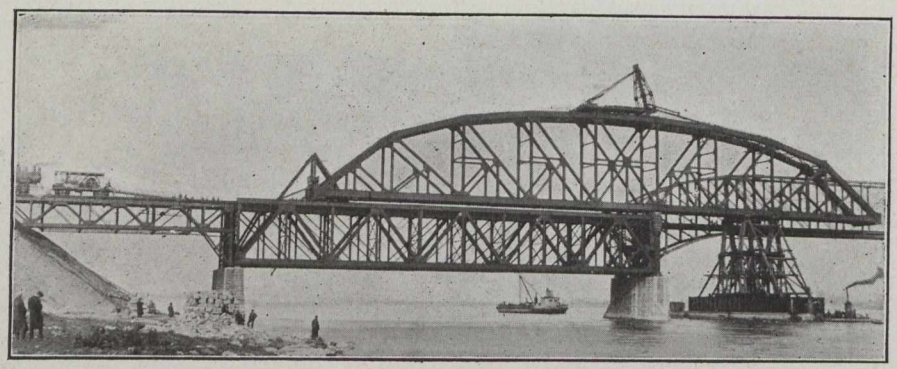
bridge construction handicapped by traffic conditions are connected therewith. The extensive cofferdamming in conjunction with pier work and the pneumatic caissons employed in enlarging the deep-water piers, are also well known to engineers.

The finished bridge, as illustrated herewith, consists of the following spans, viewed from the north end: Three 80-ft. deck plate girders; eight 120-ft. deck Warren truss spans (which were the four 240-ft. spans in the old bridge); four 240-ft. deck Warren truss spans; one 270-ft. deck Warren truss; two 480-ft. through Pratt curved-chord sub-panelled trusses; one 270-ft. deck Warren truss, and one 120-ft. deck Warren truss.



One Channel Span of the St. Lawrence River Bridge Moving Into Place.

TRAFFIC REGULATION IN DETROIT AND TORONTO.

WHILE traffic regulation in America originated in New York, and that city for a long time kept the lead, other cities have since introduced such regulation, and, by taking advantage of previous experience, have naturally been able to improve a good deal on the original rules and methods still largely adhered to in New York. To-day, in the opinion of John P. Fox, transit expert, writing in the "American City," Detroit has, perhaps, the best traffic regulation in the country, which is not surprising for the centre of the automobile industry.

The success of Detroit appears to be largely due to a constant attempt to improve existing regulating methods, and to treat the subject as a science, whose principles should be applied to fit each street problem. One of the striking innovations is the use of semaphore signals at street intersections, the apparatus consisting of four revolving blades, set at right angles at the top of a light, portable standard, the blades showing the words "Go" and "Stop" on alternate faces, painted appropriately green and red. At night the arms are surmounted by a signal lantern of the railroad type, with red and green lights. Requiring only a quarter of a turn at a time, the semaphore arms are very quickly and easily turned by the traffic officer, who is thus encouraged to change the direction of traffic frequently, and so to reduce the delay to vehicles, which is often so annoying and so unnecessary.

The safety zone idea has been very thoroughly worked out in Detroit, over a thousand zones being in use to-day. These consist of white lines painted on the pavement to indicate where people should cross the streets, where they should wait for cars, the location of fire hydrants, spaces for parking automobiles, etc. The use of these white lines has had a marked influence in making chauffeurs and pedestrians exercise more care, and has greatly reduced street accidents. People no longer cross between the blocks as they used to, for one thing, about 90 per cent. of the accidents from this cause having been eliminated.

The keeping up of the white lines on the pavement is not as costly or as troublesome a matter as might be expected. Frequent marking is naturally required on streets with heavy traffic, but on other streets the lines will last for months. The paint used consists of cheap white lead, whiting, gloss oil, gasoline and ultramarine blue. It is applied to the pavement by means of a lawn tennis court marker, with a three-inch paint brush inserted in the distributor, the apparatus being carted round on a motor truck.

The near side car stop is in use in Detroit, and at each stop a safety zone is marked off by a white line about 60 feet long and 6 feet wide from the car steps, or 7½ feet from the outer rail, extending from the nearest crosswalk back to where the rear step of the car comes. In this safety zone persons can stand or walk or get on and off cars in perfect safety, even in the most crowded streets. For while such a zone is occupied, no vehicle dares to run over the white line, and chauffeurs are now so well trained in observing the rule that posts and signs are seldom needed as a warning. Except on very narrow streets, automobiles are permitted to pass between a car stop and the curb, but only at half the legal speed. In order to keep this space clear, no vehicles are allowed to stand along the curb for a space of 75 feet opposite car stops. When streets are too narrow to provide both safety zones and passing spaces, vehicles must then stop 6 feet back from a street car at rest.

Safety zones were at first indicated by traffic signs with red targets properly inscribed. These signs were frequently struck by vehicles, as they could not always be seen, and several damaged radiators were the result. As chauffeurs became more careful, such conspicuous signs were hardly needed, and they also were in the way when vehicles wished to pass over a safety zone at times when no cars were stopping and no passengers were waiting in the street. So the signs were removed and their place taken by a mushroom-shaped base of iron, weighing about 55 pounds, secured in the pavement by a spike, the words "Safety Zone" being cast in the top