parliament. The procedure is therefore simpler and cheaper than private bill procedure. Under this act promoters are obliged to obtain, as a condition precedent to making application for a provisional order, the consent of local authorities in whose areas the proposed tramways are to run. This provision is referred to as the “ veto clause.” Where a line is laid in two or more districts and two-thirds of the line are in districts where the local authorities do consent, the board of trade may dispense with the consent of the remainder. When procedure by private bill is adopted a similar “ veto ” provision is made by Standing Order 22, which requires the consent of the local authority (and of the road authority where there is one distinct from the local authority) before the bill goes to first reading; in this case also the consent of authorities for two-thirds of a continuous fine are deemed sufficient. The powers granted under the Tramways Act are in perpetuity, subject to the right of the local authorities (under the 43rd section) to purchase, at the end of twenty-one years or each septennial period following (or within three months after the promoters have discontinued working the tramway or have become insolvent), so much of the undertaking as lies within their areas, on paying the then value of the properties suitable to and used for the undertaking, exclusive of any allowance for past or future profits or compensation for compulsory sale or any other consideration whatsoever, such value to be determined by an arbitrator appointed by the board of trade. Another part of the arrangement specified between the local authorities and the undertakers is that the undertakers shall pave the tramway track between the outer rails and for 18 in. beyond each outer rail. Mr G. F. Shaw-Lefevre (afterwards Lord Eversley), when introducing the bill in 1870, said that it “ would give powers to the local authorities to construct tramways, but not, of course, to work them.” The idea apparently was that local authorities should retain full control of the roads by constructing the tram­ways, and would make arrangements with lessees on terms which would secure reasonable fares and other conditions for the benefit of the travelling public. It was not until 1896 that parliament permitted local authorities to work tramways as well as own them, except in cases where lessees could not be obtained. The precedents for municipal working were created by private acts at a time when public opinion was in favour of that policy; and after the first few bills for municipal tramway working had been successful, other municipalities found practically no difficulty in obtaining the desired powers, although parliament had never adequately discussed, as a specific reform, the departure from the principle laid down by Mr Shaw-Lefevre in 1870. The conditions in fact proved more favourable to municipal than company promoters, since the local authorities, as soon as they aspired to work tramways as well as own them, used the power of veto against the proposals of companies.

The situation entered a more acute phase when electric traction was introduced on tramways. The Tramways Act provides, by section 34, that all carriages shall be moved by the power prescribed by the special acts or provisional order, and where no such power is prescribed, by animal power only. The mechanical power used must be by consent of the board of trade, and subject to board of trade regulations. Owing to the capital expenditure involved in electric traction, under- takings nearing the end of their twenty-one years’ tenure found that it was not commercially feasible to carry out the change without an extension of tenure. The local authorities were reluctant to grant that extension, and they were also reluctant to give permission for the promotion of new lines.

The difficulties of the altered conditions created by the advent of electric traction were met to some extent by the Light Railways Act 1896. This act contains no definition of a light railway, and it has been used largely for electric tramway purposes. Lord Morley, when piloting the bill through the Lords, said that “ light railway ” includes “ not merely all tramways but any railway which the board of trade thinks may justly be brought within the scope.” It certainly includes tramways in towns, and it might include large trunk lines throughout the country.” Accordingly it has been used for the construction of many miles of tram lines on the public streets and also in some cases for extensions where the track leaves the public road, and is laid on land purchased for the purpose. These tracks are generally constructed with grooved girder rails, having a wide groove and a high check, so that the shallow flanged tramcar wheels can run on them with safety at high speeds. The rails are laid on cross sleepers and ballasted in the ordinary railway fashion. Fencing is erected, but level-crossing gates are often omitted, and cattle guards only are used to prevent animals straying on the track. These sleeper tracks on private ground are cheap to maintain if well constructed in the first instance. Speeds of 20 to 25 m. an hour have been sanctioned on electric lines of this character, worked by ordinary tramway rolling stock. There is no purchase clause in the Light Railways Act, but arrangements for purchase of the undertaking were usually made with the local authorities and the terms embodied in the order. The act contains no veto clause, section 7 stating that the commissioners are to “ satisfy themselves that all reasonable steps have been taken for consulting the local authori­ties, including road authorities, through whose areas the rail­way is intended to pass, and the owners and occupiers of the land it is proposed to take.” The Light Railway Commissioners, however, have interpreted the act in the spirit of the Tramways Act, so that for all practical purposes the veto remains. The new act differed from the Tramways Act in providing for the com­pulsory purchase of land under the Lands Clauses Acts—the Tramways Act expressly stating that the promoters should not be empowered to acquire land otherwise than by agreement. The board of trade has held that the act does not apply to tramways wholly within one borough. County, borough and district councils as well as individuals and companies are empowered to promote and work light railways.

The passing of the act gave a great impetus to the construction of tramways worked by electric traction. But owing to the practical retention of the veto, there was not so much progress as was anticipated. Another cause of restriction was section 9, sub-section 3, which provides that if the board of trade con­siders that “ by reason of the magnitude of the proposed undertaking, or of the effect thereof on the undertaking of any railway company existing at the time, or for any other special reason relating to the undertaking, the proposals of the promoters ought to be submitted to parliament,” they should not confirm the order. In many cases railway companies, by pleading the competitive influence of proposed tramways promoted under the Light Railways Act, were able to force the promoters to apply to parliament or to drop the scheme. The latter alternative was frequently adopted, owing to the costs of parliamentary procedure being too heavy for the undertaking.

*Commercial Results—*Interest in the commercial results of tramway enterprise is practically limited to electric traction, since other forms of traction have been almost entirely superseded owing to their economical inferiority. The main advantages of electric traction over horse traction lie in the higher speed, greater carrying capacity of cars, and the saving in power over a system in which only a small proportion of the power source is available at one time. Steam, compressed air and gas traction possess the disadvantages that each car has to carry the dead weight of power-producing machinery capable of maintaining speed up to the maximum grade. Cable traction has the disadvantages that the speed of the cars is limited by the speed of the cable, that the range and complexity of the system are restricted, and that construction is expensive. The electric system, in which power is generated at a central source and distributed to cars which take power in proportion to the work being done, possesses a higher degree of flexibility, convenience and economy than any other system. Electric tramways in Great Britain arc mostly equipped on the overhead trolley system, though the conduit and the surface contact systems have been installed in a few instances. Roughly the capital expenditure required for the three systems is in proportion of 2, 1½ and 1, and both the conduit and the surface contact systems are more costly to maintain than the overhead system. A fourth system of electric traction, in which the cars are fitted with storage batteries charged at intervals, has been tried frequently and as frequently abandoned. The great weight of the batteries, the serious initial cost and high rate of deterioration prevented the attainment of financial success.

The earliest development of electric road traction on a large scale took place in America and on the continent of Europe, and the