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SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1937

No. 161

SOUTH CAROLINA STATE HIGHWAY DEPARTMENT, SOUTH CAROLINA PUBLIC SERVICE COMMISSION, ET AL.,

Appellants,

vs.

BARNWELL BROTHERS, INC., POOLE TRANSPORTATION, INC., HORTON MOTOR LINES, INC., ET AL.,

Appellees.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF SOUTH CAROLINA.

BRIEF FOR INTERVENING DEFENDANTS, APPELLANTS.

Opinion of the Lower Court.

The opinion of the specially constituted District Court of the United States for the Eastern District of South Carolina, filed January 20, 1937, is reported in 17 Fed. Supp., p. 803, and is found on page 55 of the record.

Jurisdictional Statement.

The statement as to jurisdiction required by Rule 12 of this Court, was filed on June 1, 1937, and probable jurisdiction was noted on October 11, 1937.

Statement of Case.*

This case is an appeal from the final decree of the specially constituted District Court of the United States for the Eastern District of South Carolina entered by that court on January 20, 1937 (R. 85). The decree permanently enjoins the enforcement of certain sections of a statute of South Carolina which limit the weight and width of motor trucks which may be used on its highways in interstate commerce. The injunction is limited to the plaintiffs below, while they are engaged in interstate commerce on certain designated highways only and such other Federal aid highways as may be of standard concrete, or asphalt and concrete construction (R. 85).

Statute Involved.

The statute of South Carolina the validity of which is involved herein is Act No. 259, approved April 28, 1933, entitled in part, "An Act to Regulate and Limit the Use of the Public Highways in the State by Motor Trucks, Semi-Trailer Motor Trucks, Semi-Trailers and Trailers; * * *" and is found in Vol. 38, St. at Large, p. 340 (Appendix I).

The pertinent provisions of the statute are:

Sec. 1 declares the public policy of the State as to the effect of heavy motor trucks on the construction, maintenance and safety of use of the highways.

NOTE.—For the convenience of the Court, counsel for the original and intervening defendants, appellants, have incorporated in their separate briefs identical statements of the case, legislative and judicial history, and summary of the evidence.

Sec. 4 provides that "No person shall operate on any highway any motor truck or semi-trailer truck whose gross weight, including load, shall exceed 20,000 pounds;" which should be read in connection with the definition in Sec. 2 reading: " 'Semi-Trailer Motor Trucks' means any motor-propelled truck not operated or driven on fixed rails or tracks, designed to draw, and to support the front end of a semi-trailer. The tractor (or motor-propelled truck), together with the semi-trailer shall be considered one unit, and the words, 'Semi-trailer motor truck' as used in this Act, shall mean and embrace such entire unit * * *'."

Sec. 6 provides that "No person shall operate on any highway any motor truck or semi-trailer motor truck whose total outside width, including any part of body or load, shall exceed 90 inches".

Sec. 7 of the contested Act, relating to the permissible lengths of vehicles was slightly amended by Act No. 746, approved March 10, 1934 (38 St. at Large 1311), adding certain kinds of transportation to the exemptions of the Section, but such amendment is not material in this case.

While the bill of complaint (R. 2, 19) attacked the validity of Sec. 3 of the statute, which prohibits the operation of trailers, and Sec. 7, which imposes a length limit of 35 feet, the attack on these two Sections was abandoned during the suit, that is to say there was no evidence introduced by appellees to sustain their attack on these two sections and only Sec. 4, imposing a gross weight limit of 20,000 pounds, and the provision of Sec. 2, requiring a tractor semi-trailer combination to be considered as a single unit for determining weight, and Sec. 6, imposing width limit of 90 inches, were adjudged to be invalid.

Legislative History of Statute.

The Legislature of South Carolina first dealt with the weight and width limit of motor vehicles in 1920. Act No.

602, approved March 10, 1920 (31 Stats. at Large 1072), Appendix III, created the State Highway Department and Sec. 13 thereof, which dealt primarily with the licensing of motor vehicles, based on the manufacturer's weight, contemplated the licensing of trucks "up to and including seven and over (tons)" but "Provided, that no truck larger than a four-ton truck shall be allowed to be used on any highway or public road of this State, unless the person desiring to operate any such truck larger than a four-ton truck shall first make a petition to the authorities in charge of the roads in any county where it is proposed to operate such truck, stating the road or roads proposed to be used" and unless the road authorities consent to the use of such truck on such roads with the approval of the State Highway Engineer.

Act No. 721, approved March 26, 1924 (33 Stats. at Large 1182), Appendix IV, regulated traffic upon the highways of the State. Sec. 1 thereof made it unlawful to operate on any public road of the State, whether such roads are in the State system or not, "any vehicle of four wheels or less, the gross weight of which, including its load, is more than 20,000 pounds, or to operate any vehicle having a greater weight than 15,000 pounds on any one axle, or having a load of over 600 pounds per inch width of wheel concentrated upon the road surface".

Act No. 685, approved March 20, 1930 (36 Stats. at Large 1192), Appendix V, again changed the weight limits of motor vehicles and Sec. 3 thereof provided: "Except as authorized in Sec. 4 hereof, no vehicle, whether operated singly or in combination with other vehicles on the public roads of this State, shall exceed in gross weight twelve and one-half (12½) tons, and the gross weight on no axle of any vehicle or combination of vehicles, having more than two axles, shall exceed five (5) tons. Any vehicle having more than two axles shall be so designed and constructed as to

assure a constant distribution of weight among the axles while such vehicles are in operation, regardless of irregularities in the road surface. No combination of vehicles operated as a unit on the public roads of the State shall have a gross weight exceeding twenty (20) tons: * * *".

In 1931, there was enacted Act No. 575, approved June 27, 1931 (37 Stats. at Large 1086, Appendix II), which created a commission to investigate motor transportation in the State of South Carolina and required the report of the commission to be made to the 1932 Session of the General Assembly, and to include "full findings of fact, together with recommendations and suggested legislation, preferably in the form of Bills." This commission held exhaustive hearings, with full opportunity to interested parties to present their views. During such hearing, Dr. C. H. Moorefield, then Chief Engineer of the State Highway Department, and distinguished as a highway engineer and builder, appeared and testified. His statement was introduced in evidence in this case and incorporated a statement previously prepared by him as testimony on a similar investigation held by the State Railroad Commission (Exhibits 8, 9 and 10, R. 255-271).

The foregoing recital of legislative history of the statute indicates most clearly the previous experiments the Legislature had made in trying to arrive at a proper weight limit and the deliberate consideration given to the subject for two years preceding the enactment in 1933 of the limitations herein assailed.

The present width limit of 90 inches was imposed by Act No. 602, approved March 10, 1920 (31 Stats. at Large 1072), and has since been continued unchanged.

Judicial History of the Statute.

Before this suit was begun, the same provisions of the statute now assailed were upheld by the South Carolina

Supreme Court in a suit in which the same constitutional objections (including the attack under the Commerce Clause, but not including that based on the Federal Motor Carrier Act, 1935) were raised in the case of *State* v. *John P. Nutt Co.*, 180 S. C. 19; certiorari denied by this Court March 30, 1936, 297 U. S. 724. The opinion in that case, relying on numerous decisions of this Court, fully sustained the statute and also contains a detailed history of successful resistance to the enforcement of the Act by interests opposed to it, indicating a long continued thwarting of the legislative will by injunctive process. Notwithstanding the fact that the motor carriers who are parties plaintiff herein were not parties to any of the actions in the lower State courts mentioned in the opinion in the *John P. Nutt* case, it seems a clear inference from the allegations of the bill in this case that these parties successfully defied the enforcement of the South Carolina Act during this period and even continued to operate in violation thereof after the final determination of the validity of the statute by refusal of this Court to grant certiorari and until the granting of the temporary restraining order herein in November, 1936 (R. 37).

It may be further noted, in connection with the Judicial History of this Statute, that the District Judge herein, who had first heard the motion to dismiss in this case before the application for an interlocutory injunction and the convening of the Three Judge District Court, reached the same conclusion in upholding the statute, both under the Fourteenth Amendment and the Commerce Clause, as did the State Supreme Court (R. 24, 25).

Summary of Complaint.

The suit was commenced by a complaint filed on the 11th day of August, 1936, wherein seven parties, engaged in the transportation of property in interstate commerce, as common or contract carriers by motor truck, and four parties,

engaged in shipping produce or merchandise by motor truck in interstate commerce, joined as plaintiffs (R. 2-3). The prayer asked only a permanent injunction (R. 19).

The defendants (appellants) included the South Carolina State Highway Department and the South Carolina Public Service Commission, both administrative agencies of the State, their officers and employees, various other officers of the State, and police officers, all charged with the duty of enforcing the Act (R. 3-4).

Certain shippers and the Interstate Commerce Commission were permitted to intervene as parties plaintiff (R. 42, 50-54) and certain railroads were permitted to intervene as parties defendants (R. 43, 49, 54). The Interstate Commerce Commission asked to intervene only because of its interest in the enforcement of the Motor Carrier Act, 1935 (R. 43).

The complaint alleged that the weight and width limits of the Act were invalid on the grounds that:

(1) They violate the Fourteenth Amendment of the Constitution of the United States, in that they are unreasonable, arbitrary and capricious and have no real and substantial relation to the object sought to be obtained by the Act (paragraph 6 of complaint, R. 7).

(2) They violate Section 8, Article 1, of the Constitution of the United States, in that they constitute a direct and substantial burden on interstate commerce (paragraph 7 of complaint, R. 8).

(3) They are so arbitrary and unreasonable that they defeat the useful purposes for which Federal Aid (Secs. 1 to 56, Title 23, U. S. C.) has been granted, i. e., the bettering of the highway system of the United States and the promotion of the national defense (paragraph 8 of complaint, R. 8).

(4) The Motor Carrier Act, 1935 (Sec. 301 to 327, Title 49, U. S. C.), (a) has entirely superseded the South Carolina statute, and (b) renders the South Carolina statute a direct and substantial burden on and interference with interstate commerce, in violation of the Commerce Clause of the Federal Constitution, in that the enforcement of such statute subverts and defeats the declared purposes of said Motor Carrier Act (paragraph 9 of complaint, R. 8-11).

As a factual basis for the relief asked, the complaint further alleged (R. 8) that the essential service of interstate commerce cannot be performed by the several motor carriers with the use of motor equipment limited to a maximum weight of 20,000 pounds and the effect of such limitations in South Carolina would prevent interstate motor carriers from rendering adequate and efficient transportation service and (R. 15) will substantially increase the cost and time of transportation by plaintiffs and substantially increase the cost of transportation to the public and affect the price of goods moving in interstate commerce. There were further allegations that if the limitations of the statute were enforced, plaintiffs will be irreparably damaged and their business impaired or ruined (R. 12, 16, 17).

Rulings Below and Final Decree.

Before the convening of the Statutory Three Judge Court, the District Judge had granted Appellants' motion to dismiss complaint as to Paragraphs 4, 5, 6, 7 and 8 thereof, Paragraph 7 having alleged that the statute violated the Commerce Clause, but refused the motion as to Paragraph 9 of the complaint which related to the Motor Carrier Act, 1935 (Opinion and Orders, R. 22-32).

Appellants filed their answer putting in issue the material allegations of the complaint (R. 38) and appellees (plaintiffs) thereupon moved for interlocutory injunction pending final hearing (R. 32, 33). This was presented to a

single Judge who, after hearing, ordered temporary restraining order to issue to remain in effect until the application for interlocutory injunction could be decided by a three-judge court (R. 34-38). The District Judge convened the Three Judge Court pursuant to statute, before which all subsequent proceedings were had (R. 42). Appellants again moved to dismiss the complaint (R. 44) which motion, after argument, was overruled (R. 97).

The Court ruled that it would reconsider all of the questions heretofore determined by the District Judge and render decision on the complaint as filed (R. 97) and further ruled as to the scope of the hearing (R. 98): "In other words, we will pass upon the question as to whether the Act constitutes an unreasonable burden upon interstate commerce, and we are of the opinion that testimony should be addressed to that question and that question alone, and we see no reason why any great volume of testimony need be taken, or we see no reason why the taking of testimony should consume very much time."

It was thereupon agreed in open court that the hearing should be both final and interlocutory and a final decree should be rendered upon the hearing (R. 99). The Court found and held in its opinion on the final decree that the South Carolina statute did not violate the Due Process or Equal Protection clauses of the Fourteenth Amendment (Fourth conclusion of Law, R. 84) and held that these questions were sufficiently dealt with in the *Nutt Company* case, *supra* (R. 57); and further held that Congress had not assumed to control the size and weight of motor vehicles by the enactment of the Motor Carrier Act, 1935 (Third conclusion of law, R. 84, and opinion of the Court, R. 57).

The final Decree of the Court (R. 85) adjudged and decreed:

> "(1) That the defendants, their agents and servants, be and they hereby are, restrained and enjoined from

enforcing against the plaintiffs while they are engaged in interstate commerce on the highways of the State of South Carolina numbered 1, 15-A, 17, 21, 25, 29, and 52, or on such portions of *other federal aid highways* as may be of standard concrete or concrete and asphalt construction, any provision of Act No. 259 of the General Assembly of South Carolina limiting the gross weight of trucks on highways to 20,000 pounds, or providing that a tractor semi-trailer combination shall be considered a single unit for the purpose of determining weight and thereby limiting the gross weight of such combination to 20,000 pounds, or limiting the width of (fol. 103) vehicles to 90 inches, if the vehicle does not exceed 96 inches in width.

"(2) That the provisions of this injunctive order shall not extend to bridges on the highways mentioned in the preceding paragraph where such bridges have not been constructed with sufficient strength to support the heavy trucks of modern traffic or are too narrow to accommodate such traffic safely, provided that the State Highway Department shall erect at each end of any such bridge a proper notice of sufficient size and character to give ample warning that the use of the bridge is forbidden by trucks exceeding the weight or width limit, and further provided that the proper authorities shall take the necessary steps to enforce the law against the use of such bridges by such trucks."

Paragraph (3) of the decree provided that the injunction was denied with respect to the other roads and bridges of the State, and by (5) jurisdiction was retained by the Court for the purpose of making any such changes as to paragraphs one or two of the decree as may hereafter appear to be proper.

It will be noted from Paragraph (1) of the decree, that while the complaint asked for an injunction generally against the enforcement of the Act as to interstate commerce, without referring to any particular numbered or

described highways of the State system, the Court below by its decree undertook to select certain specifically numbered Federal aid highways and "such portions of other Federal aid highways as may be of standard concrete or concrete and asphalt construction" as the subjects of its injunctive relief; and the second paragraph of its decree, excluding therefrom weak or narrow bridges, is conditioned on the performance of certain requirements imposed therein by the Court upon the South Carolina Highway Department.

Summary of Evidence.

Most of appellees' testimony was offered to show the effect of the enforcement of the State statutes upon interstate commerce. The appellants offered no testimony on that issue.

The eighteen witnesses offered by appellees on that question testified, in substance, that the weight and size of trucks used by carriers for hire are important in determining rates, and that the limits imposed by the South Carolina statute will greatly increase rates. They mentioned particularly a number of commodities, including fertilizer, household goods and furniture, lumber, flour, cotton, textile products, produce of truck farmers and vegetable growers, and stocks of chain stores. Witnesses for appellees testified that enforcement of the 20,000 pounds weight limitation will increase the cost of transportation of South Carolina produce to markets in other states, thus putting such produce at a disadvantage in competing with similar produce from states having a higher weight limitation and that the cost of operating the truck decreases per unit of commodity carried as the total pay load increases (R. 100-117; 142-158); that truck competition with railroads has tended to keep the level of rail rates down as to cotton shipped into the Port of Charleston (R. 107).

Vegetable growers in South Carolina ship to markets outside of the State by refrigerator trucks and most of such trucks are too large to comply with the South Carolina weight and width limitations; they are mostly owned in other States and used in all States; that rail service for less than carload lots is more expensive and slower than truck service and that the enforcement of the South Carolina law will put the South Carolina vegetable growers at a disadvantage with those of other States (R. 107-112; 152-153).

One of the plaintiffs, a carrier who operates in all of the forty-eight States, admitted that he was making money, and that in States like Texas, Tennessee and Alabama, in which he could not use his big trucks, he had special equipment complying with the State laws (R. 147). Another witness, employed in the Bureau of Motor Carriers, Interstate Commerce Commission, stated that trucks are still operated in the States of Texas, Kentucky and Tennessee (R. 142). Another of appellees' witnesses testified that the enforcement of the Act would cause large cargoes of freight now coming into the Port of Charleston to be diverted to other ports (R. 100-106; 204-205).

Many figures and much data from public records were offered, and testified to, showing the following uncontradicted facts. In South Carolina, there are approximately 60,000 miles of public roads, of which about 6,100 miles comprise the State Highway System. The roads in the State Highway System are classified as: "standard paving," of which there were (as of June 30, 1936) 2,417 miles; bituminous surfacing of which there were 1,724 miles; earth type roads, of which there were 1,141 miles; and unimproved roads, of which there were 666 miles. The classification of "standard paving", includes pavement that is wholly concrete, asphalt pavement on a concrete base, and

asphalt pavement on asphalt base (R. 159). The pavement wholly of concrete amounts to 1,800 to 2,000 (R. 160) miles. About 40 percent. of the concrete pavement has center joints (R. 178). Some of the pavements are 16 feet wide and some 20 feet wide, but most of them are 18 feet wide (R. 117).

The State Highway System has cost approximately One Hundred and Fifteen Million Dollars (R. 173-174), of which Twenty-nine Million, Seven Hundred and Forty-one Thousand Dollars was received from Federal aid (R. 137). Maps were used by both parties showing the particular roads upon which Federal aid was used (Exhibit 7, R. 254A; Exhibit 6, 300B, 300C). On Federal aid projects the cost was borne partly by the State and partly by the Federal Government, except some short sections which were built entirely by Federal funds (R. 158-159). No one road in the State is in its entirety a Federal aid project, that is to say, portions of the road were built by Federal aid, while other portions were built entirely by State funds (R. 191-192). Exhibit 4 (R. 253) shows the total mileage of completed Federal aid projects to be 2,798.7 miles; of this 795.8 miles are of concrete and 193.5 miles of bituminous concrete, the rest of this mileage being of low type roads. Exhibit 11 (R. 271-272) shows that there are 4,322 miles of road in South Carolina embraced within the approved Federal aid system.

Exhibit 14 (R. 273) gives the total registration of all motor vehicles in the State by years, from 1925 to 1936, and Exhibit 13 (R. 272) gives the trucks registered by rated capacity from 1933 to 1936. In 1936, there was a total motor vehicle registration of 253,488. There were 30,497 trucks registered. Of these 2,639 trucks exceeded two tons capacity, of which *only 328 exceeded three tons*

capacity, and of this 328 *only 19 exceeded four tons capacity.* Carriers for hire use two to three tons capacity semi-trailer outfits of which class 522 were registered in 1933 and 2,306 in 1936; and no other type has increased in proportion (R. 229). The number of vehicles used for hire in intrastate and interstate commerce, and registered with the Public Service Commission of the State, totaled 111 operated by common carriers, and 1,202 operated by contract carriers (R. 230-231). The irregular route common carrier is classed as a contract carrier under South Carolina law (R. 231).

The conflicting testimony was directed primarily to the questions as to whether or not the assailed provisions of the State Act bear any relation to conserving the highways, maintenance costs, traffic control, and safety thereon.

On these main issues, the plaintiffs offered four witnesses. Harry Tucker, Professor of Engineering in North Carolina State College, and Director of the Engineering Experiment Station at Raleigh, N. C., testified that the gross weight of a motor vehicle does not enter into the design of a concrete highway, or its equivalent; that gross weight of a vehicle has nothing to do with conserving the highway or the cost of maintaining it. In his opinion, the only test is the wheel load. He did not know much about the highway system of the State, but had made a trip over some of the concrete roads of South Carolina, looked at them, and saw no evidence of undue deterioration and they were well constructed and drained. A map showing the route he traveled on such trip is appendix VI. He testified that it is almost impossible to say what causes a failure of pavement, especially a concrete pavement, there are so many factors entering into it (R. 125). He was informed by the South Carolina Highway Department that two sections of concrete pavement are used on the roads he examined; one, 7½-6-7½ which means 7½ inches thick at

the edges and 6 inches thick in the center; and the other 8-6½-8. He expressed the opinion that the concrete roads that he examined will carry a wheel load of from 8,000 to 8,500 pounds, or an axle load of 16,000 to 18,000 pounds safely. He said: "As to how we determine that, we have methods developed originally by Mr. Clifford Older, by the Bureau of Public Roads, by Mr. Westergard, of the University of Illinois, by which, knowing the thickness of a pavement and the strength of the concrete out of which it is constructed, we can determine the wheel load, and therefore, the axle load, which that pavement will carry." He further testified that there is no cumulative stress caused in a concrete pavement by the three axles of a tractor-semi-trailer combination; the three axles, if carrying the same load, and if at least 40 inches apart, each causes a stress in the pavement independently of the other axle; the three axles do not increase the stress. Concrete road sections with a minimum thickness at the center of six inches are good for an axle load of 16,000 to 18,000 pounds. With a tractor semi-trailer combination with three axles the concrete pavement will support approximately 40,000 pounds gross; the front axle of the tractor would bear 8,000 pounds, the rear axle of the tractor 16,000 pounds, and the rear axle of the semi-trailer 16,000 pounds. If another axle could be added to the vehicle 40 inches apart from any other axle and let it carry 16,000 pounds more, the gross load could be increased to 56,000 pounds without doing any additional damage to the pavement. He said in his opinion the roads he examined could carry that load (R. 126-127).

He further testified that figures for the whole country on accidents are the following: For passenger vehicles one accident including death or injury per 100,000 miles; for busses 2.66 such accidents; for intercity trucking 1.69 accidents; the accident ratio is higher for trucks engaged in local deliveries (R. 127-128).

Mr. Tucker stated that he considered that the concrete roads of South Carolina will carry the same loads as the North Carolina concrete roads. He said that the North Carolina roads (where the weight limitations are higher) are in much worse condition than those over which he traveled in South Carolina, but he does not consider the condition of the roads in North Carolina to be due to the heavy trucks; there are so many things that cause the deterioration of a concrete pavement that it is impossible to say it is due to this cause or that cause in any case. He would say in North Carolina there are sub-grade conditions quite different from the sub-grade conditions in South Carolina for one thing. From his observation the sub-grade conditions in South Carolina are most excellent. In North Carolina frost goes quite deep and that makes quite a difference as to the qualities of a concrete road. There isn't much depth to the frost in South Carolina (R. 129-130).

L. W. Teller, engineer employed by the Bureau of Public Roads, testified as a witness for the Interstate Commerce Commission. For 10 years he has been in charge of the Bureau's research in pavement design. The Bureau conducts research and tests and the results are published monthly in its research journal "Public Roads". He testified that the concrete pavement in South Carolina is of typical design; that the gross load is not a factor in the design of concrete paving, but that the critical factor is the wheel load. He expressed the opinion that the standard pavement roads in the State could safely bear a wheel load of 8,000 pounds, with proper pneumatic tire equipment (R. 133). He had no knowledge of the design of the roads and bridges in this State (R. 134). He further testified that the standard pavement roads were the only roads the strength of which could be determined by formula or test; the other types must be judged by observation and he does not know the weights that should be permitted

on them (R. 134). He would not say that a gross load limitation has no connection with the protection of the road, but did state that the 20,000 pounds limit, prescribed by the State statute, would likely limit the maximum wheel load on any type of vehicle to 8,000 pounds, and a few vehicles, loaded to their capacity, could probably carry a wheel load of 8,000 pounds. About one-third of the load is on the front end and two-thirds on the rear (R. 135).

R. W. Knowles, a transportation engineer for a manufacturer of trucks, testified that the tractor semi-trailer type of truck, used in interstate commerce today, is ordinarily designed to carry about 18,000 pounds per axle, or a little less. He expressed the opinion that gross weight does not in any way protect the highways (R. 119) nor was safety on the highways enhanced by such (R. 121). It was his opinion that 40,000 pound trucks could operate as safely as 20,000 pound trucks (R. 122).

C. B. Carley, a trailer salesman, found that he could not operate trucks to come within the limits of the South Carolina Act (R. 155); that South Carolina is the only State that did not permit a width of 96 inches or greater. The States of Florida and North Carolina have recently changed to conform (R. 155). He also stated that Tennessee, Kentucky, Alabama and Texas do not permit a ten ton pay load (R. 155), and expressed the opinion that the gross weight of 20,000 pounds does not relate to safety at all, and implied that the contrary was true (R. 155).

Appellees offered in evidence a portion of a proposed uniform act regulating traffic on highways, prepared and adopted by the National Conference on Street and Highway Safety, as published by the Bureau of Public Roads of the Department of Agriculture in 1934, prescribing that for motor truck vehicles wheel load *should not exceed* 8,000 or 9,000 pounds, and axle load should not exceed 16,000 or 18,000 pounds, depending upon whether the wheels are

equipped with high pressure or low pressure pneumatic tires (R. 277); and prescribing a width of 96 inches for such vehicles. They also offered in evidence along the same lines, recommendations of certain highway associations and others (R. 275-282).

On these issues, the appellants offered three witnesses: J. S. Williamson, Chief Engineer of the State Highway Department; Clifford Older, who originated the first formula used in the designing of concrete paving; and the statement of C. H. Moorefield (now deceased), Chief Highway Engineer from 1920 to 1935, under whom most of the South Carolina highways were constructed, and who testified in the investigation directed by the Legislature in 1931, before the present statute was enacted. Mr. Williamson testified as follows:

In the State highway system there are 2,417 miles of standard pavement, 1,724 miles of bituminous surface type, 1,141 miles of earth type, and 666 miles unimproved (R. 159). The concrete paving is 75 to 80 percent of the total, or 1,800 to 2,000 miles (R. 160). The bituminous surface type is an earth type road covered with an asphalt wearing surface about ¾ of an inch thick. The bituminous surface, earth type, and unimproved roads are quickly impaired and destroyed by heavy truck traffic (R. 161-162-170). There are sections of bituminous surface, earth type and unimproved roads on all roads throughout the State highway system. On some routes there are more weak places than on others (R. 163, 169, 170). There is no definite knowledge as to which roads are traveled most by heavy trucks (R. 163).

There are weak and narrow bridges in many places throughout the State highway system, one not capable of bearing safely more than two tons, one not more than five tons; and of the 50 miles of bridges in the system, 75% have been designed to carry a load not in excess of ten tons (R. 169, 170, 174). There are several bridges 18 feet wide

and one 15 feet wide (R. 164, 167). Trucks have broken floors on bridges from time to time and have knocked hand rails off very often (R. 181).

The load the concrete roads will bear is very indefinite. It depends on a number of different things. Subgrade conditions are a very big factor. Some concrete pavement in one section may hold up 100,000 pounds. The same identical pavement, as far as construction goes, may break up under a two or three thousand pound load. Those subgrade conditions often occur in short distances of one another on the same road (R. 160). Subgrade conditions are about the same in South Carolina as in North Carolina. There is sand subgrade along the coast, some gumbo sections, sand hills, mountainous sections and clay. Frost is sometimes deep enough to disturb some roads (R. 179).

On standard pavement throughout the State the limit of axle weight should be around 13,000 pounds, but there are roads for which that is too much. Greater axle weights are going over the roads now and some of the pavements are failing. Trucks and buses are one cause for such failure, and also subgrade conditions, floods and a little frost. A 16,000 pound axle load is apt to do some damage; the pavement may stand it for a good while but it is bound to break down earlier than if it had a lighter load (R. 187, 188, 195). Under good subgrade conditions the new pavement may support 18,000 pounds axle load but there are weak subgrade conditions, some in short distances of one another on the same roads. Assuming that 90 per cent of the road has no weak spots, axle loads of 12,000 or 13,000 pounds would be heavy enough (R. 179, 160, 182, 187, 189). Maintenance costs amount to one and three-quarter million dollars per annum, no part of which is contributed by the Federal Government (R. 197). The use of bridges for loads exceeding the weights for which they were designed, does not prove their strength (R. 184), and the same is true as to concrete

roads (R. 182, 197). The damage may show up later. Cities and towns of the State have suffered damages to their streets due to the heavy truck traffic (R. 168, 169, 172). Most of these streets were designed only for passenger vehicle traffic (R. 169). The State departed from building standard concrete roads on account of lack of funds, and went to cheaper construction so that they could get people out of the dust and mud (R. 161). (End of Mr. Williamson's testimony.)

Mr. C. H. Moorefield, Chief Engineer of the South Carolina State Highway System prior to July 15, 1935, (now deceased), recommended to the Legislature in 1931 that the truck weight limitation be lowered.

In 1931, the Legislature authorized a committee to investigate motor transportation, and the report of that committee was admitted in evidence (R. 175-176). On November 10th, 1931, Mr. Moorefield appeared before that committee, presented a prepared statement which he had previously submitted as testimony before the Railroad Commission of South Carolina on February 4th, 1931, Exhibit 8 (R. 255-261), and presented also a prepared statement for the investigating committee, Exhibit 9 (R. 261-265). Exhibit 10 is a part of the report of the investigating committee containing their report of Mr. Moorefield's testimony. He stated that if the highways could be designed for a maximum vehicle load not exceeding four tons, which would take care of the ordinary truck having two tons capacity, the average cost per mile of construction would be reduced by at least $3,000 and probably more. The total number of trucks registered for more than two tons capacity plus all busses is about one per cent of all vehicles registered, while the additional $3,000 per mile of highway construction cost in order to provide for this one per cent amounts to 15 per cent of the average per mile construction cost. This means that the State is expending $18,000,000 to accommodate

3,000 vehicles and combinations of vehicles (R. 256-257). Roads which have a small volume of truck traffic have a much lower maintenance cost than roads where there is a large volume of truck traffic (R. 257). Damage caused roads by vehicles is out of proportion to the weight of the vehicles; that is, a five-ton truck will do more than five times the amount of damage that a one-ton truck will do (R. 258). The large and heavy trucks appear to be involved in proportionately more accidents than ordinary vehicles and interfere to a marked extent with the free use of the highways by other vehicles (R. 258-259); they enhance the problem of traffic out of all proportion to the relative number of such vehicles; that even on our 20 foot pavements the average driver of an automobile hates to meet a bus or a large truck and is conscious of being crowded to one side whenever he passes one (R. 259). He recommended to the Legislature that no vehicle with a load capacity greater than five tons should be permitted to be registered (R. 264). The increasing bus and truck traffic is objectionable to the great majority of highway users and the South Carolina highways are not in shape to bear all of the traffic that would be thrown upon them if legislative action encouraged further even gradual substitution of highway carrier service for rail service.

Clifford Older, of Chicago, consulting engineer, testified for appellants as follows:

He was employed by the Illinois Highway Department as an engineer from 1906 to 1917, and as Chief State Highway Engineer from 1917 to 1924. He conducted a test of concrete pavements, known as the Bates test, and devised the first practical formula for concrete pavement design (R. 232). There is no formula to test the strength of any road except a concrete road (R. 239). It is impossible to tell the strength of concrete pavement merely by looking

at it, even though its thickness and width is known. Concrete pavements of the same thickness vary considerably in bearing power. The soil on which it is laid has a good deal to do with it (R. 233-234). A concrete pavement should not bear weight of more than fifty per cent of the ultimate bearing strength. If the stress is ninety per cent the failure will appear almost immediately. If the load stress is a little over fifty per cent, say fifty-five per cent, the failure will not result for a number of years. Stresses of sixty per cent of the ultimate bearing strength cause the road to break within a comparatively short time (R. 235).

The strength of subgrade varies in different parts of the State and even in the same territory approximately. It varies at short intervals along the particular piece of road (R. 235).

Part of the South Carolina concrete pavement does not have longitudinal joints. Pavements having a center thickness of 6½ inches with no longitudinal joint are the weakest in the State. Nature will put a longitudinal crack in it which will separate during low temperature periods. This leaves an unsupported edge 6½ inches thick exposed to the wheels of traffic. Pavements of this kind are not capable of supporting indefinitely wheel loads in excess of 4,200 pounds or axle loads in excess of 8,400 pounds. Pavements having an 8 inch edge thickness, 7½ inch center thickness, and transverse joints should not bear greater wheel loads than 6,400 pounds or axle loads of 12,800 pounds; that is the actual load supporting capacity of the best type of concrete pavement in the State (R. 237-238).

The maximum axle load of 18,000 pounds permitted in many States is an excessive load. In the State of Illinois he built $100,000,000.00 worth of pavement designed to carry a 16,000 pound axle load, 8,000 pound wheel load. Many of those pavements have gone to pieces under such loads, they have been destroyed by the travel. Some of

those roads so destroyed were of approximately the same construction as the South Carolina roads (R. 238). Some are still in service. The witness stated that the whole time he was with the Illinois Highway Department, solid tires were used on those roads, but he observed that the destructive effect of the loads (on the roads) continued just the same after pneumatic tires came into use and, in his judgment, the use of solid tires, as contrasted with the use of pneumatic tires, had nothing to do with the deterioration of the highways (R. 249-250). That is why he wants to be conservative in estimating the bearing strength of a pavement (R. 238). Bituminous surface and earth type roads should be restricted to the use of the average passenger car or truck of equivalent weight and tire equipment (R. 239-240).

The weight of a vehicle has direct relation to its safety. Even though a heavy truck can stop in the same distance as a light car, if both going at the same speed should strike an object, the damage done by the heavier vehicle will be in proportion to its weight as compared with the light vehicle (R. 240).

The width of a vehicle is a factor in the difficulty of passing it from the rear. Where a vehicle is in front of you it is easier to see ahead past the left edge of that vehicle where it is narrow than where it is wide. The angle of vision ahead is cut off in proportion to the width of the vehicle ahead. Six inches in the width of a truck would make a great difference.

The gross load limitation of 20,000 pounds is decidedly generous for the roads of this State. The gross load limitation has relation to the preservation and protection of the highway. If commercial vehicles have three axles the 20,000 pounds gross weight limitation would put the axle weights down to reasonable limits with respect to the

carrying capacity of the roadways of the State. It is difficult to enforce highway laws. A gross load limitation law is easier to enforce than an axle load limitation. For a part of the time while he was Illinois State Highway Engineer he had the direction of the highway police and both methods of enforcement were tried (R. 244). This witness did not agree with any statement that the main standard highways of South Carolina would carry axle weights of 18,000 pounds (R. 250). He stated: "In my experience as an engineer in the years past, working for the State of Illinois, I have never contemplated that the roads of this country would be subjected to the burdens that are now being imposed on them by heavy trucks" (R. 242-243). (End of Mr. Older's testimony.)

Specifications of Assigned Errors Relied On.

There are thirty assignments of error (R. 68-96). According to appellants' view, the "Findings of Fact", the "Conclusions of Law", and the "Opinion" of the court below are permeated with error, and in order for appellants to preserve their rights it was necessary for them to make all of these assignments. The assignments are intended to put in issue all findings and conclusions which are inconsistent with appellants' position as advanced in the court below, and to preserve the record intact for that purpose. Appellants intend, therefore, to urge all the assignments, without discussing them *seriatim,* and believe that with the foregoing explanation and the following classification of the assignments, consideration of them will not be unduly burdensome.

Proposition I.

The court below erred in holding the weight and width limitations of the South Carolina statute to be an unreasonable burden upon interstate commerce and, therefore, un-

constitutional, in that its decree is based upon sharply conflicting evidence of experts as to the reasonableness of such limitations and upon opinion testimony, largely immaterial, and in part contrary to facts judicially known; and thus its decision, under settled law, encroaches upon the legislative discretion.

Under this proposition appellants will rely on and argue Assignments of Error numbered 1, 2, 12, 14, 15, 17, 18, 19, 22, 24, 25, 27, 28 and 30 (R. 88 to 96).

Proposition II.

The record evidence, read with facts judicially known, fails to sustain the findings of the District Court that the said weight and width limitations have no reasonable relation to the safety and protection of the State's highways and constitute an unreasonable burden on interstate commerce, and affords no proper basis for the action of the Court in imposing its own selective restrictions and permissions in disregard of the legislative judgment.

Under this proposition appellants will rely on and argue their Assignments of Error numbered 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, and 16 (R. 88 to 93). The Findings of Fact mentioned are found in the record at pps. 76 to 84.

Proposition III.

Neither the fact of Federal aid contributions, under the Federal Highway Act, nor the enactment of the Motor Carrier Act, 1935, as construed by the court below considered separately or together, with the other circumstances relied on by the court, sustain its findings that the State act violates the commerce clause.

Under this proposition appellants will rely on and argue Assignments of Error numbered 11, 15, 17, 19, 20, 21, and 22 (R. 91, 92, 93 and 94).

Brief Summary of Argument.

The gist of appellants' argument under the three propositions of this brief is largely stated or suggested by the captions or headings under the respective propositions.

Under Proposition I appellants argue that the evidence in the record, read in connection with necessary presumptions of law or fact and matters which this Court will judicially notice, is substantially, and even sharply, conflicting on the question of whether the statutory gross weight limitation has any reasonable relation to the preservation and safety of the highways, and on the question of whether the 20,000 pound gross weight limitation and the 90 inch width limit imposed by the South Carolina statute is reasonable; and appellants further argue that, in view of the debatable nature of these questions, the court below improperly invaded the province of the Legislature in considering these questions and holding the State statute to be unreasonable in these respects. Appellants contend that the lower court's action in so holding was directly contrary to the decision of this Court in *Sproles* v. *Binford,* 286 U. S. 374, and other decisions cited herein, and, in this connection, show that the facts in evidence in the *Sproles* case, as appears from the record therein, are substantially identical with the facts proved in this case. The contentions also were largely the same in both cases.

Appellants also contend under their first proposition that the findings and decree of the court below further invade the province of the Legislature by adjudicating matters which are substantially legislative or administrative in character, in that its decree, in effect, struck down the weight limitation fixed by the South Carolina statute and permits interstate vehicles of any weight to operate on certain specified highways, and also held a 90 inch vehicular width limit invalid and itself fixed a width limit of 96 inches; and

in that the injunction decree also takes away from the State and its authorities power to regulate its admittedly weak bridges, unless the State complies with conditions laid down in the decree.

Under Proposition II appellants consider and discuss the evidence in the record bearing on certain important questions of fact, as to which the court below made findings of unreasonableness. These questions with matters incidentally connected therewith are:

> (a) That the effect on the highways and bridges of a tractor-semi-trailer combination is not different from the effect produced by two vehicles of equal weight immediately following each other, which was made the basis of a holding that the statute requiring that a tractor-semi-trailer combination be considered as one unit, is unreasonable;
>
> (b) Findings that the specifically enumerated highways contain only a few short stretches of sub-standard highway and a few weak bridges;
>
> (c) Findings that a gross load limitation has no reasonable relation to conservation and safety of highways and that a gross weight limitation of 20,000 pounds is unreasonable; and
>
> (d) a finding that a 90 inch vehicular width limitation is unreasonable.

Appellants contend and attempt to show from the evidence that the court's findings on all of these questions is not sustained by the weight of the evidence.

Appellants also point out that the record is silent as to a number of facts and matters which materially bear upon the question of reasonableness of the 20,000 pound gross weight limitation fixed by the statute, and appellants call attention to material information and data, particularly relating to highway subgrade conditions, contained in official publications and other sources of which the Court will

take judicial notice. Appellants contend that the existence of these material facts accentuates the insufficiency of the evidence to support the court's material findings.

Appellants contend under their Proposition III that the record indicates that the court below gave material and preponderant weight to the fact of Federal-aid contributions made under the Federal Highway Act in the construction and maintenance of the highways in question, and will contend that neither the fact of such Federal-aid contributions, nor the enactment of the Motor Carrier Act, 1935, as construed by the court below, justify the court's finding and holding that the State Act violates the Commerce Clause, whether these Federal statutes are considered by themselves or together, or in connection with any other facts in the record. Appellants further argue under this proposition that the court below erroneously held that the enforcement of the South Carolina statute in question constituted a *direct* burden on interstate commerce, whereas appellants contend that this statute was admittedly enacted under the well-recognized police powers of the State and that any effect it had on interstate commerce was merely incidental and indirect. Appellants further contend that the court below misapplied several of the decisions of this Court, such as the case of *Buck* v. *Kuykendall* and *Bush & Sons Co.* v. *Maloy, infra,* in that those cases involved a direct burden on interstate commerce, irrespective of any Federal legislation, and are inapplicable to this case, as is the case of *N. C. & St. L. R. R. Co.* v. *Walters, infra,* also relied on by the court below.

Proposition I.

The court below erred in holding the weight and width limitations of the South Carolina statute to be an unreasonable burden upon interstate commerce and, therefore, unconstitutional, in that its decree is based upon sharply

conflicting evidence of experts as to the reasonableness of such limitations and upon opinion testimony, largely immaterial, and in part contrary to facts judicially known; and thus its decision, under settled law, encroaches upon the legislative discretion.

Under this proposition appellants will rely on and argue Assignments of Error numbered 1, 2, 12, 14, 15, 17, 18, 19, 22, 24, 25, 27, 28 and 30 (R. 88 to 96).

The evidence before the court below, and upon which it made its findings, consisted of two classes.

First. Evidence which was unchallenged, to the following effect:

(a) That other States have greater weights and widths.

(b) That rates would be higher and hauling more expensive, and business would be diverted from South Carolina.

Second. Sharply conflicting evidence, based largely upon opinion of experts, upon the following points:

(c) That some of the roads in South Carolina can withstand a greater weight limit than 20,000 pounds.

(d) That the gross weight and width limitation has no relation to conserving the highways or in promoting safety.

(e) That lighter trucks are more unsafe than heavier ones.

This is the same kind and character of evidence that was introduced in *Sproles* v. *Binford,* 286 U. S. 374. In that case, upon such conflicting testimony, this Court upheld the Texas statute.

1. *There is a presumption that a State in enforcing its local policies will conform its requirements to the Federal Constitution; or, in other words, there is a presumption that an Act of a State Legislature is valid.*

It was incumbent upon plaintiffs below, appellees here, to show that the State statute created an unreasonable and arbitrary burden against their interstate business. It must be borne in mind at the outset that the South Carolina Act falls alike on interstate and intrastate commerce. There is no discrimination *per se*. The enforcement of the law is the same as to both interstate and intrastate commerce. The requirements of the Act are the same as to each class of commerce. Under well known decisions of this Court all doubts must be resolved in favor of, and not against, the State. The presumption is that the statute is valid.

Corporation Commission v. *Lowe,* 281 U. S. 431, 438;
Wampler v. *LeCompte,* 282 U. S. 172, 174, 175.

2. *The statute was adopted after appointment of a committee and a full public hearing.*

In *Pacific States Box & Basket Company* v. *White,* 296 U. S. 176, 186, the court, in upholding the statute in that case, said:

> "Here there is added reason for applying the presumption of validity; for the regulation now challenged was adopted after notice and public hearing, as the statute required."

3. *The statute is a valid exercise of the police power of the State and is not unreasonable, arbitrary or capricious.*

The evidence was sharply conflicting as to whether gross weight and width limitation had any relation to conserving the highways and to safety, and as to whether light trucks were more unsafe than heavy ones, and as to whether the roads in South Carolina could withstand a greater weight limit than 20,000 pounds.

The prayer in the bill is a general prayer for an injunction restraining the State officers from enforcing the statute as to plaintiffs while engaged in interstate commerce,

and is not limited to any particular highways. The decree, to the contrary, limited the injunction to specific numbered highways, 1, 15-A, 17, 21, 25, 29 and 52, "or on such portions of *other Federal aid highways* as may be of standard concrete and concrete and asphalt construction", and restrained the enforcement of "any provisions of the Act limiting the gross weight of trucks on highways to 20,000 pounds, or providing that a tractor-semi-trailer combination shall be considered a single unit for the purpose of determining gross weight and thereby limiting the gross weight of such combination to 20,000 pounds, or limiting the width of such vehicle to 90 inches, if the width of the vehicle does not exceed 96 inches". The decree further provided that the provisions of the injunction order shall not extend to bridges on the highways mentioned where such bridges have not been constructed with sufficient strength to support the heavy trucks of modern traffic (without limiting any weight) or are too narrow to accommodate such traffic safely, and that the State Highway Department should erect at each of such bridges a notice of sufficient size and character to give ample warning that the use of the bridge is forbidden to trucks exceeding the weight or width limit.

The court undertook to set up its judgment for that of the Legislature, and further undertook to vary the terms of the statute. It fixed its own regulations to be obeyed by the South Carolina authorities, contrary to the regulations established by the Legislature. The court, in so doing, invaded the province of the Legislature and went beyond the authority conferred upon it.

The court permitted testimony of the plaintiffs that light trucks are more unsafe on the highways than heavy ones (R. 117), and this under objection of the defendants below (R. 101, 210).

This was purely opinion evidence and contrary to decisions of this Court. Courts have taken judicial notice that the fact is contrary to this testimony.

People v. *Linde,* 341 Ill. 269;
Buck v. *Kuykendall,* 267 U. S. 307, 315;
State v. *John P. Nutt Co., Inc.,* 180 S. C. 19.

The construction of this statute was before the Supreme Court of South Carolina in *State ex rel. Daniel, Atty. Gen.,* v. *John P. Nutt Co., Inc., et al.,* 180 S. C. 19. In that case the defendants contended that this same statute violated the due process clause of both the State and Federal Constitutions and the commerce clause of the Federal Constitution, Article I, Section 8, clause 3. The court held that the statute violated none of these articles of the Constitution, and said:

> "The police power of the State concerning the highways has not been impaired by the federal aid statutes. The state may prescribe regulations adapted to conserve its highways as to cost of construction and maintenance, to reasonably restrict their use in favor of normal traffic, and to promote the safety of all who may use them. That there is a direct relation between the weight and size of motor vehicles and the consequent damage to the highways resulting from their use, and the consequent damage to others from their operation, is no longer open to controversy, and reasonable regulations in this respect are within the police power and entirely within the legislative domain. It is recognized that the commerce clause of the Federal Constitution goes merely to the extent of inhibiting such regulations as result in discrimination against motor vehicles used in interstate commerce, and does not restrict the state in the exercise of its police power in this respect, so long as the statute applies equally to all. *Aero Mayflower Transit Co.* v. *Georgia Public Service Commission,* 295 U. S. 285; 55 S. Ct. 709; 79 L. Ed. 1439. *Sproles* v. *Binford,* 286 U. S. 374; 72 S. Ct. 581; 76 L. Ed. 1167;

Continental Baking Co. v. *Woodring,* 286 U. S. 352; 52 S. Ct. 595; 76 L. Ed. 1155; 81 A. L. R. 1402; *Morris* v. *Duby,* 274 U. S. 135; 47 S. Ct. 548; 71 L. Ed. 966; *State* v. *Hicklin,* 168 S. C. 440; 167 S. E. 674, affirmed *Hicklin* v. *Coney,* 290 U. S. 169; 54 S. Ct. 142; 78 L. Ed. 247; *Ashland Transfer Co.* v. *State Tax Commission,* 247 Ky. 144; 56 S. W. (2d) 691; 87 A. L. R. 534; *State* v. *Wetzel,* 208 Wis. 603; 243 N. W. 768; 86 A. L. R. 274; *Contract Cartage Co.* v. *Morris,* (D. C.) 59 F. (2d) 437.''

That case is supported by the decisions of this and other courts cited therein. This Court, in several decisions, has held that state statutes limiting the weights, heights, lengths and widths of motor vehicles, equally uniform in their application to interstate and intrastate commerce, cast no burden on interstate commerce or traffic, and do not violate Section 8, Article I, of the Constitution of the United States. The principles upon which such decisions rest have been enunciated in many cases.

Aero Mayflower Transit Co. v. *Georgia Public Service Commission,* 295 U. S. 285, 55 S. Ct. 709, 79 L. Ed. 1439;

Sproles v. *Binford,* 286 U. S. 374, 72 S. Ct. 581, 76 L. Ed. 1167;

Continental Baking Co. v. *Woodring,* 286 U. S. 352, 52 S. Ct. 595, 76 L. Ed. 1155, 81 A. L. R. 1402;

Morris v. *Duby,* 274 U. S. 135, 47 S. Ct. 548, 71 L. Ed. 966, 967;

Hicklin v. *Coney,* 290 U. S. 169, 54 S. Ct. 142, 78 L. Ed. 247;

Hendrick v. *Maryland,* 235 U. S. 610;

Clark v. *Poor,* 274 U. S. 554, 71 L. Ed. 1199;

Bradley v. *Public Utilities Commission of Ohio,* 289 U. S. 92;

Kane v. *New Jersey,* 242 U. S. 160;

Stephenson v. *Binford,* 287 U. S. 251;

Hess v. *Pawlosky,* 274 U. S. 160.

In *Sproles* v. *Binford, supra,* the Court, in upholding the Texas statute, speaking through Mr. Chief Justice Hughes, said:

> "In exercising its authority over its highways the State is not limited to the raising of revenue for maintenance and reconstruction, or to regulations as to the manner in which vehicles shall be operated, but the State may also prevent the wear and hazards due to excessive weight of load. *Limitations of size and weight are manifestly subjects within the broad range of legislative discretion. To make scientific precision a criterion of constitutional power would be to subject the State to an intolerable supervision hostile to the basic principles of our Government and wholly beyond the protection which the general clause of the 14th amendment was intended to secure. Ohio Oil Co.* v. *Conway,* 281 U. S. 146, 159; 74 L. Ed. 775, 781; 50 S. Ct. 310. *When the subject lies within the police power of the State, debatable questions as to reasonableness are not for the courts but for the legislature, which is entitled to form its own judgment, and its action within its range of discretion cannot be set aside because compliance is burdensome. Standard Oil Co.* v. *Maryville,* 279 U. S. 582, 586; 73 L. Ed. 856, 860; 40 S. Ct. 430; *Price* v. *Illinois,* 238 U. S. 446, 452; 59 L. Ed. 1400; 35 S. Ct. 892; *Hadacheck* v. *Sebastian,* 239 U. S. 394, 410; 60 L. Ed. 348, 356; 36 S. Ct. 143; Ann. Cas. 1917B, 927; *Euclid* v. *Ambler Realty Co.,* 272 U. S. 365, 388; 71 L. Ed. 303, 310; 54 A. L. R. 1016; 47 S. Ct. 114; *Zahn* v. *Board of Public Works,* 274 U. S. 325, 328; 71 L. Ed. 1074; 47 S. Ct. 594. Applying this principle, this Court in *Morris* v. *Duby,* 274 U. S. 135; 71 L. Ed. 966; 47 S. Ct. 548, sustained the regulation of the Highway Commission of Oregon, imposed under legislative authority, which reduced the combined maximum weight in the case of motor trucks from 22,000 pounds, which had been allowed under prior regulations, to 16,000 pounds. See also *Carley & Hamilton* v. *Snook,* 281 U. S. 66, 73; 74 L. Ed. 704, 709; 68 A. L. R. 194; 50 S. Ct. 204. The requirement in *Morris* v. *Duby,* related to the *gross load*

> limit, but we know of no constitutional distinction which would make such legislation appropriate and deny to the State the authority to exercise its discretion in fixing a net load limit. We agree with the District Court that the limitation imposed by Section 5 of the statute does not violate the due process clause." (Italics ours).

Under the facts and testimony herein, which have been fully set out in our Statement of the Case, appellants think that the *Sproles* case, *supra,* read in the light of the evidence in the record in that case and the contentions there made, is of itself absolutely determinative of the instant case and requires the reversal of the decree appealed from.

We have carefully examined the record and briefs filed in this Court in that case, and the record shows that the plaintiffs' evidence therein was exactly similar, both in kind and character, to appellees' evidence in the instant case. Plaintiffs' evidence in that case consisted of the following: first; that the Texas statute there assailed which imposed a 7,000 pound net weight limitation, repealed a prior law which had permitted a gross load of 30,000 pounds, provided the axle load did not exceed 16,000 pounds; second, there was testimony by several engineers, one from the U. S. Bureau of Roads, that a net load limitation had no real relation to highway preservation and was unreasonable and arbitrary, because damage to the highway could only be prevented by laws which prescribed maximum wheel and axle weights (precisely the position taken by appellees' witnesses here); that the repealed law (permitting a 30,000 pound gross load, with a 16,000 pound axle limitation) adequately protected the highways and was similar to the laws of most of the other states (again identical with the contentions of appellees herein). The testimony of the Chief of the U. S. Bureau of Public Roads, Mr. Thomas H. McDonald, before the Interstate Commerce Commission, which is found on page 281 of the record in this case, was also introduced in the

Sproles case. In fact, the record in the *Sproles* case contains all of the highway engineering and expert testimony introduced by appellees in this case, but more engineers testified in the *Sproles* case and the evidence also touched on certain features not specifically mentioned in the present case; third, there was much evidence in the *Sproles* case, as here, that the enforcement of the Texas statute would cause great loss to motor vehicle carriers and shippers. This was largely or entirely undisputed. Further, the District Court in that case found that the carriers who had operated in interstate commerce profitably under the old law, would operate their vehicles at a loss under the 7,000 pound net weight limitation, and also specifically found that trucks used in neighboring States could not be used in Texas under the new law, which would require the transfer of the cargo to smaller trucks at the state line. This evidence and these findings of the Texas Court are duplicated in the instant case. See Findings of Fact 7, 8, 9 (R. 78); 10, 11, 12 and 13 (R. 79); 14 and 15 (R. 80); and 16 (R. 81).

Thus, excepting the small amount of evidence in the instant case as to what highways of the state had received Federal aid, the evidence in the two cases is identical in kind and character. This Court, in the *Sproles* case, held that evidence that compliance is burdensome to operators on the highway and will cause highway users serious loss, is immaterial.

The question of the reasonableness of the weight limitation in the Texas case was, as this Court held, debatable, because the evidence thereon was conflicting. The same is true herein. The evidence on the strength of the South Carolina highways, on the reasonableness of a 20,000 pound gross weight limitation, and on whether a gross weight limitation has any reasonable relation to the protection of the highways, is sharply conflicting. Indeed, appellants

earnestly contend, and undertake to show in the next subdivision of this brief, that the District Court's Findings of Fact on this and other vital questions of fact are distinctly against the weight of the evidence, but this is immaterial for the purposes of the question now under discussion. It is enough to require the statute to be upheld that the evidence reasonably makes the question debatable. At the very least, the evidence heretofore set out indubitably shows that the questions of reasonableness, on which the District Court made adverse findings, are clearly debatable, because of the conflicting evidence thereon and the different inferences which may be drawn from the evidence.

However, the opinion of the Court below is strangely silent on this phase of the holding of the Court in the *Sproles* case, notwithstanding the emphatic language of the opinion bearing directly on it which we have herein above set out. The opinion of the court below does not even mention or notice that there is a conflict of evidence, and even a sharp conflict, on all of these questions. Indeed, in reading the opinion of the Court below, one having no knowledge on the subject would infer there was no conflicting evidence at all in this regard as to the reasonableness of the gross weight limitation involved, or the other facts found by the Court, and might even suppose from its opinion that the unreasonableness of such limitation was clearly condemned by universal experience and by all scientific knowledge. The Court below in its opinion (R. 73), says: "In the light of experience and of scientific knowledge, there is no ground for reasonable difference of opinion as to the gross load limitation of 20,000 pounds not being necessary for the protection of such roads themselves." It is unnecessary, at this point, to burden the brief with repeated quotations from the evidence. It is all set out in the summary of the evidence, *supra,* and even a casual reading of it shows "as plain as Holy Writ" that the evidence

on these questions of fact and reasonableness is clearly conflicting.

For this reason alone, we repeat, the opinion and decree of the Court below is palpably erroneous.

In *Morris* v. *Duby, supra,* at page 143, in an opinion by Mr. Chief Justice Taft, the Court said:

> "An examination of the acts of Congress discloses no provision, express or implied, by which there is withheld from the state its ordinary police power to conserve the highways in the interest of the public and to prescribe such reasonable regulations for their use as may be wise to prevent injury and damage to them. In the absence of national legislation especially covering the subject of interstate commerce, the state may rightly prescribe uniform regulations adapted to promote safety upon its highways and the conservation of their use applicable alike to vehicles moving in interstate commerce and those of its own citizens."

A state legislature is entitled to its own judgment in passing upon bills before it. That judgment is not to be superseded by a verdict of a jury or the personal opinion of Judges upon the issue which the Legislature has decided. It is not within the province of the Court to arbitrate such questions. It makes no difference that the facts supporting the legislative discretion may be disputed by argument or opinion of serious strength. The action of the Legislature upon such debatable questions is wholly within the power of the Legislature and furnishes no ground for the intervention of a court. When the subject lies within the police power of the state, debatable questions as to reasonableness are not for the courts but for the legislature, which is entitled to form its own judgment, and its action, within its range of discretion, cannot be set aside because com-

pliance therewith is burdensome and the cost of operation would be increased.

Rast v. *Van Deman & Lewis Co.,* 240 U. S. 342;
Bunting v. *Oregon,* 243 U. S. 426;
Hebe Co. v. *Shaw,* 248 U. S. 297;
Sproles v. *Binford,* 286 U. S. 374;
Standard Oil Co. v. *Maryville,* 279 U. S. 582;
State v. *Mayo,* 106 Me. 62.

In *Rast* v. *Van Deman & Lewis Co., supra,* the Court said:

> "It is established that a distinction in legislation is not arbitrary, if any state of facts reasonably can be conceived that would sustain it and the existence of that state of facts at the time the law was enacted must be assumed. It makes no difference that the facts may be disputed or their effect opposed by argument and opinion of serious strength. It is not within the competency of the courts to arbitrate in such contrariety."

In the case of *Bunting* v. *Oregon, supra,* the Court said:

> "But we need not cast about for reasons for the legislative judgment. We are not required to be sure of the precise reasons for its exercise or to be convinced of the wisdom of its exercise. It is enough for our decision if the legislation under review was passed in the exercise of an admitted power of government; and that it is not as complete as it might be, not as rigid as its prohibition might be, is no impeachment of its legality. This may be a blemish, giving opportunity for criticism, and difference in characterization, but the constitutional validity of legislation cannot be determined by the degree of exactness of its provisions or remedies. New policies are usually tentative in their beginning, advance in firmness as they advance in acceptance. They do not at a particular moment of time spring full-perfect from the legislative brain. Time may be necessary to fashion

> them to precedent customs and conditions and as they justify themselves or otherwise they pass from militancy to triumph or from question to repeal."

In the case of *Hebe Co.* v. *Shaw, supra,* the Court said:

> "If the character or effect of the article as intended to be used be debatable, the legislature is entitled to its own judgment, and that judgment is not to be superseded by the verdict of the jury, or, we may add, by the personal opinion of judges upon the issue which the legislature has decided."

In the case of *Standard Oil Co.* v. *Maryville, supra,* the Court said:

> "We may not test in the balances of judicial review the weight and sufficiency of the facts to sustain the conclusion of the legislative body, nor may we set aside the ordinance because compliance with it is burdensome."

Euclid v. *Ambler Realty Company,* 270 U. S. 365.

In the *John P. Nutt Company* case the Supreme Court of South Carolina not only upheld the statute as against an objection that it violated the commerce clause of the constitution, but said:

> "The Court here judicially knows that the facts exist, bringing the legislative power into play."

The holding by this Court in the case of *O'Gorman & Young* v. *Hartford Fire Insurance Co.,* 282 U. S. 251, 258, is peculiarly applicable. The Court said:

> "As underlying questions of fact may condition the constitutionality of legislation of this character, the presumption of constitutionality must prevail in the absence of some factual foundation of record for overthrowing the statute. It does not appear upon the face of the statute, or from any facts of which the

> court must take judicial notice, that in New Jersey evils did not exist in the business of fire insurance for which this statutory provision was an appropriate remedy. The action of the legislature and of the highest court of the state indicates that such evils did exist."

In *Pacific States Box & Basket Co.* v. *White,* 296 U. S. 176, 185, the Court had before it a suit to enjoin the enforcement of an order of a State department of agriculture prescribing a certain type of container for marketing berries. The State department of agriculture was vested with authority to prescribe such standard containers. The point was made that the order was so arbitrary and capricious as to violate the due process clause of the Fourteenth Amendment. The Court said:

> "The order here in question deals with a subject clearly within the scope of the police power. See *Turner* v. *Maryland,* 107 U. S. 38; 27 L. Ed. 370; 2 S. Ct. 44. When such legislative action 'is called in question, if any state of facts reasonably can be conceived that would sustain it, there is a presumption of the existence of the state of facts, and one who assails the classification must carry the burden of showing by a resort to common knowledge or other matters which may be judicially noticed, or to other legitimate proof, that the action is arbitrary.' "

The latest expression on this subject which we have found is in *Old Dearborn Distributing Company* v. *Seagram-Distillers Corporation,* No. 372, October Term, 1936, L. Ed. Advance Opinions, Vol. 81, No. 3, p. 130, 137. This Court, speaking through Mr. Justice Sutherland, said:

> "There is a great body of fact and opinion tending to show that price cutting by retail dealers is not only injurious to the good will and business of the producer and distributor of identified goods, but injurious to

> the general public as well. The evidence to that effect is voluminous; but it would serve no useful purpose to review the evidence or to enlarge further upon the subject. True, there is evidence, opinion and argument to the contrary; but it does not concern us to determine where the weight lies. We need say no more than that the question may be regarded as fairly open to differences of opinion. The legislation here in question proceeds upon the former and not the latter view; and the legislative determination in that respect, in the circumstances here disclosed, is conclusive so far as this court is concerned. Where the question of what the facts establish is a fairly debatable one, we accept and carry into effect the opinion of the legislature."

When the court below undertook consideration of this case it had before it the findings of the Legislature of South Carolina, the decision of the highest court of that State, including its judicial findings, and a denial of certiorari by this Court. This Court has consistently applied the rule that the combined decision of the Legislature and the highest court of a State on local conditions is of great weight on such question.

We quote from *Laurel Hill Cemetery* v. *State and County of San Francisco,* 216 U. S. 358, 365, cited with approval in the recent case of *Nashville, C. & St. L. R. Co.* v. *Walters,* 294 U. S. 405, 433:

> "But whatever the tribunal, in questions of this kind great caution must be used in overruling the decision of the local authorities, or in allowing it to be overruled. No doubt this court has gone a certain distance in that direction. *Dobbins* v. *Los Angeles,* 195 U. S. 223, 49 L. Ed. 169, 25 Sup. Ct. Rep. 18; *Lochner* v. *New York,* 198 U. S. 45, 58, *et seq.,* 49 L. Ed. 937, 942, 25 Sup. Ct. Rep. 539, 3 A. & E. Ann. Cas. 1133. But it has expressed through the mouth of the same judge who delivered the judgment in the case last cited the

> great reluctance that it feels to interfere with the deliberate decisions of the highest court of the state whose people are directly concerned. *Welch* v. *Swasey,* 214 U. S. 91, 106, 53 L. Ed. 923, 930, 29 Sup. Ct. Rep. 567. The reluctance must be redoubled when, as here, the opinion of that court confirms a specific determination concerning the same spot, previously reached by the body that made the law. See *French* v. *Barber Asphalt Paving Co.,* 181 U. S. 324, 341, 45 L. Ed. 879, 888, 21 Sup. Ct. Rep. 625; *Smith* v. *Worcester,* 182 Mass. 232, 234, 235, 59 L. R. A. 728, 65 N. E. 40."

It was not for the court below to say what the law of South Carolina should be, or to overthrow a statute enacted by the State under its recognized police power, merely because the court had different ideas as to what the regulations should be. The weight limitation in *Morris* v. *Duby, supra,* related to the gross load limit, while that in the *Sproles* case, *supra,* related to the net load limit. Neither of them involved a wheel or axle weight limitation, yet both statutes were upheld by this Court.

If the statute is reasonable *per se,* and it has been so held in the *Nutt* case, *supra,* to make it an unreasonable burden upon interstate commerce evidence must be advanced to show that the Legislature acted in an arbitrary or capricious manner, or that the statute, as applied to interstate commerce, is capricious or arbitrary. There is no evidence in the record to this effect. The statute applies equally to trucks engaged in intrastate commerce as well as to trucks engaged in interstate commerce. All that the evidence tends to show and all that the witnesses testified to was that it would make the transportation more costly and increase the rates and that in some instances shipments would have to be transferred at the border of South Carolina, and business would be diverted from South Carolina points to other States. The authorities which we have

already cited show this does not make the Act unreasonable.

In the *Duby* case, *supra,* at page 144, the Court said:

> "The mere fact that a truck company may not make a profit unless it can use a truck with load weighing 22,000 or more pounds does not show that regulation forbidding it is either discriminatory or unreasonable. That it prevents competition with freight traffic on parallel steam railroads may possibly be a circumstance to be considered in determining the reasonableness of such a limitation, but that is doubtful, but it is necessarily outweighed when it appears by decision of competent authority that such weight is injurious to the highway for use of the general public and unduly increases the cost of maintenance and repair."

In *Euclid* v. *Ambler Realty Co., supra,* the Court said, page 389:

> "If it be a proper exercise of the police power to regulate industrial establishments to localities separated from residential sections, it is not easy to find a sufficient reason for denying the power because the effect of its exercise is to divert an industrial flow from the course which it would follow to the injury of the residential public if left alone, to another course where such injury will be obviated."
>
> *Erie Railroad Company* v. *Board of Public Utility Commissioners,* 254 U. S. 394;
> *Hadacheck* v. *Sebastian,* 239 U. S. 943;
> *Commonwealth* v. *Mulhall,* 162 Mass. 517;
> *State ex rel Bonstell* v. *Allen,* 83 Fla. 218.

The District Court further held, on motion to dismiss that the State statute is not violative of the due process and equal protection clauses of the Fourteenth Amendment, and expressly adopted the opinion of the State Supreme Court in *State* v. *Nutt, supra,* on those questions (R. 57). In so holding, and in also holding that the statute was unreasonable and invalid under the commerce

clause, as to the numbered highways, we think it clear that the court below has held that the State statute is both reasonable and unreasonable, at the same time, and under the same circumstances. If the statute is reasonable under the Fourteenth Amendment, we submit that it is reasonable under the commerce clause; it being conceded that the statute, on its face, does not discriminate against interstate commerce. Evidently, the District Court based its distinction upon the erroneous notion that a State statute, enacted pursuant to the reserved police power, is unreasonable, if it incidentally burdens or affects interstate commerce. It would be well here to compare the facts and the law in this case to the facts and the law in the *Erie* case, *supra*. There the Board of Public Utility Commissioners directed a change in fifteen places in the City of Paterson where the Erie Railroad crossed that number of streets at grade. The railroad was ordered to make the change by carrying fourteen of the crossings under and one at Madison Avenue over the Railroad. It also had to bear the cost, subject to a charge to the Public Service Railway Company, of 10 per cent of the cost of changing three crossings used by its road. It showed that it did not have assets sufficient to make the changes, at least without interfering with the proper development of its interstate commerce, and also contended that the whole evidence did not justify the finding of the board that the crossings were dangerous to public safety, but at most showed that the change would be a public convenience. It alleged that it is not reasonable to require an expenditure for such a purpose of over $2,000,000.00 from a company that has not more than $100,000.00 available, and that the order and the statute, when construed to justify it, not only interfere unwarrantably with interstate commerce, and impair the obligations of contracts, but take the railroad company's property without due process of law.

Most of the streets concerned were laid out later than the railroads, and this fact is relied upon, so far as it goes, as an additional reason for denying the power of the State to throw the burden of this improvement upon the railroad. The Court, through Mr. Justice Holmes, said:

> "Grade crossings call for a necessary adjustment of two conflicting interests,—that of the public using the streets, and that of the railroads and the public using them. Generically the streets represent the more important interest of the two. There can be no doubt that they did when these railroads were laid out, or that the advent of automobiles has given them an additional claim to consideration. They always are the necessity of the whole public, which the railroads, vital as they are, hardly can be called to the same extent. Being places to which the public is invited and that it necessarily frequents, the state, in the care of which this interest is, and from which, ultimately, the railroads derive their right to occupy the land, has a constitutional right to insist that they shall not be made dangerous to the public, whatever may be the cost to the parties introducing the danger. That is one of the most obvious cases of the police power; or, to put the same proposition in another form, the authority of the railroads to project their moving masses across thoroughfares must be taken to be subject to the implied limitation that it may be cut down whenever and so far as the safety of the public requires."

Likewise, it can be said in this case as between trucks and the highways of South Carolina the latter represent the more important interest of the two. They always are the necessity of the whole public, while the heavy trucks, important as they are, hardly can be deemed important to the same extent. Being places to which the public is invited, and which it necessarily uses, the State, in the care of which this interest is, and from which, ultimately, the

trucks derive their right to occupy the land, has a constitutional right to insist that its highways shall not be made dangerous to the public, whatever may be the cost to the parties introducing the danger. The authority of the trucks to project their moving masses across highways must be taken to be subject to the implied limitation that it may be cut down whenever and so far as the safety of the public requires.

Again, and on the same page, the Court said:

> "It is said that if the same requirement were made for the other grade crossings of the road, it would soon be bankrupt. That the states might be so foolish as to kill a goose that lays golden eggs for them has no bearing on their constitutional rights. If it reasonably can be said that safety requires the change, it is for them to say whether they will insist upon it, and neither prospective bankruptcy nor engagement in interstate commerce can take away this fundamental right of the sovereign of the soil. * * * To engage in interstate commerce the railroad must go on to the land; and, to get on to it, must comply with the conditions imposed by the state for the safety of its citizens. Contracts made by the road are made subject to the possible exercise of the sovereign right. * * * If the burdens imposed are so great that the road cannot be run at a profit, it can stop, whatever the misfortunes the stopping may produce."

Here the Court has improperly taken into consideration in rendering its decree the additional cost to the merchants, shippers, vegetable growers and motor carriers resulting from the limitations fixed by the statute.

If the State might be so foolish as to make reasonable regulations which may divert traffic from the State, impose upon its citizens and those who use its roads a higher cost upon the traffic thereon, it is for it to say that it will insist upon it, and neither the high cost of the transportation nor

the diversion of the traffic, nor engagement in interstate commerce, can take away this fundamental right of the sovereign State which owns the highways. To engage in interstate commerce over the State highways, trucks must get on to the highways; and, to get on to them, must comply with the conditions imposed by the State for the safety of its citizens. If the trucks cannot operate over the highways of South Carolina at a profit, they can stop, whatever the misfortunes the stopping may produce.

In the *Erie Railroad* case, *supra,* at page 412, the Court said:

> "The board must be supposed to have known the locality, and to have had an advantage similar to that of a judge who sees and hears the witnesses. The courts of the state have confirmed its judgment."

Here the members of the legislature from all parts of the State were familiar with the conditions of the roads, the subsoil and other like elements entering into the construction. They were familiar with the ability of the State to raise money to build and to maintain the roads. They appointed a committee to investigate the situation and report to the legislature upon its findings, and after hearing it, passed the act. As the Court said in the *Erie* case, the legislature must be supposed to have known the locality and to have had an advantage similar to that of a judge who sees and hears the witnesses, and, as in that case, "the courts of the state have confirmed its judgment". In this case the Supreme Court of South Carolina has confirmed the judgment of the legislature in the *Nutt* case.

It seems clear that the Court below, in thus expressly finding and holding that the statute was reasonable under the Fourteenth Amendment, thereby itself eliminates any basis or ground for its finding that the statute was unreasonable under the Commerce Clause (Assignment of Error No. 22).

The court below, in its 25th Finding of Fact (R. 83) gives as a reason that there are only four other States in the Union having a weight limit of 20,000 pounds and that this is contrary to recommendations of certain societies.

In *Sproles* v. *Binford, supra,* page 390, the Court said:

> "In the absence of national legislation especially covering the subject of interstate commerce, the State may rightly prescribe uniform regulations adapted to promote safety upon its highways and the conservation of their use, applicable alike to vehicles moving in interstate commerce and those of its own citizens. In the instant case, there is no discrimination against interstate commerce and the regulations adopted by the State, assuming them to be otherwise valid, fall within the established principle that matters admitting of diversity of treatment, according to the special requirements of local conditions, the States may act within their respective jurisdictions until Congress sees fit to act. *Minnesota Rate* Cases (*Simpson* v. *Shepard*), 230 U. S. 352, 399, 400; 57 Law Ed. 1511, 1541, 48 L. R. A. (N. S.) 1151; 33 S. Ct. 729; Ann. Cas. 1916A, 18. As this principle maintains essential local authority to meet local needs, *it follows that one State cannot establish standards which would derogate from the equal power of other States to make regulations of their own.*" (Italics ours.)

In *Werner Transportation Co. et al.* v. *Hughes,* decided by a Three-Judge statutory Court for the Eastern District of Illinois, June 18, 1937, advance sheets to 19 Fed. Supp. 425, the same question of the Illinois Act being a burden upon interstate commerce was raised, and in its opinion the Court said:

> "Plaintiffs say that the statute in question directly burdens interstate commerce because the maximum gross weights allowed by adjoining states are in excess of the maximum weight allowed by the statute in question. The real question here is not whether the

> weight allowed by Illinois is less than those allowed by Minnesota and Wisconsin, but is, rather, whether the regulations imposed by Illinois bear some reasonable relation to the results sought to be accomplished."

In *Houston & North Texas Motor Freight Lines et al.* v. *Phares et al.,* decided by the District Court for the Northern District of Texas, reported in Advance Sheets to Federal Supplement, Vol. 19, p. 420, the Court sought to enjoin the enforcement of the Texas statute limiting the weight of load on commercial trucks to 7,000 pounds as being a burden upon interstate commerce. The Court held that the statute was reasonable and said:

> "It is contended that other states allow a larger load. It is contended that certain roads, U. S. Highways 75 and 77 and others, will support a greater load."

The Court further said:

> "One question that, in the court's mind, is determinative of the issues raised is that it is a proper exercise of the police power of a state to preserve uniformity and avoid congestion on its highway system. Take the testimony of the witness Gilchrist, the state highway engineer. When asked by the court what his idea would be as to an ideal traffic situation, he said, in substance: I think that a greater weight might be allowed upon the highways but I think it ought to be limited to a speed of twenty-five miles an hour, and the width should be limited to eighty-four inches. I am inclined to agree with witness Gilchrist. If I were the legislature or if this court is, as might appear from some of the argument, clothed with legislative power as it were, I think I might allow this increased weight and decrease the speed. But that is not the prerogative of this court. And in the basic conception of our government it was not, according to the belief of this court, intended ever to become a prerogative of the judicial branch. The very situation shows the

> necessity of its being regulated by the legislative branch of the government because the legislative body could decrease the speed and increase the weight. The court could not do so. That is, the court does not feel that he should do so. To attempt to do so would not only constitute a court of equity a legislative branch, but it would make of it an administrative branch of the government."

In *State* v. *Wetzel,* 208 Wis. 603, 243 N. W. 768, the defendant was indicted for violation of a statute of Wisconsin limiting the over-all length of combinations of vehicles on highways, semi-trailers measuring from the rear thereof to the rear of the vehicle to which it is attached, to 33 feet. The defendant claimed that the statute was so unreasonable as to violate the due process clause of the State and Federal Constitutions, and as it may affect vehicles, used in interstate commerce, the commerce clause of the Federal Constitution. Referring to defendant's contention that the statute is an unreasonable burden upon interstate commerce and an unreasonable discrimination between owners of trucks upon the highways, the Court said:

> "We regard this contention to be without merit for several reasons. It is of course elementary that the stipulation of facts in this case is not binding upon the court or conclusive as to the relation between the section under attack and public safety upon the highways. The legislative power to adopt such measures as in its judgment will promote public safety cannot be defeated by stipulation of the parties, even if one of the parties is the state. At most, this stipulation, as well as the testimony upon which it was based, is entitled to be considered for the purpose of assisting the court in a determination of the question whether the statute has any reasonable relation to safety. So considered, it falls short of its objective. It is based upon the opinions of experts that the section excludes from the highways a truck-trailer combination that is safer than the types

> that are permitted. The difficulty with this sort of testimony is that the final and conclusive opinion on the subject must be that of the Legislature."

In referring to the opinion of experts, the Court said:

> "Assuming, however, the utility of this evidence for the purpose of informing the court, its ultimate effect is merely to demonstrate the likelihood that an error in judgment was committed by the Legislature. This is not enough to condemn the law."

The decree (R. 85) enjoins the State officials from enforcing the weight, width and tractor-semi-trailer combination provisions of the Act against the plaintiffs while engaged in interstate commerce on certain highways of the State of South Carolina, "or on such portions of other Federal aid highways as may be of standard concrete or concrete and asphalt construction," and provides that the injunction shall not extend to bridges on the highways mentioned which have not been constructed with sufficient strength to support the heavy trucks of road traffic or are too narrow to accommodate such traffic safely, provided the State Highway Department shall erect at each end of such bridges proper notices of sufficient size and character to give ample warning that the use of the bridge is forbidden to trucks exceeding the weight or width limit.

The Court has thus opened the way for the appellees' trucks to operate over the roads of South Carolina, regardless of whether the axles are 40 inches apart and regardless of what weight limit is upon the road or what load limit is upon the motor vehicle. The South Carolina Highway Department and the police officials of South Carolina are prohibited from taking any action whatsoever, no matter how high-handed these operators may act.

This decree is a violent usurpation of the powers of the Legislature.

Morris v. *Duby, supra.*

What has been said as to the trial Court's erroneous decision as to the invalidity of the weight limits largely applies to its decision holding invalid, under the commerce clause, the provision of the statute limiting width to 90 inches, and to the Court's affirmative action in permitting widths up to 96 inches. The appellees' contention, and the Court's decision, that the fact that South Carolina is the only State which now has a 90-inch width limitation renders the statute invalid, is squarely met by the decision of this Court in the case of *Sproles* v. *Binford, supra,* holding that it is for each State itself and not for the courts (or adversely interested transportation or highway associations) to determine what the regulation shall be, unless the limitation is so unreasonable as to be arbitrary and capricious. "Over one hundred miles of the concrete paving is only 16 feet wide" (R. 197). While the record does not show how far the bodies of these large trucks extend beyond the wheels, obviously two 96-inch, or 8-ft. wide, trucks could not safely pass at any speed over a 16-ft. highway (R. 197). *Most* of the concrete and standard pavements are 18 feet wide, but some are 20 feet wide (R. 177). The record does not show how much of the concrete and standard highway is 18 feet wide and how much is 20 feet wide. It certainly cannot be said as a matter of law that a 90-inch, or 7½ ft., width limitation on an 18-ft. concrete highway is so unreasonable as to be arbitrary. When two vehicles of this width are passing, 15 feet of the 18-ft. highway are covered by the vehicles if their outer sides are directly over the edge of the pavement. This would leave only a distance of 3 feet between heavy vehicles which may be passing at high speed. Depending on the accuracy of the driving, sometimes there would be less than this distance between the passing vehicles and sometimes more. A great majority of highway users are private automobilists, who are not doing business for hire on the public highways and are not paid to take special and unusual risks

in using them. The great majority of this class of highway users would not wish to pass a large truck or bus traveling at permitted high speeds any closer than this. If there is any reasonable difference of opinion as to whether a passing distance of 3 feet or between 2 and 3 feet is too much or too little, under the decisions of this Court and all of the other decisions herein cited, the determination was for the South Carolina Legislature, and not for the Court below.

The State built, owns and has to maintain its roads. It spread its money all over the State so as to serve, as far as possible, all the people of the State. It did not have sufficient money to make all the roads of concrete, especially the through highways leading into other States. Granting the fact that some roads can withstand a weight limit of over 20,000 pounds, nevertheless, the Legislature was within its rights to fix a weight limit beyond which motor carriers cannot load. The same thing applies to the width.

The statute is one which encompasses motor vehicle regulation throughout the entire State. It does not provide different regulations for different roads or different parts of the State. It must stand or fall as a whole. It cannot be dissected. The Court held that the Motor Carrier Act of 1935 did not supersede the South Carolina Act or the power of the State to regulate the weight, length and widths of motor vehicles on its highways. It held that the act was within the police power of the State. In the passage of the act the legislature had an end in view which it desired to accomplish, to-wit, the preservation of the highways and the safety of travelers thereon, and as a means to that end it fixed the weight, length and width limitation. The Court held that these are reasonable, except as to the numbered highways mentioned in the decree. We submit that as the Motor Carrier Act of 1935 and the Federal aid have not superseded the police power of the State as to roads other than the numbered roads mentioned in the decree, they have

not superseded the power to regulate those numbered roads. The highways of South Carolina are owned by the State and maintained by it. The fact that Federal aid was granted in no manner impinges upon the ownership of the roads. The police power of the State cannot be surrendered. It cannot be divided. It is not within the province or the power of the Court below to pass upon and regulate matters, as here attempted, which this Court has held is beyond the power of even the Congress itself.

In *Morris* v. *Duby, supra,* it is said by the Court:

> *"Conserving limitation is something that must rest with the road supervising authorities of the state not only on the general constitutional distinction between national and state powers* but also for the additional reason having regard to the argument based on a contract that under the convention between the United States and the state in respect to these jointly aided roads, the maintenance after construction is primarily imposed on the state." (Italics supplied.)

Under Federal and State constitutions, the national and State governments consist of three bodies, each separate and independent of the other, neither having authority to usurp the powers or duties of the other, but in this case the Court below exerted all three. (1) It proceeded to act as a court, (2) by its decree it amended an act of the legislature of South Carolina as to use of the numbered highways, and (3) it acted in an administrative capacity in conditioning the use of state-owned bridges. The decree, by paragraph 2 thereof, in effect, permits the use, by trucks engaged in interstate commerce, of admittedly weak bridges unable to withstand a load of 20,000 pounds, unless and until the State Highway Department shall erect at each end of such bridges a warning notice that its use is forbidden to trucks exceeding the weight and width limit, and unless and until the proper authorities (meaning State authorities) shall

take the necessary steps to enforce the law against the use of such bridges by such trucks. Thus the Court, in paragraph 2, has laid down rules and regulations to be complied with by the Highway Department upon penalty of having its admittedly weak bridges destroyed by heavy truck traffic. The decree takes away from the Legislature of South Carolina all authority to regulate its bridges unless it complies with the conditions laid down in the decree. Not only does the Court do this, but it goes further and in paragraph 5 of the decree it retains jurisdiction of this cause for the purpose of making any such change or modification with respect to paragraphs 1 and 2 of the decree as may hereafter appear to be proper in the premises. By the fifth paragraph of the decree the Court reserves unto itself the right and power to make any further rules and regulations in respect to the use of the bridges and highways as in its judgment it deems proper. The decree fixes one rule for trucks engaged in interstate commerce and another rule for trucks engaged in intrastate commerce.

Proposition II.

The record evidence, read with facts judicially known, fails to sustain the findings of the District Court that the said weight and width limitations have no reasonable relation to the safety and protection of the State's highways and constitute an unreasonable burden on interstate commerce, and affords no proper basis for the action of the Court in imposing its own selective restrictions and permissions in disregard of the legislative judgment.

Under this Proposition appellants will rely on and argue their Assignments of Error numbered 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, and 16 (R. 88 to 93). The Findings of Fact mentioned are found in the record at pps. 76 to 84.

In discussing, under this Proposition, the sufficiency of the evidence to sustain certain findings of fact made by the Court below on fundamental matters involved in its decision, appellants wish to make it clear that they do not at all concede that it is within the proper judicial function of the Court below, or any other Court, to hold the South Carolina statutory limitations invalid upon findings made by weighing substantially conflicting evidence as to their reasonableness. In other words, the well settled rule of this Court that debatable questions of reasonableness are not for the Courts but for the Legislature, where the subject-matter falls within the police power of the State, cannot be avoided by the simple expedient of weighing the evidence and determining what regulations are, in the Court's opinion, reasonable or unreasonable. This is precisely what the Court below attempted in its findings and decision. If the well established and salutary rule above mentioned could be thus avoided, no statute enacted by a State under its police powers would be safe from successful attack and overthrow, since it is always possible to procure contrary and conflicting opinions and evidence on almost every subject of police regulation. Numerous examples would readily occur, such as health regulations, regulation of intoxicating liquor, of railroads, as to safety matters, and many other matters within the broad domain of the State's police power.

The fundamental error of the Court below, in appellants' opinion, lies in its failure to observe this well established rule as exemplified by the *Sproles* case, *supra,* and numerous other decisions hereinbefore cited, which rule is a necessary part of the foundation of the doctrine of the separation of judicial and legislative powers. In this view of the case, it would hardly be necessary to discuss the sufficiency of the evidence to sustain the Court's findings of unreasonableness in their varying aspects, because the

sharply conflicting evidence disclosed by the record presents no proper case for making judicial findings of fact contrary to the legislative determination; and this has been fully shown in the first sub-division of this brief. However, assuming for the purpose of the present discussion, that findings of fact were permissible, appellants are convinced that a number of the findings of the Court below are not sustained by the weight of the competent evidence in the Record, and in order to demonstrate the complete unsoundness in every aspect of the decision appealed from, appellants will discuss some of the more important of the Court's findings.

The general burden of proof which the law places upon every plaintiff was, of course, upon plaintiff herein to make proof of all the material facts relied on to overthrow the statute. The Court below does not seem to have fully recognized the requirements of this burden, and in particular instances seems to have assumed or implied that the burden was on appellants to prove facts to justify the statute; for example, in referring in its opinion (R. 67) to the sufficiency of highways in the cities to sustain heavy traffic, the Court says there is no showing that there has been substantial damage to any of the streets as a result of the heavy traffic passing over them for the past five years and no reasonable ground to apprehend such damage in the future, as if the burden were on defendants to show such damage in addition to proving (R. 169) that the paving in most of the city streets was only adequate for passenger traffic and was not sufficiently strong for heavy traffic. The burden resting upon the plaintiffs in a case like this is particularly heavy where the action of the Legislature (taken after mature deliberation and full investigation made at its direction) and of the highest court in the State upholding such statute, indicates that the evils

reached by it did exist. *O'Gorman & Young* v. *Hartford Fire Insurance Co., supra.* Under the decisions of this Court in such a case as this "the burden is on the attacking party to establish the invalidating facts." *Weaver* v. *Palmer Bros. Co.,* 270 U. S. 402, 410; *Simpson* v. *Shepard,* 230 U. S. 352, 452-453.

Of course, the invalidity of a statute enacted under the police power may be shown by things which will be judicially noticed, as well as by facts established by evidence (*Weaver* case, *supra*) and *per contra,* facts which the Court will judicially notice should and we think, must be considered where they uphold the validity of the statute. In this connection, we may note that a considerable part of the testimony for plaintiffs, and some of the conclusions of the court below, are palpably contrary to well known facts of which this Court and other courts have taken judicial notice, namely: that both the highway hazards and the wear and tear of the highways increase with the increase in the number and size of the vehicles, and the exclusion of the larger and heavier vehicles promotes both safety and economy. This is judiciously recognized by this Court in the case of *Morris* v. *Duby, supra,* quoting at pp. 143, 144, from *Buck* v. *Kuykendall,* 267 U. S. 307, 315. The same facts were judicially recognized by the Supreme Court of Illinois in *People* v. *Linde,* 341 Ill. 269; 173 N. E. 361, and the same principle of judicial recognition of the effect of heavy loads on highways is applied in *Polglaise* v. *Commonwealth,* 114 Va. 850; 76 S. E. 897, 901. Indeed, the same facts are judicially recognized by the Supreme Court of South Carolina itself in the *Nutt Company* case, *supra,* 180 S. C. 19, 27, 31; 185 S. E. 25, in passing on the constitutionality of this identical statute under the Commerce Clause. That court says that these judicially known facts are "no longer open to controversy."

The findings of the court below must, therefore, be tested, not only in the light of the general burden resting on all plaintiffs, but also in the light of the special burden resting upon a party seeking to overthrow a State statute enacted in the admitted exercise of its police power, and of the above mentioned facts, which the Courts judicially know, and which, therefore, cannot be controverted. Keeping these considerations in mind, we will now discuss the sufficiency of the evidence to support some of the more important findings of the court below.

(a) *Finding No. 20 as to the effect of tractor-semi-trailer combination.* This is Assignment of Error No. 6 (R. 89). All of the Findings of Fact are found on pages 76 to 84 of the Record, except the several findings made in the opinion (R. 55).

In its 20th Finding of Fact the court below found:

> "That the effect on the highways and bridges of the state of South Carolina of a tractor-semi-trailer combination is not different from the effect produced by two vehicles of equal weight, one following the other; and that the provision requiring that the tractor-semi-trailer combination be considered as one unit for the application of the weight limitation is unreasonable."

It is plain that the conclusion of the above Finding that the provision of the statute (Sec. 2) requiring that the tractor-semi-trailer combination be considered as one unit for the application of the weight limitation, is unreasonable, is wholly based on the court's conclusion of fact in this finding that the effect on the highways and bridges of the State of a tractor-semi-trailer combination "is not different from the effect produced by two vehicles of equal weight, one following the other". It is apparent that this finding is unsound and cannot be sustained, because, both

as a matter of common practice and common prudence, one vehicle cannot and does not follow another on the highway in close and immediate proximity, which is what this finding implies. Chief Engineer Williamson of the South Carolina State Highway Department specifically testified (R. 189): "Our normal procedure in designing bridges for loading is to have trailer trucks pass, one in each line of traffic, about 30 feet between them".

Further, there is no testimony that a tractor-semi-trailer type is twice as long as the ordinary vehicle, and our common knowledge is that it is not.

Not only would it be held negligence as a matter of law for one truck going at any speed to follow another within a distance of even 5, 10 or 15 feet, or even a greater distance, but such operation is prohibited by statute in most, if not in all of the States, and is, in fact, prohibited in South Carolina by Acts 1937, Act No. 175, 40 Statute at Large, p. 222, 227, Sec. 12, approved April 16, 1937, which provides that the driver of a motor vehicle shall not follow another vehicle more closely than is prudent, having due regard for speed and traffic and the condition of the highway, and as to trucks, this Section provides:

> "(b) The driver of any *motor truck or motor truck drawing another vehicle* when traveling upon a roadway outside of a business or residence district shall not follow within 150 feet of another motor truck or motor truck drawing another vehicle, and the driver of any motor truck traveling in convoy of two or more such motor trucks shall not follow within 500 feet of any other motor truck in the said convoy."

It is apparent, therefore, that this finding of the trial court is based on an assumption which is contrary to common practice, common prudence and to the statutes of South Carolina and nearly every other State, and hence the conclusion based thereon as to the unreasonableness

of the provision of Section 2 requiring the tractor-semi-trailer combination to be considered as one unit must fall for utter lack of support. Further, if the weight limitation itself is valid, this provision is necessarily reasonable in connection therewith and to prevent its avoidance.

(b) *Findings as to amount of weak highways and old weak bridges in System.*

The sufficiency of the evidence to support the findings on this subject embraced in the court's findings Nos. 18 and 19 (R. 81, 82), and the finding in its opinion (R. 73) that there is a "connected system of standard highways" of the finest character, is raised by appellants' 4th, 5th and 14th Assignments of Error (R. 88, 92).

We will first consider the District Court's Findings of Fact No. 18, which is that the standard paved roads (2,417 miles) "form a well-connected system of highways" which have been improved with Federal funds as a part of a national system, and it further specifically finds that these roads "are capable of carrying the commerce which has been developed by modern truck transportation; that Federal Highways Nos. 1, 15-A, 17, 21, 25, 29 and 52 comprise the great arteries of interstate commerce through the State of South Carolina, are of standard concrete paving as above described, *with the exception of a few short stretches, a few miles in length,* which are not of sufficient importance to justify the denial of these arteries of commerce for the purposes for which they were constructed".

Appellants submit that the evidence does not sustain these findings of fact, but even shows the contrary. The only witness who testified in any detail at all as to the construction of the South Carolina Highway System and as to the condition of the various roads and bridges, was witness Williamson, Chief Engineer of the South Carolina Highway Commission, whose testimony on this subject will be

hereafter referred to and who, as a matter of fact, is the only witness who had very much, if any, information on the condition and character of the construction of the highways. The only other witness who testified at all as to the specific condition of the South Carolina highways was Professor Harry Tucker, the Engineering Professor from North Carolina, who confessed that he did not know much about the South Carolina highways and only made a short trip into the State, apparently, for the purpose of attempting to qualify to give specific testimony and went, according to his testimony, "from Charlotte, N. C. to Spartanburg, Greenville, Anderson, Greenwood to Aiken, Batesburg, Charleston, Kingstree, Florence, Cheraw and on Route 52 to the North Carolina line". His testimony as to the strength of the highways related only to solid concrete roads. He does not state specifically what highways he traveled on, but, apparently, from his statement of cities visited, he traveled from Charlotte, N. C. on highway 29 through Spartanburg, Greenville and thence to Anderson, thence to Greenwood, either via Federal highway 178 or (Map R. 300) State highways 18 and 7 (R. 254); from Greenwood to Aiken he probably traveled on Federal highway 25 (Maps R. 300) and thence northerly to Batesburg on Federal highway No. 1. Logically he would take U. S. Highway No. 178 from Batesburg to Charleston, which highway, as seen from the map, Appellees' Exhibit 6 (R. 300), between Batesburg and Orangeburg is not part of the Federal-aid system; from Charleston through Kingstree, Florence and to Cheraw, near the North Carolina line, apparently, from his testimony, he took highway No. 52.

A map showing in heavy blue outline the route which Professor Tucker actually took will be found in the appendix of the brief of the original defendants, the appellants, South Carolina State Highway Department and others.

According to the scale, the figures as to distances given on the highway maps put in evidence by appellees indicate that Professor Tucker actually traveled *only 500 miles* in taking this trip over the South Carolina highways. This distance is approximately only one-fifth of the concrete or standard pavement mileage of the South Carolina highways and approximately only one-twelfth of the total mileage of the State highway system. These figures are illuminating as to the little knowledge of South Carolina highway conditions Professor Tucker must have had when he testified. Some of the highway over which Professor Tucker rode in his limited journey, particularly in the western part of the State, constitutes some of the best standard highway in the State, but in referring to the maps placed in evidence by appellees (R. 300) labelled "The Federal-aid highway system, progress map", showing eastern and western South Carolina and brought up to December 1, 1936, it will be noted from the pavement types shown on the map that a number of places even on these highways travelled by Professor Tucker are not cement concrete types represented by the letter "C" on the maps. The other type letters shown on these maps are "M" for surface treated macadam, "A" for roads having surfaces of bituminous material, irrespective of the bases; "B" for block and brick types, "E" for earth graded types, "G" for gravel types, and "S" for sand-clay types. While referring to these maps we call the Court's specific attention to the fact that on most of the principal highways of the State there are numerous types of highway of varying length other than the "C" or concrete type, and this alone tends strongly to negative the court's finding, above mentioned.

The mileage of the various types of surfacing are shown, by our measurements from this map (Appellees' Exhibit No. 6, R. 300), in the following table:

Route	Concrete surfacing	Bituminous surfacing	Macadam surfacing	Sand-clay surfacing	Earth surfacing	Not specific	Total
No. 1							
Miles	83.0	71.0	10.2	....	....	....	164.2
%	50.5	43.3	6.2	....	....	....	100.0
No. 15							
Miles	102.0	17.4	11.0	....	5.5	7.5	145.4
%	70.2	12.0	7.5	....	3.8	6.5	100.0
No. 17							
Miles	133.0	32.4	19.8	....	....	32.4	217.6
%	61.1	14.9	9.1	....	....	14.9	100.0
No. 21							
Miles	150.0	27.6	17.3	17.3	3.2	....	215.4
%	69.7	12.8	8.0	8.0	1.5	....	100.0
No. 25							
Miles	126.0	7.9	0.8	....	....	....	134.7
%	93.5	5.9	0.6	....	....	....	100.0
No. 29							
Miles	88.5	15.0	....	....	....	....	103.5
%	85.6	14.4	....	....	....	....	100.0
No. 52							
Miles	94.0	38.6	11.8	7.9	1.6	....	153.9
%	61.1	25.1	7.7	5.1	1.0	....	100.0
Total							
Miles	776.5	209.9	70.9	25.2	10.3	41.9	1,134.7
%	68.5	18.5	6.2	2.2	0.9	3.7	100.0

In the map legend, the surfaces of bituminous materials are not differentiated to show which are bituminous top on macadam, gravel, or other similar bases, and which are bituminous with a concrete base. Witness Williamson testified (R. 163), speaking of low type bituminous surfacing, that there were some sections of this type of pavement on practically every road in the State. Since the burden of proof is on Appellees, and since bituminous surfacing is not shown to have concrete bases, it cannot be assumed that any of the 209.9 miles, shown in the second column, is bituminous with a concrete base. The record shows that only 40% of the State system, considered as a whole, consists of concrete and bituminous concrete. Certainly from the foregoing it cannot be found that the State system, as a whole, constitutes a connected system of concrete roads.

The only witness to testify, who actually had a detailed knowledge of the condition and construction of the State Highway System was Chief Engineer Williamson. He testified (R. 160) that the subgrade conditions of concrete

pavement are a very big factor as to its strength and some concrete pavement in one section may hold up 100,000 pounds and the same pavement similarly constructed may break up under a two or three thousand pound load and these subgrade conditions occur "very often in short distances of one another on the same road". We may here state that there is very little evidence in the record, if any substantial evidence, on the subgrade conditions of the South Carolina highways; and since the burden was on plaintiff to prove all facts and conditions which would make the statutory weight limitations unreasonable, this Court may, and will assume, under its applicable decisions, that facts existed as to subgrade conditions which were within the knowledge of the Legislature and properly influenced it in imposing the weight limitations fixed by the statute. We will hereafter refer further to the importance of subgrade conditions. This witness, in response to questions by the court (R. 163, 166), testified to the existence of a number of weak bridges on certain highways mentioned by the court. (These highways mentioned by the court are actually Nos. 1, 52 and 25.) Witness further testified that there were about 50 miles of bridge-work on the highways and around 75% of this was not designed to carry a load in excess of ten tons (R. 174).

With specific reference to the numbered highways included in the Court's decree, this witness testified as to Route No. 1 (R. 163, 164, 192) that some of it was of weak construction, without stating definitely how much, and he further testified (R. 163), in answer to a question as to whether there were any other routes over the State over which there is some of this bituminous surfacing, or other weak type of road, "I think we have some sections like that on practically every road in the State. There is either a light bridge or piece of bituminous surfacing or

pavement, or surface treatment of some kind on practically every road we have got throughout the State." On Route 15 (R. 162) there are two sections of weak type of road, the length of which witness does not give, and there is one weak bridge on it (R. 164), referring to it as the road from Wilmington to Charleston by Florence. Route No. 21 is referred to in connection with the question of whether the bridges were weak or strong (R. 192), but there is no detailed evidence as to the character of this Route. Highway No. 25 is only casually mentioned. Highway No. 29 is discussed as a road from Augusta to Greenwood and Greenville, to Asheville, N. C. (R. 164, 165, 166, 192), but there is nothing definitely said as to the construction of this Route. Referring to the Route from Rosinville, Sumter and Bennettsville, which is Route 15 (Referred to as 15-A, in the Court's decree), witness says that this road probably carries more interstate traffic than any other continuous road through the State and it has a number of weak bridges, as well as weak sections of surface treated roads as described. Route 17 is discussed in connection with a number of weak bridges thereon (R. 192, 196) but there is no evidence as to the type of roads of which this Route consists, other than the map (R. 300) of the Federal-aid highway system, which indicates that an indefinite part of this Route is "M" type road, surfaced treated macadam, and "A", bituminous surface. Incidentally, the greater part of this Route 17 is not Federal-aid highway. He further testified that in recent years they had constructed considerable mileage of bituminous surfacing which was an earth type road with a cover and it could not carry heavy loads; that they had been constructing this type of roads since 1924 and on a large scale recently, having gone to that type of construction, rather than to concrete, because of lack of funds and the demands of the public to get them out of the mud and dust (R. 160, 161). This type of road is about

one-third of the mileage of the State, about 1700 miles (R. 161) and is found on practically every road throughout the State (R. 163). This is all of the testimony on the condition of the State highways and we respectfully submit that it by no means sustains the Court's Findings Nos. 18, and 19, or the Court's Finding in its opinion (R. 73) that we have here: "A connected system of standard highways of the finest character". The material evidence, both for appellees and appellants, clearly shows that there is no connected system of standard concrete highways, as found by the Court, and, further, wholly fails to show the important fact of the sub-grade conditions of practically any of the State's highways. In view of the slight detailed showing as to the character and condition of the various roads covered by the Court's decree, this almost total failure of plaintiffs to prove anything about the sub-grade conditions, would of itself overthrow the Court's findings and sustain the limitations imposed by the Legislature.

(c) *Findings that gross load limitation has no reasonable relationship to conservation and safety of highways, and that gross weight limitation of 20,000 pounds is unreasonable.*

We will here consider the District Court's findings of Fact Nos. 17, 21, 22, 23 and its finding in its opinion (R. 73) that there is no reasonable relation between the weight limitations in the Act and the preservation or safety of the highways, etc., embracing Appellants' Assignments of Error Nos. 3, 7, 8, 9 and 14.

In these findings the court below distinctly found as a fact, and as the principal basis of its decision, that there were no grounds for reasonable difference of opinion as to the gross weight limitation of 20,000 pounds not being necessary for the protection of the highways and that a gross load limitation had no reasonable relation to the safety of

the highways, and that the 20,000 pound limitation imposed by the statute was unreasonable for such purposes and further found that all of the highways covered by the decree were capable of sustaining without injury to the highway a wheel load of 8,000 to 9,000 pounds or an axle load of 16,000 to 18,000 pounds, according to whether the wheels are equipped with high pressure or low pressure pneumatic tires. Appellants earnestly submit that this finding of the unreasonableness of the weight limitation in question is not only shown to be unjustified by the weight of the evidence in the record, but is entirely negatived by the highest type of evidence of which this Court can take judicial notice.

The office of Federal Coordinator of Transportation was created by Act of Congress and Mr. Eastman, a member of the Interstate Commerce Commission, was appointed Federal Coordinator by the President and in the years 1933 and 1934, (about the time this South Carolina statute was enacted) had made an exhaustive investigation of various transportation matters, including the subject of whether there was need for Federal legislation to regulate other transportation agencies than railroads and to promote the coordination of all means of transportation. The exhaustive report of the Federal Coordinator was completed and transmitted to the Senate by the Chairman of the Interstate Commerce Commission on March 10, 1934, and is published as Senate Document No. 152. This report (Page 205) discusses State Laws And Regulations Concerning Equipment, and Operation of Motor Vehicles, and particularly their dimensions and weights under the State laws. On page 211 of this report it is said: "In most States the *gross weight of the vehicle and load* is the controlling factor. In others, restrictions apply to the net or 'pay' load.

There is no uniformity either in the maximum weights prescribed or in the method of their ascertainment." It further appears from Table VIII giving size and weight restrictions, found on page 206 of the report, that at least 12 States have a gross weight limitation of 20,000 pounds or under, and Louisiana and Texas have net weight limitations of 7,000 pounds for the vehicle, which would make a gross weight limitation of 20,000 pounds or under, and a number of States have gross weight limitations of slightly exceeding 20,000 pounds. With respect to the uniformity of weight limitations the report says (page 213): "State laws recently enacted do not indicate any trend toward uniformity of weight restrictions. The need of greater uniformity is generally conceded, *but the feeling is also quite general that the varying traffic, topographic, and financial conditions in the different States warrant some diversity of weight limitations.*" (Italics ours.)

It thus appears that what the court below finds to be non-existent and unreasonable, that is, the relation of a gross weight limit to highway preservation and the unreasonableness of a gross weight limitation of 20,000 pounds, is indisputably negatived by the opinion and the statutes of numerous State legislatures whose primary function it is to decide the questions involved.

The only witness who testified for plaintiffs as to the unreasonableness of the statute who had actually seen the South Carolina Highways, was, as heretofore mentioned, Professor Tucker, who had made a brief trip over about six of the South Carolina highways. He testified that the highways he traveled over showed no evidence of undue deterioration and were well constructed and drained and in his opinion, would bear a wheel load of from 8,000 to 8,500 pounds, or an axle load of from 16,000 to 18,000 pounds, (R. 125, 126) safely. He also testified that it was impos-

sible to say what caused a failure of a concrete pavement (R. 125). He further testified that the gross weight of a motor vehicle does not enter into the design of a concrete highway and has nothing to do with conserving the highway or with the cost of maintaining it, but that the only test was the wheel load.

Witness Teller, a highway engineer employed by the U. S. Bureau of Public Roads, testified also that the gross load is not a factor in the designing of concrete paving, but the critical factor was the wheel load (It may be here noted that there was similar testimony in the *Sproles* case, *supra*). He would not say that a gross load limitation had no connection with the protection of a road, but did testify that the 20,000 pound limit would likely limit the maximum wheel load to 8,000 pounds (R. 135). He had no knowledge of the design of the roads and bridges in this State (R. 134).

Witness Knowles, a designing engineer of a truck manufacturer, who had no knowledge of the South Carolina highways, stated that gross weight limitations did not protect the highways or promote safety (R. 119, 121). He thought that 40,000 pound trucks could operate as safely as 20,000 pound trucks (R. 122), but this Court knows judicially that this is not so.

Opposed to this meager and largely theoretical testimony, is the testimony of J. S. Williamson, Chief Engineer of the South Carolina State Highway Commission, (R. 158); Clifford Older (R. 231) and the evidence of C. H. Moorefield, Chief Engineer of the South Carolina State Highway Department for about 15 years (R. 255 to 271). Mr. Williamson was the only witness who testified who, by virtue of his position and experience, had any actual, detailed knowledge of the construction and condition of the highways. Mr. Older was referred to by appellees' witness, Mr. Tucker, as the originator of the "Bates" test for roads and as a "prominent" highway engineer, and he was

Chief Engineer of the Illinois Highway Department from 1917 to 1924 and supervised the building of over $100,000,-000. worth of highways in that State. Practically all of the South Carolina highways up to 1925 were constructed under Mr. Moorefield's supervision and the statute here assailed was enacted by the Legislature in 1933, making the weight limitations to substantially conform to Mr. Moorefield's testimony before the Legislative Investigating Committee in 1931.

Mr. Williamson testified that the load that concrete highways can safely bear is very indefinite and that sub-grade conditions are a very large factor; that some concrete pavement may hold up 100,000 pounds and the same pavement in another section may break under a 2,000 or 3,000 pound load; and that these sub-grade conditions occur in the same territory and often within short distances of one another. He said that an axle weight of not exceeding 16,000 pounds can be recommended for standard concrete pavement, but even with that there was some concrete that would be too much for (R. 187) and a 16,000 pound axle load will do some damage and is bound to break down a concrete pavement earlier than a lighter load (R. 195). This witness, under a question from the Court, stated that standard concrete roads might carry 18,000 pounds axle load under good sub-grade conditions. He emphasized the sub-grade (R. 189) and stated that where heavy trucks, with an axle load of 16,000 to 18,000 pounds had been operating over roads without visible damage, that the damage is probably there, but had not shown up as yet (R. 182).

Mr. Older testified that he could not tell the strength of a concrete road by looking at it, because so many factors entered into it (R. 233) and similar concrete varies in strength and the strength of sub-grades and foundations

vary (R. 235); that deterioration in concrete roads produced by heavy vehicles might not show up for several years, depending on the weight (R. 234, 235); that the wheel load was the criterion for designing concrete roads, but that a gross load limit of 20,000 pounds has a relation to the preservation and protection of the highways (R. 236) and the weight and size of vehicles have a direct relation to safety (R. 240, 241) and expressed the opinion that the weight limit of 20,000 pounds in South Carolina was decidedly generous. He had seen the Illinois highways he had constructed fail under a 16,000 pound axle load, even after pneumatic tires were used (R. 249, 250, 238) and that is why he placed the maximum axle load for South Carolina pavements at 12,500 pounds.

Mr. Moorefield, former Chief Engineer, who constructed most of the South Carolina highways, testified before the investigating committee that the large and heavy trucks interfered to a marked extent with the free use of the highways (R. 258, 259) and his recommendation was that no vehicle with a load capacity of greater than five tons should be permitted on the highways.

It is apparent from its opinion that the Court below was greatly influenced to the fixed idea that there must be uniformity in all of the states by the recommendation of various unofficial bodies to the effect that concrete highways can safely bear wheel loads of 8,000 and 9,000 pounds and axle loads of from 16,000 to 18,000 pounds. These recommendations and opinions as to weight limits were made without regard to the specific conditions in the various states and are, of course, necessarily largely theoretical and speculative. *Standard Oil Co.* v. *Maryville,* 279 U. S. 582, 584, 586.

Passing at this time the question of the power of theorists to bind the several states as to legislative enactments within their province, this theoretical and speculative evidence is

wholly nullified by the indisputed facts that the concrete pavements in North Carolina and Illinois, which were scientifically built to stand these theoretical wheel and axle loads, are in actual practice being destroyed by them (R. 130, 238). The situation in Illinois, where axle weights of 16,000 pounds and gross weights of 40,000 pounds are lawful, was described by a Three Judge Court in the case of *Werner Transp. Co.* v. *Hughes,* 19 F. Supp. Advance Sheets, pp. 425, 429:

> "Even under the present legal weight limits, it was necessary for Illinois to spend the sum of $26,715,118.87 between the years 1925 and 1936 in the maintenance, reconstruction and surfacing of pavement slabs and shoulders upon the paved road system. * * *
>
> United States route No. 66, between Joliet and Granite City, is a heavily traveled truck route between Chicago and St. Louis. By actual traffic count, the ratio of truck travel on this route, compared with the general average for the state highway system, was 4.5 to 1 during the year 1932 and 4.2 to 1 during the year 1934. The cost of maintenance of route 66 between the years 1925 and 1936, has been the sum of $1,684,363.68, or an average of $763.53 per mile as against an average maintenance cost of $293.20 for the entire highway system of the state. There are highways in Lake County, Ill., which carry heavy truck travel between Chicago and Milwaukee and those that do not. *Both sets of highways are of similar thicknesses, are subject to the same climatic conditions and have the same type of subgrades and similar drainage. In the case of the pavements carrying but little truck travel, the pavements are enjoying comparatively normal lives with low maintenance cost. In the case of the pavements bearing excessive truck travel, they are rapidly disintegrating. Whenever a particular piece of pavement begins to carry heavy truck travel, immediately the life of the pavement begins to go down and the cost of maintenance begins to go up.*" (Italics ours.)

These theoretical recommendations made broadside for the whole country, as to what weights concrete pavements should be able to bear, and the various theories as to the wheel load or axle load being controlling, is also nullified by the actual experience of a large number of states, as reflected in their existing legislation at the time the South Carolina Act was passed, as pointed out in the Report of the Federal Coordinator of Transportation, referred to above.

Appellants earnestly submit, therefore, that on the evidence actually in the record and that which may be judicially noticed by this Court, the distinct weight of the evidence is against the findings of the court below on the questions herein discussed.

However, the reasonableness of a statute enacted under a State's police power may depend upon facts and conditions not shown by the evidence, which would justify the exercise of such powers, as well as upon the facts actually in evidence, and if any state of facts reasonably can be conceived which would sustain the statute, there is a presumption of the existence of that state of facts, and one who assails the classification must carry the burden of showing by proper evidence, or facts judicially known, that the State's action is unreasonable or arbitrary. *Pacific States Box & Basket Co.* v. *White,* 296 U. S. 176, 185.

See also the *O'Gorman & Young* case, *supra,* 282 U. S. 251, at p. 258.

We think that the facts herein involved make this principle particularly applicable, and that a condition of facts may and should be found by this Court to have existed which would, of itself, constitute an absolute and independent justification of the gross load limitation imposed by the South Carolina legislature.

The facts and conditions we have in mind relate to the subgrade conditions of the State's highways and the great importance and material bearing such conditions have on the loads concrete highways will safely carry. All of the witnesses in this case are agreed that subgrade conditions are of great importance in constructing highways, with respect to the loads they will stand, and the testimony is that such conditions vary in the different States and even within short distances in different localities in the same State (R. 130, 160, 179, 234-235). There are so many factors entering into the question that it is almost impossible to say what causes the failure of a concrete pavement. While the burden of proving all of the invalidating facts was upon plaintiffs herein, the record, as we have heretofore pointed out, contains little, if any, definite evidence as to the various and varied subgrade conditions under the highways of the State. In view of this hiatus of material and important evidence, it will be proper to refer to information on the subject of which this Court can take judicial notice, which is contained in the magazine "Public Roads," published by the Bureau of Public Roads of the United States Department of Agriculture. Volume 10, No. 3, at page 37 of this magazine for May, 1929, contains an article entitled "Interrelationship of Load, Road and Subgrade" by C. A. Hogentogler, Senior Highway Engineer, and Charles Terzaghi, Research Consultant, of the United States Bureau of Public Roads. The following, from page 41 of this article, shows the importance of subgrade:

> " 'Breakage' due to load occurs on account of low subgrade support. This was clearly brought out in surveys by the highway research board and experiments performed at Arlington. According to the Arlington data summarized in Table 2, the ultimate resistance of slabs (7 feet square) to the occurrence of

breaking differs considerably depending upon whether they are laid on a drained or an undrained subgrade."

Table 2 gives the effect of the test and shows the difference in the breaking loads on a wet subgrade and a drained subgrade, showing that the breaking loads are very much lower on the wet subgrade. The several slab thicknesses, as well as the concrete mixtures used in the test are also given.

The complexity of the problem and great importance of subgrades is also shown by the following from page 45:

"Thus, according to the preceding discussions, pavement behavior may depend upon the character of the subgrade soil material (raw constituents), upon the structure of the soil in its natural state (dense or loose, homogeneous or full of cracks or root holes), upon the soil profile (variation in depth of the different soil zones and the relative occurrence of permeable and impermeable strata) upon adjacent topography (through its influence upon the occurrence of surface and underground water), upon climatic conditions (well distributed or intermittent occurrences of rainfall and presence or absence or frost action), or upon any combination of these variables."

A discussion of some of the subgrade soils of South Carolina is found at page 48, where it is said:

"Group A-5 Soils Characterized by Porosity, Deformation, and Rebound.

"Similar to those of Group A-4, these subgrades also consist primarily of very fine sands or silts. But in addition, they contain an appreciable percentage of micaceous particles or diatoms, which cause the subgrades of this group to be highly porous, to deform quickly under load and to rebound appreciably upon removal of load". * * *

"The highly micaceous soils occur very frequently in Pennsylvania, Maryland, and North and South Carolina and other States."

A further description of subsoils encountered in South Carolina is contained in Volume 17, No. 11, page 249, of the January, 1937, issue of "Public Roads" in an article by Paul Tritz, Associate Highway Engineer, United States Bureau of Public Roads, and H. L. Sligh, Division Engineer of the South Carolina State Highway Department, the article being entitled "Experimental Bituminous Treatment of Sandy Soil Roads". Referring to certain South Carolina soils, it is stated on page 249:

> "A wide variety of bituminous materials and aggregates have been used successfully for such work, and while different types or surfaces have resulted, there has been no special difficulty in providing a satisfactory surface for roads whose bases and subgrades were capable of supporting traffic.
>
> "For those localities where the roads were composed of loosely bound soil, such as sand or mixtures of sand, silt, and clay that were inherently weak, the problem of improvement was more difficult. Such a condition is found in the South Atlantic coastal area in general, and the eastern part of South Carolina in particular.
>
> "An appreciable mileage of the roads in this territory traverses relatively low, swampy areas that offer little opportunity for adequate drainage of the right-of-way because the ground-water level in many places is approximately at the elevation of the ground surface."

And on page 260, it is stated:

> "The most important factor contributing to roughness during most of the life of the road has been the subgrade, which is extremely variable in composition and, in some locations, is very poorly drained. Settlement occurred in some areas that had appeared stable prior to constructing the bituminous mats. Investigation disclosed that the subgrade in such areas was extremely wet and plastic while material less than a foot

> outside of the bituminous mat was firm and relatively dry. The mat apparently prevented surface evaporation and permitted the subgrade to acquire and retain sufficient moisture to destroy its stability. Obviously, the composition could not be changed after construction but considerable effort has been expended to provide artificial drainage. The groundwater level in many cases is so high that the maximum benefit derived by the construction of the side ditches is to provide a relatively shallow depth of drained base which, because of its composition, is variable in load supporting capacity."

And on page 261, it is said:

> "As in the case of experiment 1, subgrade and drainage conditions in this experimental section were exceedingly variable. Each section had sandy areas, areas high in clay content, poorly drained areas, and areas fairly well drained."

still referring to South Carolina conditions.

Poor subgrade conditions not only result in breaking of the pavement on the application of truck loads, but also cause a sinking of the subgrade underneath the pavement, permitting the pavement to subside. In order to obviate such results of pavements so weakened, or to strengthen the subgrade, an operation is sometimes performed called "mud jacking", which consists of boring a hole through the pavement and pumping suitable material through this hole under the pavement to spread and take the place of the subgrade material which has subsided. An explanation of this operation is given in Volume 14, No. 10, page 188, of the December, 1933, issue of the magazine "Public Roads", in an article entitled "Laboratory Tests Assist in the Selection of Materials Suitable for Use in Mud Jacking Operations", by A. M. Wintermyer, Assistant Highway Engineer, Division of Tests, United States Bureau of Public Roads.

The case of *Werner Transportation Co.* v. *Hughes* (D. C. N. D. Ill.), 19 Fed. Supp. Advance Sheets, p. 425, at pps. 428 and 429, refers to the results of poor subgrade conditions in Illinois and to instances of raising depressions there by this "mud jacking" operation in the following language:

> "Because of the presence of varied types of soil in Illinois, there is a variance in the supporting power of the subgrade during the seasons of the year. In the case of embankment materials, it is difficult to place them in a state of compaction which is uniform in its supporting power and will prevent settlement of the pavement slab. When the frost leaves the ground, many soils have little supporting power and many change greatly in volume with the addition of a relatively small amount of precipitation. During periods of freezing weather many soils expand greatly, due to the presence of water, and lift the pavement from the subgrade, introducing roughness into the surface, resulting in impact stresses under heavy loads, producing pavement destruction. Daily changes in temperature cause the pavement slab to warp, or curl, thus leaving that particular portion of the slab without subgrade support, so that when a vehicle passes across such a portion of a slab, the slab must act as a beam to carry the load back to the point where there is support.
>
> * * * * * * *
>
> "Subgrade conditions are frequently unstable on fills back of bridge abutments and at other locations. Depressions in the subgrade are usually caused by the action of moisture upon unstable soil and a variety of other causes. Where a weakened subgrade condition exists the pavement slab performs to some extent the functions of a bridge, in which cases the total or gross weight imposed upon the slab determines the stress induced upon the material constituting the slab. If the stress produced by such total weight is in excess

> of the ultimate strength of the material, rupture will occur and the slab will settle into the affected area. Because of the settlement of slabs, it is necessary to raise them by what is called a mud pumping outfit. Since the year 1931, there has been in Illinois a total of 12,050 depressions so raised, covering a total area of 1,082,775 square yards. However, in numerous locations where such settlements have occurred, the pavements have been so badly broken that they had to be entirely rebuilt."

The total number of depressions (12,050) raised in this manner since 1931 on the Illinois highways, is significant of the damage which may result from faulty subgrade conditions in connection with heavy loads.

The foregoing clearly indicates the relation of subgrade conditions to a gross load limitation. When a weakened subgrade condition exists, the pavement slab performs the functions of a bridge, as pointed out in the *Werner Transportation* case, *supra.* Where the subgrade is weak or defective, it is obvious that the supporting power of the pavement must be extended over a much greater area than under good subgrade conditions. The court below, in fact, seemed to recognize the propriety of a gross weight limitation in the case of highway bridges proper, since (R. 166) Parker, J., states in referring to bridges: "It seems to me the total weight of the truck is the important factor and the Legislature would have a right to consider that, as well as the strength of the pavement." However, he did not seem to realize that a gross weight limitation had the same relation to the pavement in cases where, through poor subgrade conditions, the pavement in fact tended to perform the functions of a bridge because of the subsidence of the subgrade. Possibly the court below failed to see this, because the plaintiffs, on whom the burden of proof rested, did not bring this commonly known fact to the Court's attention.

Another analogous factor, which is particularly important in a State known to have a warmer than average climate, such at South Carolina, is clearly set forth in an article in the magazine "Public Roads" published by the U. S. Bureau of Roads, in the November, 1935 issue, Vol. 16, No. 9, pages 169, 196. This article or report is written by witness Teller, who testified for appellees herein, and is entitled "Observed Effects of Variations in Temperature and Moisture on the size, shape and Stress Resistance of Concrete Pavement Slabs" and sets out extensive investigations by the Bureau of Public Roads under his supervision. On page 196 of this article, this writer says:

> "9. For pavement slabs of the size used in this investigation (10 ft. by 20 ft.) or larger, certain of the stresses arising from restrained temperature warping are *equal in importance* to those produced by the heaviest of legal wheel loads. The longitudinal tensile stress in the bottom of the pavement, caused by restrained temperature warping, frequently amounts to as much as 350 pounds per square inch at certain periods of the year and the corresponding stress in the transverse direction is approximately 125 pounds per square inch. *These stresses are additive to those produced by wheel loads.*" (Italics ours.)

In the December, 1935, issue of this magazine, Vol. 16, No. 10, page 201, the report on these studies is continued and, among other things, it is said on page 219:

> "It is apparent, however, that in pavement slabs as they are designed to-day the factor of safety against breaking must be very small at times when conditions are such as to produce high (temperature) warping stresses."

The underlying cause of the phenomena mentioned in the above quotation, is not peculiar to highway structures, but such warping stresses are present in the construction

of bridges, railroad tracks and other structures, and is a matter of common structural and scientific knowledge. It is apparent from this that a concrete pavement which is designed to carry an 8,000 pound wheel load under normal conditions will be stressed to the point of failure when such load is applied to the slab when it is in a condition of high warping stress produced by high temperatures, such as prevail in South Carolina the greater part of the year. This data given by witness Teller, must necessarily materially qualify and limit his general testimony in this case which did not mention such factors. The record, in fact, is wholly silent thereon.

Appellants submit that under the principles of *Pacific States Box & Basket Co.* v. *White, supra,* this Court may take notice of the existence and effect of the foregoing facts,[1] relating to subgrade conditions of highways and the stresses arising from temperature warping, and will indulge the presumption of the existence of such a state of facts as a full justification for the action of the South Carolina Legislature in fixing a gross weight limitation, and in fixing such limitation at 20,000 pounds. We may add that there is additional reason for applying the presumption of validity in this case, because as also noted in the *Pacific States Box & Basket Company* case, *supra,* this gross weight limitation was fixed by the Legislature after much prior statutory experimentation and after a thorough

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[1] Note: In connections with the consideration of such facts where the record is silent thereon, we also refer to the following decisions of this Court, where information not found in the record has been considered in this class of cases: *Muller* v. *Oregon,* 209 U. S. 412, footnote at p. 419; *Interstate Transit, Inc.,* v. *Lindsay,* 283 U. S. 183, footnote at p. 190; (the magazine "Public Roads" is cited); *Morehead* v. *New York,* 298 U. S. 587 at pps. 626-627; *Helvering* v. *Davis,* No. 910, decided May 24, 1937 (81 L. Ed. Advance Sheets, p. 804 at p. 809); *Carmichael* v. *Southern Coal & Coke Co.,* Nos. 724 and 797, decided May 24, 1937 (81 L. Ed. Advance Sheets, p. 811 at pps. 820-821).

investigation and hearing on the subject held by direction of the Legislature.

Furthermore, there is evidence in this record which, together with similar facts of which the Court may take judicial notice, clearly indicates that the 20,000 pound gross weight limitation imposed by the statute, when translated into wheel or axle load, would be substantially equivalent to the same maximum wheel or axle load which most of the witnesses thought the highways could safely bear. Appellees' evidence does not at any place in the record give the court below the benefit of a plain simple translation of wheel load into axle load and then into gross load, and for this reason, possibly, the court below wholly failed to understand that there is evidence in the record from which this may be done, with the result as above indicated.

The witness Teller testified (R. 135) in referring to the ratio of axle load to the gross load of two axle trucks, that the U. S. Bureau of Roads had weighed a good many of the trucks and that as a rule "there is from 65% to 80% of the load on the rear end", and that on the trucks they had used in their tests, there was about ⅓ of the weight on the front and about ⅔ of the weight on the rear end when loaded to capacity.

Similar facts appear from an article in the magazine "Public Roads", the Government publication above referred to, in the May, 1935, issue, Vol. 16, No. 3, in an article entitled "A Study of the Weights and Dimensions of Trucks". This article describes a study made jointly by the U. S. Bureau of Public Roads with certain Departments of the State of Maryland and the Johns Hopkins University, to determine, among other things, how the gross loads of such vehicles are commonly distributed to the various axles. The data thus obtained was by weighing trucks on two U. S. Highways out of Baltimore, Md. In discussing this study, it is said on page 42:

> "* * * in the case of single vehicles, the weight carried on the rear axle averages approximately ¾ of the gross load. Vehicles having gross loads less than 10,000 pounds carried an average of only 68% on the rear axle. The gross weight of groups above 10,000 pounds all had an average of close to 75% for weight on the rear axle * * *. In the case of tractor-semi-trailer combinations, it may be seen that about 45% of the entire gross weight of the combination is carried on the rear ends of both tractor and trailer, leaving about 10% for the front axles of the tractor."

Taking witness Teller's figures of about ⅔ of the weight being on the rear axle, this would mean that under a gross weight limitation of 20,000 pounds, as prescribed by the statute, 13,333 pounds would be on the rear axle, with a wheel load limit of 6,666 pounds. Taking his figures of 80% of the weight being on the rear axle, this would mean, in the case of a 20,000 pound gross weight limitation, a 16,000 pound axle limit and an 8,000 pound wheel limit. Assuming that 75%, or three-fourths of the load is on the rear axle, this would mean a 15,000 pound axle limit, with a wheel limit of 7,500 pounds. Thus it will be seen that the opinion of witness Older (R. 237, 238) that a maximum axle limit on the best concrete pavement in the State should be 12,500 pounds, and that of witness Williamson (R. 187) that the axle limit should not exceed 13,500 pounds, is conservative and well within the 20,000 pound gross weight limit of the statute. The appellees and the court below only contended for an axle limit of 16,000 pounds on high pressure tires and 18,000 pounds on low pressure or balloon tires, but there is nothing in the record to show what percentage of the trucks, if any, operated on low pressure tires, so that if the 16,000 pound axle weight be taken as the maximum, this would be permissible under a 20,000 pound gross weight limitation, if 80% of the load were on

the rear axle. Eighty per cent. is witness Teller's maximum figure as to rear axle weights. From all of the foregoing testimony it appears that a 20,000 pound gross weight limitation will, under average conditions furnish a 15,000 pound axle limit, which would be liberal according to the testimony of most of the witnesses and would permit of almost as high an axle limit as the 16,000 pound limit insisted on by the court below.

It is true that the statutory gross weight limitation of 20,000 pounds would only afford a maximum rear axle limitation of 9,000 pounds for each of the two rear axles in case of tractor-semi-trailer combination, taking the figures as to the proportion of the load on the two rear axles given in the article in the publication "Public Roads" above referred to, which stated that as to such vehicles about 45% of the load was on each of the last two of the three axles. In 1933, when this statute was enacted, there were only 1764 trailers in South Carolina (R. 273) and presumably, this included semi-trailers.

However, in considering the question of the unreasonableness of this limit in the case of such combination vehicles, it must be remembered that the undisputed testimony of Williamson (R. 178) is that about 60% of the 2400 miles of concrete highway does not have center joints. He also testified that all of the pavement built since 1929, or 1930, has center joints, so that in 1933 when this statute was enacted, substantially more than 60% of the pavement must have been without center joints.

In view of this fact, the testimony of witness Older (R. 237) is significant. He testified at length as to the importance of center joints in concrete pavement and the effect of their absence, and expressed his judgment that the pavements of the State without center joints were not capable of supporting indefinitely "wheel loads in excess of about 4,000 pounds or 4,200 pounds". There is no

specific testimony in the record to contradict this, but only the general opinion of witness Tucker, who made a hurried trip through the State and had no detailed knowledge of the construction of the highways, the condition of the sub-grade, or other material matters.

We submit, therefore, that even in the case of combination vehicles, the District Court was in error in finding that there was no reasonable difference of opinion that a gross load limitation of 20,000 pounds was not necessary, and, as we have heretofore shown, the evidence in the record affirmatively shows that, as to ordinary two axle vehicles, this gross weight limitation will afford a maximum axle load greater than that recommended by a majority of the witnesses and substantially as much as that contended for by appellees and the court.

A further independent basis for a gross weight limitation may be found in the fact that such a limitation is easier of practical enforcement than a weight limitation based on wheel or axle load.

Witness Older, who in addition to having been Chief Highway Engineer of the State of Illinois for years, had also had experience as a law enforcement officer in Illinois (R. 244) testified that the gross load limit is easier of enforcement than an axle limit (R. 243). This Court has recognized in a number of cases that "The practical convenience" of a classification "is not to be disregarded in the interest of a purely theoretical or scientific uniformity". *Continental Baking Company* v. *Woodring,* 286 U. S. 352, 371.

In addition to the testimony of Mr. Older, we think there are obvious advantages in favor of the enforcement of a law prescribing a gross weight limit, as distinguished from a wheel or axle load limit. No special scales are required. It is not necessary for the enforcing officer to

have special training. After an officer is furnished with the weights of unloaded trucks, or after he acquires this knowledge from experience, the gross weight of a truck and load can be readily determined; in many instances to a reasonable degree of certainty without the aid of any scales. For example, some of the major commodities now handled by the trucks in and through South Carolina, as shown by the testimony of the appellees, consist of cotton, fertilizer and flour. In such cases, an officer could tell the amount of the load carried by merely looking at the load. The same is more or less true of lumber—another of the major commodities handled by truck—and probably other commodities. This Court will take judicial notice that the enforcement of such an Act is a very difficult undertaking.

The South Carolina Legislature realized that it would be difficult to enforce this Act. It provided in Section 12 that the duty of enforcement rested upon all peace officers, "* * * including sheriffs and their deputies, constables, police officers and marshals of cities or incorporated towns, county police or patrols, State or county license inspectors and their deputies, and special officers appointed by any agency of the State of South Carolina, for the enforcement of its laws relating to motor trucks, now existing or hereinafter enacted * * *."

If the services of all of these officers are to be available to the State in the enforcement of this Act, it is obviously imperative that a gross weight limit be prescribed.

We may here further point out that a gross weight limitation is much easier to comply with by the shippers and truck operators themselves. This is in part shown by the considerations above mentioned. Other reasons which seem apparent are that, if the limit is based on wheel or axle weight the load may shift after it is loaded; the wheels on opposite ends of an axle may not remain level after loading, so as to evenly divide the axle weight, and in the case

of liquid cargoes, such as gasoline, the load would not remain as loaded over the different wheels or axles in going up or down grade or on a sharply banked road.

Thus, from the important practical standpoint of both enforcement of, and compliance with, the statute, a gross weight limitation has greatly superior advantages over an axle load limitation based on the engineering formula, W equals 700 (L. plus 40), contended for by appellees and the District Court.

A further significant justification of a 20,000 pound gross weight limit imposed by the statute may be found in the tables showing the number of trucks registered in South Carolina from 1933 to 1936, Defendants' Exhibit No. 13 (R. 272). This shows a total truck registration in 1933, about the time the statute involved was enacted, of 17,795, and of all of these trucks 8,857 of them were of not over 1 ton capacity, and 8,252 of not over 2 tons capacity and 522 of not over 3 tons capacity. Undoubtedly, the gross weight of truck and load of all of these trucks would be less than the 20,000 pound limitation of the statute. In that year there were also 74 trucks registered with a capacity of between 3 and 4 tons, 4 trucks of 4 ton solid (tires), and 3 trucks of not more than 5 ton, and none over that capacity. Considering the average weight of the truck itself as distinguished from the load, it is entirely probable from common knowledge of truck weights, that all, or most, of these few remaining trucks of over 3 tons capacity could, if loaded to their rated capacity, be operated within the 20,000 pound limitation and few, if any, of them would be excluded. This table also shows that in 1936 a total of 30,497 trucks were registered, of which 14,243 were not over 1 ton capacity, 13,578 between 1 and 2 tons capacity and 2,306 between 2 and 3 tons capacity. Only 309 trucks registered were of 3 to 4 tons capacity and 19 trucks had a capacity of 4 to 5 tons and there were none over 5 tons.

Of all of these 30,497 trucks registered in this year, only 328, or about 1%, would by any probability, if loaded at the factory rating, and considering the usual weight of the truck chassis and body, exceed the South Carolina gross weight limit, and probably, considering the usual weight of the chassis and body of the 4 ton trucks, the 309 trucks mentioned would come within the limitation, leaving only 19 five ton trucks which might exceed it. Certainly, it cannot be claimed that the weight limit adopted in South Carolina is unreasonable, if it permits operation on its highways, of all of the trucks registered in the State, or all of such trucks, except a very minute fraction thereof. To hold otherwise, would be to hold that South Carolina was required to impose its weight limitations solely to accommodate trucks from other States—a remarkable proposition, which apparently did not meet the approval of this Court in the *Sproles* or *Duby* cases, *supra.*

As the major part of the vehicles operated by appellees are vehicles for hire, and a greater number of the larger type of vehicles operated in South Carolina and elsewhere are commonly known to be "Trucks For Hire", we will here give the number of trucks and other vehicles for hire used in the United States, as a whole, and also, in South Carolina, together with the capacity of the trucks, as taken from the "Census Of Business: 1935" conducted by the United States Department of Commerce and found in a publication of the Department of Commerce entitled "Motor Trucking For Hire". At page 103 of that publication, it appears that there were in the year 1935 in the United States 179,824 motor vehicles for hire. The trucks included in these vehicles were of the following capacities in tons:

7,170 up to ¾ tons capacity;
58,410 from ¾ tons to 1½ tons capacity;
51,459 from 1.6 tons to 4.9 tons capacity; and
9,679 of 5 tons capacity and over.

There were also 21,440 tractors, 23,594 semi-trailers and 8,080 trailers in the United States.

On page 107 of said publication the same information as to the number of vehicles for hire in use in South Carolina is given and shows that there was a total of 1,085 vehicles for hire, and of the trucks here included, there were 30 trucks up to ¾ of a ton capacity, 375 from ¾ ton to 1½ tons capacity, 153 of 1.6 to 4.9 tons capacity and 3 trucks of 5 tons capacity and over. There were also 237 tractors, 242 semi-trailers and 45 trailers. These figures show that the number of trucks and other vehicles used for hire in South Carolina is far under the national average by States, the total number of trucks alone used for hire in the United States being 126,710 and the total number of such trucks in South Carolina being 561, or less than one-half of one per cent of the number in use in the United States as a whole.

If space permitted, several other of the District Court's findings of fact on the question of reasonableness would justify comment. For example (Seventh Assignment of Error); there is no sufficient evidence in the record to prove that there was no substantial deterioration of the highways since 1930, as the result of excessively heavy traffic. Further, the Court's assumption (Assignments of Error 9 and 14) that smaller or lighter trucks used on the highway are overloaded is not permissible, since it assumes a violation of the law and such an assumption is not justifiable as a basis for findings of fact.

(d) *Finding of unreasonableness of 90 inch width limitation.*

This is Appellants' Assignments of Error Nos. 10 and 11. The Court's Findings of Fact Nos. 24 and 26 (R. 91, 83, 86.)

The Court's finding that a 90 inch width limit is unreasonable, is apparently based solely on the fact that it found that all other States permitted a width of 96″ and that this is the standard width of trucks engaged in interstate commerce. The fact that South Carolina is the only State having a 90″ width limitation would not make the statute unreasonable or invalid, as this Court specifically held in the case of *Sproles* v. *Binford* that "one state cannot establish standards which would derogate from the equal power of other states to make regulations of their own".

The court below not only held the 90″ width limit invalid, but itself fixed a maximum width limit of 96″. As heretofore pointed out, this action of the Court is, at the best, a remarkable and wholly unjustified attempt at legislation on its part.

With respect to the reasonableness of a 90″ width limit, it appears that the highways of the State are mostly only 18 feet wide, although there are some 20 feet wide, and over 100 miles of paving only 16 feet wide, with a small stretch in Sumter County only 9 feet wide (R. 177, 197). No comment is necessary with respect to the 16 foot highway. The difference between a 90″ and a 96″ width is only half a foot. Two 90″ width trucks passing on a 18 foot highway will take up 15 feet of the 18 feet width, leaving only 3 feet of additional space. Considering the factors of the necessity of a certain amount of space between trucks passing each other at a considerable speed, the effect of wide trucks in cutting off the view of vehicles in the rear, and the effect of wider trucks of an 18 foot highway in tending to cause the outer wheels of the vehicle to travel on the shoulders of the roads, causing excessive damage to them, or making ruts in the edges of pavements, it seems

clear that the Legislature was well within its discretion in fixing a 90″ width limit. With respect to the effect of wide trucks on the view, the evidence shows that the angle of vision is cut off quite rapidly in proportion to the width (R. 241) and that "six inches difference (in width) would make a great difference" (R. 242). The bearing of the width of trucks on their effect on the shoulders of the highways, when passing other vehicles, is particularly pointed out in the case of *Werner Transportation Co.* v. *Hughes, supra,* 19 F. Supp., Advance Sheets, p. 430.

We submit, therefore, that the District Court's finding of unreasonableness as to width limit is little more than its arbitrary dicta or personal preference, and is wholly unjustified by any evidence herein.

Proposition III.

Neither the fact of Federal-aid contributions, under the Federal Highway Act, nor the enactment of the Motor Carrier Act, 1935, as construed by the court below considered separately or together, with the other circumstances relied on by the Court, sustain its finding that the State act violates the Commerce Clause.

Under this Proposition appellants will rely on and argue Assignments of Error numbered 11, 15, 17, 19, 20, 21 and 22 (R. 91, 92, 93 and 94).

The precise legal ground for the holding of the court below that the Act in question burdened interstate commerce in violation of the Federal Constitution cannot, we think, be definitely stated with certainty and, therefore, it is somewhat difficult to definitely and directly point out the errors in the Court's conclusions on this phase of the case. It is certain, however, from the Court's opinion and findings that it did give material weight, and in fact a very

preponderant weight, to the fact of Federal-aid contributions under the Federal Highway Act, as we will hereafter show. It, also, apparently gave weight in an indefinite and, we think, wholly illogical way, to the Federal Motor Carrier Act, 1935, although it definitely held in the same opinion that Congress, in enacting this Act, did not intend to enter the field of the regulation of weights and widths of motor vehicles, and hence, that that Act did not supersede the State statute with respect to weights and widths of vehicles. The error of the court below, speaking generally, consisted of its giving such effect to the Federal Highway Act, possibly in connection with the Motor Carrier Act, 1935, that it held that the State statute unreasonably burdened interstate commerce because its enforcement would prevent a large number of heavy interstate vehicles from using the Federal-aid highways notwithstanding, and in the face of, the fact that it held that the statute was a valid police regulation under the Fourteenth Amendment, and hence should have also held that any resulting burden on interstate commerce was incidental and indirect, and not such as would render the statute invalid.

In connection with its holding on the question of interstate commerce, the court below erroneously relied on certain decisions of this Court where the State regulation or action was a direct burden upon, and an obstruction to, interstate commerce and did not affect it merely incidentally as a result of a valid police regulation, and in which the subject and purpose of the State's statute or action was not admittedly for the preservation of the highways, but necessarily constituted a regulation of the interstate *business* of the carrier.

We shall undertake to show that the Federal Highway Act does not purport to affect the State's powers of regulating Federal-aid highways for the purpose of highway

protection and safety under statutes otherwise valid, and that the Motor Carrier Act, 1935, under the District Court's own construction thereof, can have no effect on the validity of the statute.

While the court below in its opinion seemingly conceded (R. 68) that the fact that the Federal Government had aided in the construction of highways does not detract from the power of the State to regulate and control them, the record demonstrates, we think, that the Court did give a very preponderant effect to Federal contributions used in the construction of the highways embraced within its decree. At the beginning of the final hearing, the Court, speaking through Parker, J., said (R. 98):

> "We think that this Court should have the benefit of testimony as to the allegations of the bill that the Act is an unreasonable burden upon interstate commerce, particularly in view of what the Supreme Court said in the Morris *versus* Duby case: 'Regulation as to the method of use, therefore, necessarily remains with the State and cannot be interfered with *unless the regulation is so arbitrary and unreasonable as to defeat the useful purposes for which Congress has made its contributions to bettering the highway systems of the Union and to facilitating the carrying of the mails over them.*'" (Italics supplied.)

In other words, the Court added, "we will pass upon the question as to whether the Act constitutes an unreasonable burden upon interstate commerce". From the italicized language, however, it is apparent that the Court intended to pass on this question in the light of the Federal contributions to the State Highway System.

The Court's decree (R. 85) bears this out and clearly indicates that the decree only embraced Federal-aid highways, although the record shows that there are other standard concrete or hard-surfaced highways in the State which

are not Federal-aid highways and, therefore, were not embraced within the terms of the decree. The decree, after enumerating seven principal highways to which it applied, also, held the statute invalid as to "such portions of *other Federal-aid highways* as may be of standard concrete or concrete and asphalt construction". As we have stated, there are other highways of this kind and character in the State which are not Federal-aid highways and are not among those specifically numbered and enumerated in the decree. The record shows the type of highway mileage improved with Federal funds (R. 253), and indicates that 193.5 miles were improved with bituminous concrete and 795.8 miles were improved with Portland cement concrete, making a total of 989.3 miles, or approximately 1,000 miles of standard hard-surfaced highway in South Carolina improved with Federal funds. The testimony of the Chief Engineer of the State Highway Commission (R. 159, 160) was that, as of June 30th, 1936, the mileage of standard pavement in the State was 2,417 and that approximately 75% or 80% of this, or from 1,800 to 2,000 miles, was concrete paving, which included asphalt paving with a concrete base. This would leave from 800 to 1,000 miles of standard concrete or asphalt paving with a concrete base which was not improved with Federal funds and is not, therefore, Federal-aid highway which, presumably, was not covered by the injunction decree. A glance at the map (R. 254) showing Federal-aid highways outlined in red, verifies this and shows that there are a number of standard "hard-surfaced" highways leading directly into other States which are not Federal-aid highways. See, for example, State highway 14 entering Pickens, S. C., from North Carolina and Federal highway No. 221 entering Spartanburg from North Carolina, as well as a number of others.