

MINUTES OF THE SENATE TRANSPORTATION COMMITTEE

The meeting was called to order by Chairman Les Donovan at 8:30 A.M. on March 25, 2008 in Room 527-S of the Capitol.

All members were present.

Committee staff present:

Hank Avila, Kansas Legislative Research Department
Jill Shelley, Kansas Legislative Research Department
Mike Corrigan, Revisor of Statutes
Mary Jane Brueck, Committee Assistant

Conferees appearing before the committee:

Sen. Pres. Steve Morris
Major Mark Bruce, Kansas Highway Patrol
Ed Klumpp, Kansas Association Chiefs of Police and the Kansas Peace Officers' Association
Rep. Pat George
Alan Cobb, Americans for Prosperity
Dr. Art Hall, Executive Director, Center for Applied Economics KU School of Business
Secretary Deb Miller, Kansas Department of Transportation
Pat Hurley, Economic Life Lines
Randal O'Toole, Senior fellow, Cato Institution (Written Only)

Others attending:

See attached list.

Chairman Donovan opened the hearing on **SB 689 – Regulating traffic, driving in right lane required, exceptions.**

Proponents:

Sen. Steve Morris explained, the bill is designed to deal with the problem of people driving on a four-lane highway in the left hand lane, oblivious of what is going on, and impeding traffic. The bill needs several amendments. One amendment would allow the Highway Patrol to continue to operate in the left hand lane as they normally do. It also needs some sort of fine. The third amendment would look at what needs to be done requiring people to move to the left lane because of emergency situation. Sen. Palmer asked if this is taught in drivers' education tests. Sen. Morris said it should be addressed if the bill is passed. He also said more signs should be made to tell slow drivers to drive in the right lane.

Major Mark Bruce, Kansas Highway Patrol agreed a provision for law enforcement's need to drive in the left lane should be added. Highway maintenance vehicles also need an exception. He feels there may be confusion among drivers who are to move away from law enforcement and emergency vehicles stopped at the side of the road. The Kansas Highway Patrol is in favor of the one year warning period to allow education of the public about this law. Chairman Donovan asked about additional signs telling slow drivers to keep in the right hand lane. Major Bruce said more would be needed. Sen. Apple asked if this law would include all four-lane roads. Yes it would. Sen. Petersen asked if there was a provision about large events closing and causing a large number of vehicles to be exiting onto a four-lane highway. Major Bruce said there is. (Attachment 1)

Ed Klump, representing both the Kansas Association Chiefs of Police and the Kansas Peace Officers' Association, stepped forward to speak on this bill. He has a concern about how this bill would apply in major metropolitan areas where four lanes would be crowded at rush hour. He would suggest this bill be exempted within city limits. (Attachments 2 and 3)

Chairman Donovan said he would ask the revisor to prepare this bill with the amendments discussed for this bill. Seeing no others to speak to this bill, Chairman Donovan closed the hearing on **SB 689** and opened the hearing on **HB 2119 – Emergency medical services license plates.**

CONTINUATION SHEET

MINUTES OF THE Senate Transportation Committee at 8:30 A.M. on March 25, 2008 in Room 527-S of the Capitol.

This bill has been changed. Chairman Donovan called on Reviser Bruce Kinzie to explain. The bill is now regarding micro utility vehicles, small trucks. These vehicles would not be allowed to operate on Federal or State highways, but would be allowed to cross highways. These vehicles would have to meet requirements for equipment before operating on highways. They will still be required to get a non highway title. These titles allow the state to track these vehicles for tax purposes. The bill also provides that micro utility trucks will be considered as vehicles considered for the dealer license law which would limit selling these to the same requirements as any other dealer. Sen. Palmer asked where these vehicles can be driven after this bill. They can be on county/township roads. Why is it necessary to make these changes? There is concern about keeping track of such vehicles.

Representative Pat George stepped forward to testify. This bill is to clear up some confusion related to these vehicles and their use. This bill passed out of the House unanimously. (Attachment 4) Sen. Goodwin asked questions about the measurement language in the bill. It is to make these vehicles separate from others. Sen. Palmer said she had that kind of vehicle and wondered if she could drive it through her neighborhood. Yes, if the city had opted out .

Sen. Dennis Wilson explained these vehicles originally came into the US from Japan and now come in from China too. They serve a good purpose. Now many are being moved into the US. By requiring a Dealers' license to these vehicles in order to sell them, they can be tracked. Carmen Alldritt said a non highway title will show ownership as well a tracking method. Sen. Apple asked about what a person would have to do if they want to sell these vehicles. They would have to by a dealers license – a used car dealer's license is \$50.

No one else wanted to speak to this bill. Chairman asked what the committee's wished to do with this bill, considering there are four amendments to attach. The hearing on HB 2119 was closed.

Mike Corrigan, Asst. Revisor of Statutes, asked what the fine should be in SB 689 for driving in the left lane. Chairman Donovan suggested \$60.00 seemed to be the fine for similar offences. There will also be exemptions made for Kansas Highway Patrol, KDOT vehicles and emergency vehicles. Also an exemption will be included to exclude inside city limits. Carmen Alldritt said it will be possible to get this information into the next Drivers' Education book.

Chairman Donovan asked the committee's wishes for HB 2119. Sen. Wilson moved the bill be passed out of committee favorably. Sen. Apple seconded the motion. Motion carried., Sen. Wilson will carry the bill.

Chairman Donovan asked for a motion on the minutes for the March 18 and 20 minutes. Sen. Wilson moved adoption of the minutes. Sen. Schmidt seconded the motion. Motion carried.

Chairman Donovan announced the presentation on cost benefit analysis for new highway construction. He welcomed Dr. Art Hall, Executive Director, Center for Applied Economics KU School of Business. He told the committee he had distributed a draft of a primer (Attachment 5) to show how to do benefit cost analyses, and gave a brief explanation. This is another way to get better information flow to decision makers and tax payers about how the money can be handled wisely. (Attachment 6 and 7)

Secretary Miller, Kansas Department of Transportation, did not have written testimony, but spoke to the committee. She said the department had just finished a long term transportation plan. She agreed economic analyses and benefit cost are good in making this sort of plan. She pointed out that often the department does reconstruction to existing roads to bring them up to existing standards rather than new construction. Use data regarding traffic condition of the roadway, crash history, those kinds of things. In some circumstances bringing an economic analysis and taking a look at how projects compare is very logical, and this has been done on occasion. Over the years, it can be very hard to use these methodologies to make system-wise transportation decisions. She recommends proceeding with caution in using this method.

Pat Hurley, Economic Life Lines said these sorts of analyses can have positive economic impact. He agreed these analyses need to be done and said they have been done in the past.

Alan Cobb, Americans for Prosperity gave testimony on this issue. (Attachment 8) He said transportation

CONTINUATION SHEET

MINUTES OF THE Senate Transportation Committee at 8:30 A.M. on March 25, 2008 in Room 527-S of the Capitol.

projects rarely create wealth. Chairman Donovan asked how cost benefit studies would reflect on a median project, for example. Mr. Cobb answered they would show the number of accidents and the number of lives saved, not monies. If they were used on a study for bridge replacement, they would show issues related to safety. In regard to benefit of the third lane for traffic between Topeka and Lawrence, the study would look at time flow, safety, etc.

Randal O'Toole, Senior fellow, Cato Institution, sent written information. (Attachment 9)

Seeing no others wishing to speak to this subject, Chairman Donovan closed this hearing, and adjourned the meeting at 9:32 a.m. No other meetings are scheduled at this time.

SENATE TRANSPORTATION COMMITTEE GUEST LIST

DATE: 3/25/08

NAME	REPRESENTING
MARK BRUCE	KHP
Patrick Murley	Economic Lifelines
RANDY TONBLOK	POST AUDIT
Scott Heidner	ACEC Kansas
KEVIN GREGG	KMCA
TDM WHITAKER	KMCA
Woody Moss	KMCA

Testimony on Senate Bill 689
Senate Transportation Committee

Prepared by
Major Mark A. Bruce
Kansas Highway Patrol

March 25, 2008

Good morning Mr. Chairman and members of the committee. My name is Mark Bruce and I appreciate the opportunity to appear before you today regarding Senate Bill 689. This bill concerns vehicles being driven in the right lane and would amend K.S.A. 8-1522.

As proposed, Senate Bill 689 would prohibit all vehicles from driving in the far left lane, except when overtaking or passing another vehicle, preparing to make a proper left turn, otherwise directed by traffic control devices, or otherwise required by law. The Kansas Highway Patrol understands and supports the intent of this bill to facilitate and enhance the orderly flow of traffic. We do have some concerns regarding the proposal.

(1) Law enforcement vehicles must be allowed to drive in the left lane to monitor traffic and for an officer to perform his/her regular patrol duties. Officers routinely turn around in the median, often with little or limited warning, to initiate a traffic stop. Driving in the left lane makes such maneuvers safer and more prudent, and it allows an officer to respond quicker without crossing multiple lanes of traffic to turn around.

(2) In addition to law enforcement vehicles, highway maintenance vehicles occasionally perform services that require them to be operated in the left lane. Our friends at KDOT would appreciate an exception to this requirement as well.

(3) Current law requires motorists to move away from law enforcement, emergency crews, and other workers who are providing roadside services. This work occurs on both the left and right shoulders of the road, therefore requiring traffic to move to either lane to provide a safer distance between moving traffic and roadside personnel. The provisions of Senate Bill 689 could confuse drivers as to which law has priority and cause an unintentional traffic mishap.

The Kansas Highway Patrol supports the intent of Senate Bill 689 to discourage slower drivers from essentially blocking the flow of traffic. We also are in favor of the one year warning period that would allow us and our traffic safety partners to educate the motoring public of this new requirement. However, we are concerned with the above-mentioned issues.

Again, the Patrol is appreciative for being given the opportunity to share its concerns with this committee. I would be happy to address any questions or provide follow-up information should the committee deem necessary.

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Newton Police Dept.

Frank Gent
Region V
Beloit Police Dept.

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Region VI
St. John Police Dept.

TESTIMONY TO THE SENATE TRANSPORTATION COMMITTEE REFERENCE SB 689 Presented by Ed Klumpp

March 25, 2008

Thank you for allowing me to provide testimony at the Senate Transportation Committee the morning of March 25th, even though I had not signed up to testify prior to the hearing.

There are many valid reasons for the proposed statutory changes proposed in SB689. On many multilane roadways, especially outside of the metropolitan areas, the efficient use of the roadway can be quickly deterred by vehicles operating side by side at speeds below the speed limit while many vehicles get slowed behind them.

During the testimony, several very appropriate issues were raised including exemptions for law enforcement, vehicles complying with the "move-over" laws, and for roadway maintenance vehicles. We would support such amendments. Our concern is with how the proposed law would apply to multilane roadways in cities where the use of all available lanes during high traffic times seems essential to the efficient movement of traffic. For example, these times would include rush hour traffic and traffic around major events. We recommend an amendment that would exempt roadways within a city unless posted. This would allow the traffic engineers to determine where the efficient flow of traffic is enhanced by an application of the law and where it should not be applicable.

We respectfully request the consideration of all of the above amendments by the committee.

Ed Klumpp
Chief of Police-Retired
Topeka Police Department

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Kansas Association of Chiefs of Police
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Senate Transportation

3-25-08

Attachment 2

BOARD OF GOVERNORS

GOVERNORS AT LARGE

JOHN GREEN
KS Law Enforcement Training Center
Hutchinson, KS 67504

STEVE CULP
Kansas C-POST
Wichita, KS 67203

ALAN SILL
Liberal Police Dept.
Liberal, KS 67901

SAM BRESHEARS
Kansas City Police Dept.
Kansas City, KS 66101

DISTRICT 1

CARL ALVANO
Johnson County Sheriff's Office
Olathe, KS 66061

LONNIE STITES
Olathe Police Dept.
Olathe, KS 66061

GINA HUNTER
BNSF Railroad Police
Kansas City, KS 66101

DISTRICT 2

HERMAN JONES
Kansas Highway Patrol
Topeka, KS 66603

GARY EICHORN
Lyon County Sheriff's Office
Emporia, KS 66801

MIKE LOPEZ
Emporia Police Dept.
Emporia, KS 66801

DISTRICT 3

DAVE SMITH
Ellsworth Police Dept.
Ellsworth, KS 67439

CHUCK DUNN
Clay County Sheriff's Office
Clay Center, KS 67432

DENNIS GASSMAN
Kansas Highway Patrol
Salina, KS 67401

DISTRICT 4

JIM BRAUN
Hays Police Dept.
Hays, KS 67601

RICH SCHNEIDER
Trego County Sheriff's Office
WaKeeney, KS 67672

DELBERT HAWEL
KS Bureau of Investigation
Hays, KS 67601

DISTRICT 5

JOHN ANDREWS
Finney County Sheriff's Office
Garden City, KS 67846

LARRY COLE
Kansas Highway Patrol
Garden City, KS 67846

MATT COLE
Garden City Police Dept.
Garden City, KS 67846

DISTRICT 6

WARREN PETERSON
Barton County Sheriff's Office
Great Bend, KS 67530

STEVE BILLINGER
Kansas Highway Patrol
Ellinwood, KS 67526

VERNON "SONNY" RALSTON
St. John Police Dept.
St. John, KS 67576

DISTRICT 7

DON READ
Cowley County Sheriff's Office
Winfield, KS 67156

BILL EDWARDS
Park City Police Dept.
Park City, KS 67219

DAVE FALLETTI
KS Bureau of Investigation
Winfield, KS 67156

DISTRICT 8

SANDY HORTON
Crawford County Sheriff's Office
Girard, KS 66743

STEVE BERRY
Caney Police Dept.
Caney, KS 67333

KEITH RATHER
KS Dept. of Wildlife & Parks
Chanute, KS 66720

Kansas Peace Officers' Association

INCORPORATED

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TESTIMONY TO THE SENATE TRANSPORTATION COMMITTEE

REFERENCE SB 689

Presented by Ed Klumpp

March 25, 2008

Thank you for allowing me to provide testimony on behalf of the Kansas Peace Officers Association to the Senate Transportation Committee the morning of March 25th, even though I had not signed up to testify prior to the hearing.

The efficient movement of traffic is highly dependant upon the orderly flow of traffic. Many times we rely on simple driver courtesy to achieve that end and sometimes we have to legislate a method to achieve such efficiency. This is one of those cases. We recognize the proposed change may be more appropriate in a non-city environment rather than in a city environment. And within a city, it might be appropriate in some areas and not in others. For that reason, we strongly recommend the committee consider an amendment which would exempt roadways within the city limits from this provision, unless it is posted. This will allow the traffic engineers to determine where such a rule will be helpful and apply it only to those identified locations within the city.

During the testimony, several other very appropriate issues were raised including a law enforcement exception, exempting vehicles complying with the "move-over" laws, and an exception for roadway maintenance vehicles. We recommend the committee consider those suggested amendments as well.

We respectfully request the consideration of all of the above amendments by the committee.

Ed Klumpp
Chief of Police-Retired
Topeka Police Department

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Kansas Peace Officers Association
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Senate Transportation
3-25-08
Attachment 3

STATE OF KANSAS

COMMITTEE ASSIGNMENTS
APPROPRIATIONS
TRANSPORTATION
SOCIAL SERVICE BUDGET

PAT GEORGE

REPRESENTATIVE 119TH DISTRICT
HOME ADDRESS: 3007 WESTVIEW
DODGE CITY, KANSAS 67801
620-227-2012

OFFICE ADDRESS: STATE CAPITOL
TOPEKA, KANSAS 66612
785-296-7646



TOPEKA

HOUSE OF
REPRESENTATIVES

Testimony before Senate Transportation Comte
March 25, 2008

Chairman Donovan : The substitute bill was crafted to help clarify the lawful operations of the Micro Utility Truck that we have allowed in KS since last year. The substitute bill does the following:

1. Micro Utility Trucks would not be allowed to operate on interstate, federal or state highways, except they would be allowed to cross federal or state highways. Not operate in a city, unless authorized by the city.
2. Would be required to have a non-highway title.
3. Have the same equipment requirements as the previous bill.
4. Exclude Micro Utility Trucks from definition of work site utility vehicles.
5. Would be sold by dealers.

Thank you,

Pat George
Kansas House of Representatives
District 119
3007 Westview Ave
Dodge City, Kansas

Senate Transportation
3-25-08
Attachment 4

DRAFT



The University of Kansas

Supporting Regional Economic Development through Analysis and Education

THE CENTER FOR **APPLIED ECONOMICS**

EVALUATING ROADS AS INVESTMENTS: A PRIMER ON BENEFIT-COST AND ECONOMIC-IMPACT ANALYSIS

Eric Thompson
Director

Bureau of Business Research
College of Business Administration
University of Nebraska-Lincoln

David I. Rosenbaum
Professor of Economics
College of Business Administration
University of Nebraska-Lincoln

Arthur P. Hall
Executive Director
Center for Applied Economics
School of Business
University of Kansas

TECHNICAL REPORT 08-0425

April 2008

Senate Transportation

3-25-08

Attachment 5

Kansas and neighboring states might waste billions of dollars on highway investments. But the taxpaying public will never know because public decision makers rarely analyze road projects as investments. A disciplined use of benefit-cost analysis can close this knowledge gap.

Roadways constitute an economically vital form of transportation infrastructure that have the potential to contribute to the productivity and economic growth of state economies—if the economic benefits of the roadways exceed their cost. Benefit-cost analysis totals the annual user benefits derived from road projects and compares these benefits with the total costs related to construction. The analysis, therefore, identifies road projects that have an acceptable or unacceptable return on investment. Consistent and appropriate use of benefit-cost analysis could allow states to allocate road spending to only the highest valued projects, thereby helping to assure that taxpayers' money generates an acceptable return on investment.

Benefit-Cost Analysis versus Economic-Impact Analysis

Investment analysis usually relies on the availability of measurable (or forecastable) cash flows—in-coming cash flows and out-going cash flows. Roadways without self-financing tolls do not generate in-coming cash flows similar to that of typical private-sector investments. This situation creates the primary challenge associated with valuing most road projects.

Economic analysis strives to create measures that act as substitutes for in-coming cash flows. The analysis usually takes one of two different forms: benefit-cost analysis or economic-impact analysis. The two forms of analysis generate fundamentally different types of information. Benefit-cost analysis attempts to explicitly measure the investment value of a road project. Do the benefits for users of the road exceed the costs associated with building the road? Economic-impact analysis attempts to measure the residual economic activity that takes place as a result of a road project. What number of net new jobs or net new types of income-generating activities results from building the road?

Despite their differences, these two forms of analysis have a connection—almost like two sides of the same coin: A road project that offers benefits in excess of costs will generate a positive net economic impact, and vice versa. The notion of a *net* economic impact is all-important. Often, economic impact analyses related to roads focus too narrowly on a specific geography to adequately capture the *net* impact on the larger economy.¹ The

¹ Chandra, A. and E. Thompson, 2000. "Does Public Infrastructure affect economic activity? Evidence from the rural interstate highway system," *Regional Science and Urban Economics*. 30 (2000), pp. 457-490. Thompson, E., 2005. "If You Build It, Will They Come? An Examination of Public Highway Investments and Economic Growth," 2005. Bureau of Business Research in conjunction with The Center for Applied Economics, University of Kansas.

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Exhibit A

The Basics of Benefit-Cost Analysis

As its name implies, benefit-cost analysis compares the expected benefits of a project to the expected costs over the projected life of the project. Because the benefits and costs occur over time, standard financial procedures are used to create a “present value” of both costs and benefits.

<p>Benefits:</p> <ul style="list-style-type: none">▪ Travel time savings▪ Vehicle operating cost savings▪ Accident avoidance (fatalities, injuries, property damage)	<p>Costs:</p> <ul style="list-style-type: none">▪ Dollar cost of construction▪ Road-user costs during construction, including accidents
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Benefit-Cost Ratio = Present Value of Benefits/Present Value of Costs
A ratio greater than one indicates that benefits exceed costs.

The Basics of Economic-Impact Analysis

Economic-impact analysis attempts to quantify the economic effects that a road project has on a particular region. The impact may be new economic activity created by the project, or simply economic activity attracted into the region because the road improves the region’s competitiveness. Each of the positive impacts may derive from a negative impact elsewhere.

<p>Positive Impacts:</p> <ul style="list-style-type: none">▪ Regional income generated by construction activity▪ Additional income-generating activities made possible by improved transportation or lower-cost access	<p>Negative Impacts:</p> <ul style="list-style-type: none">▪ Road construction dollars not available for alternative investments or uses▪ New road draws economic activity away from existing areas of commerce
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Net Economic Impact = Positive Impacts – Negative Impacts

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Estimate Change in Travel Time and Accidents

Average travel speeds vary by traffic volumes and by the characteristics of roads, such as the number of lanes and the number and type of intersections or access points to the road. Once the traffic model is used to develop the change in traffic flows on various roads with the proposed highway investment, highway engineers would be able to estimate the total change in travel time. Accident rates on existing roads also can be used to predict the change in accidents by type. Accident rates also would change on the road that is improved with the highway investment.²

Value Time Savings

Time savings are valued by multiplying the number of hours of travel time saved due to the investment by the value of time per hour. Federal Highway Administration guidelines call for the value of time to be calculated according to national average mean value for hourly wages and benefits. In particular, the hourly value of automobile travel at work is assigned as the mean average hourly wage and benefits of all occupations, while hourly value of time at work by truck drivers is equal to that occupation's mean wages and benefits. Leisure travel is based on car occupancy, with the time of occupants valued at 50% of the average wage.³ Average vehicle occupancy rates for leisure travelers are available in the *National Travel Survey*.

Value Accidents

The value of each accident is calculated based on the severity of the accident, with major categories including property damage only accidents, injury accidents, and fatal accidents.⁴ This is done because data on accidents is kept according to severity, and there is a great difference in accident costs based on severity. For example, in 1991, according to the Federal Highway Administration the cost per fatal accident was \$2.7 million, while the cost of the average property damage only accident was \$4,000. These costs should be updated to the current year using the producer price index.

Estimate Change in Vehicle Operating Costs

The improvements resulting from the highway investment often will effect congestion or travel speeds on the road. The improvements will effect travel time, but they also might affect vehicle operating costs. Generally speaking, travel at a consistent speed will use less fuel and depreciate a vehicle less quickly. The Texas Transportation Institute at

² For a summary of recent research into the reduction in accident rates due to over 80 types of highway investments, including adding lanes, adding turn lanes, widening roads, widening shoulders, see Agent, Kenneth, Len O'Connell, Eric Green, Doug Kreis, Jerry Pigman, Neil Tollner, and Eric Thompson, 2003. *Development of Procedures for Identifying High Crash Locations and Prioritizing Safety Improvements*. Kentucky Transportation Center Research Report KTC-03-15/SPR250-02-1F.

³ Miller, T. 1989. *The Value of Time and the Benefit of Time Saving*. Developed by the Urban Institute for the Office of Safety and Traffic Operations R&D, Federal Highway Administration.

⁴ Costs estimates should include medical costs, emergency services, property damages, lost work, travel delays, and pain and suffering.

In many cases, state highway departments calculate construction costs based on the costs of recent, similar projects. This approach has the advantage of being based on real rather than theoretical costs. It also would reflect cost overruns that sometimes occur with projects. The difficulty with this approach can occur when there has been no similar project in the state in recent years. In that case, engineers can secure cost information from a nearby state with similar topography and cost of living.

Benefit Cost Comparison and Sensitivity Analysis

Once analysts have calculated the present value of all benefits and costs associated with a road project, they can divide benefits by costs to calculate a benefit-cost ratio. A ratio greater than one indicates that estimated benefits exceed estimated costs.

To gain clarity about the strength or consistency of a benefit-cost ratio, analysts should subject it to sensitivity analysis. The Federal Highway Administration guidelines recommend testing benefit-cost ratios under a set of alternative assumptions. For example, alternative scenarios could include optimistic and pessimistic assumptions for travel time and accident reductions, as well as factors such as project costs or discount rates. The calculations under alternative assumptions are meant to demonstrate the amount of uncertainty that exists around the “baseline” benefit-cost ratio.

A vivid example of sensitivity analysis took place for a road project in Kentucky. This road project expected to link to another road project in Indiana, the neighboring state. The “baseline” benefit-cost ratio for the project amounted to 1.096—indicating a barely acceptable return on investment. *Table 1* below indicates the benefit-cost ratio under alternative scenarios. Any cost overruns or overestimation of benefits made the project suspect. If Indiana failed to develop the road on its side of the state line, the project clearly represented a bad investment.

Table 1

Benefit-Cost Ratios for Western Segment of Northern Kentucky Outer Loop (I-74)	
Alternative Assumptions	Benefit-Cost Ratio
Baseline	1.096
Project Cost 15% More	0.953
Project Benefit 15% Less	0.931
10% Real Discount Rate (rather than 7%)	0.725
Highway Not Built in Adjacent State (Indiana)	0.188

Source: *The Economic Feasibility of the Northern Kentucky Outer Loop (I-74)*, 2002. American Consulting Engineers, Inc.

Exhibit 2

How to Conduct an Economic Impact Analysis

Step	Approach
Estimate Construction Period Impact	Define the extent to which impacts are local not statewide
Define Impact Region	Impacts may come at the expense of other nearby regions
Define the Control Group of Communities	Control groups must be similar to target community on multiple measures and have similar growth history as target before road is built.
Estimate Economic Impact	Establish before and after comparisons between target community and control groups.

Define Geographic Region of Impact

Beyond construction impacts, road investments can have an annual economic impact due to increased travel through a region, or because the highway enhances the access and competitive position of the region. Since the goal of a thorough economic-impact analysis is to identify a net impact across geography, the analysis must identify the appropriate geographic scope to analyze. For example, in the Plains states commuters often travel to job centers from two counties away.

Select Appropriate Control Groups

Many studies assess the economic impact of road investments by comparing the change in economic activity before and after the investment. These assessments have more validity when analysts also consider changes in control geographies during the same period. Changes in control geographies give the analyst an estimate of what might have happened in the target geography receiving the road investment if the investment had not been made. Two steps guide the selection of appropriate control geographies. First, the target and control geographies should have similar characteristics, such as size, industrial structure, and demographics. Second, the target and control geographies should have

For the analysis, we identified studies from a group of six states located in the middle portion of the country: Iowa, Kansas, Kentucky, Missouri, Nebraska, and South Dakota (see Figure 1). The research team contacted state historic libraries and transportation agencies to gather reports that contained economic analysis of specific transportation projects. The number of reports to choose from was limited. However, interest in economic analysis of road projects seems to have grown in recent years. The research team identified a total of 14 reports: four from Kansas, three from Nebraska, three from Iowa, two from Kentucky, one from Missouri, and one from South Dakota.

Figure 1
Six States Included in the Review



Reports were split between more comprehensive cost-benefit analyses of highway investments and studies that were principally focused on economic-impact analysis. There were seven studies that included a benefit-cost analysis. These seven typically also included an economic-impact analysis. There were seven studies that only examined economic impacts.

The benefit-cost analyses reviewed in *Table 2* typically follow most of the steps required for a sound benefit-cost analysis. Most of the studies used appropriate and unbiased assumptions for key factors such as projected growth in traffic flow. However, the studies generally lacked rigor in at least three ways. First, they failed to measure construction period road-user costs. Second, many studies did not use a sufficiently stringent benefit-cost ratio threshold. Third, many studies did not use a comprehensive list of alternative scenarios in sensitivity analysis.

Regarding the economic-impact analyses, the critical review found that half of the studies failed to appropriately identify control geographies for the analysis. Many studies also failed to sufficiently establish metrics related to before-and-after scenarios for the road projects under study.

Otto, Daniel and Connie Anderson. 1993. *The Economic Impact off Rural Bypasses: Iowa and Minnesota Case Studies*.

Rephann T., and A. Isserman, "New Highways as Economic Development Tools: An Evaluation of Quasi-experimental Matching Methods," *Regional Science and Urban Economics* 24: 723-751.

Rosenbaum, David. 2000. *Antelope Valley Improvement Project: Present Discounted Value of 50-Year Flow of Benefits*. Prepared for the City of Lincoln, Nebraska.

Snyder and Associates. 1999. *Primary Road Bypass Study of Selected Iowa Communities*. Prepared for the Iowa Department of Transportation.

Thompson, E., 2005. "If You Build It, Will They Come? An Examination of Public Highway Investments and Economic Growth," 2005. Bureau of Business Research in conjunction with The Center for Applied Economics, University of Kansas.

Thompson, Eric, Joseph Miller and Jonathon Roenker, 2001. *The Impact of a New Bypass on the Local Economy and Quality of Life*. University of Kentucky Center for Business and Economic Research. Prepared for the Kentucky Transportation Cabinet.

U.S. Department of Transportation, Federal Highway Administration, 2007. *Economic Analysis Primer*. <http://www.fhwa.dot.gov/infrastructure/asstmgmt/primer.htm>

Wilbur Smith Associates. 1992. *U.S. Highway 20 Corridor Development Study*. Prepared for the Iowa Department of Transportation.

Wilbur Smith Associates. 1995a. *Heartland Expressway Study*. Prepared for the Nebraska Department of Roads and the South Dakota Department of Transportation.

Wilbur Smith Associates. 1995. *US Highway 18 to Nebraska Highway 12 (via Highway 53 Extension) Feasibility Study*. Prepared for the Nebraska Department of Roads.

Wilbur Smith Associates 2000. *Northeast Nebraska Corridor Feasibility Studies*. Prepared for the Nebraska Department of Roads.

5-9

Table 2

	Iowa	Kansas	Nebraska and South Dakota	Kentucky	Nebraska
Project	Highway 20 Corridor (Wilbur Smith, 1992)	Impact of Highways Bypasses (Burruss, 1996)	Heartland Expressway (Wilbur Smith, 1995)	I-74 Outer Loop American Consulting Engineers, 2002)	Northeast Corridor (Wilbur Smith, 2000)
Conducted Benefit Cost Analysis	YES	YES	YES	YES	YES
Conducted Economic Impact Analysis	YES	YES	YES	YES	YES
Critique	<ul style="list-style-type: none"> ▪ Accurate prediction of traffic growth ▪ Used FHWA recommended method for valuing travel time and accident costs ▪ Used FHWA recommended discount rate of 7% ▪ Failed to account for road-user costs during construction ▪ Assumed all construction costs occurred in year-1 of project rather than discounted over multiple years. 	<ul style="list-style-type: none"> ▪ No valuations for accidents ▪ Insufficient documentation of traffic growth predictions ▪ Deviated from FHWA recommended method for valuing travel time ▪ Used per-hour rather than per-mile estimates for projecting change in vehicle operating costs ▪ Did not use the appropriate discounting procedures, thereby overestimating benefits ▪ Failed to account for road-user costs during construction ▪ Failed to conduct a sensitivity analysis around different scenarios 	<ul style="list-style-type: none"> ▪ Conservative prediction of traffic growth ▪ Used FHWA recommended method for valuing travel time and accident costs ▪ Used FHWA recommended discount rate of 7% ▪ Failed to account for road-user costs during construction ▪ Assumed all construction costs occurred in year-1 of project rather than discounted over multiple years. 	<ul style="list-style-type: none"> ▪ Used FHWA recommended method for valuing travel time, but may have overstated growth in the value of time. ▪ Unbiased estimates of projected change in vehicle operating costs ▪ Used FHWA recommended discount rate of 7% ▪ Failed to account for road-user costs during construction ▪ Failed to emphasize that economic impacts could come at the expense of other regions 	<ul style="list-style-type: none"> ▪ Conservative prediction of traffic growth ▪ Used FHWA recommended method for valuing travel time and accident costs ▪ Used FHWA recommended discount rate of 7% ▪ Failed to account for road-user costs during construction ▪ Assumed all construction costs occurred in year-1 of project rather than discounted over multiple years.
1. Traffic Model	Computerized corridor region traffic procedure	Developed own model and measured drive time savings using existing bypasses	Computerized corridor region traffic procedure	Developed by outside consulting firm	Computerized region and multi-state traffic procedures

01-0

5-10

2. Driving Time Costs	FHWA guidelines	Median Kansas wages and literature review on the ratio between wages and value of time	FHWA guidelines	US DOT guidelines	FHWA guidelines
3. Accident Costs	Iowa DOT guidelines	Did not include	FHWA guidelines	US DOT guidelines	FHWA guidelines
4. Vehicle Operating Costs	FHWA cost data	Used hourly costs rather than costs per mile	FHWA cost data	Texas Transportation Institute model	FHWA cost data
Discount Rate	7% based on FHWA requirement	Did not include- only calculated annual benefits	7% based on FHWA requirement	7% based on FHWA requirement	7% based on FHWA requirement
Time Period	30 years	Did not include- only calculated annual benefits	30 years	30 years	20 years
Construction Cost of Road	Used estimates based on past projects—lumped in year 1	Used estimates based on past projects— lumped in year 1	Used estimates based on past projects—lumped in year 1	Used estimates based on past projects—discounted over 7 years	Used estimates based on past projects—lumped in year 1
Road-User Costs during Construction	Did not include	Did not include	Did not include	Did not include	Did not include
Economic Impacts	Proprietary Regional economic impact model	Comparisons of retail sales and employment in bypass and control counties and cities	Employee earnings impacts estimated using statistical model that utilized before and after analysis in treatment and control counties	Proprietary	Proprietary Regional economic impact model

11-9

11-5

State	Nebraska	Nebraska	Iowa	Iowa and Minnesota	Kentucky
Project	Antelope Valley Improvement (Rosenbaum, 2000)	US Highway 18 Feasibility Study (Wilbur Smith, 1995)	Primary Road Bypass Study (Snyder and Associates, 1999)	Impact of Rural Bypasses (Otto and Anderson, 1993)	Impact of New Bypass Route (Thompson, Miller and Roenker, 2001)
Conducted Benefit Cost Analysis	YES	YES	NO	NO	NO
Conducted Economic Impact Analysis	YES	NO	YES	YES	YES
Critique	<ul style="list-style-type: none"> ▪ Used FHWA recommended method for valuing travel time ▪ Unbiased estimates of projected change in vehicle operating costs ▪ Combination of lower discount rate (6%) and long time period may overestimate benefits ▪ Failed to account for road-user costs during construction ▪ Failed to conduct a sensitivity analysis around different scenarios 	<ul style="list-style-type: none"> ▪ Used FHWA recommended method for valuing travel time, accidents costs, and vehicle operating cost savings. ▪ Failed to account for road-user costs during construction 	<ul style="list-style-type: none"> ▪ Failed to emphasize that economic impacts could come at the expense of other regions ▪ Only used population size, rather than a fuller set of criteria, when selecting controls. ▪ Used control groups when examining the impact of bypasses on population growth ▪ Did not use control groups when examining the impact of bypasses on retail sales, traffic volumes, and other measures 	<ul style="list-style-type: none"> ▪ Failed to emphasize that economic impacts could come at the expense of other regions ▪ Used a fuller set of criteria for identifying control counties – population, traffic counts, and proximity to metropolitan areas ▪ Used controls but failed to make before and after comparisons between highway and control counties. No way to determine whether highway was source of any differences 	<ul style="list-style-type: none"> ▪ Failed to emphasize that economic impact could come at the expense of other regions ▪ Used a fuller set of criteria for identifying control counties. ▪ Did make before and after comparisons between highway and control counties to evaluate impact of highway on economic growth
Benefit-Cost Analysis					
1. Traffic Model	Regional travel model	Computerized corridor region traffic procedure	N/A	N/A	N/A
2. Driving Time Costs	FHWA methodology	FHWA guidelines	N/A	N/A	N/A
3. Accident Costs	National Safety Council, <i>Estimating the Cost of Unintentional Injuries</i>	FHWA guidelines	N/A	N/A	N/A
4. Vehicle Operating Costs	Local estimates	FHWA guidelines	N/A	N/A	N/A

2-12

5-12

5. Discount Rate	6% based on Local bond issue	7% based on FHWA requirement	N/A	N/A	N/A
6. Time Period	50 years	30 years	N/A	N/A	N/A
7. Construction Cost of Road	Used estimates based on past projects— lumped in year 1	Used estimates based on past projects— lumped in year 1	N/A	N/A	N/A
8. Road-User Costs during Construction	Did not include	Did not include	N/A	N/A	N/A
Economic Impacts	Construction Impacts Only	Did not include	Examined impact of bypasses on population, retail sales, school enrollment, traffic volumes, and property valuations No construction impacts	Examined impact of bypasses on per capital retail sales No construction impacts	Examined impact of bypasses on manufacturing and commercial activity, and downtown vacancy rates No construction impacts

5-13

5-13

State	Missouri	Kansas	Kansas	Kansas
Project	Collins Route 13 Location Study (MidWest Research Associates, 1992)	Southeast Kansas: Wichita to Joplin (Catlett, 1987)	Employment Impact of Highway Construction & Maintenance (Babcock, Emerson, Prater and Russell, 1996)	Economic Impact of Comprehensive Transportation Program (Babcock, 2004)
Conducted Benefit Cost Analysis	NO	NO	NO	NO
Conducted Economic Impact Analysis	PARTIAL	YES	PARTIAL	PARTIAL
Critique	<ul style="list-style-type: none"> ▪ Analysis speculated on the benefits of alternative locations for a bypass rather than identifying impacts through a highway and control group comparison 	<ul style="list-style-type: none"> ▪ Failed to emphasize that economic impacts could come at the expense of other regions ▪ Only used non-urban status, rather than a fuller set of criteria, when identifying control counties ▪ Either 1) Used controls but failed to make before and after comparisons, or 2) made before and after comparisons but failed to use a control With either approach, there is no way to determine whether highway was source of any differences 	<ul style="list-style-type: none"> ▪ Only evaluated construction-period impact ▪ Failed to emphasize that construction period impacts would come at the expense of other regions 	<ul style="list-style-type: none"> ▪ Only evaluated construction-period impact ▪ Failed to emphasize that construction period impacts would come at the expense of other regions
Benefit-Cost Analysis				
1. Traffic Model	N/A	N/A	N/A	N/A

02

5-14

2. Driving Time Costs	N/A	N/A	N/A	N/A
3. Accident Costs	N/A	N/A	N/A	N/A
4. Vehicle Operating Costs	N/A	N/A	N/A	N/A
Discount Rate	N/A	N/A	N/A	N/A
Time Period	N/A	N/A	N/A	N/A
Construction Cost of Road	N/A	N/A	N/A	N/A
Road-User Costs during Construction	N/A	N/A	N/A	N/A
Economic Impacts	Focused on difference in economic impact from different locations for a bypass	Examined impact of a proposed 4-lane highway on population, employment, income, and retail sales in a 14 county Kansas region Included construction period impact	Included construction period impact	Included construction period impact

5-13

Senate Transportation Committee
 Informational Hearing on Benefit-Cost Analysis for Road Projects
 March 25, 2008

Remarks of
 Art Hall, Executive Director
 Center for Applied Economics
 KU School of Business

- Benefit-cost analysis is a well-accepted analytical tool that will allow Kansas lawmakers to improve their decision-making related to the prioritization of road projects—among competing road projects and other competing budget priorities.
- Given the large dollar amounts involved with transportation infrastructure each year, it makes sense for Kansas lawmakers to formalize and institutionalize a competent benefit-cost analytical capability. The success of the previous two transportation plans underscores the case for this perspective. As Kansas builds transportation capacity, the economic value diminishes for each incremental amount of additional capacity.
- The Consensus Revenue Estimating Group offers a useful model for transportation-related benefit-cost analysis. The Consensus Revenue Estimating Group is composed of personnel from the Division of the Budget, Legislative Research, and academic consultants from K-State, KU, and Wichita State. Similarly, an apolitical body of agency and university experts could comprise the “Transportation Benefit-Cost Analysis Group.”
- The primary goal is to improve the amount of credible and consistent information available to lawmakers and taxpayers. The analysis of a benefit-cost group does not necessarily need to be binding on lawmakers’ decisions (just like private-sector CEOs and Boards are not necessarily bound by the due diligence of their deal teams), but the analysis should be made part of the public record. Even if a set of road projects do not pass a strict benefit-cost test, a formal analysis will allow lawmakers to compare projects to one another for purposes of better prioritization—and more competently articulate a case for such projects.
- An example from the State of Kentucky: a ratio greater than one indicates a project with benefits greater than costs. This project passed the test but faced important risk factors.

Benefit-Cost Ratios for Western Segment of Northern Kentucky Outer Loop (I-74)	
<i>Alternative Assumptions</i>	<i>Benefit-Cost Ratio</i>
Baseline	1.096
Project Costs 15% More	0.953
Project Benefits 15% Less	0.931
10% Real Interest Rate (rather than 7%)	0.725
Highway Not Built in Adjacent State (Indiana)	0.188
<i>Source: The Economic Feasibility of the Northern Kentucky Outer Loop (I-74), 2002. American Consulting Engineers, Inc.</i>	



Posted on Sun, Jan. 13, 2008

ARTHUR P. HALL: ROAD PROJECTS NEED BENEFIT-COST ANALYSIS

BY ARTHUR P. HALL

Gov. Kathleen Sebelius and Lt. Gov. Mark Parkinson recently announced a redoubled effort to eliminate wasteful government spending and make the state government operate more efficiently. They are calling this effort BEST II, after the Budget Efficiency Savings Teams that worked most actively from 2003 to 2004.

State spending on roads offers BEST II -- and Kansas taxpayers -- the best target for saving money and improving government effectiveness.

Kansas taxpayers fund about \$1 billion per year in road-related spending, one of the biggest line items in the state budget. In fact, more than 75 percent of the savings claimed by the first BEST effort came from simply renegotiating better terms for road-related debt.

Despite the huge expenditures each year, Kansas has no formal method for economically evaluating or prioritizing road projects. BEST II can fix this problem by implementing a sustained and disciplined benefit-cost evaluation for new road projects -- as the Federal Highway Administration recommends for all states.

No one questions the economic importance of building and maintaining good roadways and safe bridges. However, it is a mistake to think that every road is a "good" road from an investment perspective. Taxpayers can "lose" money by building underused roads just like investors have lost money by building underused buildings or fiber-optic networks.

The Center for Applied Economics at the University of Kansas School of Business evaluated all of the most sophisticated academic studies related to road spending and economic growth. In general, over the past several decades, road spending in the United States has had little added impact on economic growth. This finding implies that building additional road capacity amounts to wasteful spending once a certain amount of road capacity has been built.

In 1999, Kansas lawmakers committed \$13.6 billion to a comprehensive transportation plan that will be complete in two years. None of the projects related to this plan have been subjected to the discipline of a benefit-cost evaluation. Consequently, Kansans have no disciplined viewpoint about which projects, if any, have added value to or subtracted value from the Kansas economy.

Every \$100 million of road spending in which costs exceed benefits translates into a lost opportunity to fund other government priorities or, say, reduce the sales tax by 5 percent.

The execution of a benefit-cost evaluation is straightforward, but a well-implemented, sustainable process seems unlikely without committed executive leadership from the governor's office.

The Kansas Department of Transportation's just-released draft for a long-range plan offers the perfect opportunity to get started. A disciplined benefit-cost evaluation of future road spending would mark a fundamental change for the better in the way the state does business, and promises a huge payoff for the BEST II effort -- and Kansas taxpayers.

Arthur P. Hall is executive director of the Center for Applied Economics at the University of Kansas School of Business. He served as the executive director of BEST from 2003 to 2004.

Senate Transportation

3-25-08

Attachment 7



AMERICANS FOR PROSPERITY K A N S A S

March 25, 2008

Utilizing Cost-benefit analysis for future transportation funding

Review of current status and past funding.

- We've spent a lot on transportation, primarily highways, since 1989.
 - 1989 program was \$3.7 billion - \$10 billion
 - 1999 program: \$13.5 billion through 2009

The notion that we need a third major plan because we've had two plans and that third plan should begin before the other plans are fully paid for should be challenged.

And We Have Very Good Roads to Show For It

- Kansas ranks 9th in average state highway spending per capita. (State Disbursements for Highways Per Capita, 2006...US Dept of Trans, Federal Highway Admin)
- Kansas roads are not well traveled. Average daily traffic per lane is #43 lowest in the country. (Average Daily Traffic Per Lane, 2006...US Dept of Trans, Federal Highway Admin)
- Kansas is one of only seven states with ZERO PERCENT poor road condition for both rural and urban roads. (* Source: Performance of State Highway System 2005 : Dr. David Hartgen, University of North Carolina)
- Kansas is the only one of our surrounding states in that zero / zero category; States, whose economy is growing faster than ours.
- Kansas ranks 9th in the number of narrow lanes. This means that we are 9th highest in spending the money to widen our roads.

The long term obligations are significant – of what we've already built. According to KDOT, we need \$300mm annually just to maintain what has already been built.

Economic impact of higher tax burden on Kansans for transportation

There's no free lunch. Every dollar spent on a transportation project is a dollar not spent for another government service, or a dollar not spent lowering our state's tax burden.

- Kansas' tax burden is at an all-time high with 11.2% of our income going to state and local taxes.

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Senate Transportation
3-25-08
Attachment 8

Opportunity Cost

If, since 1999, Kansas would have spent \$7.5 billion on transportation rather than \$13.5 billion, we could have had \$6 billion for tax relief. Ten year costs:

- .10% reduction in sales tax \$0.395 billion
- .5% reduction in all income tax brackets \$2.3 billion
- Elimination of corporate income tax \$3.2 billion
- \$5.895 billion

Transportation Funding and the Economy

There is little, if any, correlation between how much a state spends on highway on economic growth.

State	State Highways Funding Per Capita, Avg 2002 - 2005	GSP Growth, 97-06	Urban Interstate rank	Rural interstate rank
Delaware	1	13	31	n/a
Alaska	2	18	1	44
Wyoming	3	1	42	30
West Virginia	4	47	30	36
Montana	5	15	25	41
New Jersey	6	39	43	47
North Dakota	7	21	1	1
DC	8	8	n/a	n/a
Kansas	9	33	1	1
South Dakota	10	20	17	1

State	State Highways Funding Per Capita, Avg 2002 - 2005	GSP Growth, 97-06	Urban Interstate rank	Rural interstate rank
Wyoming	3	1	42	30
Nevada	35	2	20	1
Arizona	20	3	1	1
Florida	36	4	12	1
Texas	44	5	25	46
Idaho	24	6	39	24
Virginia	21	7	29	1
DC	8	8	n/a	n/a
Colorado	23	9	36	28
Utah	15	10	1	43

State	State Highways Funding Per Capita Rank (Avg 2002 - 2005)	GSP Growth Rank, 97-06	Urban Interstate rank	Rural interstate rank
Kansas	9	33	1	1
Nebraska	14	41	46	35
Colorado	23	9	36	28
Oklahoma	25	11	47	28
Missouri	33	48	32	27

In the entire 99-page Kansas Long Range Transportation Plan document, the words "cost-benefit" are used three times.

1. page 23 - referencing the need to look at cost-benefit when comparing different methods of modernizing existing roads.
2. page 46 - very short reference to the need to compare the cost and benefits to Kansans regarding a new passenger rail corridor from Wichita to Kansas City.
3. page 94 - a reference to the need to use cost-benefit analysis to determine which is the best solution when immediate transportation needs should be addressed for economic development purposes such as adding an intersection or off-ramp in a business park for a new business.

However, in the discussions last summer, there was recognition that highway spending isn't economic development in and of itself.

From the Long Range Transportation Plan Economic Impact Working Group (<http://www.kansaslrtp.org/ListEconomicImpact.do>):

From the document:

A Cautionary Note

Since economic development analysis requires significant time and monetary investments, it should be reserved for major transportation projects not for maintenance or relatively inexpensive projects. And when conducting an economic review the following points should be taken into consideration:

1. In order to understand both the direct and indirect impacts a project will have on the area's economy, it's important to use Economic Impact Analysis to complement Benefit Cost Analysis.
2. Transportation projects rarely create wealth. And while it may be appealing to invest in projects located in regions struggling economically to spur growth, the result may just be a transfer of economic benefits from one region to another. Thus, from the state perspective the project effects were a wash.

State	State Disbursements for Highways Per Capita, Avg 2002 - 2005	GSP Growth, 97-06	Rural Interstate Condition			Urban Interstate Condition	
			State	% poor	rank	% poor	rank
Alabama	37	27	Alabama	12.52%	48	0.00%	1
Alaska	2	18	Alaska	4.24%	44	0.00%	1
Arizona	20	3	Arizona	0.00%	1	0.00%	1
Arkansas	22	31	Arkansas	2.58%	39	5.85%	34
California	50	14	California	3.70%	42	13.32%	45
Colorado	23	9	Colorado	1.17%	28	7.04%	36
Connecticut	16	43	Connecticut	0.00%	1	3.97%	28
Delaware	1	13	Delaware	n/a	-	5.00%	31
DC	8	8	DC	n/a	-	n/a	-
Florida	36	4	Florida	0.00%	1	0.14%	12
Georgia	51	24	Georgia	0.00%	1	0.00%	1
Hawaii	48	30	Hawaii	0.00%	1	28.00%	50
Idaho	24	6	Idaho	0.38%	24	9.78%	39
Illinois	38	45	Illinois	0.21%	23	5.66%	33
Indiana	32	44	Indiana	0.00%	1	1.90%	21
Iowa	18	38	Iowa	2.07%	34	16.99%	49
Kansas	9	33	Kansas	0.00%	1	0.00%	1
Kentucky	19	50	Kentucky	0.00%	1	1.44%	16
Louisiana	45	12	Louisiana	1.47%	33	7.59%	37
Maine	13	37	Maine	0.00%	1	1.47%	18
Maryland	39	16	Maryland	0.55%	26	7.67%	38
Massachusetts	11	36	Massachusetts	0.00%	1	0.84%	14
Michigan	46	51	Michigan	7.72%	45	12.78%	43
Minnesota	27	26	Minnesota	0.00%	1	2.56%	23
Mississippi	34	46	Mississippi	2.27%	36	3.59%	26
Missouri	33	48	Missouri	0.63%	27	5.53%	32
Montana	5	15	Montana	0.53%	25	11.67%	41
Nebraska	14	41	Nebraska	2.12%	35	14.04%	46
Nevada	35	2	Nevada	0.00%	1	1.80%	20
New Hampshire	40	34	New Hampshire	0.00%	1	0.00%	1
New Jersey	6	39	New Jersey	9.38%	47	12.78%	43
New Mexico	12	23	New Mexico	0.00%	1	2.58%	24
New York	30	29	New York	13.32%	49	16.46%	48
North Carolina	29	19	North Carolina	2.69%	40	9.96%	40
North Dakota	7	21	North Dakota	0.00%	1	0.00%	1
Ohio	42	49	Ohio	0.00%	1	1.41%	15
Oklahoma	25	11	Oklahoma	1.17%	28	14.11%	47
Oregon	43	28	Oregon	0.00%	1	0.00%	1
Pennsylvania	26	42	Pennsylvania	1.40%	31	2.38%	22
Rhode Island	41	22	Rhode Island	0.00%	1	0.00%	1
South Carolina	47	35	South Carolina	0.00%	1	0.38%	13
South Dakota	10	20	South Dakota	0.00%	1	1.45%	17
Tennessee	49	32	Tennessee	0.00%	1	1.69%	19
Texas	44	5	Texas	9.00%	46	2.60%	25
Utah	15	10	Utah	4.17%	43	0.00%	1
Vermont	17	25	Vermont	1.43%	32	0.00%	1
Virginia	21	7	Virginia	0.00%	1	4.03%	29
Washington	28	17	Washington	2.78%	41	6.40%	35
West Virginia	4	47	West Virginia	2.27%	36	4.40%	30
Wisconsin	31	40	Wisconsin	2.30%	38	3.86%	27
Wyoming	3	1	Wyoming	1.34%	30	12.22%	42