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Edward J. Buechel
University of Kentucky

Sandra Freeburger
University of Kentucky

Linda A. Gosnell
University of Kentucky

Peter R. Held
University of Kentucky

Walter R. Morris
University of Kentucky

See next page for additional authors

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Authors
Edward J. Buechel, Sandra Freeburger, Linda A. Gosnell, Peter R. Held, Walter R. Morris, and John D. Preston

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NOTES

ECONOMIC, SOCIAL, AND LEGAL ASPECTS OF COAL TRANSPORTATION IN KENTUCKY

I. INTRODUCTION

Coal mining has long been an important industry in Kentucky; more than 136 million tons of coal were mined here in 1974, accounting for 23 percent of the total United States production of 601 million tons. The mine value of western Kentucky coal averaged $7.20 per ton, an average which reflects lower prices for coal due to long term contracts; delivered market prices during this period averaged over $25.00 per ton. There is every indication, moreover, that coal will continue to be important to Kentucky’s economy. The Arab oil embargo of 1973 caused the United States to begin a reexamination of its energy policies and to emphasize the development of its coal resources as a major national priority. The end of the embargo did not de-emphasize the commitment made to coal, and as a result coal prices did not decline to preembargo levels. Demand has remained high, with spot market prices for eastern Kentucky coal in June 1975 ranging from $18.00 to $42.00 per ton. At current production levels, Kentucky can count on the coal industry to produce revenue of well over $1 billion per year.

2 Kentucky Development Cabinet, Kentucky’s Coal Transportation, A Special Situation Report—Coal Markets, Distribution and Movement 3 (1975) [hereinafter cited as Kentucky Development Cabinet].
3 Kentucky Dep’t of Transportation, Kentucky Coal and Its Transportation Impacts 2 (1974) [hereinafter cited as Kentucky Dep’t of Transportation]. In the same year, mine head value per ton of coal in eastern Kentucky averaged $11.40. Prices will certainly increase as these long term contracts expire.
4 Ky. Coal J., supra note 1, at 1. The term “spot market” refers to coal sold without a contract or under a contract of short duration, usually one year or less.
tons, and it is estimated that there are an additional 50 billion tons of uncharted coal reserves in the state.\(^7\)

Kentucky ranks seventh among the states in overall coal reserves, and third in bituminous coal reserves. Since Kentucky’s coal is all bituminous and is generally low in sulfur content,\(^8\) for most purposes the preferred type of coal, there should be a continuing and possible increasing demand for its coal. It has been estimated that Kentucky’s coal reserves will be recoverable at present production levels for 300-400 years, suggesting the possibility of continued prosperity for the coal industry.\(^9\)

The majority of coal mined in Kentucky is shipped to other states; in 1972, 80 percent\(^10\) of the aggregate Kentucky coal production and 92.2 percent of eastern Kentucky coal was shipped out of the state for consumption.\(^11\) Since the average freight charge for coal moved by rail was 48 percent of the value of the coal at the mines in 1972,\(^12\) it is clear that transportation costs form a significant part of the total cost of coal.

Not only is transportation of coal essential to the mining industry, but the transportation itself is a business of some magnitude. Coal is the primary commodity moved by the railroads in terms of revenue, cars loaded, and tonnage. In 1973, coal transportation produced over $1.4 billion in revenue for the railroad companies and accounted for 24.6 percent of total rail tonnage.\(^13\) Coal is also important to the trucking industry. There were 2890 coal trucks in Kentucky in 1973, and it has been estimated that there will be between 5000 and 6000 coal trucks in the state by 1984.\(^14\)

The transportation of vast quantities of coal has not been without its problems, however. Although Kentucky has established regulations to control one part of the transportation industry, trucking, wholesale violations of that law and failure to enforce it have contributed to the destruction of the state’s

\(^7\) Kentucky Dep’t of Transportation, supra note 3, at 11.
\(^8\) Id.
\(^9\) Id. at 14.
\(^10\) Kentucky Development Cabinet, supra note 2, at 14.
\(^11\) Id. at 15.
\(^12\) Id. at 17.
\(^13\) Id. at 23.
\(^14\) Kentucky Dep’t of Transportation, supra note 3, at 30.
highway system. Because Kentucky’s coal industry is here to stay, alternative methods of transportation and more effective regulatory systems must be considered in order to meet the needs both of the coal industry and of the people of the state.

II. TRANSPORTATION OF COAL IN KENTUCKY

A. Western Kentucky

Western Kentucky’s 12 coal counties accounted for 52 percent of the state’s total coal production in 1973. In spite of this region’s slightly greater production, the transportation of coal in western Kentucky does not result in the same problems that abound in eastern Kentucky. Most western Kentucky mines have direct access to railroads or barge loading facilities, and the use of unit trains, speedy barge loading and unloading procedures, and conveyor belts has improved transportation in that region. Western Kentucky coal which is transported by truck travels only short distances and over roads which have an adequately high load limit, minimizing road destruction.

Perhaps the greatest single advantage that western Kentucky holds over eastern Kentucky in the transportation of coal, however, is the close proximity of the Green and Ohio Rivers to the coal fields, allowing the use of barges. Although the Green River is much smaller than the Ohio, its barges have no problem of sufficient depth since the river’s minimum depth is 9 feet. The river winds, however, limit the size of the tow which can be used.

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15 KENTUCKY DEPT. OF MINES AND MINERALS, ANNUAL REPORT 61 (1973) [hereinafter cited as 1973 ANNUAL REP.].
16 See § B, infra, for a discussion of the problems in eastern Kentucky.
17 Kentucky Development Cabinet, supra note 2, at 18.
18 In 1971, 16.5 million tons of Kentucky coal were shipped by water: 13.4 million tons traveled on the Green River, and 3.1 million tons were carried on the Ohio River. DEVELOPMENT CABINET OFFICE OF SECRETARY, KENTUCKY DEVELOPMENT STRATEGIES PROGRAM, SITUATION REPORT: ENERGY NETWORKS 57 (1974-75) [hereinafter cited as ENERGY NETWORKS].
19 Id.
20 The average size tow on the Green River is four barges (two barges wide and two barges long). On the Ohio River, a tow of 15 barges can be used (five barges long and three barges wide). On the Mississippi River it is not uncommon to see a tow composed of 30 to 40 barges. Interview with D.D. Baker, Manager of Green River Division of Crouse Corp., in Calhoun, Kentucky, Sept. 24, 1975 [hereinafter cited as Baker interview].
panies is increasing congestion, further aggravated by obsolete locks along the Green River. Replacing these locks will take a decade. Large barge companies continue to purchase riverfront land in order to construct barge loading facilities, so congestion will increase. Because these problems are relatively minor and lend themselves to easy solution, however, barging will remain an important means of transporting coal in western Kentucky.

Because railroads and barges provide the primary forms of transportation for western Kentucky coal and because the load limits of the roads over which western Kentucky coal trucks travel are generally adequate, western Kentucky has not had to face the overweight truck problem which has plagued eastern Kentucky. Trucking is the mode of transportation least employed by coal companies and their customers in western Kentucky. Only one-sixth of the heavy trucks registered in the state in 1972 were found in western Kentucky coal counties.

Another indication of the limited use of trucking in western Kentucky is a comparison of the number of citations issued for weight violations throughout the state. In 1974 there were only 144 such citations given to coal trucks in western Kentucky, while 2008 were issued in eastern Kentucky. Yet the enforcement rate of overweight truck citations in western Kentucky seems to be generally high. The conviction rate for the entire region was 69 percent compared with 47 percent for the state as a whole.

21 Id.

22 In 1982, the Kentucky Dep't of Transportation estimated that there were 2335 trucks weighing from 44,000 to 73,000 pounds registered in the state. One thousand nine hundred and eighty of these trucks were registered in twenty four eastern Kentucky coal counties; 355 trucks were registered in nine western Kentucky coal counties. ENERGY NETWORKS, supra note 18, at 58.


24 See § III, B, infra, on enforcement of overweight citations in eastern Kentucky. Much useful information is unavailable because there is no provision on the citation form to indicate the type of load which is being carried by the overweight truck. Interview with Jana Berrong, Clerk of the Justice of the Peace Court in Henderson County, Kentucky, Henderson, Kentucky, Sept. 23, 1975. However, some statistics were obtained from McLean and Butler Counties. Between January and November 1974, a total of 23 citations for weight violations were issued in McLean County, with 15 of the cited trucks carrying coal. Fourteen coal truck operators were fined and one citation was filed away. Letter from Wanda Collins, Secretary to Wilbur T. Lee, Judge of McLean County, to Sandra Freeburger, Sept. 24, 1975. In Butler County of the 19
Nonetheless, transportation by truck in western Kentucky has not been without its problems. For example, Caseyville in Union County is the site of a barge loading facility on the Ohio River. Trucks are used to carry coal from the mines to the dock and en route to the dock the trucks must descend a steep hill. Many residents of Caseyville feared the potential for accident, especially during hours when children were present.\textsuperscript{25} There is currently no controversy since a compromise has been reached which provides that coal trucks will not operate on this route during the hours of most danger.\textsuperscript{26}

Another trucking problem may arise if new techniques in the processing of coal encourage wider use of the high sulfur coal found in western Kentucky. If the demand for western Kentucky coal continues to increase, requiring mining of reserves not easily accessible to river travel, there may be more use of trucking and a resulting increased use of the highways.

Because topsoil is deep in western Kentucky, significant expense would be required to fortify county roads to carry coal trucks.\textsuperscript{27} So far, coal production in western Kentucky has not been great enough to require an extensive system of heavy duty county roads, but demand for coal from this region may require future improvements in roads.

In sum, it appears that coal transportation does not pose the problem to coal companies and coal consumers in western Kentucky that it poses in eastern Kentucky. Direct access to railroads and navigable rivers enables the western Kentucky coal industry to transport its coal by efficient means without significant problems.

B. Eastern Kentucky

In contrast to western Kentucky, the geography of eastern Kentucky and the nature of its coal fields limit the methods of coal transportation that can be used. There is a relative lack
of access to water and rail transportation, and the distribution of coal is such that it lends itself to initial transportation by truck. Coal seams in eastern Kentucky run horizontally through the hills and are relatively small. Transportation by water, although used to some extent, is not immediately available for most eastern Kentucky coal, and transportation by rail is limited both by the rugged terrain and because the small deposits do not often justify the extension of rails to a particular mine. As a result, in 1973, 68 percent of eastern Kentucky coal was hauled by truck. This is a dramatic increase from 1960, when 43 percent of eastern Kentucky coal was hauled by truck. This increase is partly due to the inflexibility of the railroads in meeting increased demand and partly to improvements in highways and trucks.

1. Railroads

In 1973, approximately 67.1 percent of the coal produced in the United States left the mines by rail, but only 30 percent of eastern Kentucky coal was transported by rail. Despite the recession and a fourth quarter deeply affected by a coal strike, rail coal traffic was up in 1974 as compared to 1973. Nearly 91 million tons of coal were shipped by rail in Kentucky in 1973, with 24 million tons moving initially by rail in eastern Kentucky. The three largest transporters of coal by rail in eastern Kentucky are the Louisville and Nashville (L & N), the Norfolk and Western (N & W), and the Chessie System (Chessie) which controls the Chesapeake and Ohio, the Baltimore and Ohio, and the Western Maryland railroads. In 1974, the N & W moved approximately 15 million tons from the eastern Kentucky area, while L & N moved 34 million tons.

Many problems plague rail transportation of coal: economic misfortune, deteriorating track, and old equipment, but

28 Kentucky Dep't of Transportation, supra note 3, at 25.
29 Kentucky Development Cabinet, supra note 2, at 47.
31 Kentucky Dep't of Transportation, supra note 3, at 26 (chart).
32 National Coal Association Transportation Report 88 (Summer, 1975) [hereinafter cited at Nat'l Coal Rep.].
34 Letter from J. E. Gobrecht, Vice President of L&N, to Peter Held, Sept. 29, 1975.
perhaps the greatest problem of all is a car shortage. The coal boom of late 1973 and 1974 produced a marketing problem with which the railroads were unable to cope adequately. New mine openings and increased production from old mines caused a car shortage.35

Undoubtedly the coal boom caught the railroads unprepared. In 1970 all railroads had 394,000 open top hopper cars, while by 1973 that figure had slipped to 373,000 and by 1975 to 343,000, a decrease of 13 percent representing a corresponding decrease of over 1 million net tons in the aggregate carrying capacity of those cars remaining. L&N showed the smallest decrease during that period, falling from 35,411 cars to 32,527. In the same period, N&W fell from 68,032 cars to 55,091 and Chessie from 82,168 to 71,098 cars.36 During 1973 no new or rebuilt hopper cars were added by these lines. In 1974 these 3 railroads added about 1600 cars but retired more than 9,000, more than offsetting the new ones. However, the new cars are somewhat larger than those replaced, so that the decrease in car numbers is not an accurate reflection of total carrying capacity.37 Thus, Kentucky carriers are moving to ease the car shortage, but these orders may not be filled due to material shortages and economic considerations.

A recent study indicates that between 1974 and 1990 there will be a need for between 250,000 and 370,000 new coal carrying cars.38 According to this report, builders will be able to meet these needs "provided that needed castings, forgings, sheet steel and other hardware currently in short supply can be acquired. The major finding related to freight-car manufacturing

35 The car shortage also creates a significant legal problem for the railroads under 49 U.S.C. § 1(12) (1970). This section requires equitable allocation of cars to the mines:
It shall also be the duty of every carrier by railroad to make just and reasonable distribution of cars for transportation of coal among the coal mines served by it . . . . During any period when the supply of cars available for such service does not equal the requirements of such mines it shall be the duty of the carrier to maintain and apply just and reasonable ratings of such mines and to count each and every car furnished to or used by any such mine for transportation of coal against the mine.
36 National Coal Association, Coal Traffic Annual 20 (1975) [hereinafter cited as Coal Traffic Annual].
37 Id. at 22.
38 Energy by Rail: How Many Cars for Coal?, 176 Railway Age, May 28, 1975, at 28 [hereinafter cited as Energy by Rail].
constraints is that material shortages alone are the major limiting factor in meeting future requirements.\textsuperscript{9} The study also analyzed the future willingness of railroads to expand their car capacities. There was concern that because freight revenue is not keeping pace with freight car investment costs, railroads will be hesitant to purchase new cars and will encourage shipper-furnished cars rather than rail-provided cars. In the period 1965-1972, the average revenue earned per ton increased by 27 percent, while the average freight car investment per ton increased by 41 percent.\textsuperscript{10} Railroads might find it difficult to raise the required capital because investors will logically fear that the coal market will be subject to sharp falls as well as rises.

One method of utilizing existing cars more efficiently would be to increase the use of the unit train. A unit train is a solid train of regularly assigned cars operated in a shuttle service under load from point of origin to destination and then empty from destination to point of origin, where the cars are reloaded for a subsequent run.\textsuperscript{11} The unit train minimizes turnaround time and eliminates needless switching and delay. In 1972, unit trains moved 9,522,000 tons of coal in eastern Kentucky; in 1973 the figure climbed to 12,197,000 tons.\textsuperscript{12} However, expanded use of the unit train is limited in eastern Kentucky by the nature of coal deposits, and the terrain there.

Unit trains are advantageous only where shipments are large and scheduled on a regular basis. Their use is generally limited to industrial plants which consume at least 150,000 tons of coal per year.\textsuperscript{13} Most eastern Kentucky mines are not large enough to maintain a flow of coal this large. In addition, the topography of eastern Kentucky limits the construction of loading and turning facilities for unit trains, because loading a unit train requires a long loop of track so that the train can be loaded without unhooking the cars. Many eastern Kentucky

\textsuperscript{9} Id. at 29.
\textsuperscript{10} Id. at 28.
\textsuperscript{11} See generally, From Mine to Market by Rail . . . The Indispensable Transport Mode, 79 Coal Age, July 1974, at 121 for a description of an operating unit train in Arizona.
\textsuperscript{12} Coal Traffic Annual, supra note 36, at 14.
\textsuperscript{13} Power from Coal, Part I, 118 Power, Feb., 1974, at S.11.
mines are located between hills in areas which do not have room for unit loading facilities, so that use of the unit train is impracticable.

Improved car utilization can also be achieved by monitoring car moves and inventory by computer. N&W and L&N have begun to use such computers to match up car supply and demand.

Increased use of unit trains and any possible alleviation of the car shortage will aid coal transportation in eastern Kentucky, but another significant problem remains. Extension of rails in eastern Kentucky is limited by geography, distribution of coal seams, and economic considerations. There are about 1700 mines in 31 eastern Kentucky counties, compared to about 100 mines in nine counties of western Kentucky. Of these 1800 mines, only 108 are considered large mines with production in excess of 200,000 tons per year, and most of the large mines are served by rail or are near a barge tipple.

Some of the mines in eastern Kentucky are strip operations, which move along the terrain so rapidly that railroad building cannot keep up with them. Many of the smaller underground mines work in seams small enough that the seam is exhausted fairly rapidly. For these reasons, it is not economically feasible for railroads to serve the small mines or the strip mines directly.

An additional problem is that railroads require the coal companies to pay investment fees for spurs in addition to rental fees and require guarantees that their expenditures will be profitable. In 1974 the L&N received 75 requests for spurs to mines whose operators and reserves were unknown; the railroad rejected all those requests.

Railroads are an indispensable method of moving coal but

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11 Kentucky Development Cabinet, supra note 2, at 27.
12 Id. at 3.
13 Id. at 47.
14 Interview with Robert Holcomb, President of Coal Operators and Associates, Inc., in Pikeville, Kentucky, June 20, 1975 [hereinafter cited as Holcomb interview].
15 Letter from J.L. Jackson, President of Falcon Coal Co., Lexington, Kentucky, dated October 28, 1975 [hereinafter cited as Falcon letter]; interview with Lawrence Kobitter, General Manager of Transportation for Island Creek Coal Co., in Lexington, Kentucky, September 16, 1975 [hereinafter cited as Kobitter interview].
16 Kobitter interview, supra note 48.
are too inflexible to meet all the current transportation needs of the coal industry. Railroads are not able to move coal directly from most eastern Kentucky mines, and those mines which are served by rail are hindered by a shortage of cars.\textsuperscript{50} As a result, a significant portion of eastern Kentucky coal will continue to be transported initially by truck.\textsuperscript{51}

2. Barges

Water is by far the cheapest method of transporting coal since it expends less energy in moving the coal than any other method. In 1973, 68,604,000 tons of coal were moved by water in the United States\textsuperscript{52} with the amount increasing yearly. Coal accounts for about half of the total tonnage carried on the Ohio River,\textsuperscript{53} and coal is also carried on the Tennessee, Green, Barren, Big Sandy, Cumberland,\textsuperscript{54} and Kentucky rivers.\textsuperscript{55}

Much of western Kentucky coal is moved by water,\textsuperscript{56} and water is assuming greater importance in eastern Kentucky because of its flexibility in meeting increased demand for more barges.\textsuperscript{57} In addition, the relative inflexibility of railroads, car shortages, and increased trucking costs have caused coal companies to resort to barges on the inland waterways to move their coal.

Each barge carries about 1500 tons and there can be up to

\textsuperscript{50} Federal regulations require the allocation of hopper cars to all mines on an equitable basis. This cannot force the railroad to build rails, however. Louisville Courier-Journal, Feb. 16, 1975, at A 18, col. 1.

\textsuperscript{51} \textit{Id. See also KENTUCKY DEVELOPMENT CABINET, supra note 2, at 47.}

\textsuperscript{52} \textit{NAT'L. COAL REP., supra note 32.}

\textsuperscript{53} \textit{Rail Transport Dominates . . . , 80 COAL AGE, Mid May 1975 at 98, 104. [hereinafter cited as 80 COAL AGE]. Total 1973 coal tonnage on the Ohio was 33,793, 072 tons. NAT'L. COAL REP., supra note 32 at 29.}

\textsuperscript{54} \textit{NAT'L. COAL REP., supra note 32, at 29.}

\textsuperscript{55} Interview with William F. Hughes, Vice-President of Sims & Heilbron Coal Corp., and with Robert C. Sims, President of Sims & Heilbron Coal Corp., in Lexington, Kentucky, September 3, 1975 [hereinafter cited as Hughes-Sims interview]. The Sims & Heilbron Coal Corp. is currently the only coal company using the Kentucky River. Interview with Larry Dickson, Chief of Waterways Management Branch of Operations Division of the U.S. Army Corps of Engineers, in Louisville, Kentucky, Sept., 9, 1975 [hereinafter cited as Dickson interview].

\textsuperscript{56} 80 COAL AGE, supra note 53, at 107.

\textsuperscript{57} Kobitter interview, supra note 48. Island Creek Coal Company conveys 12 percent of its coal directly to water to be barged. The company also uses a combination of railroads and barges on rivers and the Great Lakes. \textit{Id.}
30 barges on one tow on the larger rivers.\(^{58}\) Thus, each tow can move up to 45,000 tons which compares favorably with the 8,400 tons carried by most coal trains.\(^{59}\) Furthermore, four diesel engines are required to move the train, but only two are needed for barges,\(^{60}\) resulting in a substantial savings in fuel and investment in diesel engines.\(^{61}\)

However, the use of barges is not without problems. Barges are cumbersome and slow; average speed for a tow of only 15 barges is about 7 miles per hour.\(^{62}\) Increased river traffic creates navigational problems and waiting lines at locks.\(^{63}\) All rivers have certain depth and width limitations,\(^{64}\) and several present special navigational problems: the Kentucky River’s bends and numerous locks, and the Big Sandy River’s shallowness present examples of such problems.\(^{65}\)

Although not all of the problems associated with barges will be solved, several developments have increased their efficiency. One such advance is the stand-by tow, a procedure which allows more rapid loading of coal.\(^{66}\) Traditional methods of loading barges require that the barge be left at the mine and picked up when loaded. The wasted time involved in this procedure could amount to 2 days of potential travel time.\(^{68}\) The stand-by tow allows the tow boat to stay with the barge during the loading process. Three thousand tons of coal per hour may be loaded using this technique.\(^{69}\)

Another improvement in the barging business has been the development of the integrated tow. This refers to barges which have been designed to lock together in a manner which lessens

\(^{58}\) Id.

\(^{59}\) Each car can carry 70 tons, with a minimum average train length of 120 cars. Hughes-Sims interview, supra note 55.

\(^{60}\) Id.

\(^{61}\) Twice as much energy is required to transport coal by truck as by train, and eight times as much energy is required to transport coal by truck as by barge. Energy Networks, supra note 18, at 58.


\(^{63}\) Id.

\(^{64}\) Kobitter interview, supra note 48.

\(^{65}\) There is a suggested 9 foot draft on the Ohio and a 5 foot draft on the Kentucky. Dickson interview, supra note 55.

\(^{66}\) Hughes-Sims interview, supra note 55.

\(^{67}\) Baker interview, supra note 20.

\(^{68}\) Id.

\(^{69}\) Id.
their water resistance, thereby increasing fuel efficiency of the barges.\textsuperscript{70}

Another major problem with the use of barges is the antiquated system of locks and dams found on the inland waterways, especially on the Kentucky and Big Sandy Rivers.\textsuperscript{71} The Federal Energy Administration has placed the cost of improving critical locks and dams at about $3 billion for the entire United States.\textsuperscript{72} As energy needs expand, river usage will also expand, requiring at least a part of that sum to be expended to facilitate movement on these rivers.\textsuperscript{73} Increased barge traffic will increase backups at already busy locks unless steps are taken to modernize and speed up the "locking through" process. There should also be some regulation of traffic flow in order to harmonize industrial use with recreational boating and to avoid increased accidents and tie ups.\textsuperscript{74}

One river in the eastern Kentucky coal fields that could be made more navigable is the Big Sandy. Currently, the Big Sandy is navigable in a 9 foot channel for 6 miles upstream from its junction with the Ohio at Catlettsburg, and is navigable for an additional 9 miles in a 6 foot channel.\textsuperscript{75} Even this short distance has proved relatively important in transporting coal, as 412,300 tons of coal were moved on the Big Sandy in 1971.\textsuperscript{76} The Big Sandy's potential for transporting coal was recognized years ago, and efforts were made to render the river more navigable. In 1945, the Board of Engineers of the Army Corps of Engineers recommended that a 9 foot channel be constructed from the mouth of the Big Sandy to Russell Fork of the Levisa Fork and to Sprigg, West Virginia on the Tug Fork. Two new locks were recommended for the main channel of the river between Catlettsburg and Louisa, and four new locks on

\textsuperscript{70} Id. See also, \textit{Kentucky Development Cabinet}, supra note 2, at 46.
\textsuperscript{71} Hughes-Sims interview, supra note 55; Kobitter interview, supra note 48. See also \textit{Louisville Courier-Journal}, Feb. 18, 1975, at 8, col. 2; \textit{Lexington Herald-Leader}, March 23, 1975, at El, col. 7.
\textsuperscript{72} \textit{Louisville Courier-Journal}, Feb. 21, 1975, at B1, col. 1.
\textsuperscript{73} \textit{Coal Age}, supra note 53, at 107.
\textsuperscript{74} There is currently no coal moving on the Kentucky River, due partly to the bad locks and partly to an ill-fated attempt to move coal during the high-water season. Dickson interview, supra note 55. \textit{But see} \textit{Lexington Herald-Leader}, March 25, 1975 at El, col. 6.
\textsuperscript{75} Baker interview, supra note 20.
\textsuperscript{76} \textit{Kentucky Department of Commerce, Transportation in Kentucky} 14 (1973).
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each of the main tributaries. The channel width was to be 200 feet on the main channel and 150 feet on each of the tributar-
ies. 77

However, the project was opposed by the Norfolk & West-
ern, the Chesapeake and Ohio, the United Mine Workers, and congressmen and governors from Virginia and West Virginia. 78 Consequently, Congress did not approve the project and no further attempts have been made to canalize the river. 79

On the whole, increased barge use would be beneficial in terms of cost and energy used, although the problems of getting the coal to the river would still exist. Projects such as dredging the Big Sandy and building more loading facilities on Ken-
tucky's rivers 80 would improve transportation systems signifi-
cantly, and should be encouraged.

3. Pipelines

Another widely discussed but seldom used method of transportation is the coal pipeline. Use of this method requires that the coal be mixed with a water slurry. 81 In the "slurrification" process coal is crushed and mixed with water 82 in order to be floated through the pipes. 83 Upon arrival at its destination, the solution flows into a large mixer that spreads the coal particles throughout the water solution to facilitate dewatering and pulverizing in a centrifuge. 84

In the last 4 years the ton-mile capacity of coal pipeline systems has quadrupled. 85 There are now five pipelines in the

77 H. SCALF, KENTUCKY'S LAST FRONTIER 361 (1966).
78 Id.
79 Id. at 363.
80 According to a report entitled "Status of Entire Permanent File," made Aug. 14, 1975, giving statistics compiled by the Louisville District Operations Division there were 61 loading facilities on the Ohio River between Cairo, Illinois and Foster, Ken-
81 Super Mixers Condition Pipeline Slurry, 76 COAL AGE, May 1971, at 104. [hereinafter cited as Super Mixers].
83 Super Mixers, supra note 81, at 104.
84 Id.
85 Overland Belt Conveyors . . . Lowest in Cost When Tonnages are High, 79 COAL AGE, July 1974, at 89, 96 [hereinafter cited as 79 COAL AGE].
planning stages, and one presently operating 273 miles between a mine in Arizona and a power plant in New Mexico. This Black Mesa line runs at 99 percent efficiency and traverses land considered impassable by rail.

There are numerous problems associated with the use of pipelines, however. First, up to 15-20 percent of the coal is lost to dust in the crushing process, with only the higher grades retained as they are less likely to be crushed. Second, tremendous volumes of water are required, which leads to a disposal problem, since the carrying water is polluted. Third, several of the pipelines currently in the planning stages are being delayed by states which refuse to grant the right of eminent domain to the pipeline companies, thereby preventing the easy acquisition of land for the projects.

The most serious problem concerning pipeline usage, however, lies in the fundamental nature of the pipeline. A slurry line usually has no economical advantage over unit trains or direct transfer “of coal energy in the form of electricity via extra-high-voltage transmission lines” from utilities in Appalachia, unless a distance of more than 500 miles and a volume of more than 10 million tons of coal per year is involved. In addition, the coal would have to be moved to one central location and then still would have to be transported to the ultimate user. In addition, because of the large investment involved, most pipelines will run between one large mine and one consumer/power plant. However, eastern Kentucky mining is characterized by a large number of small mines, which are owned by different companies and located over a large area,
and by numerous consumers of coal from the same mine. Therefore, although pipelines may move large volumes of coal over long distances from supplier to user efficiently, they may not be very useful in eastern Kentucky because its mining does not involve long distances or single industrial users.

Western Kentucky currently has no need for pipelines because of easy access to water routes, but future expansion of coal reserves by strip mining may make it practical for large companies, such as Peabody, to construct pipelines to river terminals from their mines. Although pipelines are not in use in eastern Kentucky, currently deteriorating road conditions there and continuing problems of rail transportation may force coal operators to join together to build pipelines which would connect several mines with rail tipples in central Kentucky or barge terminals on the Ohio. If these pipelines become cheaper in comparison to rising costs of other modes of transportation, then it is likely that adjustments to the use of pipelines could be made. In that event Kentucky would have to consider whether to grant eminent domain and power for pipeline construction, and decide how to cope with somewhat greater unemployment.

4. Trucks

Despite the possibilities that exist for increased use of other methods of coal transportation, it is not realistic to consider coal transportation in eastern Kentucky without discussing the use of trucks. The shift to trucking as the primary mode of coal transportation, particularly evident during the 1960's, can be traced to four factors: (1) The self-limiting nature of rail lines, such as the inability to shift track to accommodate shifts in production areas; (2) the deterioration of the rail-

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24 See note 18 supra and accompanying text.
25 BUSINESS WEEK, supra note 86, at 36. Energy Transportation Systems, the developer for one of the presently planned pipelines, which will run 1,030 miles, much longer than any in Kentucky would have to run, estimates that only 75 workers will be needed to run this line. There would apparently be a shift in manpower needs if this method began reducing rail and trucking demand.
26 As an alternative to direct transportation of coal to the consumers, there have been some attempts to transmit electricity from power plants in eastern Kentucky to power plants outside the region. 80 COAL AGE, supra note 53, at 108, 109.
road's physical plants; (3) improved highways; and (4) larger and more efficient coal hauling trucks.\(^9\)

Trucking is playing a bigger role today than it did as recently as 8 years ago; between 1966-1969 the average annual tonnage transported by truck from eastern Kentucky was approximately 34 million tons, but during the 1970-1973 period the corresponding average tonnage increased to 50 million tons.\(^8\) The Department of Transportation credits this dramatic increase to three factors:

(1) increases in the number of trucks being used for coal hauling purposes, (2) increases in the frequency of coal haul trips per truck (previous 8 hour coal haul shifts have regularly been increased to 12, 16, and even 24 hour shifts), and (3) increases in the average coal load carried per truck trip . . . .\(^9\)

The explanation for the increase in the use of trucks in eastern Kentucky lies in the nature of the coal mines there. Mining in eastern Kentucky is done on a smaller scale than in western Kentucky. The average annual production per mine in eastern Kentucky is 52,331 tons, while in western Kentucky the average is 630,162 tons per mine.\(^10\)

A comparison of production figures from the state's two largest coal producing counties, Muhlenberg, in the west, and Pike in the east, illustrates the decentralization of eastern Kentucky mining operations. Muhlenberg County produced more than 24 million tons; Pike County was second with 18.9 million tons.\(^11\) However, Muhlenberg had only 17 mines operating in 1973,\(^12\) while Pike County had 347 mines operating that year, with only 5 producing more than 500,000 tons annually.\(^13\)

Many of the smaller underground mines work in small seams, so that operators deplete the coal from that seam and move on to a new mine fairly rapidly. The truck is the only mode of transportation that suits the needs of these operators;

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\(^9\) Kentucky Dept of Transportation, supra note 3, at 25-7. See also Spindletop Research, Inc., Kentucky's Coal Transportation 18 (1975) [hereinafter cited as Spindletop].

\(^8\) Kentucky Dept of Transportation, supra note 3, at 27.

\(^9\) Id.


\(^11\) Id. at 79.

\(^12\) Id. at 87.

\(^13\) Id.
in fact, of the 41 million tons produced by eastern Kentucky underground mines, 20 million were moved by truck.\textsuperscript{104} Because the coal has to be moved by truck from the mine to the rail tipple, a centralized collection point where the coal from several mines is loaded into rail cars, more tons of coal are moved initially by truck and fewer tons are moved initially by rail than is the case in western Kentucky.

Another factor which helps explain the extensive use of trucks to move coal in eastern Kentucky is the large amount of surface mining done there. Seams of coal in eastern Kentucky are considerably smaller than those in western Kentucky; indeed, many of the strip operations move along the terrain so rapidly that no railroad building could keep pace with them. In 1973, 32.8 million tons of coal were surface mined in eastern Kentucky, approximately 44 percent of the total amount mined there that year,\textsuperscript{105} and 29.9 million tons of the total were initially moved by truck.\textsuperscript{106} Although 58 percent of western Kentucky's coal was strip mined, a smaller proportion of that coal was initially transported by truck. Two factors are responsible for the more limited use of trucks in western Kentucky: the general geography of the region and heavy concentrations of coal within a given area justifying the construction of railroad sidings up to the mine openings.\textsuperscript{107}

Another development contributing to the increased use of trucks to transport coal in eastern Kentucky is the advent of larger trucks. Twenty years ago, the most commonly used coal hauling truck was the so-called "ton and a half" truck—a truck which would haul about 15,000 pounds of coal.\textsuperscript{108} The ton and a half is much less important in coal transportation now because trucks currently in use can carry 50,000-60,000 pounds of coal.\textsuperscript{109} The crucial differences between eastern and western Kentucky coal, the number, size, and mobility of the mines, determine that, while many of the mines in western Kentucky

\textsuperscript{101} Id. at 79.
\textsuperscript{102} Id. at 4-5.
\textsuperscript{103} Id.
\textsuperscript{104} Id., at supra note 97, at 18.
\textsuperscript{105} Interview with Robert Holcomb, President of Coal Operators & Associates, in Pikeville, Kentucky, June 20, 1975 [hereinafter cited as Holcomb Interview].
\textsuperscript{106} Interview with Paul Patton, President of Kentucky Elkhorn Coals, Inc., in Virgie, Kentucky, June 9, 1975 [hereinafter cited as Patton Interview].
are large enough to justify the construction of railroad sidings right up to the mine face, there are comparatively few mines for which this is true in eastern Kentucky. Thus, in eastern Kentucky, the coal has to be moved by truck from the mine to the rail tipple, which is a centralized collection point where the coal from several mines is loaded onto the rail cars. The end result of this process is that many more tons of coal are moved initially by truck and many fewer tons are moved initially by rail in eastern Kentucky than in western Kentucky.

The statistics verify this conclusion. Over 24 million tons were moved by rail and 50 million tons by truck in eastern Kentucky as opposed to 41 million by rail and 12.5 million by truck for western Kentucky.¹¹⁰

Because of the greater flexibility of trucks and the inherent economical limitations on the extension of other forms of transportation, the inescapable conclusion seems to be that trucks will continue to be the primary method of initial transportation of coal in eastern Kentucky.

III. Problems Associated with Trucking

Trucking has produced two significant problems: violation of the state highway regulations and major damage to the highways. There are numerous statutes and regulations that govern trucking, but a lack of effective enforcement of these laws in eastern Kentucky prevents the laws from minimizing damage to the roads.

A. Statutes and Regulations

The only regulations imposed on the trucker operating in Kentucky are registration requirements and dimension and weight limitations for motor vehicles operating on state roads. The maximum weight limitation, which is primarily within the control of state government but is also affected to some extent by federal legislation, is crucial to any system which regulates trucking because it has such an important effect on road conditions.

The Federal-Aid Highway Act of 1956 provides that no funds appropriated under § 108(b) of the Act can go to a state that allows vehicles with weight in excess of 18,000 pounds per axle, or 32,000 pounds per tandem axle, or 73,280 pounds gross weight to use the interstate system within the borders of that state. The Act was amended in 1974 to increase the weight limits to 20,000 pounds per axle and 34,000 pounds per tandem axle, with a maximum gross weight of 80,000 pounds. It also established a formula for determining gross weights. Kentucky's regulations are currently in technical compliance with the formula.

The Kentucky statute sets a maximum weight limit of 20,000 pounds per single axle, and 82,000 pounds gross but allows the Secretary of Transportation to set the exact weight limits for state roads up to these established maximums. The Secretary has classified state maintained roads as “B”, “A”, “AA” and “AAA” and has assigned maximum weights to each classification.

The current gross weight limits, revised in early 1975 to give effect to the new federal guidelines, are 30,000 pounds on

\[
W = 500 (N-1 + 12N + 36)
\]

Where \(W\) = overall gross weight on any group of two or more consecutive axles to the nearest 500 pounds, \(L\) = distance in feet between the extreme of any group of two or more consecutive axles, and \(N\) = number of axles in the group under consideration, except that two consecutive sets of tandem axles may carry a gross load of 34,000 pounds each, providing the overall distance between the first and last axle of such consecutive sets of tandem axles is 36 feet or more. 23 U.S.C. § 127 (1975).

Kentucky's weight law was changed on January 1, 1976 to comply with the federal provision. However, another federal provision, 23 U.S.C. § 141 (1975), requires that a state certify that it is enforcing its weight laws on roads which receive federal aid. Kentucky's certification was made without any effective enforcement provision.

class "B" highways,115 44,000 pounds on class "A"116 highways, 62,000 pounds on class "AA" highways,117 and 80,000 pounds on class "AAA" highways.118 However, these limits are subject to change, and the Bureau of Highways, with respect to state and federal highways, and the county courts or judges, with respect to county highways, may prescribe load limits lower than the maximums.119 Kentucky Revised Statutes § 189.270 (hereinafter cited as KRS), empowers the Department of Highways to prescribe regulations for the issuance of permits to operate overweight trucks on the highways.120

In order to provide broad enforcement powers, Kentucky authorizes all peace officers to weigh trucks to determine whether they are overweight. They are further empowered to require the operator of an overweight truck to unload the excess.121 The penalities established for violation of the weight laws vary according to the amount of excess weight, but in no case may the penalty exceed $500.00.122

115 603 KENTUCKY ADMINISTRATIVE REGULATIONS 5:065 § 4(1) (1975) [hereinafter cited as KAR].
116 603 KAR 5:065 § 3(1) (1975).
117 603 KAR 5:065 § 2(1) (1975).
118 Since 603 KAR 5:065 does not contain the federal formula described in note 112 supra, the regulations could be construed as invalid under KRS § 189.222 (1), which exceed federal law. Alternatively, the federal formula could be construed as being contained in the regulations by implication from KRS § 189.222(1).
120 KRS § 189.270 (1970). 603 KAR 5:075 § 1 (1975) provides that the permit shall be issued at the discretion of the Department of Transportation when it “is necessary to provide transportation for specified cargo [and for a specified length of time] in the interest of the health, welfare and economy of the people.” Application of this section was limited to emergency situations in Hancock v. Terry Elkhorn Mining Co., 503 S.W.2d 710 (Ky. 1973). But see KRS § 189.271 (Supp. 1974), which allows the Department of Transportation to issue special permits for hauling industrial materials, including coal, in overweight vehicles up to the gross weight as provided in KRS § 189.222 (82,000 pounds).
121 KRS § 189.223 (1971).
122 KRS § 189.990 (Supp. 1974) establishes penalties as follows:
(2)(a) Any person who violates the weight provisions of K.R.S. 189.221, 189.222, 189.230, 189.270 or 189.271 shall, upon conviction, be fined in an amount equal to two cents (2 cents) per pound for each pound of excess load when the excess is 2,000 pounds or less, three cents (3 cents) per pound when the excess exceeds 2,000 pounds and is 3,000 pounds or less, five cents (5 cents) per pound when the excess exceeds 3,000 pounds and is 4,000 pounds or less, seven (7 cents) cents per pound when the excess exceeds 4,000 pounds and is 5,000 pounds or less, and nine (9 cents) cents per pound when
An indirect method of regulating coal transportation by truck is found in the system of permit and license requirements with which mine operators must comply. KRS § 350.060(1) provides that "No operator shall engage in strip mining without having first obtained from the department [Department of Natural Resources and Environmental Protection] a permit . . ." The application for this permit must contain, among other things, a description of access to the area from the public highway system, and, more importantly, a transportation plan. Similarly, a license to operate a deep mine requires submission of a plan. Under the present system, the highway engineer in each district must examine the proposed plans for compliance with weight limits on the proposed routes, and must approve the plans before a mining permit can be issued.

B. Enforcement

Even though Kentucky's current law concerning weight limits imposed on motor vehicles is comprehensive and probably sufficient, the beneficial effect of the limits is not seen because the law is not adequately enforced.

KRS § 189.227 gives the Bureau of Highways the power to establish weigh stations and to employ weighmasters to enforce the weight laws. The weighmasters not only operate the weigh stations but may also operate throughout the state with portable scales. In addition, all other peace officers are empowered to stop suspected vehicles and require them to be weighed either by a portable scale or by a stationary scale within 5 miles of the scene. There are, however, few stationary scales, and few peace officers, other than those of the Department of Transportation, have portable scales. As a result it is primarily the Bureau of Highways of the Department of Transportation that is attempting to enforce the weight regulations on Kentucky's roads. The Department of Transportation is
hampered in its enforcement efforts, however, because final disposition of citations issued by the Department’s officers is made in the courts, and the county quarterly courts have appeared reluctant to convict the operators of overweight trucks.

In the eastern Kentucky coal region, there were 2,746 overweight citations issued in 1974 with 499 convictions,\textsuperscript{128} compared to 3,216 overweight citations and 2,311 convictions\textsuperscript{129} for the remainder of the state. This is a conviction rate of 18 percent for eastern Kentucky as opposed to 72 percent for the rest of the state. For example, in Magoffin County there were 138 overweight citations issued in 1974 but only one conviction (.72 percent).\textsuperscript{130} In Letcher County, from January to October of 1974 there were 74 citations issued, but only 10 fines were imposed, and no fine exceeded $32, even though some of the vehicles weighed over 100,000 pounds.\textsuperscript{131} In Owsley County, the county judge and former county patrolman have been indicted for allegedly extorting payments from coal companies to prevent enforcement of weight and speed laws.\textsuperscript{132} Furthermore, some

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\textsuperscript{128} Table compiled from unpublished figures supplied by Lt. Colonel Milton H. Montgomery of the Kentucky Department of Transportation to Walter Morris in a personal letter, Sept. 30, 1975, on file with Ky. L.J.

\textsuperscript{129} Id.

\textsuperscript{130} Id.

\textsuperscript{131} The Mountain Eagle, Jan. 16, 1975, at 1, col. 4, and at 20, col. 4. Letcher County’s total conviction rate for 1974 was 17.6 percent, with an average fine of $38.40. The Mountain Eagle, June 19, 1975, at 3, col. 5. The highest overweight fine was $27, and the lowest was $6.00. The Mountain Eagle, August 7, 1975, at 9, col. 4.

\textsuperscript{132} Lexington Leader, Oct. 17, 1975, at 1, col. 2 (home ed.). It has been alleged that the Magoffin County sheriff enforces the regulations against competitors while allowing trucks leased to his own company to operate freely. The competitors are thus forced to sell their coal to his company at reduced rates. Louisville Courier-Journal, April 21, 1975, § 1 at 1, col. 3. In other cases it appears that there has been collusion between officials and truckers. The Letcher County Judge called a meeting for truckers which was presided over by the County Judge Pro Tem. He told the truckers “You’re not going to be fined in Letcher County Court as long as you stay within the (license) tag limit and keel the hump (of coal) down on your truck. . . . We’re not telling you that’s lawful, but we’re telling you that’s how we can go along with you boys.” The persons at the meeting emphasized the need to keep the press from finding out about it.
counties, including Martin, Owsley, Knott, Leslie and Harlan, show no 1974 convictions. It is apparent that weight limits are not being enforced by local authorities in eastern Kentucky. To help correct this problem, the General Assembly enacted KRS § 189.272 (Supp. 1974) which states: "The circuit court where the offense occurred shall have venue and jurisdiction with the courts of this commonwealth of all prosecutions for violations of the weight provisions. . . ." This provision will give the circuit courts a chance to examine more of the overweight citations. It is unclear whether it will bring about more effective enforcement.

Civil remedies offer another method of enforcement. The Department of Transportation has filed lawsuits in Pike and Clay Circuit Courts to attempt to recoup damages for repair of roads which were damaged by overweight trucks. The Clay County suit is pending in the circuit court, but the Pike County suit was dismissed. A similar suit was filed in Perry County but was dismissed with no appeal by the Commonwealth. There are no plans to bring any further suits. This would seem to indicate that pressure is being applied to prevent the enforcement of weight laws in the circuit courts, since a judgment for the state would be far in excess of any fines imposed in county court.

One of the reasons for the reluctance of local officials to

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133 The Mountain Eagle, June 19, 1975, at 3, col. 5.
135 Louisville Courier-Journal, June 29, 1975, § 1, at 1, col. 1. The Pike County suit was dismissed on Dec. 16, 1975, because, according to Transportation Secretary John Roberts, the suit was too cumbersome and involved too many defendants. Louisville Courier-Journal, Dec. 17, 1975, § A, at 1, col. 1.
136 Louisville Courier-Journal, June 29, 1975, § 1, at 1, col. 1.
enforce weight limits strictly lies in the economic dependence of eastern Kentucky on the coal industry.\textsuperscript{137} This dependence is caused by the lack of industrial diversification in the region. In addition, the coal trucking industry in eastern Kentucky is very price-competitive with most of the trucks owned by individuals or small firms. The individual's truck is more often than not his sole means of livelihood. The larger mines prefer to have the coal hauled by these independent contractors because it is cheaper.\textsuperscript{138} Since the transportation industry is affected by changes in the demand for and price of coal, a decrease in either necessarily dictates a decline in what the trucker will receive for hauling coal. This, in turn, prompts the hauler to seek a cheaper means of hauling coal, which in the past has always meant a larger, and usually overweight, truck. In such situations, a county judge is not likely to force the trucker to pay substantial fines for weight violations, especially if cumulatively they would result in the loss of the trucker's livelihood. A means of earning a living is especially important in eastern Kentucky, where chronically high unemployment exists.

Such widespread disregard for the statutes and regulations creates a clear legal problem. It also has an impact on Kentucky's highway system.

C. Road Damage

The result of allowing overweight coal trucks to operate on eastern Kentucky roads has been a reduction in road quality to such an extent that not only is the coal industry's ability to move its product seriously affected,\textsuperscript{139} but so are most other

\textsuperscript{137} One eastern Kentucky county judge explained this in these terms: You have to understand that this is something that people from this part of the state have learned to live with. People who haven't lived here just don't understand how important coal is to us. Telephone interview with Wayne Rutherford, Pike County Judge.

\textsuperscript{138} KENTUCKY DEVELOPMENT CABINET, \textit{supra} note 2, at 49, 50. This method allows the coal operators to concentrate solely on the mining operations. A private truck owner will work harder and take better care of his truck. However, in order to make more money, the coal hauler must haul more coal. Therefore, there is incentive for hauling loads as heavy as the truck will carry and for traveling as quickly as possible. Fines for these abuses are often kept low by counties and are considered part of the cost of doing business. \textit{Id}.

\textsuperscript{139} KENTUCKY DEPT OF TRANSPORTATION, \textit{supra} note 3, at 27.
types of local transportation. Coal is currently being hauled on 4,383 miles of Kentucky’s highways, of which 85 percent are under state maintenance. Approximately 85 percent of these state maintained coal haul roads in eastern Kentucky are deficient because of normal deterioration accelerated by heavy hauling. Greater construction costs in the mountains, combined with limited availability of funds, have contributed to the deficiency. "The final result is a ‘road’ which neither adequately serves the local resident nor the trucker." About 420 miles of Kentucky coal haul roads in 14 eastern Kentucky counties have been so severely damaged as to require immediate attention, and a 21.5 million dollar appropriation has been made from state funds to rebuild these roads.

IV. ALTERNATIVES TO PRESENT MODES OF ENFORCEMENT

A. Strict Enforcement

Strict enforcement of the highway weight limits is an alternative to the current situation which may become necessary. In 1975, the federal government enacted legislation which requires that each state certify that it is enforcing all state laws regarding maximum vehicle size and weights. Failure to make this certification can result in loss of federal funding for highway construction. This law seems to require that the state take effective measures to keep overweight trucks off federally-

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140 Id.
11 Executive Briefing on Kentucky Coal & Its Transportation Impacts, Jan. 22, 1975, at 5.
12 Id.
13 Id.
14 Id.
15 Id.
16 Louisville Courier-Journal, April 15, 1975, § B at 1, col. 1.
148 23 U.S.C. § 141 (Supp. 1975). "Each State shall certify to the Secretary before January 1 of each year that it is enforcing all State laws respecting maximum vehicle size and weights permitted on the Federal-aid primary, the Federal-aid urban system and the Federal-aid secondary system, including the Interstate System in accordance with section 127 of this title, and all speed limits on public highways in accordance with section 154 of this title. The Secretary shall not approve any project under section 106 of this title in any State which has failed to certify in accordance with this section."
aided roads. However, since the present conviction rate in Kentucky is 47 percent, there does not appear to be effective enforcement. Unless the 1975 statistics show a significant improvement in the number of convictions or, at least, a significant decrease in the number of overweight trucks on the road, Kentucky may be faced with federal sanctions or the Federal Department of Transportation will not be complying with the legislative intent of the federal law. Such an eventuality is unlikely, however. John C. Roberts, Kentucky's Secretary of Transportation, has certified Kentucky's current program of law enforcement. The impetus for more effective enforcement probably will not come from forced compliance with federal standards, and the reluctance of local officials to enforce weight limits is clear.

In fact, there are substantial arguments against a system of strict enforcement of highway weight limits. Such enforcement would result either in running large trucks nearly empty or in the increased use of smaller trucks such as the one and a half ton truck. In either case, the cost of moving coal would increase substantially. Currently, transporting coal by truck costs between 6 and 7 cents per ton-mile. The cost of moving coal in a smaller truck would be approximately twice the cost of hauling it in a larger truck and would be less energy efficient. Further, increases in cost could affect the ability of Kentucky coal to compete with other sources of supply. Coal from the western United States is in some instances already competitive with eastern Kentucky coal and the share of the

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119 Chart provided by the Department of Transportation with 1974 figures available on file in Ky. L.J. office.
120 Letter from John C. Roberts, Secretary, Kentucky Department of Transportation to Ky. L.J., Sept. 23, 1975: "I will provide certification for Kentucky since I am designated as the Governor's representative for Highway Safety as well as Secretary of the Department of Transportation . . . I personally feel that we have a sound program and will not be faced with sanction by Federal DOT." This certification was made in late December. Louisville Courier-Journal Dec. 21, 1975 at 1, col. 4.
121 Strict enforcement might result in the use of smaller trucks since the penalties paid for weight violations are not deductible for United States tax purposes, whereas increased expenses incurred by using smaller trucks would be deductible as a necessary expense for the operation of a business. Hoover Motor Express Co. v. United States, 356 U.S. 38 (1958); Inr. Rev. Code of 1954, § 162(a) and (f).
122 Patton interview, supra note 109.
123 Kentucky Development Cabinet, supra note 2, at 58.
market held by western coal can be expected to increase with each rise in the price of Kentucky coal. On the other hand, western United States coal is lower in quality than Kentucky coal. This factor, combined with the increased distance involved, may militate against a substantial drop in demand for Kentucky coal. "[A]ll evidence suggests that the demand for eastern Kentucky coal is highly inelastic so that increases in costs (as long as they are uniform throughout the mines in the area) can and will be passed on without difficulty to those who buy it."

A decision to enforce weight limits strictly should not be made without careful consideration, however, in light of its possible adverse economic effects on the coal industry.

B. Civil Actions

One possible method of achieving compliance with weight regulations is the expanded use of civil actions for damages. Using a tort theory, the Bureau of Highways was able to win a judgment against a coal truck operator who drove his truck with a 63,000 pound load over a bridge that was limited to 30,000 pound loads, causing the bridge to collapse. The Court allowed the Bureau to recover damages equal to the fair and reasonable value of the bridge destroyed.

Although this will

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154 Western U.S. Coal from Colorado is similar to eastern Kentucky coal, however, Id.
155 C. Harvey, The Economic Impact of Enforcing Weight Restrictions on Eastern Kentucky Roads 99 (1971). The author also states:
So long as there exists a shortage of coal, increased costs of production such as those generated by payments for the use of common property roads, can be passed on to prospective buyers without difficulty and without detriment to the industry or region that incurs the cost.
Id. at 104.
Although the market structure of the coal industry has changed drastically since Professor Harvey's report was written in 1971, he believes that conclusions remain valid. Because of the uncertainty of supply and unavailability of oil and natural gas, the demand for and the price of coal have risen dramatically. As a result, profits have increased and coal operators can afford to bear the costs of shipping the coal in smaller, legal trucks. Interview with C. Harvey, Sept. 17, 1975.
156 Commonwealth Dep't of Highways v. Pine Coal Co., 414 S.W. 2d 134 (Ky. 1967).
157 Id. at 136. Enactment of the Uniform Vehicle Code would provide statutory authority for the state to collect such damages. Section 14-114 provides, *inter alia*,
(a) any person driving any vehicle, object or contrivance upon any highway or highway structure shall be liable for all damage which said highway or
not deter violations as much as if damages were measured by replacement cost, it does, at least, force the trucker to bear part of the cost of repair. In addition, this remedy can be pursued in spite of the unwillingness of local officials to prosecute weight violations.

There is also authority for counties to maintain direct action for damages to their roads. Greenup County v. Mayfield & Big Sandy Railroad Co. held that a county, as a quasi-corporation, could sue for damages based on destruction to its roads. However, the past enforcement record of the counties indicates that this will not be an effective remedy.

In addition to actions for damages, private citizens and certain public authorities may also make use of the injunction. By statute, the Department of Transportation is empowered to seek injunctive relief against the operators of overweight vehicles, and private citizens may sue to enjoin the continued operation of overloaded trucks. Private citizens may also rely on common law nuisance theories to seek injunctive relief or damages.

In Hancock v. Terry Elkhorn Mining Co., a number of citizens and residents of Johnson County, Kentucky, filed a class action suit to enjoin the company and other named individuals from hauling coal on Kentucky highways 302 and 1107 in overweight vehicles. The Attorney General intervened, and on appeal his right to do so was upheld on the basis of the public interest involved:

The Attorney General, as chief law officer of his Commonwealth, charged with the duty of protecting the interest of all the people, the traveling public, the school children in the school buses, and the very existence of the roads, had such a vital interest in this litigation that he had a right to intervene at least insofar as the public issues advanced in the action were involved.

structure may sustain as a result of any illegal operation, driving or moving of such vehicle, object or contrivance, or as a result of operating, driving or moving any vehicle, object or contrivance weighing in excess of the maximum weight in this act but authorized by a special permit . . . .

158 11 S.W. 774 (Ky. 1889).
159 Id.
160 KRS § 281.790 (1971).
161 503 S.W.2d 710 (Ky. 1973).
162 Id. at 715. The court relied on KRS § 189.270, after examining KRS § 189.221,
This statement could be interpreted to indicate that in addition to intervening in a private action, the Attorney General could individually initiate an action for injunctive relief.

In the Hancock case, the plaintiffs introduced evidence as to the operation of overweight trucks on the highways and the existence of a public nuisance. The defendant did not offer any evidence but was granted a continuance, during which it applied for and obtained a special overweight permit, issued by the Highway Department pursuant to KRS § 189.270, and submitted it to the court. The circuit court upheld the validity of the permit, but the Court of Appeals reversed, holding that the overweight permit was void because the Department of Highways could issue special permits under the statute in question only before the hauling was done, and only in emergency or unusual situations, neither of which was present in this case.

The Court in its analysis of the conduct of the defendant stated:

Employees of Motor Transportation testified that they had never weighed a truck on either of said highways which was not overweight. None of the offending drivers or truck owners were ever convicted of operating in excess of the legal load limit . . . [A]n employee of the Department of Motor Transportation testified that some of the trucks he had weighed exceed the posted load limit of 24,000 pounds by as much as 49,000 pounds and that the trucks were so heavily loaded that on occasions the scales being used were caused to sink into the asphalt pavement.

As to the plaintiff's request for injunctive relief, the Court stated:

189.222, and 189.230. But see KRS § 189.271 (Supp. 1974), which provides in part: Notwithstanding any other provision of laws, the department of transportation may issue special permits to the owners, operators or lessees of motor vehicles for the purpose of hauling industrial materials whose gross weight, including vehicle and load, exceeds the limits prescribed by this chapter or which in other respects fail to comply with the requirements of this chapter . . . and shall be upon such terms and conditions as the department may, in its discretion, require in the public interest.

Hancock v. Terry Elkhorn Mining Co., 503 S.W.2d 710 (Ky. 1973).

Id. at 718-19.

Id. at 714.
It is true that we have held upon a number of occasions that the commission of a crime will not be enjoined, as the statute itself constitutes an injunction. However, even though the activity complained of is illegal, if it constitutes a public nuisance injunctive relief will be granted. This court is of the opinion that the operation of the trucks hauling Terry Elkhorn coal in the manner described in the record definitely constituted a public nuisance. We have held that a noisy business operating at night in a residential community was a nuisance, although the business itself was not a nuisance. . . .

The Court also found the authority to grant injunctive relief in KRS § 281.790. It further held that the company was obliged to repair the roads to the "extent of placing them in the same condition that existed at the time of entry of the judgment of the lower court." The Court based this requirement on contractual obligations entered into with the Department of Highways by the Company as a condition for the issuance of the overweight permit. The Court held the contractual obligations still in effect even though the overweight permit was void.

This contractual principle, coupled with a nuisance theory and with the theory underlying the decision of Kentucky Department of Highways v. Pine Coal Co., could open the way to allow recovery from the perpetrators of highway damage.

C. Statutory Revision

Certain statutory changes might facilitate enforcement of weight limits. One of the existing statutes previously discussed, KRS § 189.223, allows peace officers to force the trucker to unload any excess weight. However, as it is now written this statute seems to imply that even though the officer may require a vehicle to be unloaded, the operator has the choice of whether this unloading will occur at the scene or at "the nearest city or nearest court having jurisdiction . . . ." The statute should be rewritten to give the law enforcement officers express power

166 Id. at 719.
167 Id. at 721-22.
168 414 S.W.2d 134 (Ky. 1967). See note 156 supra and accompanying text.
169 KRS § 189.223 (1971).
170 Id.
to force the operator of an overloaded truck to unload at the scene, or, at the officer’s discretion, at a reasonable place near the point of apprehension.\textsuperscript{171} This section would then operate as a much stronger deterrent given the fact that the operator, if caught overloaded, would be forced to bear the cost of unloading, securing, and reloading the excess poundage.\textsuperscript{172}

Alterations in the penalty provisions would also operate as increased deterrents to overweight hauling. Under the current provisions there is a maximum fine of $500.\textsuperscript{173} This chapter should not include a ceiling on fines. Similarly, the statute stops increasing its “cents per pound overweight” formula at 5,000 pounds. This could be altered to continue the graduated fines beyond the current 9 cents maximum.\textsuperscript{174} Although the existing statute purports to discourage large excesses by the use of larger cent per pound fines at higher weights, in fact it encourages extremely large excesses. For example, a truck loaded with 70,000 pounds of coal, traveling on a class “B” highway, would be required to pay only the maximum fine $500 instead of the $2,000\textsuperscript{175} that would be due if the fine were computed without a maximum. As a result, it is to the advantage of an operator whose truck is overloaded to have it as overweight as possible. So long as the load is more than 5,555 pounds, the lower the fine per pound.

\textsuperscript{171} Uniform Vehicle Code § 14-111 recommends the following:

\begin{itemize}
  \item \textbf{(b)} Whenever an officer upon weighing a vehicle and load . . . determines that the weight is unlawful, such officer may require the driver to stop the vehicle in a suitable place and remain standing until such portion of the load is removed as may be necessary to reduce the gross weight of such vehicle to such limit as permitted under this chapter. All material so unloaded shall be cared for by the owner or operator of such vehicle at the risk of such owner or operator. \textit{See}, e.g., \textit{Fla. Stat. Ann.} § 136.200.
\end{itemize}

\textsuperscript{172} We would subvert the statutory scheme if we held that the driver of an overweight vehicle has the unqualified right to continue his unlawful use of the highways once he has received a citation . . . .

The issue of suitability of location [for an overweight vehicle to unload] is more properly determined by the traffic officer than the trucker who has violated the law. Kramer v. Superior Court, 48 Cal. Rptr. 897, 898 (1966).

\textsuperscript{173} KRS § 189.990 (1971).

\textsuperscript{174} \textit{Id.}

\textsuperscript{175} Computed as:

\begin{itemize}
  \item \textit{(Actual gross weight – allowed gross weight)} 5 cents
  \item \textit{(70,000 – 30,000)} 5 cents
  \item \textit{(40,000)} 5 cents = $2,000.
\end{itemize}
Changes in the license and permit statutes to extend the requirements for transportation plans to the entire period during which the mine operates rather than simply prior to the opening of the mine would also assist in the enforcement of weight limits. In fact, the preface to the Act refers to "an act relating to the weight limits for transportation of industrial materials" and suggests a legislative intent that the bill have some effect in dealing in transportation problems. There is no such effect under the present program because it is possible to provide the state government with a complying plan, and then to haul weights in excess of the limit. Currently KRS § 350.130 allows suspension of a permit if the statutory provisions are not complied with, and renders coal operators ineligible for further permits if they do not comply with the requirements for all permits issued them. The legislature could broaden this section so that it would include jurisdiction throughout the mining operation rather than only initially and give the Department of Natural Resources and Environmental Protection the power to force compliance with the submitted transportation plan by allowing revocation of licenses if mine operators do not comply with weight limitations.

In addition to action that could be taken at the state level, Congress could act within the commerce clause to empower the Interstate Commerce Commissions to proscribe weight limits even on state roads in order to assure the unrestricted flow of interstate commerce. However, neither changes in state nor federal law will reach the major problems—the unwillingness of local officials to enforce the weight limits. Increasing allowable fines and giving peace officers more power will not force the local courts to convict violators or to impose heavier fines.

D. Venue and Standing Revision

Revision of venue provisions applicable to prosecutions for overweight trucks would have potential impact in the struggle
to achieve compliance with weight limits. It is possible that if such prosecutions were not handled in eastern Kentucky, then enforcement would comply more closely with what the statutes envision. There is some precedent for venue provisions of this kind, and it would be a big step toward eliminating the bias that is found in regions economically and politically bound to the coal industry.

However, neither venue nor standing revision is likely to occur because of political opposition and the administrative difficulties involved. The proposed changes are based on the assumption that the coal industry should be solely liable for any damage done to the highway system. It is likely that increased expense to the industry would merely be passed on to the consumer in the form of higher prices, and as previously discussed, it is possible that such an increase would result in adverse economic consequences to the eastern Kentucky coal industry.

E. Highway Improvement

1. Extent of Improvement Necessary

The most positive step that can be taken to alleviate the problems caused by overweight trucks in eastern Kentucky is the improvement of the existing highway system. Much of the current road destruction has resulted because the roads in eastern Kentucky were poorly constructed without proper roadbeds, drainage ditches, or surfacing. As a result, simply repairing state maintained coal haul roads to their original condition would not solve the problem. Furthermore, the roads have not been properly maintained. The cost of restoration would be $58,400,000 in eastern Kentucky alone, and annual maintenance after restoration would cost $33,300,000, with 89 percent of this amount for eastern Kentucky. Even so, the restored roads would be rapidly chewed up again.

A more practical long-range plan would be to upgrade the

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182 KRS § 350.990 (Supp. 1974) provides for concurrent venue in Franklin Circuit Court for violations of the strip mine regulations.

183 See notes 148-155 supra and accompanying text.

184 Hughes-Sims interview, supra note 55.

185 KENTUCKY DEP’T OF TRANSPORTATION, supra note 3, at 49.
roads from their present structural condition to a point at which they could support heavy coal loads (80,000 pounds). The cost of such a program would be $474 million which represents the cost of structurally improving the existing road system without increasing the physical dimensions of the road or the right-of-way.

In addition to the state maintained highways, there are 610 miles of local roads currently used for hauling coal. The cost of upgrading these roads to a reasonably maintainable traffic-bound facility is estimated at $86 million.

A much more ambitious project would involve reconstructing or relocating deficient roads to meet an approved standard design for roads carrying 80,000 pound traffic. The cost of this project would be $2,255 million, and would involve much more than roadbed improvement. The plan envisions increased width, possible relocation, and acquisition of rights-of-way. Such an ambitious plan, however, is not necessary to the transportation of coal. To illustrate, while it is more convenient to haul coal on a straight, wide road, it can be done on a narrow, winding road, provided that the road is strong enough not to buckle under the truck's weight.

A state study recommended full upgrading for the most important and heavily traveled portions of the state highway system, while restoring the rest of the system to structural standards suitable for coal hauling and maintaining all roads. Included in the classification of full upgrading is the state primary system which consists of 791 miles of the most heavily traveled roads. The estimated cost of fully upgrading these roads to approved standard design, which includes widening and strengthening sufficiently to haul heavy industrial materials, is $679 million. The remaining 3,952 miles of coal haul roads would be improved to structural standards only at a cost of $373 million.

The cost of maintaining these roads would be $33,300,000 annually, of which 75 percent is directly attributable to coal.

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184 Id. at 48, 49.
185 Id. at 51, 53. However, although the roads would be repaired, they could not bear the strain of carrying coal.
186 Id. at 48, 49, 53.
187 Id. at 59.
hauling. The study recommends that only $20,000,000 be spent annually in maintenance on coal haul roads. The study also recommends the previously mentioned expenditure of $86,000,000 to improve local roads, with $1,000,000 for annual maintenance.

Thus, the recommended program of highway improvement is a 10 year plan consisting of: (1) Upgrading 791 miles of the state highway system to full design standards at a cost of $679 million; (2) upgrading 3,952 miles of roads to structural standards capable of meeting coal haul needs at a cost of $373 million; (3) upgrading 636 miles of local roads to coal haul standards at a cost of $86 million; and (4) expending $26 million annually for maintenance. The total capital expenditure involved in this project is $1,138 million.

2. Financing Improvement

Financing such an ambitious project will be difficult, but various sources may be available to assist with the funding. One such source is the coal industry itself. There are already a few instances in which coal companies have contributed, voluntarily or otherwise, to road repair and maintenance.

The Falcon Coal Company has voluntarily assumed the maintenance of mine access roads and underage arterial county roads on which their trucks travel. A Lawrence County coal company that wished to haul 80,000 pound loads over a county road rated at 18,000 pounds entered into an agreement with the fiscal court whereby the county would raise the weight limit to 80,000 pounds in exchange for the company’s agreement to undertake the road’s maintenance. The company agreed to maintain the road in its pre-coal-hauling condition during the time it hauled coal on the road. The agreement also provided that the company would post a $20,000 bond to insure its performance.

185 Id. at 60, 61.
186 Id. at 63.
187 Falcon letter, supra note 48. They operate primarily in Breathitt County. They also pay a higher per ton fee to their independent truckers in order to prevent extreme overweight problems and the resulting citations.
188 Telephone interview with James H. Martin, Lawrence County Judge, Sept. 9, 1976.
As a result of a 1974 suit filed in Pike Circuit Court by the Department of Transportation against more than 500 Pike County coal operators and haulers, an agreement was reached whereby the Department agreed to raise the weight limit on the Pike County coal hauling roads to 80,000 pounds, in return for which the coal haulers agreed to pay ½ cent per ton per mile into a fund which would be used to restore the Pike County coal haul roads and upgrade them to 80,000 pound strength. The amounts paid by the coal haulers will offset part of the cost of rebuilding the roads, and the remainder is expected to come from state or federal funds. Similar agreements could produce more revenue for road building if implemented on an industry-wide basis.

State and county taxes can provide a portion of these funds. The state coal severance tax is a potentially important source of funds to pay for road improvement and maintenance. In 1974, the state collected $83 million from this program, and part of that sum was returned to eastern Kentucky by means of a “coal producing county development fund.” The statute which created the fund provides that: “Moneys . . . shall be used for public improvement projects; which includes but is not limited to construction, reconstruction and maintenance of roads and bridges . . . .” This income is apportioned on the basis of the severance tax collected in each county. The original regulations did not specifically enumerate road maintenance, although there was a catch-all phrase, but the current regulations do. To date no projects have been submitted for approval by the counties concerning road maintenance or construction, but substantial portions of the fund could be diverted to rebuilding roads. Additionally, Pike,

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108 KRS § 42.300 (Supp. 1974).

109 Id.
Letcher, and Breathitt counties have enacted a 10 cent per ton tax on coal to finance road repair at the county level. The Pike County ordinance, which imposed a tax upon the business of receiving and/or processing coal at a fixed business location in Pike County, Kentucky, was held unconstitutional by the Kentucky Supreme Court in C.C.C. Coal Co. v. Pike County. Plaintiffs in C.C.C. Coal Co. had maintained that counties are not authorized by section 181 of the Kentucky Constitution to levy tax on the receiving and/or processing of coal. The Constitution states: "The General Assembly . . . may . . . delegate the power to the counties . . . to impose and collect license fees . . . on franchises, trades, occupations and professions." Coal companies asserted that this constitutional provision allows the General Assembly to permit counties to levy only ad valorem and license fees. The coal companies further emphasized that the Pike County ordinance does not levy either an ad valorem or a license fee but levies an excise tax upon the coal industry.

This objection to the tax was upheld by the Supreme Court in their opinion. The Court defined the tax as an excise tax, but indicated that a license fee imposed on the coal industry could be valid.

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190 The Falcon Coal Company has its primary mines located in Breathitt County and paid $500,000 in tax in 1974. Falcon letter, supra note 48.
201 Docket No. 75-714, April 16, 1976.
202 Ky. Const. § 181.
204 C.C.C. Coal Co., Inc. v. Pike County, Docket No. 75-714 (April 16, 1976) at 3.
205 Id. Plaintiffs had also maintained that the tax was invalid under KRS § 68.197 which provides that voter approval must be obtained before any tax imposed by the fiscal court upon a trade is valid. The fiscal court of Pike County failed to call an election to approve the ordinance. Brief for Appellants at 4, 16, C.C.C. Coal Co. v. Pike Co., Docket No. 75-714 (1976).

Objection was also made that the tax amounted to double taxation which is condemned both in section two of the Kentucky Constitution and in the fourteenth amendment of the United States Constitution. The coal companies argued that processing and receiving coal is an integral part of the total coal industry which is taxed under KRS § 143.020. They further maintained that the Pike County ordinance taxes the same incidents of business as the state severance tax which constitutes double taxation. Brief for Amicus Curiae at 16. In addition, the coal companies argued that the county franchise tax is in violation of the commerce clause of the United States Constitution, for the tax adversely affects interstate commerce. Since much coal in eastern Kentucky is sold out of the state, Kentucky coal operators are burdened by
The coal company plaintiffs argued that the ordinance created arbitrary classifications distinguishing companies engaged in receiving and processing of coal within the county for distribution outside the county from those companies distributing solely within the county. The former group is subject to the franchise tax while the latter is not. It was also claimed that the ordinance discriminated against coal haulers since it does not apply equally to haulers of other heavy loads such as sand and gravel. These operations can have an equally detrimental effect upon highways. The validity of the county coal severance tax as a mechanism for financing road improvement and maintenance has been severely hampered by the decision of the Supreme Court. A new system of county-imposed taxes might be valid if classified as a license tax; however, the arguments made against such a tax indicated above could be used to attack such ordinances in the future. It is unlikely that county-based funds will ever be available for road maintenance. At this point, from the standpoint of effective financing, it appears that a uniform statewide severance tax is the best approach.

There are other, less lucrative taxes available for consideration in the effort to fund road improvement. Currently, trucks with more than three axles which use Kentucky highways pay an 11 cent per gallon motor fuel use tax, based on the amount of fuel consumed in Kentucky. Diesel fuel not used on the public roads is exempt from the tax, but if diesel fuel is used on the public roads, it forfeits its tax exempt status. Mines frequently have private pumps and truckers sometimes use this tax-free fuel in violation of the law.
At present, enforcement against such violations involves checking every truck's "cab card," which contains the license number issued to the motor fuel user upon payment of the tax. More effective and thorough enforcement would eliminate the abuses that exist in this area and would generate additional revenue.

Another source of revenue is to be found in the registration statutes. Currently truckers pay an annual registration fee, varying in amount and related to the gross vehicle weight for which they are registered. The statute further provides that a vehicle used only to transport coal from the mine's mouth to a railhead or tipple which is not more than 50 air miles away is subject only to 40 percent of the fee. This 60 percent discount is not available for a period of one license year to anyone who operates a "commercial vehicle at a gross weight in excess of the declared gross weight at which the vehicle is registered." This section would serve two purposes if it were enforced. First, it would act as an incentive to the truck owner to operate within legal weight limits, especially in the case of an owner who has many trucks for which he receives a 60 percent reduction. The statute prevents the operator from receiving the discount for any truck if he is found to have operated even one truck over its declared limit, and this provision could result in a grave financial hardship. Second, the statute would provide the state with added revenue which could be used to maintain the highways.

However, the most likely source of funds for road rebuilding is the federal government. The state transportation study notes the Appalachian Development Highway System, primarily a federal program planned for improvement of many of the same roads the state should upgrade. If the Appalachian Development Highway System were completed, the cost of upgrading the state primary system would be reduced by $200 million.

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207 It was reported that in the first six months of 1975 in Letcher County there were 43 citations issued for cab card violations and 40 citations for having no motor fuel tax number. The Mountain Eagle, Aug. 7, 1975, at 21, col. 1.
208 Telephone interview with Alvin A. Flatt, Department of Transportation, Sept. 16, 1975.
209 KRS § 186.050 (Supp. 1974).
211 KRS § 186.059(1) (1971).
from $679 million to $479 million.212 A good case can be made for exceptional federal aid to improve the Kentucky highway system, since the state is a major exporter of coal and coal figures so prominently in the nation's drive for energy independence. The Federal Energy Administration supports Kentucky's attempt to have the federal government pay for the needed improvements,213 but there is concern that this will never occur because other states with energy resources would ask for similar appropriations for their road systems.214

Funds from the coal industry and state and local government will be a factor in financing the road improvement, but it is only realistic to admit that the project is not likely to be undertaken without substantial federal funding.

V. Conclusion

Coal and its transportation are vital to Kentucky's economy, and trucks are the primary initial mover of coal. A statutory system exists to regulate these trucks, but increasing use of overweight trucks has resulted in widespread illegality and severe damage to the roads. Alternative sources of transportation may be utilized within certain limits, but trucks will probably continue as an important mode of transportation. Although there are several alterations that could be made in present statutes to increase the effectiveness of enforcement, the only viable solution appears to be rebuilding the roads to withstand heavy coal loads. A combination of sources, including the coal industry and all levels of government will be necessary to finance this project. Clearly, mere changes in the legal structure will not solve the problem, and unless some action is taken, conditions will worsen.

Edward J. Buechel
Sandra Freeburger
Linda A. Gosnell
Peter R. Held
Walter R. Morris
John D. Preston

212 Kentucky Dept of Transportation, supra note 3, at 59-60.