assessment if the improvement were of sufficient importance to involve general benefit. If the same street were to be widened to 100 ft., the local assessment under the same rule would be for 20 of the 50 ft. to be acquired, or 40 per cent. of the total land damage, the damage to buildings, as before, being included in the district or general assessment.

Special cases would undoubtedly arise which would require special treatment, but it is probable that in the great majority of improvements the method proposed would result in an equitable distribution of the burden. Those who are to pay the bills have a right to know in advance how the costs are to be apportioned, and the formulation of a policy which can be consistently followed is not only desirable but necessary.

The problem of determining whether or not there is general benefit and the proportion of the cost representing such benefit will be difficult. A typical case is that of a new boulevard recently laid out in the city of New York and now being acquired. It has been given a width of 200 ft. and extends from one of the great bridges over the East River directly across the Borough of Queens to Jamaica, and it is expected that it will ultimately be carried to the ocean front. It will afford ready access not only to the highway system of the Borough of Queens, but to all of Long Island. It includes within its lines an existing highway about 80 ft. in width.

Owing to its strategic position, this boulevard will be of more than local benefit. It was thought proper in this case to assess upon an area extending 800 ft. on each side that proportion of the cost of acquiring title represented by increasing the existing highway from 80 to 100 ft. Of the remaining 100 ft. it was decided to impose three-eighths upon the Borough of Queens and five-eighths upon the city at large. This division would have placed upon the local area, the borough and the city 16.7 per cent., 31.2 per cent. and 52.1 per cent., respectively, but these were rounded off to 20 per cent., 30 per cent. and 50 per cent.

In the improvement of this highway it is proposed to construct one central driveway 44 ft. wide, with parking spaces 30 ft. wide on each side, and outside of these side roadways 28 ft. and sidewalks 20 ft. in width, the side roadways and walks to be treated strictly as local improvements and assessed directly upon the abutting property, and the central driveway and parking spaces to be treated as a part of the park system and to be built at the expense of the entire city. It is believed that such a distribution of the expense is just, but there has been a disposition to consider it a precedent for similar treatment in the case of other streets where the general public benefit would be far less, while in some places there would be none.

Demands for the apportionment of the expense of local streets as though they were thoroughfares of metropolitan importance must be consistently denied, however powerful may be the influences exerted to induce special treatment in certain cases. A policy which is manifestly just will ultimately win popular favor. To hastily adopt a plan for the distribution of costs which afterwards proves unworkable, and which must, therefore, be modified, will involve some injustice as between those who may have been assessed by one plan and those whose burdens may be determind by a revised plan. The policy should, therefore, be carefully studied and thoroughly tested before its adoption, after which it should be consistently adhered to. It follows that such a policy should be confined to principles rather than be expressed in percentages, for special cases will inevitably occur where a principle can be applied, while a rigid rule involving fixed percentages would entail serious hardship.

There is one other method by which the expense of city planning projects could be met, at least in part, namely, through recoupment by the exercise of the right of excess condemnation where this right exists, but this subject is to be treated in another paper, and is simply referred to in this connection.

Where the financial condition of the city will permit, the burdens of the property owner can be considerably lightened by the recognition of deferred benefit and a correspondingly deferred assessment. In this case the city would carry the amount until the benefit resulting from the improvement should have been fully realized, or, in other words, should have been reflected in actual increase in values. Similar relief could be given by permitting the payment of assessments in installments carrying a moderate rate of interest. Either plan would require larger capital to finance such improvements, and would to that extent impair the city's borrowing capacity for other purposes. These however, are matters of detail and have to do with the matter of collection of the assessments, rather than the distribution of the expense.

The general principles which should, in the writer's opinion, govern the distribution of the cost of city improvements, may be briefly summarized as follows:—

1. Where there is local benefit, there should always be local assessment.

2. The entire city or the metropolitan district should bear no part of the expense unless the improvement is in some degree of metropolitan importance and benefit.

3. Assessments should not be confined to the cost of acquiring and improving streets, but should extend to any improvement which will increase the value of the neighboring property, and should be apportioned as nearly as possible according to the probable benefit.

4. A workable policy once adopted should be consistently adhered to.

5. The determination of a policy and its application to each case should be entrusted to a board composed of men especially qualified, whose terms of office should so overlap as to insure continuity of policy and purpose.

A LARGE REINFORCED CONCRETE BOAT.

A very large reinforced-concrete boat has recently been built for the use of the Manchester Ship Canal Company in England. This boat is described in the June 14, 1912, issue of London "Engineering." From that account we have made the following abstract:—

The boat in question is known as a sludge pumping pontoon. It has been built for the purpose of enabling dredged material to be deposited on low-lying land anywhere along either bank of the ship canal. The pontoon will be towed by steam tugs to selected points and there moored. The hopper barges will then be towed from the dredges as they are filled and moored alongside the pontoon. The suction pipe of the pontoon will be lowered into the barge to be discharged and the delivery pipe will deliver material upon the area selected for its reception. The pontoon is equipped with its own boilers and engine for the pumping operation described. It is 100 ft. long by 28 ft. wide, and 8 ft. 6 in. deep from the keels to the main deck, drawing about 6 ft. 6 in. of water when fully loaded. Its entire construction, including four water-tight bulk-heads and settings for the boilers and engine, is of reinforced concrete. The pontoon was built according to the Hennibique system by the English agents of that system, Messrs. L. G. Mouchel & Partners.