

THE PROBLEM OF STREET CLEANING.

IT is not possible for anyone to give intelligent advice about the cleaning of the streets of any city without a pretty full knowledge of all the local conditions involved. The kind and state of repair of the pavements, the traffic to which they are subjected, the facilities for disposing of street sweepings and rubbish, the climatic peculiarities, the degree of cleanliness it is desired or expected to maintain, as well as numerous other local circumstances, are all elements that must be known and carefully considered in outlining a program for the street cleaning department. One attempting to write on the broad subject must, therefore, confine himself largely to principles and practices of general application. As an article of this nature much of instruction and value is contained in a paper appearing in a recent issue of *The American City*, and written by Mr. S. Whinery, Consulting Engineer, New York City. The article is as follows:—

In most cities the data on street cleaning afforded by local past experience and results afford the best basis for future projects and programs. While the methods followed and results obtained in other cities may be, and should be, studied, it must be kept constantly in mind that it is not wise or safe to base conclusions upon such data without a full knowledge and careful consideration of all the facts and conditions affecting them. This is particularly true of reported cost data, for in addition to differing physical conditions it is, unfortunately, true that the present methods of accounting in many street cleaning departments make it next to impossible to ascertain the actual or relative unit cost of the various details of the work, and to compare intelligently results in one city with those in another.

Finances.—In a project for cleaning the streets of any municipality, the first important practical step is to provide the necessary funds for the support of the street cleaning department. Other things being equal, the cost of cleaning the streets is, roughly, in direct ratio to the degree of cleanliness attained, and the amount appropriated will, therefore, control the quality of the work that can be accomplished. However careful, efficient and economical a street cleaning department may be, the quantity and quality of the work accomplished will be limited by the amount of money available for the work. It is illogical and unreasonable to expect a street cleaning department to keep the streets ideally clean when the amount of money allowed for the work is wholly inadequate to accomplish that result. Therefore, in considering the sum to be appropriated, the standard of cleanliness it is desired to attain should be first determined and the appropriation figured accordingly.

Money is required by the street cleaning department for two general purposes—the proper equipment of the department and operating expenses. The former is as necessary and important as the latter. Satisfactory results cannot be expected if the department is compelled to do its work with insufficient, antiquated and dilapidated apparatus. Every citizen engaged in conducting a private business enterprise appreciates the importance of procuring the best and most efficient machinery and appliances if he hopes to succeed in these days of sharp competition. He must be prepared to conduct his business and turn out his product at the lowest possible cost, and to do this his equipment must be up to date and the best of its kind. It is not unusual in large and successful industrial and manufacturing establishments that a comparatively new and costly machine will be discarded and scrapped, and replaced by an improved one that will turn

out work at a lower cost, and thus prove more economical in the end. Few will deny the wisdom of the same policy in conducting municipal public work, and yet many street cleaning departments are compelled to get along with old, dilapidated and inefficient apparatus, and often not enough of even this is on hand to do the required work properly. It is wholly unreasonable to expect a department to accomplish satisfactory results either as to quality or cost of work under such conditions. Not only this, but it is, in the end, an inexcusable waste of the public money. It is a policy that may be truly called penny wise and pound foolish.

If expenses must be held down to a certain limit, it is wiser to curtail operating rather than equipment expenditures. In fact, the total expenses of the department may not infrequently be reduced by properly providing it with improved, efficient, labor-saving apparatus, even though the first cost may seem high.

While extravagance should be rigidly opposed, and while the financial condition of a city may make it necessary to restrict expenditures in all municipal departments, it must be borne in mind that if clean streets are desired or expected, the necessary money must be supplied to accomplish the purpose, and if this is withheld the street cleaning department should not be held responsible for the unsatisfactory condition of the streets caused thereby. Emphasis is here given to this matter of adequate appropriations, because in many cities where economy is felt to be necessary the street cleaning department is among the first to be attacked and to have its appropriations restricted or reduced.

Method of Cleaning.—It is coming to be generally recognized that from both the sanitary and business point of view the most objectionable part of street dirt is the fine dust produced by the drying out and pulverization of the animal excreta and other matter that finds its way to the surface of the streets. The fresh, raw and usually damp excreta and rubbish are objectionable mainly to the sight, but when dried and ground the dust floats in the air when disturbed, and disease germs contained in it are breathed into the nose, mouth and lungs of those exposed to it, where it may develop specific diseases. This dust, carried by the winds, enters residences and business houses to the injury of delicate goods or furnishings, and by reagitation may thence be carried into the human system. Any system of street cleaning that does not provide for the prevention or allaying of street dust cannot, therefore, be regarded as satisfactory. The best remedy against dust is to forestall its formation by removing the fresh material from the street as quickly and completely as possible before it can be converted into dust. Where the street surfaces are of such a character as to admit of it, the most effective method of accomplishing this is prompt removal of the accumulations by the so-called patrol system, where a limited area of street is frequently passed over by a patrolling cleaner and the fresh accumulations removed.

Sweeping by power sweepers at intervals of one or more days, while less expensive, is far less efficient and satisfactory, though if properly done and supplemented by sprinkling with water or oil at intervals sufficiently near together to prevent dust-flying, it serves a good purpose. But whatever method for primary cleaning is adopted, the formation of more or less fine material cannot be wholly prevented, and it is important that the street surface shall be frequently washed by the use of hose, flushing wagons or power squeegees. On well-paved city streets the most efficient and satisfactory method of cleaning so far devised, with the apparatus now available, is hand cleaning by the patrol system