



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.kentucky.gov


Steven L. Beshear
Governor

Joseph W. Prather
Secretary

STATE HIGHWAY ENGINEER POLICY #2007-01

MEMORANDUM

TO: Chief District Engineers

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: December 17, 2007

SUBJECT: 2007 – 2008 Winter Operations

As the 2007 – 2008 snow and ice season is in its early stages, we want to take this opportunity to thank everyone involved in the extensive preparations. The expectations of the traveling public are high and it will always be a challenge to achieve this expected level of service.

We, too, have goals and expectations for our winter operations. All winter operations are to be performed in as safe and efficient manner as possible. Snow and ice priorities and levels of service shall be as stated in policy to the extent manpower allows. Everyone assigned to snow and ice duty must respond when called. Disciplinary action will be taken for failure to respond unless approval is obtained from the immediate supervisor. The following policy is in effect for not working after being called out during snow and ice emergencies:

- 1st offense – 1 day suspension
- 2nd offense – 5 day suspension
- 3rd offense – termination

Attached is an accompanying “Policy on Driving State Vehicles Home” that will be used when assigning vehicles for emergency response.

It is with great confidence that we look forward to another successful snow and ice season. Again, we want to thank everyone for their dedication and hard work.

OGN:CAK

Attachment



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Policy on Driving State Vehicles Home

Employees in the following job classifications shall be allowed to drive a state vehicle home with the approval of the Chief District Engineer under the stated circumstances:

- 1) Highway Superintendent II (Foreman) or, in the case of not having an employee in this position, any other employee fulfilling the associated responsibilities - - All year provided they respond to emergencies going directly from home to the incident after normal working hours.
- 2) Highway Superintendent I (Assistant Foreman) or, in the case of not having an employee in this position, any other employee fulfilling the associated responsibilities - - During snow and ice season which is November 1 to April 1.
- 3) Highway Traffic Technician - - Anytime during the year when on-call for emergency traffic signal repairs.

State vehicles available for use by all other employees are not to be used for commuting purposes nor should any allowances be made during snow and ice season for on-call employees. State vehicles available for use by all other employees are to be located at the workstation of the employee.



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STATE HIGHWAY ENGINEER POLICY #2007-01
REVISED

MEMORANDUM

TO: Chief District Engineers

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: January 2, 2008

SUBJECT: 2007 – 2008 Winter Operations

As the 2007 – 2008 snow and ice season is in its early stages, we want to take this opportunity to thank everyone involved in the extensive preparations. The expectations of the traveling public are high and it will always be a challenge to achieve this expected level of service.

We, too, have goals and expectations for our winter operations. All winter operations are to be performed in as safe and efficient manner as possible. Snow and ice priorities and levels of service shall be as stated in policy to the extent manpower allows. Everyone assigned to snow and ice duty must respond when called. Disciplinary action will be taken for failure to respond unless approval is obtained from the immediate supervisor.

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Policy on Driving State Vehicles Home

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STATE HIGHWAY ENGINEER POLICY #2007-02

MEMORANDUM

TO: Chief District Engineers

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: December 17, 2007

SUBJECT: Maintenance Projects

Each biennium, the Kentucky General Assembly appropriates funds in the Transportation Cabinet's budget to maintain and operate the existing highway system. These funds are appropriated in the Highway Maintenance (FE) Program. The intent of these funds is to conduct routine maintenance and traffic operations functions.

The Field Operations Guide, which supports the Operations Management System, defines a wide variety of routine maintenance and traffic operations project types. These are the project types for which FE Program funds are to be expended. Funds from the FE Program are not intended to be spent on highway improvements or upgrades. Some examples of improvements or upgrades include construction of turn lanes, sight distance improvements, upgrading rock shoulders to asphalt, or widening shoulders. There are occasions when state forces may be used to perform highway improvements or upgrades; however, the costs for these non-maintenance projects shall be paid for with non-FE funds.

When a Chief District Engineer identifies an improvement or upgrade that can be accomplished by state forces, the Chief District Engineer is to request non-maintenance project funding from the State Highway Engineer. If approved by the State Highway Engineer, a Project Authorization (TC10-1) will be executed to establish project funding and accountability. All relevant costs for the improvement or upgrade shall be charged to the approved, non-maintenance project.

There are many routine maintenance and traffic operations needs so we must protect those funds appropriated to address these needs by not using them for existing system improvements or upgrades.

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STATE HIGHWAY ENGINEER POLICY #2007-03

MEMORANDUM

TO: Chief District Engineers
Office of Rural and Secondary Roads
Division of Maintenance

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: December 17, 2007

SUBJECT: Installation of Guardrail at New Locations

On September 22, 2005, the Kentucky Supreme Court rendered a decision concerning two separate cases where a vehicle crash occurred at a location where no guardrail existed. In a November 16, 2005 memorandum (see attached copy), the Transportation Cabinet's Office of Legal Services encouraged the Department of Highways to review and, if necessary, strengthen its process for identifying, analyzing, and selecting new locations for the installation of guardrail. Although not specifically mentioned, this encouragement also affects the Office of Rural and Secondary Roads since they also allocate funds for installation of guardrail at new locations.

We have reviewed our processes for identifying, analyzing, and selecting new locations for the installation of guardrail. We propose the following actions be taken to strengthen these processes:

1. Effective immediately, any request for guardrail at a new location will be evaluated to determine if the location meets established warrants for guardrail. If warrants are not met, the requestor will be informed of this finding. If warrants are met, the necessary field information will be gathered and recorded.
2. The Warrants and Guidelines for Installation of Guardrail developed by the Kentucky Transportation Center and implemented by the Department of Highways on May 17, 1990, shall be used to generate hazard index points for each location that meets warrants. The resulting hazard index points will be used to identify relative priorities for guardrail at new locations. Locations on the Rural Secondary System will be identified by county and locations on the State Primary, Secondary, and Supplemental Systems will be identified by district.



3. Due to two, distinct funding sources established by statute, any decision to install guardrail at a new location on the Rural Secondary System will be based on the amount of available funds, cost effectiveness, and hazard index points for all Rural Secondary locations in a specific county. Any decision to install guardrail at a new location on the State Primary, Secondary, or Supplemental Systems will be based on the amount of available funds, cost effectiveness, and hazard index points for all State Primary, Secondary, and Supplemental locations in a specific district.
4. The lists of record for potential new locations for guardrail will reside in the Central Office. The Rural Secondary System lists will be in the Office of Rural and Secondary Roads. The State Primary, Secondary, and Supplemental Systems lists will be in the Division of Maintenance.
5. Upon the availability of funding for guardrail projects at new locations, the Executive Director of the Office of Rural and Secondary Roads will approve recommended projects for the Rural Secondary System and the State Highway Engineer will approve recommended projects for the State Primary, Secondary, and Supplemental Systems.

By strengthening our process for identifying, analyzing, and selecting new locations for the installation of guardrail, we are, in fact, duly considering available funds and cost effectiveness. This will help to minimize potential liability to the Cabinet and promote greater highway safety.

OGN:CAK

Attachment

- c: Bobby Russell, Executive Director, Office of Legal Services
Department of Transportation Safety
Deputy Executive Directors, District 1 - 12



TRANSPORTATION CABINET

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Ernie Fletcher
Governor

Bill Nighbert
Acting Secretary

Memorandum

Jim Adams
Deputy Secretary

**PRIVILEGED ATTORNEY-CLIENT COMMUNICATION
NOT FOR RELEASE**

TO: Bill Nighbert
Acting Secretary of Transportation

Jim Adams
Deputy Secretary of Transportation

Marc Williams
Commissioner, Department of Highways

Debra Gabbard
Executive Director, Office of Policy and Fiscal Management

FROM: David S. Samford 
Executive Director, Office of Legal Services

RE: Recent Supreme Court Case Law – Guardrails

DATE: November 16, 2005

On September 22, 2005, the Kentucky Supreme Court entered the Opinion of the Court in the cases of Commonwealth of Kentucky v. Robin L. Babbitt, et al, Madison Circuit Court, No. 99-CI-892 and Brandon Taylor et al. v. Commonwealth of Kentucky, Daviess Circuit Court, No. 02-CI-114. Both cases arise from claims asserted against the Department of Highways in the Kentucky Board of Claims, under the authority of KRS 44.070 et seq., regarding the lack of guardrails at the location of two motor vehicle accidents.

The Board of Claims concluded in both cases that the negligence of the respective vehicle's operator was the sole cause of the accident. The Madison Circuit Court reversed and remanded the Babbitt case, however, for a determination as to whether the lack of guardrails somehow contributed to the claimant's damages. The Daviess Circuit Court affirmed the denial of the claim in the Taylor case. Perceiving an inconsistency, the Supreme Court granted discretionary review of both cases.

Under both KRS 44.120 and KRS 411.182(2), liability to the Commonwealth accrues where damages to third parties are caused by the negligent acts of the Commonwealth.

Thus, while the negligent acts of the Commonwealth may not cause a motor vehicle accident to occur, the Commonwealth may nonetheless be proportionally liable for any damages arising from an accident. This appears to be another way of saying that the Commonwealth has a duty to mitigate the damages suffered by motorists by acting non-negligently in the placement of safety devices such as guardrails, rumble strips, signage and stripes.

Said another way, a highway authority is not automatically liable every time a motorist drives his vehicle off the traveled portion of the highway and strikes a roadside hazard. Nor does the failure to follow design guidelines, such as those recommended by AASHTO or the [KTC] Warrants & Guidelines, constitute the equivalent of negligence per se (as implied by the Board in the Babbitt case). **Whether the failure to provide warnings or to erect a guardrail at a particular location constitutes negligence on the part of the highway authority is a fact-intensive inquiry for which the various design guidelines, as well as available funds and cost effectiveness, may be considered.** If a determination is made that the failure to provide warnings or to erect a guardrail constitutes negligence, the factfinder must then determine from the evidence whether the presence of warnings or a guardrail would have prevented or reduced the damages sustained by the claimant and apportion liability in accordance with KRS 411.182.

Commonwealth of Kentucky v. Babbitt, et al, Ky. ___ S.W.3d ___ (Sept. 22, 2005) (emphasis added).

The general rules of comparative fault and apportionment of damages as articulated by the Supreme Court have been often stated. Likewise, the Court's notation regarding the adherence to design guidelines is a familiar factor in evaluating negligence. The Court appears to break new ground, however, when it identifies "available funds and cost effectiveness" as new measures of potential negligence. Therefore, to the extent the Department is not already doing so, all guardrail project proposals should be evaluated from both a design and fiscal standpoint. This may require a more formal methodology for preparing, proposing, evaluating, approving and implementing guardrail projects.

This Office stands ready to assist in the development of any policies or procedures which may be necessary to help minimize potential liability to the Department as well as promoting greater highway safety. A full copy of the Court's Opinion is attached for your reference.



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STATE HIGHWAY ENGINEER POLICY #2008-01

MEMORANDUM

TO: Chief District Engineers
Deputy Executive Directors

FROM: O. Gilbert Newman, P.E. *OGN*
State Highway Engineer

DATE: January 3, 2008

SUBJECT: Monthly Material Inventory Counts

In keeping with the current policy, each district must perform monthly inventory counts for all crews within Maintenance and Traffic Operations following procedures outlined in the Operation Management System (OMS) Material User's Guide. Also, each district must perform, as a minimum, quarterly inventory counts for all Equipment crews following procedures outlined in the Operation Management System (OMS) Material User's Guide. Copies of the counts are to be maintained at the district office and compiled quarterly by the Deputy Executive Director. Each crew's inventory must include a cover sheet that summarizes the number of errors encountered for each month.

When compiling district quarterly reports, the Deputy Executive Director for the district must review and sign the summary sheet for each month and crew (3 inventories per crew). Excessive errors should be investigated to determine the appropriate corrective measures. The district quarterly reports must be delivered to the Director of Maintenance before the end of the month following each quarter. Reports for the quarter ending December 31, 2007 must be delivered by January 31, 2008 for inclusion in the statewide quarterly report.

Central Office Maintenance staff will review each district report, calculate error rates, and prepare the statewide report. Performance measures will be analyzed based on average error rate per district, highest error rate within each district, percentage of crews with failing error rates (greater than 5%), and number of crews not reporting. The statewide report will then be distributed to the State Highway Engineer's Office, Internal Audits, and each district's Chief District Engineer and Deputy Executive Director.



State Highway Engineer Policy #2008-01

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January 3, 2008

Those districts exhibiting continued success as determined by the four performance measures mentioned above will be allowed to adjust their inventory counts from a monthly to a quarterly schedule upon approval of the State Highway Engineer's Office.

Any questions regarding the inventory process should be directed to Aaron Collins in the Division of Maintenance at 502-564-4556.

OGN:CAK



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STATE HIGHWAY ENGINEER POLICY #2008-02

MEMORANDUM

TO: Chief District Engineers
District Deputy Executive Directors
District Operations Branch Managers

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: January 10, 2008

SUBJECT: Maintenance Activity
Pavement Patching Projects

Effective immediately, the directive issued by the Commissioner of Highways on July 26, 2007 concerning pavement patching projects is rescinded.

Identifying the need, establishing the scope, and conducting the work associated with pavement patching is a responsibility of the Districts and any such work shall be accomplished in accordance with the policies stated in the Maintenance Guidance Manual. Also, be cognizant of pavement markings affected by pavement patching work and that such pavement markings must be addressed in accordance with Standard Specifications, Section 112.03.11, Temporary Pavement Markings.

OGN/CAK

c: Nancy Albright, Director of Maintenance





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STATE HIGHWAY ENGINEER POLICY #2008-03

MEMORANDUM

TO: Chief District Engineers

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: February 18, 2008

SUBJECT: Driving State Vehicles Home

This is a follow-up and clarification to State Highway Engineer Policy #2007-01 (Revised) dated January 2, 2008. Policy #2007-01 (Revised) addresses "2007-2008 Winter Operations" including the assignment of state vehicles to be driven home. The policy stated below addresses the assignment of state vehicles throughout the year.

Employees in the following job classifications shall be allowed to drive a state vehicle home with the approval of the Chief District Engineer (CDE) under the stated circumstances:

- 1) Highway Superintendent II (Foreman) or, in the case of not having an employee in this position, any other employee fulfilling the associated responsibilities - - All year provided they respond to emergencies going directly from home to the incident after normal working hours.
- 2) Highway Superintendent I (Assistant Foreman) or, in the case of not having an employee in this position, any other employee fulfilling the associated responsibilities - - During snow and ice season which is November 1 to April 1.
- 3) Highway Traffic Technician - - Anytime during the year when on-call for emergency traffic signal repairs.

State vehicles available for use by all other employees are not to be used for commuting purposes. Employees on-call for snow and ice duty, excluding those job classifications listed above, are not to drive a state vehicle home. Generally, state vehicles available for use by all other employees are to be located at the workstation of the employee. When it is in the best interest of the Cabinet and Commonwealth, an employee may park a state vehicle at a state facility with the CDE's approval because it is recognized that such an arrangement will save time and mileage for work-related travel on an as needed basis. District Safety Officers who travel directly to work zones or county facilities on a regular basis may have a state vehicle parked at a state facility with the CDE's approval.

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STATE HIGHWAY ENGINEER POLICY # 2008-04

MEMORANDUM

TO: Chuck Knowles
Ray Polly
Bill Gulick
Chief District Engineers
Division Directors
Project Managers

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: February 22, 2008

SUBJECT: Overhead and wage rate caps

On January 8, 2007, the Division of Program Performance issued a notice for the approval of Kentucky Administrative Regulations and the "Implementation of the Brooks Act" and its effect regarding Professional Services Procurement. The memo stated that state-funded contracts negotiated for services advertised prior to December 1, 2006, would continue to be negotiated with overhead and wage rate caps, and subsequent contract modifications to these agreements would also be negotiated with the same caps. Contract modifications on Federal Projects have also adhered to the wage rate and overhead caps when the original agreement was negotiated based upon caps.

With this memo, I am hereby advising that the KYTC policy for negotiation fees for contract modifications will no longer apply wage rate or overhead caps for any state or federal professional services agreements. Regardless of the methods used in the original agreement or any subsequent contract modifications for negotiations, any modifications negotiated from here forward, will not apply wage rate or overhead caps to negotiate a fair and reasonable fee.

Any modifications currently in process, but not yet executed, may be requested to be re-negotiated without caps. Any letter agreements negotiated under statewide agreements, also will no longer apply wage rate or overhead caps.

c: Jose Sepulveda, FHWA
Mike Hill, Program Performance



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STATE HIGHWAY ENGINEER POLICY #2008-05

MEMORANDUM

TO: Chief District Engineers
Division of Equipment
Division of Maintenance

FROM: O. Gilbert Newman, P.E.
State Highway Engineer 

DATE: March 24, 2008

SUBJECT: Safeguarding Assets
Access to Facilities

Attached is a copy of a Record of Control Weakness from the Office of the Auditor of Public Accounts based on an audit conducted in 2007 regarding access to our facilities. The concern centers on contractors having keys to the gates and unsupervised access to our materials. Another item of concern is the commingling of contractor-owned materials and state-owned materials.

The response to this Record of Control Weakness submitted by the Cabinet needs to be fulfilled at each facility. This may be particularly challenging at shared facilities to ensure that no one function allows an opportunity for unsupervised access by any contractor to any of the materials on the facility. Meeting this challenge will require a higher level of coordination among the employees at a shared facility. No contractor should have a key to any facility nor should any contractor remove or return materials without the oversight of a Cabinet employee. This is effective immediately.

OGN:CAK

Attachment

c: Alice Wilson, Deputy Executive Director, Budget & Fiscal Management



AGENCY: Kentucky Transportation Cabinet
 FYE 6/30/07

RECORD OF CONTROL WEAKNESS
 RECORD OF NONCOMPLIANCE

Prepared by:	<u>Lori A. Riddle</u>	Date:	<u>October 31, 2007</u>
Reviewed by:	<u>Libby Carlin</u>	Date:	<u>November 6, 2007</u>
Delivered to:	<u>Alice Wilson</u>	Date:	<u>November 7, 2007</u>
Department:	<u>Department of Highways</u>	Division:	<u>Maintenance</u>
CFDA:	<u>N/A</u>	Title:	<u>N/A</u>
Federal Award No.:	<u>N/A</u>	Year:	<u>N/A</u>
Federal Agency:	<u>N/A</u>		
Type of Compliance Requirement:	<u>N/A</u>		
Known Questioned Cost:	<u>N/A</u>	Likely Questioned Cost:	<u>N/A</u>

Condition (Nature of the Weakness or Noncompliance):

Safeguarding of assets at the Kentucky Transportation Cabinet (KYTC) maintenance barns is inadequate. The areas where KYTC stores materials and supplies are not protected against access by unauthorized personnel. Private contractors have access and/or keys to the maintenance barns so they can enter the KYTC lot at any time. Private contractors also store their supplies and materials in the same area that KYTC stores its materials.

The Auditor of Public Accounts (APA) became aware that private contractors stored materials at the KYTC maintenance barns during the FY2007 maintenance materials inventory observation. The contractors' supplies and materials were stored together with the KYTC materials. The inventory team could not determine which materials were KYTC and which materials belonged to the contractors. The inventory team also informed the auditor that the contractors had a key so they could access the lot after hours, and KYTC staff could not be certain that contractors were only taking their own materials and supplies.

Cause/Effect:

Although it is convenient for the private contractors to have their supplies and materials stored nearby at a KYTC maintenance barn, there is a greater risk of theft and asset misappropriation due to unauthorized access by non-employees and because materials are not distinctly separated from KYTC materials.

AGENCY: Kentucky Transportation Cabinet

FYE 6/30/07

X **RECORD OF CONTROL WEAKNESS**

 RECORD OF NONCOMPLIANCE

Criteria:

Good internal controls dictate that proper precautions be taken to safeguard assets from loss, damage, or misappropriation. Strong internal controls are essential to protect the department's assets.

Recommendation:

We recommend that private contractors only be given access to the KYTC maintenance barns with KYTC personnel present.

We also recommend that any supplies and materials stored at the KYTC maintenance barns belonging to private contractors be kept in a separate location from the KYTC materials and supplies.

AGENCY: Kentucky Transportation Cabinet
FYE 6/30/07

X **RECORD OF CONTROL WEAKNESS**
 RECORD OF NONCOMPLIANCE

NOTE TO RESPONDENT:

It is vital to respond to comments and recommendations with due thought and consideration. When agreeing with the comment and recommendation made, outline corrective steps that have already been taken or will be taken by definitive action, including the name(s) of the contact person(s) responsible for corrective action and the timeframe of the actual or anticipated correction.

When disagreeing, by clearly delineating why purported comments are incorrect or why suggested solutions are inappropriate, by including an explanation and specific reasons, you may head off potential problems, even going so far as convincing the auditor to exclude the comment from the final report when he or she is incorrect. In any event, the clearer you draft your response so that someone outside of your department, or even state government, can understand it, the better case you will present for your argument. Please note that we do not include the name of the respondent in the findings in the reports that we issue.

KRS 43.090 requires your agency to notify the Legislative Research Commission and the Auditor of Public Accounts of the audit recommendations that have been implemented and of the audit recommendations that have not been implemented within 60 days of the completion of the final audit report. For any recommendations that have not been implemented, a reason for failure to implement audit recommendations must also be provided.

Please respond by: **November 21, 2007**

Management's Response and Corrective Action Plan:

We accept the recommendation of the APA and it is our plan to safeguard the department's assets by:

- Requiring all keys to the KYTC maintenance barns be confiscated from private contractors and require district personnel to limit private contractor access to KYTC maintenance barns to regular business hours unless prior arrangement has been made ensuring a member of KYTC personnel is present if after-hour access is necessary.
- Designate an area for private contractors to store their materials separate from KYTC materials.

This action will be documented in the Maintenance materials manual no later than December 2007.

Responded to by: Andria T. Maiden



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Joseph W. Prather
Secretary

STATE HIGHWAY ENGINEER POLICY #2008-06

MEMORANDUM

TO: Chief District Engineers
Division Directors

FROM: O. Gilbert Newman, P.E.
State Highway Engineer 

DATE: March 31, 2008

SUBJECT: Interstate Lane Closure Policy

Effective immediately, the Interstate Lane Closure Policy dated January 9, 2007 is hereby rescinded. For all projects, the Kentucky Transportation Cabinet's *Policy and Procedures for Safety and Mobility in Work Zones* should be followed. In addition, the procedures listed below shall be followed when considering any planned Interstate lane closure:

1. If the construction or maintenance activity can be scheduled during a time when the directional hourly traffic volumes do not exceed 1,200 vehicles per hour per open lane, the activity may proceed.
2. If the expected project queues are more than three (3) miles beyond any normally expected queues, the Project Manager or Maintenance Engineer shall inform the State Highway Engineer's Office.

If there is an emergency or incident that would require closing a lane or closing the Interstate, the Transportation Operations Center and the District Public Information Officer will be notified immediately.

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STATE HIGHWAY ENGINEER POLICY # 2008-07

MEMORANDUM

TO: Chuck Knowles
Ray Polly
Bill Gulick
Chief District Engineers
Division Directors

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: April 25, 2008

SUBJECT: Guidance for the Use of "Practical Solutions" to Project Delivery

The Kentucky Transportation Cabinet (KYTC) is continually challenged with looking for ways to improve the way we conduct business. As a part of that continuous improvement process, efforts are underway to re-emphasize many of the fundamentals that go into the development and delivery of the KYTC's roadway projects. As many of you are aware, one of the main challenges we face today is to find a way to "do more with less!" While this phrase may begin to sound somewhat "worn out," this fundamental concept needs to be taken into consideration as an integral part of the decision-making process during all phases of project development and delivery. One of the first steps with any project is to identify the "purpose and need" and the subsequent project scope. It is at this early stage that we have been asked to focus our efforts to ensure that the project scope developed is appropriate and fulfills the initial purpose and need. This initiative, currently labeled "Practical Solutions," is how the KYTC hopes to use the limited resources available to meet the transportation needs of this state.

The concepts of "Practical Solutions" is not something new to the KYTC. Components of the "Context-Sensitive Design" initiative emphasize the economics of projects and "right sizing" design parameters on projects that are compatible with other segments of the adjacent roadways and existing topography when appropriate.



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STATE HIGHWAY ENGINEER POLICY # 2008-07

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April 25, 2008

“Practical Solutions” is intended to take these fundamentals to the next level. The Project Team will be given the task of addressing the purpose and need, while at the same time refining the project scope and subsequent design such that the project remains within realistic fiscal parameters. A good example of ways the KYTC is already adapting this type of project approach is the typical rural bridge replacement project. By focusing on replacement of the bridge and limiting work on the approaches using the design exception process, the KYTC has been able to extend our abilities to replace more substandard bridges. It is hoped that through the use of **“Practical Solutions,”** the KYTC will be able to use our limited resources to adequately address the purpose and need for all projects for the whole roadway system.

The primary defining variable in the development and presentation of geometric design criteria is the **“design speed”** selected for the project. In general, the Project Team must correlate the selection of the **“design speed”** with the functional classification of the roadway, the actual and anticipated operating speeds, topography, anticipated land use, and the desirable degree of safety, mobility, and efficiency within the constraints of environmental quality, economics, aesthetics, and social or political impacts. In any event, the selected **“design speed”** should be consistent with both present and future driver expectations. For example, for routes with very little growth expected in the corridor, existing geometric features, as well as crash data, will prove beneficial in: (a) identifying locations and the scope for possible needed safety or capacity improvements, (b) selection of a **“design speed”** for the project that will provide a consistent approach in relation to driver expectations as well as **“match”** the appropriate **“design speed”** criteria to the project and existing conditions. In this example, the purpose and need and the scope of the project is to provide **“betterment”** to the overall route by identifying and correcting the major deficiencies, as well as working towards providing a corridor where the driver expectations are more consistent.

The selection of the traffic volumes to be used for design purposes is also a primary component of the design. Traditionally, 20-year forecasts are used for this. The Project Team has the flexibility to utilize intermediate years, such as a 10-year forecast, if it is consistent with the purpose and need for the project. Attached please find **“Practical Solutions Geometrics”** for the various functional classifications of roadways that will provide guidance to the Project Team as they use the **“Practical Solutions”** approach to meet the purpose and need for the project. In general, this provides the Project Team with the flexibility it needs to adapt critical design elements, such as pavement widths, shoulder widths, and horizontal and vertical alignments, to be consistent with the purpose and need for the project.

STATE HIGHWAY ENGINEER POLICY # 2008-07

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April 25, 2008

With the need for road safety and mobility improvements and, the relative availability of financial resources for such improvements diminishing, it is imperative to look at our road design approaches more critically. Some public decision makers and citizens have begun to question the over design/building of previously inadequate and unsafe facilities. This is a common theme throughout much of the United States. Developing a design that yields up to the maximum margin of return for the investment requires an approach that takes into account specific safety issues and the commensurate design elements for each roadway. It is essential that our basic premise must be to find the balance among operational efficiency, safety, and cost in order to design the suitable roadway to meet the transportation needs of Kentucky. It is the intent of this office that future guidance and training be developed to assist in achieving this goal. However, due to the importance of this endeavor, every effort is being made to keep all informed of the progress we have made and need to make in order to be successful and to make the most of the resources we have available.

I have assigned the development and coordination of this effort to Bill Gulick in the State Highway Engineer's Office.

OGN:BG:SLC

Attachment

PRACTICAL SOLUTIONS GEOMETRICS: TWO LANE RURAL ARTERIALS

Traffic Volume (ADT)

	Design Speed (5)	Under 400		400 to 1500		1500 to 2000		2000 to 5000			
		Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width		
Pavement Width and Graded Shoulder Width (Feet) (4)	30	Level	20	2 to 4	20	2 to 4	20 to 22	3 to 5	20 to 22	4 to 6	
		Rolling					20			3 to 5	
		Mountain								3 to 5	
	35	Level	20	2 to 4	20	2 to 4	20 to 22	3 to 5	20 to 22	4 to 6	
		Rolling					20				
		Mountain									
	40	Level	20	3 to 5	20 to 22	3 to 5	20 to 22	4 to 6	20 to 22	4 to 6	
		Rolling		2 to 4	20			3 to 5		NA	
		Mountain				2 to 4			NA	NA	
	45	Level	20	3 to 5	20 to 22	3 to 5	20 to 22	4 to 6	22 to 24	6 to 8	
		Rolling			20						NA
		Mountain			2 to 4	NA					NA
	50	Level	20 to 22	4 to 6	20 to 22	4 to 6	22 to 24	6 to 8	NA	NA	
		Rolling			NA						NA
		Mountain			NA	NA					NA
Min. Clear Roadway Width of New and Reconstructed Bridges (3)	All Speeds	Approach Roadway Width									
Minimum Radius (Feet)	Design Speed	eMAX. 4%		eMAX. 6%		eMAX. 8%					
	30 MPH	300		275		250					
	35 MPH	420		380		350					
	40 MPH	565		510		465					
	45 MPH	730		660		600					
50 MPH	930		835		760						
Normal Pavement Cross Slopes	Rate of Cross Slope = 2%										
Normal Shoulder Cross Slopes	Earth = 8 to 10%				Paved = 4 to 6%						

**PRACTICAL SOLUTIONS
GEOMETRICS:
TWO LANE RURAL ARTERIALS**

Traffic Volume (ADT)

	Design Speed		Under 400	400 to 1500	1500 to 2000	2000 to 5000	
Maximum Grade (Percent)	30	Level	7	7	6	6	
		Rolling	10	9	7	7	
		Mountain	12	10	8	8	
	35	Level	7	7	6	5	
		Rolling	10	9	8	6	
		Mountain	12	10	9	7	
	40	Level	7	6	5	5	
		Rolling	10	8	6	6	
		Mountain	12	10	8	NA	
	45	Level	7	6	5	5	
		Rolling	10	8	6	NA	
		Mountain	12	NA	NA	NA	
	50	Level	7	6	5	NA	
		Rolling	10	NA	NA	NA	
		Mountain	NA	NA	NA	NA	
	Design Speed		30	35	40	45	50
Minimum Stopping Sight Distance (1)	(Feet)		200	250	305	360	425
Minimum Passing Sight Distance (2)	(Feet)		1090	1280	1470	1625	1835

1) MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON A HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.

2) MINIMUM PASSING SIGHT DISTANCES ARE BASED ON A HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 3.5 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.

3) NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2%

4) WIDEN 3 FT FOR GUARDRAIL

5) JUSTIFICATION FOR THE DESIGN SPEED SHALL BE BASED UPON COMPREHENSIVE ANALYSIS OF EXISTING ROADWAY GEOMETRICS, ADJACENT ROADWAY FEATURES, AND PURPOSE AND NEED FOR THE PROJECT. DOCUMENTATION SHALL BE INCLUDED IN THE DESIGN EXECUTIVE SUMMARY.

6) "NA" REFERS TO "BETTERMENT STANDARDS ARE NOT APPLICABLE" WITHOUT ADDITIONAL ANALYSIS.

PRACTICAL SOLUTIONS GEOMETRICS: RURAL COLLECTORS

Traffic Volume (ADT)

	Design Speed (5) (7)		Under 400		400 to 1500		1500 to 2000		2000 to 5000		
			Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	
Pavement Width and Graded Shoulder Width (Feet) (4)	20	Level	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	3 to 5	
		Rolling									
		Mountain									
	25	Level	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	18 to 20	4 to 6
		Rolling									3 to 5
		Mountain									3 to 5
	30	Level	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	18 to 20	4 to 6
		Rolling									3 to 5
		Mountain									3 to 5
	35	Level	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	18 to 20	18 to 20	3 to 5	4 to 6
		Rolling								2 to 4	
		Mountain								2 to 4	
	40	Level	18 to 20	2 to 4	18 to 20	18 to 20	18 to 20	18 to 20	18 to 20	3 to 5	4 to 6
		Rolling								2 to 4	
		Mountain								2 to 4	
	45	Level	18 to 20	2 to 4	18 to 20	3 to 5	18 to 20	18 to 20	18 to 20	4 to 6	4 to 6
		Rolling			NA						
		Mountain			NA						
	50	Level	18 to 20	2 to 4	18 to 20	3 to 5	18 to 20	18 to 20	18 to 20	4 to 6	NA
		Rolling			NA						
		Mountain			NA						
Min. Clear Roadway Width of New and Reconstructed Bridges (3)	All Speeds	Approach Roadway Width									
Minimum Radius (Feet)	Design Speed (7)	eMAX. 4%			eMAX. 6%			eMAX. 8%			
	20 MPH	125			115			105			
	25 MPH	205			185			170			
	30 MPH	300			275			250			
	35 MPH	420			380			350			
	40 MPH	565			510			465			
	45 MPH	730			660			600			
50 MPH	930			835			760				
Normal Pavement Cross Slopes	Rate of Cross Slope = 2%										
Normal Shoulder Cross Slopes	Earth = 8 to 10%					Paved = 4 to 6%					

PRACTICAL SOLUTIONS GEOMETRICS: RURAL COLLECTORS

		Traffic Volume (ADT)							
		Design Speed (7)	Under 400		400 to 1500	1500 to 2000		2000 to 5000	
Maximum Grade (Percent)	20	Level	10		8		7	7	
		Rolling	12		10		10	9	
		Mountain	14		12		12	10	
	25	Level	8		7		7	7	
		Rolling	10		10		10	8	
		Mountain	12		12		11	9	
	30	Level	7		7		7	7	
		Rolling	10		9		9	7	
		Mountain	12		10		10	8	
	35	Level	7		7		7	7	
		Rolling	10		9		8	7	
		Mountain	12		10		10	NA	
	40	Level	7		7		7	6	
		Rolling	10		9		8	7	
		Mountain	12		10		NA	NA	
	45	Level	7		7		7	6	
		Rolling	10		8		8	7	
		Mountain	12		NA		NA	NA	
	50	Level	7		6		6	NA	
		Rolling	10		NA		NA	NA	
		Mountain	NA		NA		NA	NA	
		Design Speed (7)	20	25	30	35	40	45	50
	Minimum Stopping Sight Distance (1)	(Feet)	115	155	200	250	305	360	425
	Minimum Passing Sight Distance (2)	(Feet)	710	900	1090	1280	1470	1625	1835

1) MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON A HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.

2) MINIMUM PASSING SIGHT DISTANCES ARE BASED ON A HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 3.5 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.

3) NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2%

4) WIDEN 3 FT FOR GUARDRAIL

5) JUSTIFICATION FOR THE DESIGN SPEED SHALL BE BASED UPON COMPREHENSIVE ANALYSIS OF EXISTING ROADWAY GEOMETRICS, ADJACENT ROADWAY FEATURES, AND PURPOSE AND NEED FOR THE PROJECT. DOCUMENTATION SHALL BE INCLUDED IN THE DESIGN EXECUTIVE SUMMARY.

6) "NA" REFERS TO "BETTERMENT STANDARDS ARE NOT APPLICABLE" WITHOUT ADDITIONAL ANALYSIS.

7) For Projects with an ADT of 400 or less, please refer to AASHTO's "Guidelines for Geometric Design of Very Low-Volume Local Roads" for additional guidance

**PRACTICAL SOLUTIONS
GEOMETRICS:
RURAL LOCAL ROADS**

		Traffic Volume (ADT)												
Design Speed (5) (7)		Under 50		50 to 250		250 TO 400		400 to 1500		1500 to 2000		2000 to 5000		
		Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	Pavement Width	Graded Shoulder Width	
Pavement Width and Graded Shoulder Width (Feet) (4)	15	Level	Match Exist.	2	Match Exist.	2	16 to 18	2 to 4	16 to 18	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4
		Rolling												
		Mountain												
	20	Level	Match Exist.	2	Match Exist.	2	16 to 18	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	3 to 5
		Rolling												
		Mountain												
	25	Level	Match Exist.	2	16 to 18	2	16 to 18	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	4 to 6
		Rolling												3 to 5
		Mountain												
	30	Level	16 to 18	2	16 to 18	2	16 to 18	2 to 4	18 to 20	2 to 4	18 to 20	2 to 4	18 to 20	4 to 6
		Rolling												3 to 5
		Mountain												
	35	Level	16 to 18	2	16 to 18	2	18	2 to 4	18 to 20	2 to 4	18 to 20	3 to 5	18 to 20	4 to 6
		Rolling										2 to 4		
		Mountain												
	40	Level	16 to 18	2	16 to 18	2	18	2 to 4	18 to 20	3 to 5	18 to 20	3 to 5	20 to 22	4 to 6
		Rolling								2 to 4			18 to 20	
		Mountain												
	45	Level	16 to 18	2	18	2	18	2 to 4	18 to 20	3 to 5	18 to 20	4 to 6	20 to 22	4 to 6
		Rolling										3 to 5	NA	NA
		Mountain												
	50	Level	16 to 18	2	18	2	18	2 to 4	18 to 20	3 to 5	18 to 20	4 to 6	NA	NA
		Rolling						NA	NA	NA	NA	NA	NA	
		Mountain												
Min. Clear Roadway Width of New and Reconstructed Bridges (3)	All Speeds	Approach Roadway Width												
	Design Speed (7)	eMAX. 4%				eMAX. 6%				eMAX. 8%				
Minimum Radius (Feet)	15 MPH	70				65				60				
	20 MPH	125				115				105				
	25 MPH	205				185				170				
	30 MPH	300				275				250				
	35 MPH	420				380				350				
	40 MPH	565				510				465				
	45 MPH	730				660				600				
50 MPH	930				835				760					
Normal Pavement Cross Slopes	Rate of Cross Slope = 2%													
Normal Shoulder Cross Slopes	Earth = 8 to 10%							Paved = 4 to 6%						

PRACTICAL SOLUTIONS GEOMETRICS: RURAL LOCAL ROADS

		Traffic Volume (ADT)								
			Under 50		50 to 250	250 TO 400	400 to 1500	1500 to 2000	2000 to 5000	
Maximum Grade (Percent)	15	Level	10	10	10	10	9	7	7	
		Rolling	12	12	12	12	12	10	9	
		Mountain	16	16	16	16	14	12	10	
	20	Level	10	10	10	10	8	7	7	
		Rolling	12	12	12	12	11	10	9	
		Mountain	16	16	16	14	13	12	10	
	25	Level	8	8	8	8	7	7	7	
		Rolling	11	11	11	11	10	10	8	
		Mountain	15	15	14	14	13	11	9	
	30	Level	8	8	7	7	7	7	7	
		Rolling	10	10	10	10	10	9	7	
		Mountain	14	14	14	14	13	10	8	
	35	Level	8	8	7	7	7	7	7	
		Rolling	10	10	10	10	10	8	7	
		Mountain	14	14	12	12	12	10	NA	
	40	Level	8	8	7	7	7	7	6	
		Rolling	10	10	10	10	9	8	7	
		Mountain	13	13	13	13	12	NA	NA	
	45	Level	8	8	7	7	7	7	6	
		Rolling	10	10	10	10	9	8	7	
		Mountain	12	12	12	12	NA	NA	NA	
	50	Level	8	8	7	6	6	6	NA	
		Rolling	10	10	10	10	NA	NA	NA	
		Mountain	12	12	NA	NA	NA	NA	NA	
		Design Speed (7)	15	20	25	30	35	40	45	50
	Minimum Stopping Sight Distance (1)(7)	(Feet)	80	115	155	200	250	305	360	425
	Minimum Passing Sight Distance (2)	(Feet)	NA	710	900	1090	1280	1470	1625	1835

(1) MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON A HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.

(2) MINIMUM PASSING SIGHT DISTANCES ARE BASED ON A HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 3.5 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.

(3) NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2%

(4) WIDEN 3 FT FOR GUARDRAIL

(5) JUSTIFICATION FOR THE DESIGN SPEED SHALL BE BASED UPON COMPREHENSIVE ANALYSIS OF EXISTING ROADWAY GEOMETRICS, ADJACENT ROADWAY FEATURES, AND PURPOSE AND NEED FOR THE PROJECT. DOCUMENTATION SHALL BE INCLUDED IN THE DESIGN EXECUTIVE SUMMARY.

(6) "NA" REFERS TO "BETTERMENT STANDARDS ARE NOT APPLICABLE" WITHOUT ADDITIONAL ANALYSIS.

(7) For Projects with an ADT of 400 or less, please refer to AASHTO's "Guidelines for Geometric Design of Very Low-Volume Local Roads" for additional guidance



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/


Steven L. Beshear
Governor

Joseph W. Prather
Secretary

STATE HIGHWAY ENGINEER POLICY #2008-09

MEMORANDUM

TO: Chuck Knowles
Ray Polly
Bill Gulick
Chief District Engineers
Division Directors
Active Consultants
Prequalified Contractors

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: July 25, 2008

SUBJECT: KYTC Policy on Pipe Materials

The Standard Drawings have been modified to allow the use of PVC and HDPE on both storm sewer applications and the National Highway System. Coinciding with the new allowances, the Kentucky Transportation Cabinet (KYTC) will begin mandatory camera testing of 50 percent of all installed pipe regardless of material type. This will require the inclusion of a new Bid Item "Pipeline Video Inspection" on all projects. The quantity for this bid item should be set at 50% of the total linear feet of storm sewer and culvert pipe on each project. This policy change is also reflected in the newly revised Kentucky Method KM 114-08 and Supplemental Specifications for sections 701.03.08 and 701.04.07.

These changes will be effective with the August 29, 2008 bid letting. Projects let prior to August 29, 2008, may adopt the new standard; however, there may be a bid price reduction applied according to subsection 105.04 of the Standard Specifications and camera testing will be performed at no additional expense to the KYTC.

The Maintenance and Permits Guidance Manuals will be revised to reflect the policy change as well. Until they are reissued, this policy memo takes precedence. This memo supersedes the attached Official Order Number 86172, released on August 3, 1981. Additionally, any previous policy pertaining to pipe material usage on KYTC projects that conflicts with this memo will be void. The KYTC's pipe material policy will be governed solely by the Standard Drawings, Standard Specifications for Road and Bridge Construction, and the Maintenance and Permits Guidance Manuals.

OGN:DM



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Frankfort, Kentucky

OFFICE OF THE SECRETARY

OFFICIAL ORDER NO.

86172

**SUBJECT: Culvert Pipe, Entrance Pipe, Storm Sewers
and Pipe Underdrains**

WHEREAS, the design of culverts, entrance drainage, underdrains, and storm sewers and the selection of types of pipe or materials for drainage structures are exacting disciplines; and

WHEREAS, the principles of engineering pertain, it will be the ongoing policy of the Department to provide culverts, storm sewers and other buried drainage pipe which will be capable of enduring throughout the useful life of a roadway or highway constructed and maintained wholly or in part with funds administered by the Department.

THEREFORE, this Official Order supersedes and cancels Official Order No. 84778, dated August 31, 1979 and existing, conflicting procedural memoranda and operating manuals and asserts and affirms the policy stated herein.

HEREBY, it is ordered that situation surveys (engineering evaluations) normally required for hydraulic (Hydrological) and structural (foundation exploration) designs be extended and expanded to include tests for acidity and potential corrosivity of surface and ground waters and seepage from soils, shale seams and mineral veins or spoils, and to include evaluation of abrasion conditions. Sites shall be adjudged and designated according to severity of (or) concentration of corrosive agents as defined by pH values, and severity of abrasion conditions. (Note: Measurements of specific resistivity and chemical analyses may supplement pH tests).

I. CULVERT PIPE (CROSS DRAINS) AND STORM SEWERS

A. For locations where the pH value of the water is 4.0 and above, pipe shall be selected from the following alternatives: Reinforced Concrete; Corrugated, Iron or Steel Pipe, and Pipe Arches (Bituminous-Coated-with Paved Invert); or Corrugated, Aluminum Alloy Pipe and Pipe Arches (Bituminous-Coated-with Paved Invert) as specified in the current Standard Specifications for Road and Bridge Construction.

B. Sites adjudged to have existing or anticipated pH values of less than 4.0 shall be identified as containing strong, mineral acidity. Sites so identified shall require extra protection of the pipe. The types of pipe presently qualifying for this severe service are: Asbestos-Bonded, Bituminous Coated and Paved, Corrugated Metal; or Reinforced Concrete with Extra Protection.

C. For locations where abrasion levels are determined to be either low (level A), moderate (level B), or severe (level C), pipe shall be selected from the following alternates:

(1) Level A: Corrugated Iron or Steel; Corrugated Aluminum Alloy; or Reinforced Concrete.

(2) Level B: Corrugated Iron or Steel (Bituminous-Coated-With-Paved Invert); Corrugated Aluminum Alloy; or Reinforced Concrete.

(3) Level C: Asbestos-Bonded, Bituminous Coated and Paved, Corrugated Metal; Corrugated Aluminum Alloy (Bituminous-Coated-With-Paved Invert); or Reinforced Concrete with Extra Protection.

D. The alternates for abrasion conditions shall be compared to the alternates for acidity and the more restrictive alternates shall be specified.

II. ENTRANCE PIPE

A. For locations at which the water has a pH of 6.0 or greater, pipe shall be selected from three alternatives: Reinforced Concrete; Corrugated, Iron or Steel; or Plain Corrugated Aluminum Alloy.

B. For locations where pH values are 4.0 to 6.0 the pipe shall be selected from three alternatives: Reinforced Concrete; Corrugated, Iron or Steel (Bituminous-Coated-with-Paved Invert); Corrugated Aluminum Alloy (Bituminous-Coated-With Paved Invert).

C. Entrance Pipe for locations with pH values adjudged less than 4.0 shall be selected from the two types qualifying for severe service as noted in I.B above for Culvert Pipe (cross drains).

III. PIPE UNDERDRAINS

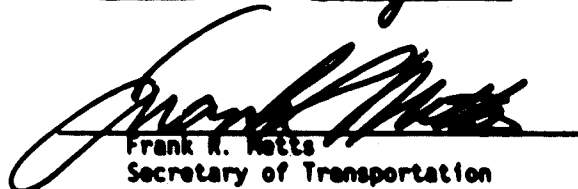
Underdrain pipe shall be selected from the following alternatives: Standard Strength, Clay Pipe; Extra Strength, Clay Pipe; Nonreinforced (Plain) Concrete Pipe; Porous, Plain, Concrete Pipe; Bituminous-Coated, Corrugated Iron or Steel Pipe; Bituminized-Fiber Pipe; Asbestos Cement Pipe; Bituminous-Coated, Corrugated, Aluminum Alloy Pipe; or Corrugated, Polyethylene Pipe. Pipe for underdrains as described in the current Standard Specifications for Road and Bridge Construction, and applicable Special Provisions.

FURTHER, all Pipe referred to above shall meet the strength requirements for fill heights further defined in the current Standard Drawings of the Department.

Exceptions and additions to the listings of qualifying types of pipe may be allowed in special cases when warranted by design and engineering factors upon approval by the State Highway Engineer.

This Official Order will be effective on all State Projects and Department Requisitions for which bids are received after September 20, 1981, and shall be effective on Federal-aid Projects at the earliest practicable date after approval by the Federal Highway Administration.

SIGNED AND APPROVED BY ME THIS 3rd DAY OF August, 1981


Frank N. Watts
Secretary of Transportation



Steven L. Beshear
Governor


TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Joseph W. Prather
Secretary

STATE HIGHWAY ENGINEER POLICY #2008-10

MEMORANDUM

TO: Chief District Engineers
Director of Highway Design
Director of Materials
Director of Construction
Director of Maintenance
Director of Construction Procurement

FROM: O. Gilbert Newman, P.E. 
State Highway Engineer

DATE: August 21, 2008

SUBJECT: Elimination of Pavement Incentive Payments
- Rideability
- Lot Pay Adjustments

Due to our current financial situation, we are continuing to review ways by which we can reduce project costs in order to maximize the amount of work we can accomplish within our financial limitations. One of the project cost reductions we have identified involves our current practice of paying incentives for pavement work that is incrementally better than our basic quality standards.

Effective with the October 2008 bid letting, projects containing pavement bid items will not be eligible for incentive payments involving rideability or lot pay adjustments.

OGN/CAK

c: Ray Polly
Bill Gulick
Bob Lewis
Rob Martin



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TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

STATE HIGHWAY ENGINEER POLICY #2012-01

TO: Chief District Engineers

FROM: Steven K. Waddle, P.E. *SKW*
State Highway Engineer

DATE: August 14, 2012

SUBJECT: Installation of Private Entrance Pipes
Field Operations Guide Activity J070

Effective immediately the Department of Highways may install properly permitted private entrance pipes under the following conditions:

- A. Property owner provides the required pipe
- B. The schedule of the county maintenance crew allows and the property owner is made aware of the scheduled installation
- C. Upon review and at the decision of the district, the Chief District Engineer or designee believes that it is in the Department's best interest to install the pipe. The review of the entrance should address:
 - a. Pipe size
 - b. Site accessibility

The property owner should be made aware of the results of the district review. The property owner may either be required to install the pipe or elect to install the pipe according to Department standards based on the results of this review.

This policy statement supersedes affected section of the Maintenance and Permits Guidance Manuals and State Highway Engineer Policy #2008-08. The guidance manuals will be revised to reflect this policy change.


SW:NA

c: Nancy Albright, Director of Maintenance
Steve Criswell, Director of Construction



MEMORANDUM

TO: Chief District Engineers
KYTC Central Office Directors

FROM: Mike Hancock, P.E. 
Deputy Secretary

DATE: July 1, 2020

SUBJECT: Implementation of the 2018 Green Book and Low-Volume Guidance

The American Association of State Highway and Transportation Officials (AASHTO) has published the 2018 version of *A Policy on Geometric Design of Highways and Streets* (the Green Book). Some of the significant changes to the new version include an expanded context and functional classification system and an emphasis on performance-based design.

The Federal Highway Administration (FHWA) has not yet officially adopted these documents. However, FHWA has reviewed the 2018 Green Book and finds that the updates meet or improve upon the criteria of the 2011 Green Book. As a result, the KYTC may adopt the 2018 Green Book for use *on* NHS projects without requesting a formal design exception.

The American Association of State Highway and Transportation Officials (AASHTO) has also published the 2019 version of the *Guidelines for Geometric Design of Low-Volume Roads, 2nd Edition*. This edition has been updated for application to all “low-volume” local and minor collector roads, with design average daily traffic volumes of 2,000 vehicles per day or less. For these type of facilities, the *Guidelines for Geometric Design of Low-Volume Roads, 2nd Edition* may be used in lieu of the applicable policies presented in the Green Book.

Effective immediately, new projects and activities should utilize these documents as guidance. Exceptions may be made on a project by project basis with approval of the State Highway Engineer and concurrence from FHWA when applicable.



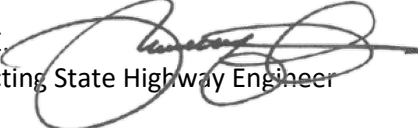
COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
transportation.ky.gov

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

MEMORANDUM

TO: Chief District Engineers
Division Directors

FROM: Michael W. Hancock, P.E. 
Deputy Secretary and Acting State Highway Engineer

DATE: June 8, 2020

SUBJECT: Data Driven Safety Analysis (DDSA)
Implementation Plan

Preventing serious injuries and fatalities on the Commonwealth of Kentucky's roadways is critical. The Kentucky Transportation Cabinet (KYTC) works diligently with stakeholders and partners to improve roadway safety. In support of KYTC's Mission and the Towards Zero Deaths (TZD) vision, KYTC initiated the implementation of Data Driven Safety Analysis (DDSA) methodologies detailed in the Highway Safety Manual (HSM) into organizational processes. The goal of DDSA implementation is to improve safety on Kentucky roadways by reducing the frequency and severity of roadway crashes, through quantitatively analyzing and evaluating safety alongside other transportation performance measures such as traffic operations, environmental impacts, and construction costs. The benefits of implementing DDSA include informed decision-making at both the network- and project-levels, as well as better targeting of investments to optimize the use of limited transportation funding, all of which ultimately results in improved safety performance across the system.

The DDSA Implementation Plan is located on the [DDSA Website](#), along with other tools to help inform project decision-making. The implementation plan is a living document and will be updated as safety research improves through continuing research.