4. That no single feature of planning should be attempted without recognition of other problems. The plan should be a comprehensive one.

5. That in planning there is offered material assistance in the solution of traffic difficulties.

6. That planning offers to the citizens of a community one thing which is not possible under the ordinary condition of affairs, and that is an established and definite policy of public improvements continuing from one administration to and through the next.

7. That planning does not necessarily mean large expenditures of public money for the creation, revision or addition of the civic structure. It does mean spending at the right place and at the right time.

8. That no plan is worth a German mark unless it is used.

CITY TRAFFIC PROBLEMS

By A. R. Ross,
Mayor, Lafayette, Indiana.

In the points to be submitted in this paper the conditions in Lafayette will be dealt with, in the belief that with slight modification the conditions are present in every Indiana city of any size.

The curb to curb width of the down town streets in Lafayette varies from 30 to 51 feet but the greater majority of the streets will not average over 36 to 38 feet in width. The maximum width is found on the four sides of the public square. Automobiles parked parallel to the curb extend 6 feet into the street and where angle parking is established they extend from 10 to 13 feet into the street. Our principal street has an average width from curb to curb of about 39 feet. With double street car traffic traversing its center, and a solid row of automobiles parked parallel to the curb on both sides, it can be readily seen that there is not sufficient room between the street car and the parked automobiles for the passage of traffic. This condition results in numerous traffic blockades when street cars stop to take on and discharge passengers. This is a constant menace to the Fire department in making its runs in the congested portion of the city where it is most necessary for it to arrive promptly.

Traffic Census

In order to secure more definite data upon which to base corrective measures, a twelve-hour traffic and parking census
THIRTEENTH ANNUAL ROAD SCHOOL

was taken on Saturday, March 6, 1926, with the co-operation of the Engineering Department of Purdue University, under the active direction of Prof. G. E. Lommel. This was a rainy day and did not show a maximum number of cars on the congested streets, but some very interesting conditions were disclosed.

The point of heaviest traffic was shown to be at the corner of Ninth and Main streets, which is a transfer point for street cars leaving in four directions. Without counting the north and south bound motor traffic, or the west bound traffic turning into Ninth street, it was shown that during the twelve hours 4,594 vehicles including street cars passed through this busy center. As a result of this showing a traffic officer was placed at that point.

Of the total traffic of 32,747 vehicles moving in and out of the business district, 5,602 or 17.1 per cent was truck traffic; 566 or 1.7 per cent was horse-drawn, and the remainder, about 81 per cent was automobile, including both business and pleasure vehicles.

Another bad traffic condition in Lafayette concerns the two bridges crossing the Wabash River. These furnish the only means of crossing the river for a distance of seven or eight miles in either direction. The Main Street bridge was shown to be the busiest place disclosed in the census, as 7,922 vehicles passed during the twelve hour count, reaching a maximum of 742 for the half-hour period from 4:00 to 4:30 p.m. As to the relative importance of the two bridges, it was shown that the total traffic over both was 8,359 vehicles, and of this number 94.8 per cent passed over the Main Street bridge while the Brown Street bridge carried but 5.2 per cent. This showing clearly indicates the desirability of so routing traffic as to relieve the Main Street bridge and throw some of the traffic to the Brown Street bridge to the north.

In order to aid in the solution of this problem and to relieve the down-town portion of Main Street of its heavy traffic congestion, an ordinance was enacted creating four through streets running east and west parallel to Main Street, two to the north and two to the south of that street. The result of the operation of this ordinance has been very gratifying in relieving Main Street of considerable traffic. This result was further assured by removing the traffic signal lights on the through parallel streets and leaving them installed on Main Street. This encourages the motorist to take one of the side streets where he will not be delayed by the red signal light.

In order to prevent additional congestion on our main street, resulting from the construction of state highways, the city administration in co-operation with the state highway commission are routing as much of the through traffic as possible down the side streets and across the little used Brown Street.
bridge. In this connection it might be said that it is to the very material advantage of cities to cooperate with the state highway commission in by-passing tourists around their congested business centers, and not be misled by any sentiment of local merchants in their mistaken desire to have the traffic routed through the center of the town. Most tourists wish to go through the city and appreciate the opportunity of doing so without being delayed by passing through the congested district. Those who wish to stop will do so regardless of how the through traffic is routed.

Traffic Obstacles

Very definite traffic obstacles with which we have to contend in Lafayette are the passing of long freight trains over the Monon and Wabash Railroads through the business section of the city. This is most serious in connection with the Monon Railroad which passes directly through the center of the city from north to south on Fifth Street. During the twelve hour census approximately 8,000 automobiles crossed this railroad. During this period, moving or stationary trains occupied the crossing for a total of about 29 minutes, so that roughly 350 automobiles were held up for approximately 30 minutes. This certainly indicates a definite economic loss of considerable importance.

Closely allied with the traffic problem in the way of traffic obstacles are the automobiles now permitted to be parked on our downtown streets. A very material portion of this results from the local business or professional men parking their own cars all day, thus maintaining a constant traffic obstacle. This denies out of town customers the convenience of ready access for shopping purposes.

In the parking census that was taken, as a part of the study, a total of 10,457 parked cars were counted. Because of a rather heavy rain in the afternoon this census was not as completely successful as was hoped for. However the results disclosed the selfish use of the streets for parking purposes by a number of citizens, namely:

- 60 cars were parked for 9 hours or more
- 83 cars were parked for 8 hours or more
- 98 cars were parked for 7 hours or more
- 120 cars were parked for 6 hours or more
- 143 cars were parked for 5 hours or more
- 180 cars were parked for 4 hours or more
- 282 cars were parked for 3 hours or more
- 382 cars were parked for 2 hours or more
- 558 cars were parked for 1 hour

In round numbers 1,700 cars could be parked in the territory covered by the parking census and at 2:00 p.m. on March 6th almost 1,400 cars were parked in this district, of which 62 were double parked in fourteen different blocks. It is esti-
mated that these parked cars cut down the street efficiency for traffic between 25 and 35 per cent. During the day 88 cases of double parking were reported on twenty-eight different blocks.

**Proposed Remedies**

Some of the conclusions submitted as the result of this traffic and parking census were:

- That either a no parking or limited time parking regulation be established on Main Street.
- That some provision should be made to care for the obstruction caused by trucks backed up to the side walk for loading and unloading.
- That the number of taxi cabs that could be parked in front of the taxi offices should be strictly limited.
- That parking space, for long time parking, should be provided either by the city or the merchants.
- That as much as possible of the traffic be diverted from the congested Main Street bridge to the less used Brown Street bridge.

In attempting a solution of the acute traffic and parking situation confronting Lafayette, an ordinance was first enacted, as already noted, establishing four through streets parallel to Main Street, thus encouraging traffic to use these streets. The next measure taken up for consideration was that of a limited time parking ordinance to cover the more congested business districts with one and two-hour parking limits, according to the importance of the street. Early in the consideration of this problem we were confronted with the advisability of providing a free parking space for long time parking in order that the enactment and enforcement of a limited time parking ordinance would not result in residents of the country districts going to the small villages and staying away from the county seat because of no available place for parking their cars while in the city. Since it would be very difficult, if not impossible, to prevent residents of the city from using most, if not all, of the parking space available on streets outside the limited time parking district; there would be little, if any, long time parking space available for the people from the country, unless they went to a considerable distance from the business section of the city.

As a solution of this problem an option was secured on property located between the two bridges just east of the river, and easily accessible from both, to be used as a municipal parking ground. The plan included in connection with the parking ground, a small building equipped with toilet facilities for both men and women, a free checking room for the patrons to check their parcels and the whole parking space to be encircled by a fence and in charge of a custodian.
to render needed service to visitors to the city and guard against theft of automobiles. The city council authorized a bond issue of $52,000 to cover the purchase and equipment of this parking ground.

We immediately encountered opposition, almost wholly of a political character, which resulted in an appeal being taken to the state board of tax commissioners by a group of local remonstrators. A public hearing was held by one of the state tax commissioners and not one shred of evidence was submitted by the remonstrators to sustain the points included in their remonstrance. The large audience of local business men who were in attendance signified they were very much in favor of the proposed bond issue. The attorney for the remonstrators raised the legal question that a city council did not have the power to authorize a bond issue for such a purpose, but the state tax commissioner stated that that was a question for the courts to decide. On the merits of the proposed bond issue for meeting a very great public need the state board of tax commissioners subsequently approved the bond issue.

The law under which the city administration proceeded in its effort to secure this much needed assistance in solving the parking problem was, “An Act Concerning Municipal Corporations—Approved March 6, 1905, under Section 92,” in which the following power is granted to the board of public works: “To condemn, rent or purchase any real estate or personal property needed by any such city for any public use.” It would be difficult to conceive of anything that could be more clearly established as constituting a public use than this plan of providing a parking ground for a large number of automobiles in order to make it convenient for out of town shoppers and long time visitors to park their cars, and to facilitate the enforcement of a limited time parking ordinance, to better meet the needs of the customers of our local business men, and to clear our local streets from the constant menace encountered by our fire department in making its runs.

When the bond issue was advertised for sale, the different bond houses submitted their bids subject to the approval of their attorneys. The attorneys of the bond company, which was the successful bidder, advised against purchasing the bonds because of the fact that Lafayette was the first city in Indiana to issue bonds for the purchase of a municipal parking ground and that there was no court decision establishing the fact that this constituted a public use within the meaning of the law. The attorneys were influenced in their decision by information, conveyed to them by local opposition to the project, that a Lafayette attorney had been retained to take the matter into the courts and thus involve the bond issue in litigation. These attorneys did not question the very great
need of Lafayette for such a parking place to relieve the congested business streets and they did not question that such a project constituted a public use within the meaning of the law. But in the absence of a court decision definitely establishing that fact, they would not recommend the purchase to the bond company because the small commission received would not justify placing in the hands of any customer a bond issue that was to be involved in litigation. *This matter is still pending but it is of such a character that it should be of interest to the officials of every city in Indiana.

In the enactment of no-parking and limited-time parking regulations in our cities, there are a number of factors to be taken into consideration which will apply to most of our cities with but slight modifications to meet local conditions. No-parking zones must be established where needed to meet the needs of traffic. The operation of street cars, taxi cabs and large motor buses with the location of their terminals are factors to be taken up and definitely provided for in any regulatory measure. The establishment of through streets and the by-passing of through tourist traffic are also items to be considered in the solution of the general problems of relieving the narrow congested streets in the business portion of the city from its heavy burden of traffic.

THE TRAFFIC PROBLEM

By W. A. Van Duzer,
Pennsylvania Department of Highways.

(Note: Mr. Van Duzer was unable to attend the Road School and Mr. C. C. Albright, Location Engineer of the Penna. Highway Department, presented the paper in his place.)

Traffic as a factor enters every principal division of highway activity, administration, finance, location, design of construction and maintenance. The traffic problem more often is the future development of transportation than the care for present conditions.

Development of the automotive industry, improvements of motor vehicles, steady reduction in their costs, road improvement, increasing population and abundant prosperity have released a flood of highway traffic beyond any previous comprehension and we must expect future years to bring still

*Editors note. Since this paper was presented, the Indiana legislature has enacted a law which specifically includes municipal motor vehicle parking grounds within the scope of such city bond issues.