

DEPARTMENT OF MAINTENANCE

W. H. Root, *Chairman*

REPORT OF COMMITTEE ON PERMITS FOR OVERSIZE AND OVERWEIGHT VEHICLES

REX M. WHITTON, *Chairman*

SYNOPSIS

This is the final report of a committee of the Maintenance Department of the Highway Research Board, which has made a study of the policies and the limitations of the several States in the matter of issuing permits for the movement of overweight and oversize vehicles.

Various phases of each State's policy in the matter of issuing permits for oversize and overweight movements were determined by questionnaires in September, 1940. The information received from this questionnaire, therefore, represents conditions and policies which were in effect in 1940.

After study of the information reported on the questionnaires is was the consensus of the majority of the Committee that it would be desirable to have uniform regulations for permits for overweight and overdimensioned vehicles, but it was realized that it would be practically impossible to obtain uniformity on all the items which go to make up the policy of the individual States in the matter of permits. It was, therefore, decided that the Committee's recommendations should be limited to a few of the major items which more or less control the permit policy.

It is the thought of the majority of the Committee that it would be desirable if States would standardize on the following items: (1) No permit should be granted for the movement of a vehicle and/or load which is readily reducible to the legal limitations. (2) No permit should be granted for a proposed interstate or a long intra-state movement of a vehicle which has a gross wheel load of over 9000 lb or a gross axle load of over 18,000 lb. (3) Overweight and oversize permits should be handled through the maintenance bureau or division of the State highway department.

These recommendations were unanimously adopted by the Maintenance Department of the Highway Research Board at a meeting in Chicago on November 12, 1941.

By overweight and oversize vehicles is meant those which exceed the legal weight and size prescribed by law for vehicles in any particular State.

Variations in the policies of the several States in granting, handling, and setting limitations of permits for the movement of overweight and oversize vehicles, and the difficulties arising therefrom caused the appointment of this Committee for the purpose of making a study of these policies, to the end that a uniform policy might be formulated and recommended.

It is, of course, realized by all members of this Committee that any conclusions

made in this report are in no way binding upon any state department or state official.

The Committee had its first meeting on June 20, 1940, at which time it was decided to adopt the questionnaire method of determining the policies of the various states in the granting and handling of permits for the movement of overweight and oversize vehicles. The questionnaire was formed from suggestions received from correspondence with the members of the Committee, and was sent in September, 1940 to the Chief Engineers or Directors of the various State highway departments, since it was believed that the per-

mits were handled in most instances through the highway department. The information received from this questionnaire, therefore, represents conditions and policies which were in effect in September, 1940.

Completed questionnaires have been received from all 48 States, and the information has been tabulated so that the States' policies could be easily compared and studied.

All of the States have laws limiting the dimensions and the weight of motor vehicles. All States issue permits for the movement of vehicles which exceed the dimensions set forth in the law. All but four States issue permits for the movement of vehicles exceeding the legal weight limit.

The highway department receives the application for the permit in 43 States, the motor vehicle department in three States, and the state police in two States. The same agency issues the permit that receives the application in 47 States and in the other State the motor vehicle department receives the application and the permit is issued by the state highway department.

Telephone and/or telegraph applications for permits are acceptable in 29 States and not acceptable in 19 States.

Thirteen States require load diagrams to be filed with the application and 33 do not. In 39 States applications for permits are not considered if the load can be reduced to conform to legal restrictions, while nine States apparently will give a permit for the movement when the load is reducible.

Printed forms are used for the issuing of permits in 41 States and are not used in seven states. Nine States make a charge for issuing permits while 39 do not.

An indemnity is required of the permittee in 20 States and 26 do not require it. A bond is the type of indemnity usually required, and varies in amount from

\$1,000 to \$100,000 in the several States. Public liability and property damage insurance is also required of the permittee in 13 States and not in 34. The insurance also varies from \$1,000 to \$100,000.

As stated, all but four States issue permits for the movement of vehicles which exceed the legal weight limit, but 37 of these States prescribe a weight limit which is not exceeded. This limit is sometimes placed on the axle load, sometimes on the gross load, and sometimes on the load per inch width of tire. Some States have all three limitations. The limitation on the gross axle load varies from 16,000 lb. to 33,000 lb., with the total gross load limitation varying from 30,000 to 130,000 lb.

Among the States granting dimension permits, 27 have a limit on the width, 22 on the height, and 20 on the length.

It was noted that 40 States limit permits to single trips while eight States do not. It was found that 19 States are issuing blanket permits for an indefinite period, while 27 States do not. Forty-three States set a definite time limit for the movement under oversize and overweight permits, and 15 States allow the movement of oversize and overweight units on Saturdays, Sundays and holidays, while 33 do not. Eleven States require inspection to be made of oversize and overweight units before the permit is issued. Thirty-four States enforce the use of a flagman or escort with the oversize or overweight movement.

In three States special mobile and highway construction equipment is exempt from overweight and oversize restrictions. In ten states public utilities and Governmental agencies are exempt from the same restrictions, and in 26 States agricultural equipment is exempt.

The total number of permits issued in 41 States which kept such a record in 1939 was approximately 125,000.

Thirty-seven States believe that it would be desirable to have a uniform policy in

the issuing of permits for the movement of overweight and oversize vehicles.

From the foregoing summary of information from the 48 States, it is readily deduced that there is little unanimous opinion on any of the points which make up the policy of the individual States. A copy of the questionnaire showing the number of States answering each question is made a part of this report.

First, it might be well to state that this Committee is not preparing recommendations for legislation but it is thought that the conclusions will be of some value as a guide to State officials whose duty it is to issue permits.

It was the unanimous opinion of this Committee that uniformity could not be obtained even among the committee members on all the points which were covered in the questionnaire. In fact, it is the opinion of two members that no attempt should be made toward standardization. One member very convincingly supports his stand as follows: "It does not seem practicable to go very far in the standardization of such permits since the special conditions vary greatly between States as well as from time to time and from locality to locality within a State. The nature of the majority of the exceptions to the regulations which must be granted is quite different in the oil-producing States from what it is in lumber-producing States or in States in which neither of these industries exists. Damage done by overweight vehicle varies, in some localities, with the season of the year."

As stated previously, there were approximately 125,000 permits issued in 1939 in 41 States, and as high as 17,000 in a single State. It is believed by a majority of the Committee that when permits are issued in such great numbers it is necessary for the State to have a standard policy. If each request for permit were decided on its own merits, depending on the many conditions that would be involved, the result would be chaos.

It, therefore, naturally follows that if a standardized policy is desirable within a State, it would also be desirable between States. The majority of the Committee decided that uniformity was desirable, but it was agreed that our efforts toward standardization would be limited to a few of the major items of the permit policy.

One question was "Why was the policy of issuing permits for the movement of overweight and overdimension vehicles started in your State?" The answers to this question varied greatly, but it is generally agreed by the Committee that the correct answer to this question is "to allow the emergency movement of equipment or vehicles including loads which exceed the legal limits for size and/or weight, when it is thought that the movement will not damage or impair the safety of the highway, and when the vehicle and/or load is not readily reducible."

The first major point of the permit policy on which nine out of ten members agreed was that no permit should be issued for the movement of a vehicle and/or load which is readily reducible to comply with the legal limitations.

The second point to receive consideration by the Committee was whether or not a weight limitation for permits would be advisable. There are two types of vehicle movements for which permits are requested, namely, the short movement, which is usually from shipping point to point of destination, or from point of origin to shipping point or destination; and the long movement, which sometimes involves more than one State, or a long move within the State. It was felt that long and short moves should receive separate consideration. On inter-state or long intra-state moves, six members of the Committee agree that no permit should be granted for a vehicle having a wheel whose gross load is greater than 9,000 lb. or having a gross axle load of more than 18,000 lb. It is realized that the legal axle load in many states is 18,000 lb.,

and it is the thought of a majority of the Committee that no permits for overweight axles should be issued in those States. In those States having a legal axle limitation of less than 18,000 lb., it is the thought of a majority of the Committee that permits could be issued for axle loadings up to and including 18,000 lb. per axle. Most engineers agree that damages to road surfaces caused by overloading is due to wheel or axle loading and not to gross loading. An axle load is defined as the total load on all wheels whose centers may be included between two parallel transverse planes 40 in. apart. Four members of the Committee do not agree to the 18,000-lb. axle limitation vehicle movement under permit. One member recommended a limitation of 19,000 lb. per axle, one a limitation of 50,000 lb. per axle and two members recommend that no axle limitation be set, but that each request for permit should be passed upon on its own merit and the surface condition of the roads and bridges to be involved. To this latter recommendation the majority of the members answer with the statement that carrying capacities of road surface cannot be accurately determined and, therefore, a conservative limitation on axle loading by permit should be set for movements involving interstate traffic or long hauls within a single State.

The Committee considered the establishment of higher axle loading limits for movements by permit covering short distances, such as 25 to 30 miles, which movements would usually involve such activity as the transportation of road building equipment from shipping point to destination or vice versa. It was the majority opinion that a heavier axle loading should be permitted for this type of short move, but that this was a more or less local matter to be determined by the conditions involved in the individual cases. It was, therefore, decided that no recommendation would be made for the limiting of axle loading for short intra-state moves by permit.

The Committee next gave consideration to a possible method of determining a maximum gross load limitation. Considerable thought was given to the adoption of the formula $W=C(L+40)$ for determining gross loads where:

W=the total weight in pounds

C=a coefficient

L=the distance in feet between the first and last axle of any group of axles.

It is the final thought of a majority of the Committee that no recommendation will be made on a definite gross load limitation or on a formula to determine the gross load limitation by permit, but that the gross load allowed by permit should be determined by the individual carrying capacity of the bridges involved in the move for which a permit is requested.

The next point was whether or not a recommendation should be made on limiting dimensions of vehicles moving by permit. Overdimension vehicles do no particular physical damage as a rule to the road but they do impair the safety of the highway; especially is this true in the overwidth and overlength cases. A majority of the members believed that on long movements the width should not be more than 12 ft. and the length not more than 60 ft. The height of a vehicle and/or load is usually controlled by bridges and underpasses. It is the Committee's present thought that no definite limitations on dimensions should be recommended for the control of vehicles moving by permit, but that this is a matter which should be handled by the individual States.

The tabulated results of the questionnaire show that the duty of receiving and issuing permits for the movement of overweight and overdimension vehicles is assigned to the highway department in 43 States. The Committee not only recommends that this practice be continued but further recommends that the duty be

specifically assigned to the maintenance bureau or division of the highway department.

By recommending standardization on certain points, the Committee does not want to be misunderstood to be recommending that one State could issue a permit that would be binding on any other State.

The foregoing report was read and unanimously adopted at a meeting of the Maintenance Department of the Highway Research Board in Chicago on November 12, 1941. The adopted recommendations are as follows:

- (1) No permit should be granted for the movement of a vehicle and/or load which is readily reducible to the legal limitations.
- (2) No permit should be granted for a proposed inter-state or a long intra-state movement of a vehicle which has a gross wheel load of over 9,000 lb. or a gross axle load of over 18,000 lb.
- (3) Overweight and oversize permits should be handled through the maintenance bureau or division of the state highway department.

QUESTIONNAIRE

OVERWEIGHT AND OVERSIZE PERMITS

APPLICATION

1. a. Are permits issued for vehicles exceeding legal limitations? (1) Weight—Yes 44. No 4. (2) Dimensions—Yes 48. No 0.
b. If so, what agency is authorized to receive application? *Highway Dept.—43; Motor Vehicle Dept.—3; State Patrol—2.*
c. Does same agency issue the permits? Yes 47. No 1.
d. If answer is no, what agency issues? 1—*Motor Vehicle Dept. receives; Highway Dept. issues.*
2. Are printed forms used for application? Yes 31. No 17. If so, please furnish ten copies
3. Is application notarized? Yes 5. No 43.
4. Are telephone and/or telegraph applications for permits acceptable? Yes 29. No 19.

5. Do you require load diagrams on overweight permits to be filed with application? Yes 13. No 33.
6. Are applications for permits considered if load can be reduced to conform to legal restrictions? Yes 9. No 39
7. Are applications for permits considered when other than highway transportation facilities are available, but in which the following elements occur.
 - a. When movement would require the use of more than one railroad Yes 32. No 11.
 - b. When time required to complete movement would impede construction activities. Yes 38. No 6
 - c. When expense would make movement prohibitive. Yes 32. No 12.
8. a. In case of out state application for overweight or oversize permit, is registration of vehicle required? Yes 19. No 29.
b. For contractor's equipment of Federal, State and County construction Projects. Yes 29. No 18.

PERMITS

1. Are printed forms used for overweight and oversize permits? Yes 41. No 7. If so, please furnish ten copies.
2. a. Is charge made for permits? Yes 9. No. 39.
b. If so, how much and on what basis? *Variable.*
3. a. Is indemnity required of Permittee? Yes 20. No 26. *Variable 2*
b. If so, what type? *Bond usually.*
c. How much? *\$1000 to \$100,000.*
4. a. Is public liability and property damage insurance required on overweight and oversize permits? Yes 13. No 34. *Variable 1.*
b. If so, how much? *\$1000 to \$100,000.*
5. Does the issuance of special overweight or overdimension permit exempt the Permittee, either local or foreign, from complying with other phases of the Motor Vehicle Law? Yes 0. No 48
6. a. Do you place a weight limit on overweight permits? *Four states do not allow overweight movements. (Arkansas, Georgia, New Jersey, Oregon)* Yes 37. No 10
b. If so, what is the smallest gross axle load? *16,000 lb. to 33,000 lb. or capacity of road and structures.*
c. Total gross load regardless of number of axles or size of tires? *26,000 lb. to 130,000 lb.*
d. What is the allowable load per inch of tire? *Solid 80 lb to 800 lb.; pneumatic 400 lb. to 1000 lb.*

7. a. Do you place a width limit on oversize permits? Yes 27. No 16.
 b. Height limit. Yes 22. No 20.
 c. Length limit Yes 20. No 20.
 d. If so, how much and on what basis. *Variable depending on traffic and road. (Width 8 ft. to 20 ft.; height 12 ft. 6 in. to 15 ft. 0 in.; length 40 ft. to 85 ft.)*
8. a. Do you place a length of haul limit on overweight and oversize permits? Yes 19. No 25.
 b. If so, what is that limit? *Variable.*
9. a. Are permits limited to single trips? Yes 40. No 8.
 b. Are blanket permits issued for a definite period? Yes 19. No 27.
 c. Are blanket permits issued for an indefinite period for the movement of certain types of loads? Yes 7. No 39.
10. a. Are you obliged to establish load limits less than the legal limitation on weak bridges and low type pavement during seasonal periods? Yes 39. No 9.
 b. If so, are permits issued to exceed the posted limits? Yes 8. No 33.
11. a. Do you set a definite time limit for the movement of overweight and oversize permits? Yes 43. No 4.
 b. If so, on what basis? *Variable.*
 c. Do you allow the movement of overweight and oversize units on Saturdays, Sundays and holidays, or after daylight hours? Yes 15 No 33.
12. a. Has your State classified oversize and overweight units which are operated regularly over the highways? Yes 4. No 44.
 b. If so, how was this classification made and was a fee charged? *By analysis of units and by law.*
 c. How much? *Maximum \$100 00 per unit.*
13. a. Do you require an inspection of overweight and oversize units before permit is issued? Yes 11 No 34. Variable 3.
 b. Do you require an escort or flagman? Yes 34. No 9. Variable 4.
 c. If charges are made, how much? *Variable.*
 d. On what basis? *By mileage rate, day rate or actual expenses.*
14. a. Who enforces overweight and oversize limitations? *Highway patrol or police in most states.*
 b. Is the penalty assessed sufficient to prevent violation? Yes 27. No 11. Variable 2.
15. a. Is special mobile and highway construction equipment exempt from overweight and oversize restrictions? Yes 3 No 44.
- b. Are public utilities, governmental agencies, or any others exempt? Yes 10. No 38.
 c. If answer is yes, what control is exercised? *Variable.*
16. a. Do you permit the movement of oversize agricultural implements without permit? Yes 26. No 22.
 b. If answer is no, please explain how permits are handled. *Variable.*
17. a. Do you recognize tandem axle tractors, trucks and trailers? Yes 32, No 12.
 b. If so, on what basis and what is the minimum axle spacing? *36 in. to 42 in. Most States used 40-in. spacing.*
18. a. How many overweight permits were issued in your State during 1939? *0 to 4000—No record in some States.*
 b. How many oversize permits were issued in your State in 1939? *0 to 8125—No record in some States.*
19. Why was the policy of issuing permits for the movement of overweight and over-dimension vehicles started in your State? *Variable.*
20. Do you believe it advisable to attempt to standardize the issuance of overweight and oversize permits? Yes 37. No 6.

PERSONNEL OF COMMITTEE

J. N. Bishop, Maintenance Engineer, Oregon State Highway Commission, Salem, Ore.

T. H. Dennis, Maintenance Engineer, Department of Public Works, Sacramento, Calif.

H. E. Hilt, Chief, Division of Highway Transport, Public Roads Administration, Washington, D. C.

M. B. Hodges, Maintenance Engineer, Texas Highway Department, Austin, Texas.

J. E. Lawrence, Maintenance Engineer, Department of Public Works, 100 Bashua Street, Boston, Mass.

C. L. Motl, Maintenance Engineer, Department of Highways, 1246 University Avenue, St. Paul, Minn.

Briggs Smith, State Maintenance Engineer, Department of Highways and Public Works, Nashville, Tenn.

L. W. Teller, Senior Engineer of Tests, Public Roads Administration, Washington, D. C.

J. F. Winchester, Manager, General Automotive Division, Standard Oil Company of New Jersey, 26 Broadway, New York, N. Y.

Rex M. Whitton, Chairman of Sub-Committee, Engineer of Maintenance, Missouri State Highway Department, Jefferson City, Missouri.