

TORONTO TRANSIT COMMISSION

REPORT No S7

MEETING DATE June 4, 1968

FROM: General Manager Subway Construction

Date June 3, 1968

Subject:

QUEEN STREET SUBWAY FOR STREETCAR OPERATION

The Commission, at its meeting of February 8, 1966, approved advising the City of Toronto that it was prepared to co-operate in the study of a "transit facility in the downtown section of Queen Street" and approved advising the Metropolitan Council that the Commission proposes to undertake this study at a cost of \$30,000.00, it being understood that the cost involved would form part of the capital cost of the project when approved.

The General Secretary transmitted the above approval of the Commission to the City Clerk in a letter dated February 22, 1966, a copy of which is attached.

In a letter dated November 2, 1966, a copy of which is attached, the Commission was advised by the Metropolitan Clerk that Metropolitan Council had adopted Clause No. 2 of Report No. 16 of the Transportation Committee, headed "Proposed Queen Street Subway", as amended. The recommendation of Clause No. 2 reads as follows, "It is recommended that the Metropolitan Council formally request the Toronto Transit Commission to complete their study of the physical aspects of the Queen Street tunnel as outlined in the Commission's letter of February 22, 1966, on the understanding that the required expenditure of \$30,000.00 will form part of the capital cost of the project." The amendment to Clause No. 2 reads as follows, "The matter of the Queen Street tunnel being considered in relation to the question of the Queen-Greenwood Subway."

In accordance with all the foregoing, plans were developed for a "transit facility in the downtown section on Queen Street", and in addition to this a preliminary examination was made of the downtown section in relation to it becoming part of the Queen-Greenwood Subway. These plans were the subject of considerable study at that time and are now submitted for the information of the Commission.

A transit facility on Queen Street could be built as shown on these plans and described in the attached Appendix A for the operation of Queen streetcars underground from a portal just West of Sherbourne Street to a portal just East of

Spadina Avenue which would include two new underground stations located at Yonge Street and at University Avenue.

The cost of constructing this section of subway is estimated to be \$37,000,000, exclusive of right-of-way.

Although difficulties would be involved, this transit facility could be extended and converted to a full subway on Queen Street.

While the downtown streetcar subway would permit the Queen streetcars to operate on a private right-of-way through the congested downtown section, it has been pointed out by the General Manager of Operations that it would not substantially increase the capacity of the line and that it "is extremely unlikely that the streetcar service on King and Queen Streets will be adequate for future needs". It is also pointed out that there would be "important operating problems to be solved in the changeover between an underground streetcar line and a full subway".

It is suggested by the General Manager of Operations that "when improved transit facilities are provided on Queen Street that they should not be in the form of a downtown underground streetcar tunnel but instead should be a full subway, extending from about Donlands Station on the Bloor-Danforth Subway to the Roncesvalles area."

QUEEN STREET RAPID TRANSIT SUBWAY

Four alignments for a Queen Street Subway from Donlands Station on the Bloor-Danforth Subway, to the Roncesvalles area were studied as follows:-

- a) An alignment South of Queen Street was examined but rejected as it would involve traffic complications for the major bus feeder services originating on the North side of Queen Street. A review of properties along the South side of Queen Street revealed that excessive underpinning and demolition would be involved.
- b) Tunnel alignment directly under Queen Street, as shown on Drawing No. 037-G-30, would involve a cut and cover type of construction and consequent disturbance to traffic. The maintenance of streetcar operation during the construction period would create a major problem. The possibility of tunnelling under Queen Street could be investigated but soil conditions in this area appear to be more favourable to cut and cover construction.

Because of continuing improvements in methods of tunnelling in soft rock, there is the possibility of

adopting this type of construction and this would be investigated.

- c) A widened street alignment, as shown on Drawing No. 037-G-31, is included as it was one of the early proposals for the Queen Street Subway and since that time there have been indications in various planning reports of redevelopment along Queen Street. This alignment could be accomplished without interruption to streetcar operation and with reduced congestion of vehicular traffic as the work of subway construction could be confined to the North side of the widened street.
- d) An alignment parallel to Queen Street and at the rear of the properties on the North side of the street, as shown on Drawing No. 037-G-32, would have the advantage of less disturbance to traffic and could provide for the accommodation of off-street looping facilities for surface bus routes. It would, however, involve the acquisition and demolition of a considerable number of buildings.

It is to be noted that the staff of Metropolitan Toronto Planning Board have recently completed a report on rapid transit priorities for Metropolitan Toronto - 1968. The report recommends, "further study of Queen Street Subway extending from an easterly terminal on Greenwood Avenue and O'Connor Drive, South on Greenwood to Queen Street, West on Queen Street to the Weston rail line at Dufferin Street, and from that point in a North-Western direction on the rail line to a Western point at about Islington Avenue."

The most desirable location of terminals for a Queen Street Subway would, of course, involve considerable study, but for the purposes of this preliminary investigation the line was extended from Dufferin Street to a terminal at Roncesvalles Avenue. The Easterly terminal was established just north of Bloor and East of Greenwood Avenue at Donlands Station. This terminal location would permit a transfer of passengers from the Bloor-Danforth Subway to the Queen Subway at Donlands Station, and with an alignment on the West side of Greenwood Yard, it would be possible to make connection with the Yard for storage and maintenance of rolling stock to be operated on the Queen Subway.

It is to be noted that the plans as submitted make no provision for storage and maintenance of rolling stock, it being understood that the Queen Subway equipment would be maintained and stored at Greenwood Yard. In this event, and with the development of traffic on Bloor Street, it might be necessary to provide another storage facility on the Bloor-Danforth Subway.

ESTIMATES OF COST OF QUEEN SUBWAY

It is not possible to estimate the cost of the Queen Subway with any degree of accuracy without undertaking more engineering studies than have been authorized to date.

As indicated above the locations of the terminals have not been established and this decision would have a significant effect on the length and cost of the project. The length of the line as shown on the Drawings submitted is about $7\frac{3}{4}$ miles. If the westerly terminal were located at Dufferin Street as suggested in the Metropolitan Toronto Report, the length would be reduced to about $6\frac{1}{2}$ miles. For preliminary discussion purposes, the estimated cost of the subway on Queen Street would probably vary between \$150,000,000 and \$200,000,000, depending upon the length of the line and the cost of providing storage for rolling stock.

RECOMMENDATION

Having regard to all of the foregoing it is recommended that Metropolitan Toronto be advised as follows:-

1. That a short section of the subway on Queen Street from Sherbourne Street to Spadina, designed to be operated initially by streetcars but for ultimate operation by rapid transit could be constructed at a cost of \$37,000,000.
2. That this short section of subway will not materially increase the capacity of the Queen Street car line which is considered to be inadequate for future traffic on Queen Street.
3. That further consideration should be given to the preparation of a preliminary report on Queen Street Subway and that this report be prepared by the Commission staff working in co-operation with the staff of Metropolitan Toronto Planning Board with respect to location of route.

I concur

[signed]

J.G. Inglis, General Manager of Operations

W.H. Paterson, General Manager Subway Construction

APPENDIX A

DESCRIPTION OF QUEEN STREET SUBWAY FOR STREETCAR OPERATION

A subway on Queen Street to accommodate streetcar operations would have an approximate length of 6,850 feet and would require two portals as described below, and two stations: one at Yonge Street and one station at University Avenue. These stations would connect with and be located below the existing subway stations at these locations.

PORTALS

An entrance and exit portal on the East end of Queen Subway would be just West of Sherbourne Street. This portal would require a widening of Queen Street from its present width of 66 feet to 96 feet in the vicinity of the portal. The widening would extend a distance of approximately 750 feet on the West side of Sherbourne Street to the East side of Jarvis Street and could be accomplished by using a strip of land 30 feet wide on the North side of the street. The lands in this area have been acquired and the buildings demolished to accommodate the Moss Park Development. This widening would permit two lanes of vehicular traffic to pass on each side of the portal located in the centre of Queen Street.

An entrance and exit portal on the West end of Queen Subway would be constructed just East of Spadina Avenue where Queen Street has been widened to 96 feet, which would allow for two lanes of vehicular traffic to pass on each side of the portal located in the centre of Queen Street.

STATIONS

The station plans as submitted indicated high platforms as required for their ultimate use as a Rapid Transit Station. Drawing No. 037-A-17 shows how the station could be built for streetcar operation with provision for later conversion to Rapid Transit type train operation.

A station at Yonge Street with side platforms 500 feet in length, as shown on Drawings 037-A-5 and 6, would extend from Yonge Street to just East of Bay Street. Additional escalators on the West side of the present Queen Station on Yonge Street would serve passenger movement from the West side of Yonge Street and the East end of the proposed new station. It is also proposed to install escalators and stairs in the West side of the Eaton-Simpson existing passageway to a Queen mezzanine control area and to the proposed new platforms.

Preliminary studies were undertaken by City Planning Authorities with respect to an underground "Mall" or "Promenade" under the Bay-Queen intersection and connecting to building development in that vicinity.

In the event of the "Mall" proposal being implemented, it could be connected to the Bay Street control area by both stairways and escalators, as shown on Drawing No. 037-A-6.

Access from street level to the "Mall" or "Promenade" would be provided by stairways in the sidewalk (similar to the entrances to the Queen Station east of Yonge Street) or by stairway and escalators in private property, subject to agreement with property owners. Details of such entrances were not developed at that time because of the preliminary nature of the study. Should the "Mall" or "Promenade" proposal not be adopted similar entrances would be required leading as directly as possible from the sidewalks to the passenger control area.

It is emphasized that the plans as described in the foregoing are preliminary only but indicate the minimum requirements for transit purposes. These plans would be subject to further study and could be expanded to conform with plans for redevelopment by other authorities.

A new station at University Avenue shown on Drawings N03.C37-A-2 and 037-A-3 would be located just East of University Avenue crossing under the existing University Subway. When the University Avenue Subway was built, provision for a future Queen Street Subway was made to the extent of providing piers to support the University Avenue Subway.

The present Osgoode Station entrances located on University Avenue would serve both subways from the street surface. However, it would be necessary to install escalators and stairs from the present control area to the Queen Subway platform and from the University platform to the Queen Subway platforms.