

KUTC Newsletter

Fall 2007

A quarterly newsletter of the Kansas Local Technical Assistance Program (LTAP) at the University of Kansas Transportation Center with funding from Kansas DOT and the Federal Highway Administration

An issue on infrastructure

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Please help us reach more people in your agency by routing this newsletter.

- ___administration
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- ___shop

So, you need to purchase some right-of-way? How to get it done and not get stung



... by Lisa Harris

Local governments sometimes must purchase additional right of way (ROW) for roads they own. This can be a complicated process, depending on the circumstances, and can also get a local government in hot water if it is not done right.

JR McMahon, public services director for Miami County, suggested we write an article on this topic. We called Eric Deitcher, a ROW expert for KDOT, to help. Deitcher used to purchase ROW for KDOT; now he works for KDOT's Bureau of Local Projects. He serves as Local Liaison and helps advise local governments on how to keep ROW acquisition on track for state- and federal-aid projects.

Deitcher is author of KDOT's *Right of Way Acquisition Guide for Local Public*

Agencies. This 115-page-plus document provides much of what you need to know about ROW acquisition, and includes copies of laws that govern the process, plus forms to use during the process. Every community in Kansas that purchases right of way should consult this guide. We will be covering the basics here, drawing heavily on advice in the guide.

First, what's required? In Kansas, the requirements contained in the federal "Uniform Act" (49 CFR Part 24) must be followed *when using state or federal funds* for any ROW acquisition or in any other phase of the project. *If using only local funds*, and if the project involves displacement of someone from their owned or rented dwelling, state law requires that the project must also follow the requirements of the Act. If using only local funds and the taking does not result in displacement of a person, the local agency is not required to follow the Uniform Act. However, Deitcher recommends following the Act's requirements anyway. "It helps agencies minimize their risk of exposure," he said. "It also provides consistency of process in your agency and community."

Steps in the process

Here is a simplified view of the steps involved in acquiring right of way when a dwelling unit is not part of the taking:

1. Decide to pursue a project. If using state or federal funds, this step includes informing KDOT of your intent to start

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Acquiring ROW on local roads, *continued from page 1*

a project.

2. Review deadlines from KDOT-BLP regarding requirements for letting. One of the requirements is to acquire ROW. Plan your acquisition process with the ROW deadline in mind, and allow enough time for all the steps in the process—because KDOT requires that all ROW and utilities are to be cleared at least four months before the letting.

3. Have your elected officials work with legal counsel to designate (in writing) one person who will be the point of contact with landowners about land acquisition and what authority will be granted to that individual for negotiating with landowners. This action could be a blanket delegation for all ROW projects, but it must be in writing and that document must be filed with each project's paperwork.

4. Send to each landowner the applicable brochure about his or her rights (see sidebar, page 3). Include a letter saying that your government needs to acquire some portion of their

Price should not be discussed with the landowner until you present the written offer.

land for road improvements and you will be contacting them in the future about appraising the property. This should be your first point of contact with the landowner and, from this point forward, price should not be discussed by you or anyone else, formally or informally, until a written offer is presented to the landowner.

5. If your project receives state or federal funds, obtain environmental clearance on the project BEFORE you make a written offer to the landowner in acquiring their property. [Prior environmental clearance is not required for projects that receive only

Eminent Domain

Eminent domain, also known as “condemnation,” is a power reserved to the state, municipalities, political subdivisions and others by federal and state constitutions and laws. It is a quasi-judicial procedure. It involves filing a petition in District Court, a hearing before a judge, another hearing with court-appointed appraisers, and perhaps appeals.

Guidelines, authorities and procedures are outlined in the *KDOT Administrative Condemnation Instructions Manual*, prepared by the Office of Chief Counsel, (785) 296-3831. A two page summary of the condemnation process is provided in *KDOT's Right of Way Acquisition Guide for Local Public Agencies*. Order a copy on page 15.

Just Compensation

Just Compensation is required to be paid by the Fifth Amendment to the U.S. Constitution (and counterpart state constitutions) when private property is taken (or in some states, damaged) for public use. For reasons of expedience, courts have been generally using fair market value as the measure of just compensation, reasoning that this is the amount that a willing seller would accept in a voluntary sales transaction and therefore it should also be payable in an involuntary one. Market value is not the exclusive measure of just compensation; in unusual cases other measures of compensation can be used.

state or local funds, but Deitcher highly recommends it anyway.]

6. Start a file for each property from which ROW is needed. Label the file with the name of the property owner and assign a number to the file that corresponds to a number on your map of the project. The file should include every piece of correspondence you have with the property owner, and detailed

notes about every phone call or other contact you make with anyone associated with the acquisition. For phone calls, document each call and what was communicated, and document the response. All this documentation is essential for minimizing your agency's exposure if a landowner contests any part of the process. Your documents will show you followed required procedures.

7. Double-check the legal description of the property for accuracy. McMahan said that these descriptions are often complicated and can contain errors. The description will be

included in your offer to the landowner. If it is inaccurate, you will have to go back to the landowner and re-negotiate. This can cause serious delays and may affect your ability to meet your letting date.

8. Determine a value for the property, otherwise known as “Just Compensation.” (see sidebar) In most cases, this means getting the property appraised by a certified appraiser. This usually takes 6 to 8 weeks. If an appraiser is involved, the landowner must be given the opportunity to accompany the appraiser. ROW staking can help the landowner visualize the area of the ROW to be acquired.

9. This appraisal will then need to be reviewed by another certified appraiser, who will either affirm the value or come up with a different value. The agency considers these values in determining: 1) Just Compensation and 2) the amount of the written offer, which must be the same or higher than the Just Compensation figure.

10. Your elected officials (or their official delegate) must approve the

For the landowners and tenants

KDOT has published two brochures that describe landowner and resident rights in right of way acquisition. They are:

1) Acquisition, Real Property Acquisition for Kansas Highways, Roads, Streets and Bridges. This should be given to the landowner well before the written offer.

2) Relocation: Your Rights and Benefits as a Displaced Person Under the Federal Relocation Assistance Program. This document should accompany the first one if the acquisition will displace a person from their owned or rented home.

Both of these brochures are available from KDOT's Bureau of Local Projects by downloading them from their Web site at <http://www.ksdot.org/localgov.asp>.

amount of the offer before making the written offer – very important! (This may be done in executive session with elected officials.)

11. Meet with the landowner to present the written offer and a 90-day guarantee notice form for their removal of personal property. If you are unable to personally meet with the landowner, send the offer by registered mail so that you can document that they did receive it.

12. Negotiate with the landowner to purchase within your delegated

authority to condemn the property (see sidebar, page 2). Time is of the essence, so be sure to get the petition filed in court in a timely manner.

14. On agreed settlements, obtain the landowner's signature immediately on all the purchase papers.

15. Process the payment check to the landowner and pay the landowner as soon as possible. The landowner must be paid before the taking. (This means that you must pay the landowner before entering their property for work.)

All your documentation is essential for minimizing your agency's exposure if a landowner contests any part of the process. Your documents will show you followed required procedures.

limitations for doing so. A reasonable amount of time should be given to the landowner to consider your offer. In most cases 3 to 4 weeks should be allowed for this process. Any amounts agreed to in excess of the written offer need to be documented on an "Administrative Settlement" form. This form identifies the justification for paying the landowner more than the amount of the written offer.

13. If you are at an impasse with negotiations, your agency must then exercise its "Eminent Domain"

16. Another very important step: Get the paperwork recorded right away. This may mean walking papers around to get it done. In the State of Kansas, conveyances are not recognized until they are made public.

16. On tracts that were condemned, once payment is made into court, the property is yours. (If there is relocation of personal property, the 90 day guarantee rule still applies.)

17. Close out your file on the acquisition and retain the file for at least three years.

Steps for acquiring ROW if a person will be displaced from their home

The steps above apply in these cases, but more steps are needed between landowner notification and agreement to a price.

The federal Uniform Act requires procedures that are designed to be fair to the resident. The agency must interview the homeowner or renter and obtain information on the property for appraisal purposes and also for the process of finding a comparable home. The new home must be decent, safe and sanitary as defined in the Act, functionally comparable, and should be in the same general area as the current house. The agency will prepare a written offer that states the value of the current house, the value of the comparable house the agency has identified (usually with a realtor's help), and any difference in the two values. This difference in price is a supplement. The agency is required to pay the supplement to the resident as long as the resident spends it on new housing.

"You have to spend it to get it," said Deitcher.

Every relocation of a residence is unique, and Deitcher suggests approaching each situation with creativity. Some housing markets are tight and a comparable house cannot be found in the area. A renter might want to buy a house instead of continuing to rent. An older homeowner might elect to move to senior housing. A low income homeowner in a blighted area might not be able to make mortgage payments on a newer, nicer home.

"The important thing is to be fair," he said. "You are completely changing someone's life when they are displaced, and I think we should go the extra mile to figure out how to help people when we can," he said.

There is a provision called Housing of Last Resort that gives more options to agencies if the supplement

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Acquiring ROW on local roads, *continued from page 3*

is over \$22,500. The agency could build the homeowner a new house or open a new search. Dollar amounts can't be taken into consideration when finding comparable housing.

Deitcher said that most people do not buy the house the agency identifies as comparable. They have a year to move after their offer has been made.

"The federal relocation program is designed to make people whole again, and treat them fairly. A lot of it is just common sense," said Deitcher.

Frequently asked questions:

What is a court-appointed appraisal hearing like? It's informal, typically in a meeting room rather than a court room. The hearing is

Even if things are going well and you don't have questions, McMahon said it can't hurt to call KDOT to make sure things are going as well as you think.

before three court-appointed appraisers, all of whom must be residents of the county, and two of the three must have some familiarity with land values. The hearing also usually includes the landowner and his/her attorney, the local government seeking ROW, and the government's counsel. Once a price has been determined by the court and identified on the "Report of Appraisers," the agency has 30 days to pay that money into court. Failing to do so will be considered as "Abandoning the action" and the agency will have to begin the acquisition process all over and also pay the landowner's legal fees. Once the landowner is paid, the property belongs to the government entity.

Why is it important to document everything? "To put it plainly, if you get run over by a truck, how will anyone know what you did on the project?" said Deitcher. "Also, the landowner's attorney may be in a position to take advantage of your agency if you don't take good notes."

What if I run into problems with the process? Snags are common in ROW acquisition. Landowners want to negotiate, things get political, and not all local citizens are not accustomed to working in a formal manner with their government officials. Each project is different, too. If you run into a snag, call Deitcher at KDOT. He is responsible for helping local governments stay on track, and that means providing advice about whatever snags crop up along the way. Even if there are no state or federal funds in the project, Deitcher said he is willing to help their local partners.

McMahon recommends: "Do not hesitate to hire a professional ROW consultant that provides valuation and acquisition services if the project or landowners present issues that the agency is unsure of. This will save money in the end." [Deitcher can provide KDOT's approved list of these consultants.]

McMahon also said to make sure that your legal counsel is kept informed on where you are in the process, and about any potential problems."

If I get behind on my project's ROW acquisition, how will it affect my project? If your project uses federal or state funds and you do not complete your ROW acquisition four months before letting, your project may be bumped into the next fiscal year. Deitcher said there will be a change from past practice when local projects have been car-

ried over by KDOT due to incomplete ROW work, contributing to KDOT being over programmed.

"A day is coming, and it's approaching quickly, when we're going to bump projects out of a current fiscal year, and into the next fiscal year," he said.

What does KDOT need to review for ROW acquisition? At minimum, KDOT wants to see that:

- property values were properly established
- the agency's elected officials approved the offer
- a written offer was made to the landowner
- if the settlement is more than the offer, KDOT needs to see the administrative settlement form for the property
- proof of payment — "Because you have to pay before you take," said Deitcher.
- ample notes on communications and negotiations with the landowner.

Is an official appraisal always necessary? No. If the land value is \$10,000 or less and is relatively uncomplicated, like a simple strip-taking with no proximity to a house or no removal of an access-point, the agency can complete a Waiver of Appraisal form and proceed.

What is the most common snag in the process? "Commitment," said Deitcher. "Many elected officials are reluctant to condemn property—they would rather have their agency engage in lengthy negotiations with the landowners, some of whom are not cooperative, to say the least. It takes a strong spine to take someone's property, and commitment to follow through in the best interest of the community," he said.

Where can I find the proper forms for ROW acquisition? All the pertinent forms are included in KDOT's

Right of Way Acquisition Guide for Local Public Agencies. For a copy of the guide, download it from www.ksdot.org at the Bureau of Local Projects link or turn to page 15 to order a hard copy.

Have there been any changes in the ROW process in the last few years?

The basic procedures have not changed much, but the general public has, said Deitcher. "People are reading about prices paid for ROW elsewhere, they are getting better educated on the acquisition process, and they are investigating more ways to receive compensation." he said.

What is the role of elected officials in ROW acquisition?

Elected officials are responsible for two tasks in the process—1) they must officially designate a contact person to communicate with the landowner and 2) they must approve the amount of the offer before it is delivered to the landowner or tenant. All contact with the landowner should be made by the designated contact only.

If I have questions, whom can I ask?

Call Eric Deitcher at (785) 296-0413. He will help you even if your project does not involve state or federal funds. In fact, even if things are going well and you don't have questions, McMahon said it can't hurt to call KDOT to make sure things are going as well as you think.

Sources:

Right of Way Acquisition Guide for Local Public Agencies, Kansas Department of Transportation Bureau of Right of Way, August 2006.
http://en.wikipedia.org/wiki/Just_compensation ■

Polymer overlays extend bridge life



Photo courtesy of KDOT

The first coat of polymer is applied with a notched squeegee.

Adapted with permission from *Extend the Life of Your Bridge!*, by KDOT.

... by Lisa Harris

Engineers have tried different types of overlays to extend the life of existing bridge decks and decrease the permeability in the concrete without adding excessive dead load to the structure. Recently the Kansas Department of Transportation (KDOT) has been applying two-coat broom and seed polymer concrete overlays. These involve the distribution of a polymer binder on a shot-blast-prepared bridge deck followed by broadcasting aggregates over the liquid polymer. KDOT's specifications are based on the AASHTO publication *Guide Specifications for Polymer Concrete Bridge Deck Overlays*, October 1995.

Here are some Q's and A's about the technique:

What kind of surface preparation is needed before application?

To achieve the desired results, deteriorated concrete must be removed and patched with suitable material. Bridge decks with cracking and a low amount of delamination are ideal candidates. However, any level of repair can be made as decided by the bridge owner. Cementitious patches should be allowed to cure for 28 days prior to placing the polymer concrete overlay. Typically polymer based patches can be overlaid much sooner.

Before placing the overlay, the bridge deck surface must be cleaned by shot blasting in order to produce the International Concrete Repair Institute (ICRI) Surface Preparation Level 6 to 7. Shot blasting cleans surface contaminants from the deck to leave the appropriate relief to allow bonding of the overlay. All dust and loose material left from the cleaning operation must be removed with an air blast using dry, oil free air or vacu-

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Polymer overlay on bridge decks, *continued from page 5*

um. Brooming is not acceptable; debris, moisture, and contaminants left on the deck will interfere with the bonding of the overlay.

How soon after preparing the deck must the polymer be applied?

The first course of the polymer concrete overlay must be placed within 24 hours of the deck surface preparation. Follow the manufacturer's recommendations when mixing the epoxy components. The epoxy supplier's technical representative should be on the job site during the placement of both courses of the polymer concrete to ensure proper mixing, placement, and handling of the polymer.

Using a notched squeegee, the epoxy is applied over the prepared concrete bridge deck. Aggregate is distributed over the epoxy within 10 minutes of its application.

To ensure a good bond with the polymer, aggregates must be dust free and dry. Aggregates used in polymer concrete need to be hard and high-

Polymer concrete overlays should not be placed when the air temperature is expected to drop below 55 degrees F or when the deck temperature is expected to exceed 100 degrees F.

quality such as Flint Rock found in Northeast Oklahoma. Other high quality aggregates that can be used include: basalt, silica, quartz and granite.

Two layers of epoxy and aggregate are alternately applied, resulting in an overlay approximately 0.25 to 0.375 inches thick. The ends of wearing surfaces and expansion joints are finished in such a way as to minimize bridge deck roughness, typically by

Benefits of polymer concrete overlays

Polymer concrete overlays costs slightly less than silica fume overlays, but they offer several advantages over silica fume overlays:

- Dead load is substantially less with polymer concrete overlays (5 pounds per square foot versus 18 pounds per square foot for silica fume).
- Offers a 100% waterproof barrier that seals the deck and existing cracks.
- Reduced traffic disruption.
- Extends the life of patched areas on decks.
- The integrity of the structure is preserved since polymer concrete overlays require only shot blasting preparation and not the use of aggressive and extensive milling like silica fume overlays.
- Provides a skid resistant wearing surface.
- Polymer concrete overlays can be expected to last from 10 to 25 years depending on traffic volumes.

Source: Kansas DOT.

KDOT has repaired 56 bridges with polymer overlay, to date, in 26 counties.

additional shot blasting.

Cure time for each course will vary from 1 to 6.5 hours depending upon the temperature of the materials and bridge deck.

Polymer concrete overlays can often be completed during non-peak hours to minimize traffic disruption. Application of 400 sq. yds. per day is typical. The first course of the polymer concrete overlay is typically not opened to traffic.

What temperature range is recommended?

Polymer concrete overlays should not be placed when the air temperature is expected to drop below 55 degrees F or when the deck temperature is expected to exceed 100 degrees F.

What kind of polymer does KDOT use?

KDOT utilizes a Type III, 100 percent solids thermosetting, moisture-

insensitive epoxy specifically formulated for use in polymer overlays.

Who can I contact for more information?

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dmeggers@ksdot.org

Mark Hoppe, P.E.,
Bridge Team Leader
Kansas Dept of Transportation
700 SW Harrison, ES0B
Topeka, Kansas 66603-3754
(785) 296-3846
Hoppe@ksdot.org

Thanks to Jerry Fowler of Kirkham Michael's Ellsworth office for suggesting this topic, and to Susan Barker of KDOT's Bureau of Materials and Research for providing the source material. ■

Fall 2007 road scholar grads

The following participants earned a Kansas Road Scholar certificate in Fall 2007. A few graduates attended the Kansas County Highway Association meeting for the official presentation of certificates. Congratulations to all!

Level 1 – Technical skills

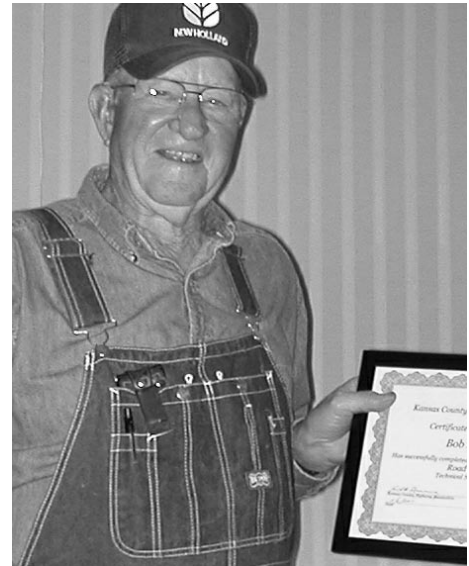
<i>Name</i>	<i>County</i>
Roy Aschenbrenner	.Ellis County
Jack Ball, Jr.	. . . . .Ellis County
Marvin Barlow	. . .Morris County
Jon Buck	. . . . .McPherson County
Kurt Demel	. . . . .Pawnee County
Bob Dennett	. . . . .Bruno Township
Ronald France	. . . . .Finney County
Dale Gifford	. . . . .Coffey County
Bonnie Heath	. . . . .Coffey County
Chuck Heinz	. . . . .Riley County
Adam Hoch	. . . . .Coffey County
Mark Hulse	. . . . .Jefferson County
Chris Labarge	. . . . .Ellis County
John Leiker	. . . . .Ellis County
Dan Mathies	. . . . .Riley County
Jeff McGuire	. . . . .Miami County
George Pogge	. . . . .Jefferson County
Ronald Schlyer	. . . . .Ellis County

Doug Smith	. . . . .Leavenworth County
Clinton Sowder	. . . . .Coffee County
Richard Stecklein	. . . . .Ellis County
Ryan Taliaferro	. . . . .Jefferson County
Gerald Weber	. . . . .Ellis County
Steve Wilson	. . . . .Butler County
Darold Younker	. . . . .Ellis County

Level 2 – Supervisory skills

Level 2 Graduates for this fall include:

Jason Crawford, Osage County
 Jeff Welton, Franklin County
 Bill King, Allen County
 Mark Polifka, Ellis County
 Marty Black, Coffey County
 Marvin Barlow, Morris County ■



Above, Bob Dennett with his road scholar certificate.

Below top, Bill King, at left, receives his supervisory skills certificate from Mike Graf.

Below bottom, technical skills certificate recipients George Pogge, Doug Smith, Bob Dennett, and Steve Wilson attended the Fall 2007 KCHA meeting to receive their certificates in person.

What's new?

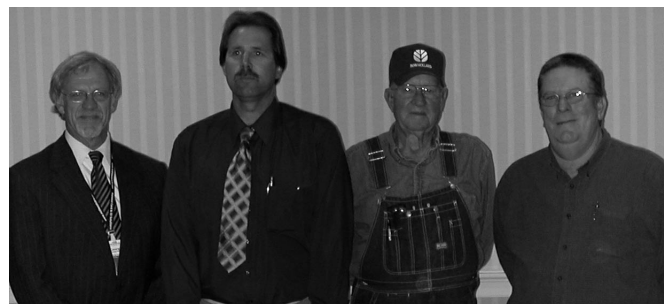
At its October 2007 meeting, the Kansas Road Scholar Committee decided to pursue a new elected officer structure with two officers—one from the Kansas County Highway Association and one from the Kansas Chapter of the American Public Works Association. Both organizations are lead partners in the road scholar program.

The committee discussed ideas for a Level 4 certificate for engineers; this will be further explored with input from Norm Bowers of the Kansas Association of Counties.

The committee also discussed the possibility of have Level 1 training for different kinds of jobs, such as technicians, mechanics, office staff/clerical, inspectors, and fleet managers. ■



Photos courtesy of Norm Bowers



A Leg Up

Are your stormwater grates safe for bicyclists?

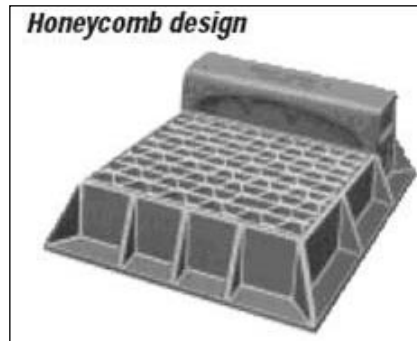
... by Kelly Heavey

As a bicyclist pedals over a storm grate on the edge of the road, he or she could be in danger if the grate is not designed with bicycling in mind. According to the U.S. Department of Transportation in *Pedestrian and Bicycle Safety*, "courts have become less sympathetic to agencies that do not consider the needs of pedestrians and bicyclists." Agency attention should be focused on making the roadway as safe as possible for every user.

Drain grates used to be designed with bars running parallel to the

Courts have become less sympathetic to agencies that do not consider the needs of pedestrians and bicyclists.

direction of traffic, which bike tires slipped into, pitching the rider off the handlebars. Safety problems also occur if the drain grate is raised from



or sunken into the road.

Lawsuits across the country have resulted from situations such as these. In 2001 *The Urban Transportation Monitor* reported that cities and counties face 2 to 3 road-related lawsuits per year, with an average settlement for each at \$230,000, not including defense fees. To head off lawsuits regarding storm grates, at least one state

(Oregon) has passed a statute prohibiting the installation of storm grates that pose a danger to bicyclists.

"Bicycle-safe" storm grate designs

that can replace outdated and dangerous drain grates. California uses a honeycomb pattern, such as at left. Kansas DOT's Bureau of Design uses its "inlet manhole special" design and adds a grate manufactured by Neenah Foundry (www.nfco.com) or a similar product.

Some other suggestions for quick-fixes for dangerous grates are to place a cover over the top of the grate with steel straps or to paint warning markings on the street.

Sources:

Pedestrian and Bicycle Safety. "Tort Liability and Risk Management." U.S. DOT. <http://www.tfhrc.gov/safety/pedbike/pubs/05085/chapt22.htm>

Basic Improvements for Bicyclists, by John Williams, <http://www.bikeplan.com/locond21.pdf>.

Oregon Statute Makes Dangerous Storm Drains Illegal. Swanson Thomas & Coon, http://www.stc-law.com/storm_drain.html. ■

Corrections

In our Spring 2007 issue, our article on dead end vs. no outlet signs had two errors. Here is the correct information: 1) the currently-adopted version of the MUTCD in Kansas is the 2003 version; 2) the last sentence of the sidebar should read: However, the plaques should *not* be used alone "where traffic can proceed straight through the intersection to the dead end or no outlet street." ■

New culvert design

KDOT's Bridge Design Section has developed a new Base Sheet BR025, entitled "Embedded Structure," which provides details for a method to allow passage of aquatic organisms through culverts. This "starting point" is the preferred method of compliance and mitigation when using three or more cell box culvert structures on expected or restricted aquatic life use waters. The bridge design engineer should

consider a reduced waterway opening and an appropriate Manning's Roughness value within the box for the details shown in BR025.

The Army Corps of Engineers has new posted regulations for providing passage of aquatic organisms which can be found at KDOT's Bureau of Design's "Bridge News Posting." Visit: <http://www.ksdot.org/burdesign/bridge/brnews.asp>. ■

What's your plan for preventing oil spills?

... by Lisa Harris

“What’s our plan if there is an oil spill?” Every road and bridge department should know the answer to that question and have a spill response plan. There are federal regulations that require a Spill Prevention, Control, and Countermeasures Plan (SPCC) for facilities that have more than 1320 gallons of oil stored above ground. The requirement for an SPCC plan was created under the authority of the Federal Water Pollution Control Act (Clean Water Act). The regulations require that a SPCC Plan be in writing, prepared in accordance with good engineering practices, and be approved by a person with authority to commit the resources necessary to implement it (40 CFR Part 112).

The purpose of the SPCC rule is to *prevent* discharge of oil and oil products into navigable waters of the United States—as opposed to *response and clean-up* after a spill occurs. You must have a plan that details the equipment, workforce, procedures and steps to prevent, control and provide adequate countermeasures to a discharge.

If your facility has an aggregate above-ground oil storage capacity of more than 1,320 gallons and oil can be reasonably expected to enter into navigable waters via any means—from floor drains to direct discharge into water—then it would fall under the requirement for an SPCC plan.

The term, “navigable waters” is broadly interpreted by regulators. This includes interstate/intrastate lakes, rivers, streams, wetlands, wet meadows, or natural ponds that are navigable or are tributaries to navigable waters.

This article will outline some of the main components of the Rule and an SPCC Plan, and suggest sources for more information on this topic.

Three elements of an SPCC Plan

The EPA requires that three broad areas be covered in an SPCC plan:

- 1. Operating procedures** the facility implements to prevent oil spills.
- 2. Control measures** installed to prevent oil from entering navigable waters or adjoining shorelines.
- 3. Countermeasures** to contain, cleanup, and mitigate the effects of an oil spill that has an impact on navigable waters or adjoining shorelines.

Why is this important?

Oil spills affect public health and the environment, they are expensive when one considers response, recovery and restoration costs.

Prevention is usually cheaper than response, and most oil spills are preventable.

To put some numbers to the problem, Region 7 (Missouri, Iowa, Nebraska, Kansas) has over 1,000 spills reported each year. In Region 6, south of us, annual oil spill reports equal one Exxon Valdez incident in quantity. The SPCC rule is designed to help prevent such incidents from occurring.

In the case of a spill, your agency can be assessed SPCC penalties, clean-up costs, US Fish and Wildlife

finances, Natural Resources Damage Recovery costs.

Who, What, Where:

To whom does it apply? – With regard to road and bridge operations, the rule applies to facilities with total storage at the location of greater than 1320 gallons aboveground (or 42 K gallons underground). Construction sites with 1320 gallons of above ground storage would also need an SPCC Plan. Oil stored in containers smaller than 55 gallon drums are not included in the total. A container’s full capacity should be used in the calculation, and not the average amount of oil in storage. Tanks used to haul fuel to a location off site, if they contain oil while at the facility, are to be included in the total, but fuel in a standard truck or equipment



Even waste oil tanks have to be considered if they exceed the minimum size and volume requirements of the SPCC regs.

fuel tank are not included in the total. Permanently closed containers are not included in the total.

What is oil? Oil includes petroleum, fuel oil, sludge, synthetic oils, mineral oils, heating oil, weed-spraying oils, oil refuse or oil mixed with wastes (road oils, diesel, gasoline). Animal fats and oils, and greases are also included. Natural gas is not regulated under the SPCC rule.

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SPCC regulations,

continued from page 9

Where? SPCC regulations pertain to fixed facilities, such as those found at a maintenance shop, and also construction sites where the above ground oil storage exceeds 1320 gallons.

Further, the regulations only pertain to those facilities where there is a reasonable expectation of discharge into or upon navigable waters of the United States. To determine this, consider the location of the facilities in relation to streams, ponds, ditches and drainages (perennial or intermittent), storm or sanitary sewers, drains, wetlands or other navigable waters. Discharge means any emission, intentional or unintentional, including but not limited to spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

The distance to navigable waters, volume of material stored, worse case weather conditions, drainage patterns, land contours, soil conditions, etc., must be taken into account.

Determination of proximity to navigable waters must EXCLUDE consideration of manmade features such as dikes and levees that were not constructed specifically to contain or prevent a discharge. It seems that there will be few locations in Kansas that a spill could not reach navigable waters.

Road & bridge considerations

We asked Norm Bowers, Local Road Engineer for the Kansas Association of Counties, for specific ways SPCC regulations affect road and bridge facilities. Bowers attended a half-day EPA-sponsored course on the subject in November. (The course can be viewed online—see page 15.) Bowers said that trucks that have nurse-tanks to fuel vehicles off site, asphalt distributors, and asphalt tankers are regulated when parked at the facility. Normally secondary containment berms will be required around parking areas for this type of equipment.

Self-certification option for qualified facilities

This option allows facility owners that store less than or equal to 10K oil and meet other qualifying criteria to self-certify their SPCC Plans, in lieu of review and certification by a PE. See EPA's fact sheet: http://www.epa.gov/emergencies/content/spcc/factsheet_qual_fac_dec06.htm.

Secondary containment is normally required around any aboveground storage such as waste oil tanks, overhead asphalt tanks (including the loading area), standby generator fuel tank, etc.

Bowers said that at the equipment shop, consideration needs to be given to a spill that could occur inside the building. If the building has floor drains and a rupture of a 55 gallon drum could allow oil to enter the floor drain and the storm sewer system secondary containment may be needed where the drums are stored. If the building does not have floor drains, having booms on site to contain the spill within the building may be adequate. This type of information would be included in the SPCC Plan.

What is required to be in an SPCC plan?

The EPA requires the following in an SPCC plan:

- Professional Engineer certification (or self-certification in some cases, see sidebar above)
- plan must follow the sequence of 40 CFR 112.7 or provide cross-references to the requirements in 40 CFR 112.7
- facility diagram
- oil spill predictions
- facility drainage
- facility inspections
- site security
- five-year plan review
- management approval
- appropriate secondary containment or diversionary structures
- loading/unloading requirements and procedures for tank car and tank trucks
- personnel training and oil discharge prevention
- brittle fracture evaluations
- bulk storage container compliance

- transfer procedures and equipment (including piping)

Because not all facilities are alike, some of these elements may not be in your particular plan. Your plan needs to be reviewed and certified by a professional engineer (unless you qualify for self-certification) and the plan must be reviewed and recertified at least once every five years.

What is considered a harmful discharge?

The EPA has determined that discharges of oil in quantities that may be harmful include those that:

- violate applicable water quality standards
- cause a film or sheen upon the water or shoreline, or
- cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

What are the reporting requirements if we spill some oil?

Immediate reporting. In Kansas, any person in charge of a facility must notify the NRC (800-424-8802) and the Kansas Department of Health and Environment's 24-hour hotline (785-296-1679) as soon as s/he has knowledge of a discharge in violation of Section 311(b)(3). Failure to report a spill can result in criminal violation.

SPCC reporting. Facilities subject to the SPCC must also report to the EPA (within 60 days) if:

- More than 1,000 US gallons of oil in a single discharge to navigable waters or adjoining shorelines, or
- More than 42 US gallons of oil in each of two discharges to navigable waters or adjoining shorelines within a 12-month period. When making this determination, it is the amount

of oil in gallons that reached the navigable waters or adjoining shoreline.

Train your employees

When it comes to training employees, EPA requirements state:

“Personnel, training, and discharge

What should be included in calculating your aggregate aboveground storage capacity?

- 1320 gallons or greater, total, in containers or tanks 55 gallons or greater
- not 5 gallon buckets or quarts, etc.
- include totes, mobile and portable tanks

prevention procedures: At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and the contents of the facility SPCC Plan.”

The reportable quantity of any common oil product spilled is 25 gallons, or any time the spill causes an oil sheen on surface water. Also, if the spill enters a sanitary sewer or storm sewer, you will need to report the spill. For further information, visit www.epa.gov/oilspill.

When training employees, focus on these four points:

- 1) The responsibility of all personnel to comply with items in the rule.
- 2) Potential sources of spills at your facility.
- 3) Practical instruction on spill prevention.
- 4) Containment and countermeasures if a spill occurs.

Recordkeeping

It is necessary to conduct inspections and tests in accordance with written procedures that the supervisor or the

certifying engineer developed for the facility. These written procedures and a record of the inspections and tests need to be signed and kept by the appropriate supervisor or inspector for three years with the SPCC Plan.

This follows standard business procedures of keeping records. There needs to be a person designated at each applicable facility who is accountable for discharge prevention.

Security

The EPA has several security requirements for the facility. Included are fully fencing each facility where oil is handled, processed, or stored, and locking and/or guarding entrance gates when the facility is unattended.

Another procedure involves ensuring that the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in nonoperating or non-standby status. Lock the starter control on each oil pump in the “off” position and locate it at a site accessible only to authorized personnel when the pump is in a non-operating or non-standby status.

When lighting a facility, consider factors such as discovery of spills occurring during hours of darkness, both by operating personnel, if present, and by nonoperating personnel (general public, local police). Lighting can detour spills occurring through acts of vandalism.

All tanks containing oil should be examined visually on a scheduled basis.

Changes coming?

Some amendments to the SPCC Plan are being considered, including exempting hot-mix asphalt and adding some flexibility to the fencing requirements. Learn more at [http://](http://www.epa.gov/emergencies/content/spcc/oct07.htm)

www.epa.gov/emergencies/content/spcc/oct07.htm.

Bottom line

The bottom line is to have a PLAN. If you have less than 1320 gallons of above ground oil storage, you need a simple spill response plan. If you have 1320 gallons or more of above ground storage you need a formal SPCC Plan. Consider decommissioning seldom used tanks and reducing inventory of 55 gallon drums if that will reduce your above ground storage to less than 1320 gallons. If you can't reduce your inventory to less than 1320 gallons you might want to consider hiring a consulting engineer to prepare the SPCC Plan.

Norm Bowers is preparing a guide for compliance with the SPCC Rule. He expects this will be completed and available in January. Look for mention of it in Norm's regular email postings or email him at bowers@kansascountries.org. Norm also has prepared a simple spill response plan for a typical county shop.

For more information

Region 7 EPA: Contact Ward Burns at (913) 551-7960

KDHE Spill Response Program: <http://www.kdheks.gov/spill/index.html>

EPA's SPCC Web site:

<http://www.epa.gov/emergencies/content/spcc/index.htm>

Sources:

“Spill Prevention, Control and Countermeasure Regulation 40 CFR 112: Updates, Tips, ‘How-to’s’ and the Basics,” November 15, 2007, by the US EPA Regions 5 and 7. Accessible at www.kstate.tv/epa/documents/presentation.pdf.

“SPCC...Are you in compliance?,” *LTAP Matters*, Montana LTAP, Winter 2005.

“EPA's Oil Pollution Prevention Regulations Spill Prevention, Control and Countermeasure (SPCC),” *South Dakota LTAP Special Bulletin #46*. ■

Too bright?

When signage on a rural highway in Kansas was upgraded, the State received some comments that begged the question of whether modern highly reflective sign sheeting materials could, in some circumstances, actually decrease the legibility of signage because of glare, particularly for older drivers. Older drivers tend to have poorer visual acuity, requiring larger signs to provide the same legibility as found in a younger population.

KDOT commissioned a KTRAN study to determine if highly reflective sheeting could cause a reduction in sign legibility due to veiling glare, especially in older drivers. The test was conducted using 60 drivers in an actual automobile and full scale signs and distances. The data collection was conducted in a test facility where external factors could be eliminated, isolating the variables of greatest interest.

The results? Older drivers in the study as a whole were found to exhibit poorer performance in terms of visual acuity and response time, but no detrimental effects attributable to glare were observed.

Report Information:

Assessment of Traffic Control Practices with Respect to Older Drivers,

Report Number: K-TRAN-KU-01-4

By: Eric Meyer, Ph.D., P.E., & Paul Atchley, Ph.D.

The University of Kansas

For technical information on this report, contact Eric Meyer, Ph.D., P.E., Telvent Farradyne, 2617 W 27th Terrace, Lawrence, Kansas 66047; Phone: 913-579-6442; eric.meyer@telvent.abengoa.com

For a copy of the full report, contact: KDOT Library; 700 SW Harrison Street, Topeka, Kansas 66603-3754; Phone: 785-291-3854; library@ksdot.org.

Source: KDOT Press Release. ■

A history of highway culverts and bridges

... by Jake Bustad

Highway engineers have dealt with a recurring challenge in the construction of culverts and bridges for many years—water, and the amount of it to expect. A new research report by University of Kansas engineer Dr. Bruce McEnroe provides a history of the methods engineers used in designing these projects, and design methods required today.

McEnroe traced the highway-building era in Kansas to 1917. Many of the early culvert and bridge projects were designed based on experience, often learned from existing structures during floods. Other methods were developed by railroad engineers and transferred to the construction of highways. Yet because of a lack of reliable streamflow and rainfall data, it was difficult to know if these design methods were indeed effective. According to McEnroe, designs before the 1950s included the Talbot formula, Dun's table and other empirical methods.

Streamflow, rainfall and other data have become more reliable in the last 50 years, and the hydrologic methods available to engineers have improved as well. McEnroe documents the methods currently in practice, and emphasizes the need for hydraulic analyses in any proposed design.

To access the full report, or for a brief summary of the report, check KDOT's Research Reports Catalog online: *Sizing of Highway Culverts and Bridges: A Historical Review of Methods and Criteria*. (Report # K-TRAN-KU-05-4). Or contact the KDOT Library at (785) 291-3854, or library@ksdot.org.

For technical information on the report, contact Dr. McEnroe: (785) 864-2925, or mcenroe@ku.edu. ■

New guidebook on public/private partnerships

The U.S. DOT is encouraging state and local government transportation departments to consider the use of public/private partnerships (PPPs) to accomplish more projects in their work programs. Partnerships can range from contract maintenance to life-cycle finance, development, operations, and preservation. A new DOT document—*User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States*—provides guidance in the application of PPPs to transportation projects based on the experiences of transportation agencies in the U.S. and other countries. Download this comprehensive guide at www.fhwa.dot.gov/ppp/ppp_user_guidebook_final_7-7-07.pdf. ■

KDOT Korner

New staff at KDOT’s Bureau of Local Projects introduced at KCHA meeting

... by Lisa Harris

KDOT’s Bureau of Local Projects (BLP) has seen many changes in the last few years. A flurry of retirements has resulted in a new chief (Ron Seitz), deputy chief (Rod Lacy), and most of the staff.

Seitz wanted to introduce his new employees to as many county officials as possible, so they piled into a van and drove to the Kansas County Highway Association meeting in Wichita in November. Seitz introduced

his staff individually and described what each person will be doing for the Bureau of Local Projects.

Darryl Lutz, newly-elected KCHA president, said “It was great to see all the staff from KDOT at the meeting. We are pleased to have a good relationship with KDOT, and this is one example of KDOT showing that they value this relationship.”

Learn more about BLP’s staff at the Bureau of Local Projects’ Web site (see box at right). ■

Visit BLP’s Web site

KDOT-BLP has a variety of useful information, including:

- FHWA’s emergency relief manual
- CE selection packet
- LPA project information
- Consultant contact information
- City/County 5 Year Plan information
- City/County funding categories
- Funding information
- Understanding Federal Funding*
- Right of way manual for locals

www.ksdot.org/burlocalproj/default.asp



Front row (left to right): Eric Deitcher, Sarah Boyle, Shari Westfall, Dawn Hueske, Alison Sorden, Kent Anschutz, Ed Thorsell; **Back row** (left to right): Ed Thornton, Sondra Clark, David Nagy, Ron Seitz, Tod Salfrank, Jeff Horton, Randy Leonard.

Photo by Norm Bowers

What's New

... by Lisa Harris

Expand the Life of Your Bridge!: Two Coat Broom and Seed Polymer Concrete Overlay

This brochure describes the procedures KDOT uses to apply polymer overlays to repair deteriorated bridge decks. It provides a good overview and contains photographs. A summary of the information contained in this publication appears in the article in this issue on page 5. Published by KDOT in October 1995.

A Facility Owner/Operator's Guide to Oil Pollution Prevention

The purpose of this guide by the EPA

is to provide information about the SPCC rule and how to comply with it. Includes photographs and contact information. 8 pages. Download from <http://www.epa.gov/emergencies/guidance.htm#spcc> or order hard copy on page 15.

Railroad-Highway Grade Crossing Handbook - Revised Second Edition August 2007

This FHWA handbook provides a single reference document on prevalent and best practices, as well as adopted standards for highway-rail grade crossings. The handbook provides general information on highway-rail crossings, characteristics of the crossing environment and users, and the physical and

operational improvements that can be made at highway-rail grade crossings to enhance the safety and operation of both highway and rail traffic over crossing intersections. The guidelines and alternative improvements presented in this handbook are primarily those that have proved effective and are accepted nationwide. Chapters can be downloaded at <http://safety.fhwa.dot.gov/xings/07010/index.htm> or a hard copy can be purchased from NTIS at a cost of \$69. Call NTIS at (800) 553-6847.

Kansas LTAP Resource Catalog 2008

New edition of KS LTAP's lending library of free resources. ■

Calendar

See our Web site for even more calendar listings.
Go to www.kutc.ku.edu and click on "Training Calendar."

... 2008

* Workplace and Job Site Safety ▲T

Feb 20 – Dodge City
Feb 21 – Hays
Feb 22 – Salina
Feb 28 – Chanute
Feb 29 – Topeka

*tentative dates:

Gravel Road Maintenance ▲T
March 18 – Colby
March 19 – Hays
March 20 – Salina
March 25 – Hutchinson
March 26 – Emporia
March 27 – Manhattan

*Early 2008 Project Planning and Management ▲M
Feb 13 – Hutchinson
Feb 15 – Topeka

February 6 Environmental Engineering Conference University of Kansas Continuing Education 877-404-5823 toll free

March 6 Structural Engineering Conference University of Kansas Continuing Education 877-404-5823 toll free

*Asphalt Roads Maintenance ▲T

March 11 – Garden City
March 12 – Wichita
March 13 – Salina
March 19 – Olathe
March 20 – Topeka

MUTCD for Technicians ▲T (fulfills requirements for two Kansas Road Scholar Level I required courses:
1) Work Zone and Traffic Control Safety and 2) Signing and Pavement Markings)
March 18 – Garden City
May 20 – Salina
1-800-432-8222

March 20 MUTCD for Emergency Response Personnel Garden City
1-800-432-8222

*March NHI: Interactive Highway Safety Design Model

April 15-16 Kansas Transportation Engineering Conf. Manhattan, KS Kansas State University-Division of Continuing Education Phone: 785-532-5569

April 10 APWA Kansas Chapter Snow Rodeo Junction City

April 29-30 14th Annual Statewide Transportation Safety Conference University of Kansas Continuing Education 877-404-5823 toll free

May 5-7 KCHA Spring Conference Manhattan, Kansas Phone: Daryll Lutz at (316)322-4101 dlutz@bucoks.com

May 7-9 APWA Mid-Am Conference Overland Park, KS Call Andy Haney at 785-229-3630

May 16-17 Modern Roundabout Design Workshop Kansas City, MO Call Howard McCullough at (518) 783-5933 <http://roundabouts.cc>

May 18-21 National Roundabout Conference Kansas City, MO Contact: Richard Pain RPain@nas.edu

May *Culvert and Drainage Workshop ▲T

August *Local State Project Coordination ▲M

October *Bridge Maintenance Kansas LTAP

*For information on calendar items indicated with an * or to suggest a topic for an LTAP workshop, contact: Kristin Kelly, LTAP Training Coordinator, 785/864-2594, kbkelly@ku.edu.

▲T = KS Road Scholar Program—Level 1 Technical skills required course

▲S = KS Road Scholar Program—Level 2 Supervisory skills required course

▲M = KS Road Scholar Program—Level 3 Master Road Scholar required course

Free Resources

Check off your selections, fill in the bottom portion, and return this form to:

KUTC Materials Request, 1530 W. 15th St., Room 2160, Lawrence, Kansas 66045
or fax to 785/864-3199

Presentations

MINK 2007 CD

Includes powerpoint presentations from speakers at the MINK 2007 county engineers meeting in St. Joseph, MO.

EPA Workshop on SPCC Regulations

Webcast footage of a workshop held on November 15, 2007, on oil spill prevention regulations and proposed updates. This will be available for about six months at <http://ome.ksu.edu/webcast/spillprevention/index.html>

Publications

You are free to keep these unless otherwise noted. See descriptions on pages 1 and 14.

Right of Way Acquisition Guide for Local Public Agencies

Kansas DOT Bureau of Right of Way, August 1, 2006, 115 pages.

Expand the Life of Your Bridge!: Two Coat Broom and Seed Polymer Concrete Overlay

Kansas DOT, brochure, October 2005.

A Facility Owner/Operator's Guide to Oil Pollution Prevention

Environmental Protection Agency, October 2002, 8 pages.

Kansas LTAP Resource Catalog 2008

Training videos/DVDs, publications and CDs available for free from the Kansas Local Technical Assistance Program, 64 pages.

Equipment

We offer turning movement counter boards for loan to local highway agencies. Call us at (785) 864-5658 to arrange a loan. There could be a waiting list for these items.

Turning Movement Counter Board DB-400, Jamar Technologies, Inc.

A basic model for recording turning movements at intersections. The board is is lightweight and comes with its own case.

Turning Movement Counter Board TDC-8, Jamar Technologies, Inc.

Can be used to do turning movement counts, classification counts, gap studies, stop-delay studies, speed studies, and travel time studies. The board is lightweight and comes with its own case.

Order Form

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- send materials indicated
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Note: Our video and publication catalog is accessible online, in a searchable format. Visit: www.ksltap.org

*For requests outside the United States: After receiving your request, we will notify you of the postage cost and will send materials after receiving payment for postage.

Kansas LTAP

Let us at the KUTC help you find the answers to your transportation-related questions.

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www.ksltap.org

The Kansas Local Technical Assistance Program (LTAP) is an educational, research and service program of the Kansas University Transportation Center (KUTC), located in the University of Kansas School of Engineering. Its purpose is to provide information to local and county highway agencies and transportation personnel by translating into understandable terms the latest technologies in the areas of roads, highways and bridges.

The *KUTC Newsletter* is one of the KUTC's educational activities. Published quarterly, the newsletter is free to counties, cities, townships, tribal governments, road districts and others with transportation responsibilities. Editorial decisions are made by the KUTC. Engineering practices and procedures set forth in this newsletter shall be implemented by or under the supervision of a licensed professional engineer in accordance with Kansas state statutes dealing with the technical professions.

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