

RAPID - TRANSIT SYSTEMS

ONE PLAN OR PARTS OF SEVERAL MAY BE ADOPTED.

THE AVAILABILITY AND UTILITY OF A ROOMY TUNNEL—SPEED, LIGHT, AND CLEANLINESS OBTAINABLE BY THE USE OF ELECTRICITY.

One of the first things which the Steinway Rapid-Transit Commission will be required to decide, after the routes for new rapid-transit roads shall have been laid out, is the question whether the system is to be an elevated, fashioned after the existing model of elevated railroads, or upon the masonry viaduct system, or a depressed road running through open cuts through the streets, or an underground road, or a combination of two or all of them. Indeed, the final determination of the different routes will in a large measure depend upon which of these various systems is chosen. In the determination of this question the commission will be influenced very materially by several important considerations.

In the estimation of Commissioners Steinway and Starin and Engineer Worthen there is but one ideal system of urban railroad, and that is the masonry viaduct system like that of the Berlin Stadt Bahn and of a considerable section of the New-York Central Road between the Grand Central Station and the Harlem River. It affords the solid basis for a road and the unbroken and exclusive right of way which are imperatively necessary to the running of long and heavy trains at a high rate of speed. But it is practically out of the question for New-York City, except as to one line and that for only part of the line. New-York could not spare a single longitudinal thoroughfare for such a structure, and to buy the right of way through private property for even a single line of the length of the island would make the road cost so much that capital could never be induced to touch it.

There was a time, not so many years ago, when such a road could have been built upon a profitable basis of cost; but New-York would not build when she might and now finds that she cannot when she would. The exception exists in the New-York Central route from the Grand Central Station to the Harlem River. Here, it is said by Commissioner Steinway, a viaduct road can be built right over the New-York Central's tracks, using the piers of the existing viaduct for the foundations of the proposed viaduct. Mr. Steinway, in his investigations of the Berlin system last Summer, was so favorably impressed with the viaduct plan that he says he will not give up without an effort the hope of seeing the principle applied, where there is a possibility of it, in this city. The right of way through Fourth Avenue from the Grand Central Station northward would cost the constructing company but very little compared with any other route through the city, and the question of damages to abutting private property would be immaterial.

These questions of damages to private property, that are proving such a plague to the Manhattan Elevated Railroad Company at the present time, are what would prevent the building of a viaduct railroad through any other thoroughfare, and would make the extension of the existing elevated railroad system upon a four-track real rapid-transit basis so expensive that it is doubtful if money could be raised to build it, even if there were no other objections to it. Beyond the question of expense, it is doubtful whether the consent of property owners could ever be obtained for the construction of a noisy, dirty, depressing, elevated road through any more of the avenues that would be suitable for it; and, furthermore, the conviction exists with most engineers, in common with the general public, that nothing like real rapid transit can ever be had with a road constructed upon the plan of the existing elevated railroads.

A speed of at least 30 miles an hour will be required of the express trains of any new system of urban railroads that will be considered actual rapid transit. While it is claimed for the elevated roads that their trains can make 15 miles an hour, in actual practice they do not much exceed half of this speed. From the Battery to the Harlem River at the New-York Central crossing is $8\frac{1}{2}$ miles, and to One Hundred and Fifty-fifth Street is $9\frac{1}{2}$ miles, and over neither the Third nor the Sixth Avenue line is the run made very often in less than an hour, while during the rush of travel in the mornings and evenings the average running time is nearer an hour and a half. Engineer Worthen said some time ago that to get up a greater speed than 15 miles an hour for through trains, or 9 miles an hour for trains stopping at all the stations on the existing elevated railroads, engines of a far heavier and larger class would be required than those in use, and the present structure would not stand it. For transit of the kind required for the proper expansion and building up of New-York City, he said the elevated railroad as at present constructed was out of the question.

Much the same objection as attaches to the building of a viaduct road through the streets of the city attaches to the open-cut or depressed-road system. The necessity for more longitudinal streets is so great that it has been seriously proposed to open more new streets north and south through some of the long blocks on the west side. Under these circumstances it is considered out of the question that any street shall be taken for an open-cut railroad. Should any such street be taken the matter of compensation to property owners for deprivation of easement and damages to property would ensue, not in such expensive measure as with an elevated road, perhaps, but still to a degree which would so increase the cost of the road as to make it a questionable financial possibility. Furthermore, in a storm like that of Friday a depressed road would be completely paralyzed. Drifting snows would choke it up so that it would be of no use whatever at a time when it would be most needed. The streets and avenues, furthermore, through which an open-cut system of railroads would be possible are now by law exempted from any kind of railroad construction, and any effort to remove the legal restrictions in favor of an open-cut railroad would raise such a storm of protest as the city has never yet seen. Property owners are unanimous in the demand for rapid transit, but every individual of them wants the line to run through the street next to the one in which his property is situated.

But there remains the entire subterranean section of New-York City and county, open and free for the occupancy of as many different systems of rapid transit underground as the city may require for all time. From the utterances of property owners' associations, committees of the Exchanges, and popular organizations that have from time to time during the last five years agitated for and discussed rapid transit, it is apparent that there is a decided preference for daylight and above-ground travel, and whenever the underground project has been mooted vigorous argument has been made against it, and the unpleasant, noisy tunnel through which the New-York Central and other roads make their way to the Grand Central Station with its gloom and foul smells is instanced as an example of the horrors of travel through a tunnel. People who have been to London and traveled on the Metropolitan Underground Road in that city quote the universal disgust with that road in condemnation of any underground railroad system for New-York.

But it is declared by engineers who have given the matter technical consideration that travel through a tunnel in and about New-York can be made as pleasant as it is above ground at any time, and much pleasanter during such weather as has been prevalent during the last two days.

Said Mr. Worthen: "Instead of the low, choky tunnel through which the Central Road now runs, imagine a tunnel thirty or forty feet high. How much better the air would be, without even the aid of artificial ventilation. The whole length of the tunnel was originally an open cut, and I wonder why they ever filled it in so deep. It appears to me that they might have left the arch of the tunnel a good deal higher, and have had a better tunnel quite as cheap as the present one."

"But there's no need of arguing the question; a tunnel road can be made quite as pleasant for travel as any daylight road. It's a mere matter of expense. In some sections of the city you've got to have an underground road or go without any road. Property is too valuable to be taken for a roadway now. If there were no buildings and the city could be replotted we could build any kind of rapid-transit road, even a viaduct road up the middle and up both sides of the city, which would give the ideal system; but then, again, if there were no buildings we wouldn't want the rapid-transit roads. It is necessary to bear in mind that the buildings are there and that they cannot be removed to make way for any rapid-transit road, because the buildings are wanted more than the road."

"An underground road," said another engineer, "would disturb none of the buildings; it would disturb nothing. You could lay out your lines like the segment of a spider's web if desired for the accommodation of the people without regard to street lines. Of course, you and I would prefer to ride in the open air above ground, but it appears to me that our preferences are somewhat limited by circumstances—it's a question more of what we can do than of what we would like to do. If we must have an underground system, let the tunnel be built high enough to afford space for the displacement of air by the running of trains with as small counter-pressure as possible. This would of itself insure a constant circulation of air in the tunnel, and if the tunnel were kept dry, as it ought to be, the gases from the locomotives

would naturally arise to the upper levels. Then, with a properly-constructed ventilating system, by which fresh air could be forced into the tunnel in a steady flow through pipes terminating near the base of the tunnel at regular intervals, and with spacious air shafts from the crown of the tunnel to the upper atmosphere, there ought never to be any difference between the atmosphere of the tunnel and that of the street, except that the temperature would naturally be more equable."

Electric lights for the tunnel and electric lights for the cars would make the illumination all that could be desired. Then, as to motive power. We claim to be a progressive people, and there is much to justify the claim; but in the matter of street transit, just note where we stand. Electricity has been an applied traction power for years, and is demonstrated to be cheaper than horse power, and cleaner and better, but where have we an electric road? Kansas City and Omaha have them, and Richmond and Boston and hundreds of other large cities, but New-York has done no more than experiment with a few storage battery cars. True, the overhead-wire system has its objections, but so have horses. However, the objections which attach to electricity for open street railroad traction cannot possibly attach to a tunnel road, and for this sort of a road electric traction is the least objectionable to the senses of any kind of traction. It is odorless, and, as it would be applied in a tunnel, substantially noiseless; and it can be made to move trains at as high a rate of speed as could be desired. On the London and Southwark underground road the trains have traveled at as high a rate of speed as twenty-three miles an hour. On that road the armature is on the axle of the engine, and the electric current is transmitted by brushes from a rail conductor in between the two tram rails.

"An underground rapid-transit system constructed from thirty to sixty, or even one hundred feet below ground in New-York City could follow the most densely-thronged lines of travel regardless of the buildings or structures of any kind overhead. It could follow the line of Broadway from the Battery to its northern extremity, or of Fifth or Madison Avenues, and the residents overhead would know no difference. There would be no right of way to buy and no damages—or merely nominal damages—to property to pay, and the road would be out of the way of the regular street traffic. The necessary stations could be constructed as along the London and Southwark line, on private property to be bought for the purpose. Commodious elevators to the platforms beside the tracks would enable passengers to reach the cars or the street without exertion or danger of breaking their limbs on slippery stairs, and in less time than it takes to climb an elevated-railroad pair of stairs. Some other makeshift system may be adopted to meet the present emergency, but when New-York shall have become solidly built up and a permanent, expansive, satisfactory rapid-transit system is wanted, mark my words, it will come to the underground system. It is the system by which alone all the difficulties can be overcome."

INCREASED ASSESSED VALUES.

PRESIDENT COLEMAN ANNOUNCES HIS OPPOSITION TO THEM.

Every taxpayer in the city will be interested in the following letter sent yesterday by President Michael Coleman of the Tax Department to the Deputy Tax Commissioners, who fix the valuations:

To the Deputy Tax Commissioners:

GENTLEMEN: I regret that the examination of the weekly reports, and also of the field books of the assessed valuation of real estate for 1891, indicate that there is a marked increase in assessed values in all parts of the city. I cannot agree with all your views in regard to this increase, as I feel that at the present time it would be wise and prudent to allow all the old equalized values to remain except where land is improved by new buildings or sections improved by special causes. Since you have commenced your field work, the second Monday of September, there has been a depreciation in all kinds of personal securities, and up to the present time large failures have taken place which have disturbed the public confidence. It has been the custom of this department to follow the market, and in justice to the taxpayer, it is time to consider before you continue making a general increase. The large increase of 1889, \$91,000,000, was caused by many reasons. Inflated values in some instances were taken as market values, and against my protests they were followed as correct.

In my judgment the counties of New-York and Kings are assessed nearer the market value than any other counties in this State, and thereby paying more than their proportion for all State purposes, and we should not follow the bubble prices placed on record for the purpose of deceiving those not capable of judging for themselves. I see that there are several sections where you can justify an increase, and these I will be glad to point out to you when you find time to go over your records with me.

It is time to inform you that for the reasons above named the changing yearly of assessed values without good causes should cease. My object is to equalize the burden, not to increase it.

The increases from improvements in ordinary times, together with the constantly-increasing demand for real estate, in this city for all purposes will each year enable us to show a steady and sufficient increase of wealth and consequent assessed value, the taxes on which, at ordinary rates, will meet the additional expenses added yearly to the cost of city maintenance without annually disturbing stated values. These are not orders, but they are my individual views and are offered for your guidance.

MICHAEL COLEMAN.

MARRIED AT ALL ANGELS'.

THE FIRST WEDDING CEREMONY PERFORMED IN THE NEW CHURCH.

The first wedding ceremony celebrated in the new All Angels' Church, in Eighty-first Street, near West End Avenue, took place yesterday afternoon, when Miss Blanche Bemis was married to Frederick William Tufts by the Rev. S. D'L. Townsend, the associate rector of the parish. The auditorium of the church presented a beautiful appearance. The Christmas decorations, consisting of ropes of evergreen encircling the stone pillars and arches of the same over the altar steps, were retained. On the altar were bouquets of white roses and lilies of the valley.

About two hundred friends of the bride and groom were assembled when, at 4 o'clock, the organist, A. J. Magrath, played Dudley Buck's arrangement of the overture Stradella, and the bridal procession entered the church. The ushers were George Turner, Harold B. Sherwin, Edward B. Locke, and Charles Price. The bridesmaids, Miss Mildred Tufts and Miss Gertrude Bemis of Boston, were dressed in yellow crepe de chine and carried bouquets of pink roses. The maid of honor, Miss Alice Bemis, wore a gown of pink crepe de chine and carried white roses. The bridal costume was of steel-colored crepe de chine, trimmed with wide silver braid. She wore pearl and diamond ornaments and carried white roses.

A reception followed the ceremony at the home of the bride. Among others present were Mr. and Mrs. Charles Darling, Miss Darling, Miss Manuel, Mr. and Mrs. Archibald Turner, Mrs. Upham of Boston, Mr. and Mrs. George G. Turner, Mr. and Mrs. Aaron Wellington, Mr. and Mrs. J. N. Collins, Miss Collins, Miss Hattie Tries, Miss Carolyn Toaster, Mr. and Mrs. Seth Johnson, Miss Louise Johnson, Miss Ella Johnson, and Mr. and Mrs. G. N. Clafin.