of the Tonganoxie intersection. This vertical curve may need to be more level to achieve the design guidelines for the desired design speed. There are also several driveways and side streets to be tied in and the extension of the sidewalk.

Typical Project Approach for Rural Roadway Projects

Our approach begins with a scoping meeting where the team gains a good understanding of your goals and the project's constraints, including schedule and budget. Together we create our scope and agree to the deliverables and their timing. If needed, the team will tour the project together with Leavenworth County and potentially city officials to discuss issues in the field. We then prepare our detailed scope, fee, and schedule as part of the contract documents.

Once under contract we will then begin our tasks by developing the base map. On recent rural roadway projects we have had success using our Lidar mapping capabilities for field surveys. This provides highly accurate data very economically. We will field check the base map as a quality control task. Using Lidar survey provides a faster schedule for the surveying task. As part of the field investigations we will inspect the cross road drainage structures and assess their conditions. We will also take a series of soil borings to determine the depths and types of soils we have for the project.

We will develop concept level plans that are approximately 20 percent complete that shows the horizontal and vertical profile and the grading limits using a standard typical section. We will determine the drainage areas for each cross road drainage structure as well as the volume of storm water flows. We will provide you a recommendation for each cross road structure for replacement versus a simple extension. We will meet with you to show you the concept level plans and to discuss project design issues.

If a public meeting or other community outreach is desired, this is a point in the project when the outreach could be conducted. A public meeting is just one option. An alternative is hosting neighborhood meetings for residents adjacent to the roadway. When cost is an issue, a direct flier is a less expensive outreach that lists project facts and is mailed to the residents along the roadway. We can help with this task as much or as little as you like. It will probably depend on the project how much public involvement is undertaken.

Utilizing our design software and on-site visits, the team will identify any utility conflicts. If needed, we will request the utility pot hole their underground conduits so that we may obtain the exact location and depth of their facility. As needed, we will engage the utilities and, if possible, resolve the conflict with design modifications. Where conflicts cannot be avoided, we will manage their relocations. We understand the Consolidated Rural Water District No. 1 has their water main in a private easement. Given the costs of relocating a water main in a private easement we will be very careful to avoid their water main.

We will prepare preliminary plans showing the necessary right-of-way and easements. We will submit them to you after our internal quality control checks. We will meet with you to discuss the plans and to receive your comments. Once approved, we will prepare the legal descriptions for the new right-of-way and easements.

We will then prepare the final plans and any technical specifications needed. The final plans will include a construction phasing plans as well as detailed construction traffic control plans. Drainage structures will be detailed as well as the construction plans to repair the downstream scour holes that are typical for the cross

Qualifications & Approach

road drainage structures. The plans will include erosion control measures too. For the intersections we will detail the needed improvements including potential turn lanes. We will provide plan sheets showing pavement markings, new signs, and street lighting where appropriate. Our internal quality control checks will be completed, and when the documents are ready we will submit them for your review and approval.

Once plans are approved, we will prepare the final bid documents and assist you through the bidding process. We will attend the preconstruction meeting and address any questions. If desired, we can send another flier to the residents letting them know construction is about to begin. We can provide any level of support as needed through construction from partial inspection to including full time construction management.

To maximize your investment the application of common sense design goes hand in hand with our approach. We use the most efficient design process to examine alternatives and to prepare the plans. We also develop the most efficient solution to meet your goals. Our proven process begins by communicating with you to understand the project goals and constraints. We conduct workshops internally and at times with clients to develop and vet ideas for savings. Through one of these sessions we came up with an idea that saved \$2 million on the I-70 and I-435 interchange near the Truman Sports Complex. On our Harrisonville 291 project we found ideas that saved \$1.5 million. Our design on Route 9 in Riverside was submitted for a MoDOT Practical Design Award. The innovative design saved \$500,000 on a project that was only a mile in length. We have a proven track record of finding ways to save money.

Rural roadways have unique challenges and one typical section will not fit the entire route. Side slopes, driveways, utilities, and right-of-way constraints all force the designer to be innovative in their application of the typical section and in how they achieve the project goals. We understand this and have successfully crafted improvements to meet our clients' goals and budgets on past rural roadway projects.

For your project we would suggest that we investigate using asphalt and concrete pavement. Asphalt is likely the less expensive pavement if the project bid today, but concrete could be less expensive pavement if oil prices go back up. This was a technique we use frequently for roadway projects to get our clients the best possible value.

Improvements such as pavement markings, spot location street lighting, and modern signage are all low cost, yet effective ways to improve rural roadway safety. We have conducted safety audits for KDOT on rural highways and applied these simple measures to make significant safety improvements. We used these tools on our 55th Street project in Kansas City, KS.

Each project is different and it is the application of ideas through a common sense design process that creates the value for you. We look forward to the challenge.

Client References from Similar Projects

City of Leavenworth, Kansas

Mike McDonald, PE
Director of Public Works
(913) 684-0375
mmcdonald@firstcity.org

Unified Government of Wyandotte County & Kansas City, KS

Bill Heatherman, PE
County Engineer
(913) 573-2941
bheatherman@wycokck.org

Platte County, MO

Greg Sager, PE
Director of Public Works
(816) 858-2223
gsager@co.platte.mo.us

City of Lee's Summit, MO

Dena Mezger, PE
Director of Public Works
(816) 969-1845
dena.mezger@cityofls.net



Kansas Star Casino

The TranSystems team “always provided prompt, efficient, and professional engineering services in every aspect of project delivery that they were responsible for.”

– David Jacobson, PE, Chief Engineer
Kansas Turnpike Authority

Homestead Lane Improvements

“Your inspectors have done great work and were critical to carry us through this last month of blitz construction. “

– Howard Lubliner, PE, Metro Engineer
Kansas DOT



Woods Chapel Road Reconstruction

“From the public meeting to the ribbon cutting, TranSystems exceeded expectations. On a scale from one to ten, they’d get an 11.”

– Jeff Sell, Asst. Public Works Director
City of Blue Springs, MO



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