PENNSYLVANIA
PUBLIC UTILITY COMMISSION

Public Meeting held February 26, 1976
Harrisburg, PA. 17120

COMMISSIONERS PRESENT:

Chairman Carter
Commissioner Bloom
Commissioner O'Bannon
Commissioner Johnson

(Ref. A-98061)

Application Docket No. 99374 - Application of the City of Philadelphia for approval of (1) the alteration of the crossing by the reconstruction of the bridge carrying 58th Street over and above the grade of the tracks of Penn Central Transportation Company in the City of Philadelphia, (2) an exemption from the minimum overhead and side clearance requirements of Part III of the Commission's Railroad Regulations and (3) the allocation of the costs and expenses incident thereto.

O R D E R

BY THE COMMISSION:

At a location in the City of Philadelphia, 58th Street crosses over and above the grade of four mainline tracks and one siding track of the Philadelphia, Baltimore and Washington Railroad, operated by Penn Central Transportation Company, via an 80-year old structure which is presently posted for a 15 ton maximum load limit. By this application, City of Philadelphia seeks Commission approval of the alteration of the crossing by the reconstruction of the existing bridge and the approaches thereto, to provide for widening of the present roadway and for legal load capacity on the new structure. In addition, the application requests an exemption from the minimum overhead and side clearance requirements of Part III of the Commission's Railroad Regulations.

Hearing upon that aspect of the application dealing with clearance exemptions was held on December 8, 1975, in order to establish firm street gradients prior to completing final design plans for the new structure. Subsequent to completion of the necessary construction plans, further hearing is to be held at a later date, upon the adoption thereof and upon the allocation of the costs of construction and future maintenance of this project.

O. K.
W. W. P.
FILE

RECORD FOLDER

DUPLICATE RECORD.
ORIGINAL CERTIFIED
TO COMMONWEALTH COURT.

The purpose served by the hearing held December 8, 1975 was to present sufficient preliminary data to this Commission, relevant to controls governing gradients along 58th Street, so as to establish firm minimum track clearance requirements, as requested by the substandard clearance exemptions of part (2) of the city's application. Accordingly, testimony and exhibits pertinent to these matters was offered by the applicant and respondents. Another condition affecting this application, which should be given consideration in decisions made hereat, is the proposed Airport High Speed Rail Commuter Line which will be constructed along the railroad's right-of-way at this location, and will pass beneath the northerly end of the new bridge. Under that proposal, a prior application was made by City of Philadelphia, at A. 98061, for reconstruction of the northerly span (only) of this structure. Accordingly, the instant application at A. 99374 relates only to the remaining southerly portions of the structure. (It should be pointed out here that it is the intention of this Commission to hold combined hearing on the two applications at such time as detailed plans for all construction documents have been completed, for both portions of the new bridge.)

Testimony was presented at the hearing held December 8, 1975 by City of Philadelphia, through L. Neiman, Chief Bridge Engineer and R. S. Starr, Project Manager; by Penn Central Transportation Company, through S. C. Walker, Senior Civil Engineer; by Philadelphia Electric Company, through G. W. Gordan, Senior Engineer; and by Bell Telephone Company of Pennsylvania, through W. G. Dodelin, Project Engineer; and Exhibits Nos. 1 through 9 for City of Philadelphia were admitted into the record, together with proof of notification of the hearing, identified as Exhibit A.

Mr. Neiman, testifying on behalf of the city's Department of Streets, identified City's Exhibit No. 1 as a single-sheet general plan showing plan and elevation views and typical cross-sections of the existing bridge and of the proposed replacement structure, together with a location plan of the site. On this plan is shown dimensional data, span lengths, utility facilities and locations, structural make-up, horizontal and vertical track clearances, et al. Exhibits Nos. 2, 3, 4, 5, 7 and 8 are eight-inch by ten-inch photographs of the present bridge, showing various features and conditions controlling certain design aspects of the new structure. Exhibit No. 6 is a single-sheet tabular presentation of gradients and critical stopping sight distances along 58th Street for the existing condition, and for those situations resulting from two different track overhead clearance proposals (for 18 feet 7 inches as requested by City of Philadelphia, and for 20 feet 6 inches as requested by Penn Central Transportation Company). Exhibit No. 9, a single page drawing of the existing and proposed 58th Street profile grades, shows in graphical form the same information presented in tabular form on Exhibit No. 6.

Mr. Neiman testified that the northernmost span of this structure must be reconstructed in order to accommodate the proposed Airport High Speed Commuter Line and that Pennsylvania Public Utility Commission, by its order issued July 24, 1974 at A. 98061, approved minimum vertical and horizontal clearances of 17 feet 6 inches and 8 feet 0 inches, respectively, to be maintained about those new tracks. Additional structural and traffic studies by the city indicate the advisability of reconstructing the remaining portions of the bridge, approval for which is requested under the instant application, at A. 99374, and which will also require approvals for exemptions from minimum clearance requirements over existing tracks of Penn Central Transportation Company. In order to progress the matter and to coordinate the designs of the two separate portions of the structure, including consistent and compatible roadway gradients, the minimum acceptable clearances for the new southerly two spans must also now be established by the Commission.

Present minimum overhead clearance at this location, as determined by Penn Central Transportation Company and furnished to the city, is 18 feet 5 inches. Other overhead clearances in this vicinity are 18 feet 5 inches at The Baltimore and Ohio Railroad Company bridge just to the east of 58th Street, and 19 feet 1 inch at the bridge carrying 54th Street above the tracks, further to the east. To the west, in the vicinity of 60th Street, the new structure which will carry the Airport High Speed Line over Penn Central Transportation Company will provide 20 feet 6 inches, and at the existing 67th Street bridge, overhead clearance is 19 feet 1 inch. The city requests that the Commission approve a minimum vertical clearance of 18 feet 7 inches for the proposed new structure at the subject location. Penn Central Transportation Company opposes this request, suggesting that the standard overhead clearance of 20 feet 6 inches should be provided.

In support of its position, City of Philadelphia points out several conditions which bear upon the establishment of a vertical clearance dimension at this site, as follows:

a. Approximately 130 feet from the north end of the proposed new bridge, a siding track of The Baltimore and Ohio Railroad Company crosses 58th Street, at grade. Accordingly, finished grade on 58th Street must be held at this location. Approach gradient to the existing bridge from this point is +0.2%, which will increase to +3.3% under the city's 18 feet 7 inch clearance proposal, and which would be further increased to +4.9% should the full 20 foot 6 inch clearance be required, per the railroad's proposal.

b. Approximately 190 feet from the south end of the proposed new bridge, Grays Avenue intersects with 58th Street. Accordingly, finished grade on 58th Street must be held at that point. Approach gradient to the existing bridge is currently +4.6%, which will increase to +5.4% under the city's proposal and to +6.6% per the railroad's proposal.

c. The city's Traffic Engineering Division projects heavy future use of 58th Street by large trucks, following reconstruction of the bridge to legal load limits. The anticipated traffic counts dictate installation of traffic control signals at the Grays Avenue intersection, which would in turn necessitate minimization of the gradients between that intersection and the bridge, relevant to safe braking distances (downhill, southbound) to a full stop condition, and climb-out gradients (uphill, northbound) from a full stop condition, at the intersection.

d. The present critical stopping sight distance for traffic southbound on 58th Street is 140 feet (being the distance from the vehicle operator's eye to an object, six inches high, lying on the roadway), governed by present geometrics of the roadway. Under the city's proposal, this critical sight distance would be increased to 160 feet, but would be decreased to 130 feet under the geometrics necessary to provide overhead track clearances in accordance with the railroad's request.

e. The city's testimony indicates that both the 5.4% gradient on the south approach, and the 160 foot stopping sight distance which would result from its proposal of 18 feet 7 inch track clearance, are both consistent with limitations as set forth by standard highway design procedures and user safety criteria; while the 6.5% and 130 foot figures resulting from the railroad's clearance requirements would not fall within acceptable limitations.

f. Inasmuch as other existing overhead clearances situated on either side of the subject structure are as little as 18'-5", at a location where

attainment of a greater clearance would entail considerable difficulties, adjustments to rail grades, and raising of a major structure, the city is of the opinion its proposed 18'-7" clearance at 58th Street is not unreasonable.

In addition to the overhead clearance exemption requested, City of Philadelphia also requests Commission approval of the side clearances proposed at this location. As shown on City's Exhibit No. 1, four mainline tracks pass beneath the existing center span, and a single siding track lies beneath the second span on the southerly end. Reconstruction will change the configuration from 5 short spans with a total length of approximately 146 feet, to 3 longer spans with a total length of approximately 193 feet. This will result in an increase in the side clearance at the northernmost of the 4 mainline tracks (Track No. 4), from 10 feet 6-1/2 inches to more than 30 feet 3 inches, eliminating the necessity for a side clearance exemption at that point. However, the limited space available between the southernmost of the 4 mainline tracks (Track No. 2) and the siding track (Track No. 0) effectively prevents the provision of greater side clearances between these tracks and the intermediate pier to be reconstructed at this location. Similarly, an existing masonry wall and an integral block building located on the southerly side of the siding track cannot be removed, in toto, requiring that the existing substandard clearance at this point be retained. Accordingly, the city requests that the Commission approve exemptions from its minimum horizontal clearance requirements, as follows: 9 feet 11-1/2 inches between centerline of Track No. 2 and the new pier; 10 feet 7-1/2 inches between centerline of Track No. 0 and the new pier; and 7 feet 1-3/4 inches between centerline of Track No. 0 and the existing masonry wall. These requested clearances are identical to those presently existing, with the new construction resulting in no changes. However, exemptions are requested inasmuch as the pier will be reconstructed, albeit to the same out-to-out dimensions as at present.

The record contains considerable cross-examination, and further direct testimony by, this witness in clarification of numerous points relevant to gradients, clearances, definitions, et al, shown on the exhibits and as referred to in prior testimony. All issues so raised become clear upon full examination of the record and exhibits. In addition, the witness quoted from a letter dated August 21, 1975, from Mr. C. J. Sludden, State Legislative Director of the United Transportation Unions, to the Commission, in which the Union advises it would have no reason to oppose the application with regard to clearance exemptions if steeper gradients prohibit greater clearance, and the possibility of removing the masonry wall be further explored. The city is of the opinion its testimony and exhibits effectively respond to those issues raised by Mr. Sludden's letter.

Penn Central Transportation Company, through its witness, identified the involved railroad tracks as those operated by it as the Philadelphia, Baltimore and Washington Railroad, which carries 24 freight trains per day at 50 miles an hour maximum authorized speed, and 152 passenger trains per day, at 90 miles an hour maximum authorized speed. Additionally, the proposed new tracks to be placed under reconstructed Span 3 at this location will accommodate the shuttle-type passenger operations of the Airport High Speed Line now under development.

According to the company's testimony, the Trustees of Penn Central Transportation Company cannot agree to accept the proposed 18 feet 7 inch overhead clearance. Since the overhead structure proposed to be constructed to the west of this location, carrying the Airport High Speed Line above the tracks, will be designed to provide 20 feet 6 inch vertical clearance, it is the company's contention that any reconstruction of the 58th Street bridge should also provide the same 20 feet 6 inch clearance. The company is endeavoring to attain standard clearances all along this line of railroad, wherever possible and whenever a given structure with substandard clearances is being rebuilt, as at the subject location. While somewhat less than standard clearances have been deemed acceptable to the company if there is no other alternative, its present policy is to request the full 20 feet 6 inch overhead clearance. Despite a prior advisement to the city that it would accept 19 feet 2 inches at this location, recent studies by the company relative to the use of this line now indicate that standard overhead clearances are desirable. The company has no objection to the requested side clearances.

On cross-examination, the witness testified that most rail operations throughout the subject area probably operate at speeds considerably less than the authorized speed, and that existing conditions and clearances at the 58th Street bridge, while less than desirable, are considered safe for both freight and passenger movements. Further, contemplated changes in operations have prompted studies relative to increasing clearances at other locations, including the nearby overhead bridge carrying the tracks of The Baltimore and Ohio Railroad Company. The witness stated that their studies covered a combination entailing some raising of the B&O structure together with a certain amount of lowering of Penn Central tracks, although no details of costs, funding, time scheduling or final clearances to be attained were presented on this record.

Testimony by Philadelphia Electric Company defined the scope of its facilities located in the general area encompassing the proposed bridge reconstruction, and the extent to which such facilities would require alteration, adjustment or relocation as a result of the project, based on the city's request for 18 feet 7 inch vertical track clearance.

With that clearance, the electric company estimates the costs expected to be incurred by it to total $60,000 for which it seeks full reimbursement. This figure includes $6,000 for work on aerial lines along the east side of 58th Street; $34,000 for work on underground lines along the west side of 58th Street; and $20,000 for work at the company's substation facility west of 58th Street, between the tracks of Penn Central Transportation Company and The Baltimore and Ohio Railroad Company.

Specific details of this work are not germane to the issue of Commission determination of clearance exemptions, other than that the company anticipates the extent and the costs of its facility adjustments will be considerably increased should the elevation of the bridge be raised to accommodate greater track clearance. Accordingly, Philadelphia Electric Company has no objection to, and expresses its preference for, the 18 feet 7 inch vertical clearance exemption as requested by the city at this location.

The Bell Telephone Company of Pennsylvania testified that it presently maintains an 1800-pair cable in pipes and conduit across the bridge, which it proposes to remove prior to reconstruction of the bridge. It will not be necessary to replace this facility on the new structure. Should its system changes not permit removal prior to reconstruction, it will then maintain this line as a temporary aerial facility, located on poles, at an estimated cost of $4,000. In addition, it will be necessary to relocate an existing manhole north of the bridge, and to install new feeder lines to customers adjacent thereto, at an estimated cost of $5,000. The telephone company also requests reimbursement for all costs incurred by it as a result of the project.

Again, these matters do not materially bear upon the request for clearance exemptions, and will be more fully considered by this Commission following hearing upon cost allocations pertinent to this proceeding, and to that portion of the structure dealing with the proposed Airport High Speed Line, docketed at A. 98061, which hearings will be consolidated for disposition of all matters relevant to the structure in question.

A second witness for City of Philadelphia, representing its Department of Public Property, testified briefly with respect to the Airport High Speed Line involvement. According to this witness, the city is in the process of developing an agreement with Philadelphia Electric Company relative, in part, to reimbursement of costs, although that document had not been executed by the parties as of the date of the hearing. That agreement will cover varied items and situations at numerous locations along the Airport High Speed Line, including the subject location at 58th Street. According to this witness, the

disruption to Philadelphia Electric Company facilities north of the bridge results from the additional bridge length necessary to accommodate the Airport High Speed Line under the northerly span.

Counsel for Department of Transportation moved that the department be dismissed as a party to the application proceeding docketed at A. 99374, inasmuch as no State Highway Route is involved in this matter. The motion was granted by the Commission's Hearing Examiner, and the hearing was adjourned.

We have carefully reviewed the record in this proceeding, and upon full consideration of the matters and things involved, are of the opinion that the overhead clearance recommendations as proposed by both the city and the railroad are each supported by valid argument. The city's objection to reduced sight distances and increased gradients along 58th Street is, we feel, justified in light of the potential safety hazards these critical factors will pose to highway traffic. By similar reasoning, we consider the railroad's objective to attain as much operating clearance as is feasible, to be a reasonable and commendable goal. It is, obviously, impossible to satisfy the desired conditions for both track clearances and highway gradients, without major and lengthy changes to one or both profile grade lines, requiring that a compromise figure be established by this Commission. Accordingly, we have reviewed the testimony, exhibits and information presented by the parties, with respect to a practicable solution to this matter.

The railroad company has testified that it considers the present clearance of 18 feet 5 inches to be adequate for safe operations, but far below the desirable 20 feet 6 inch standard clearance figure. Other existing clearances, to the east, are 18 feet 5 inches (at the B&O bridge) and 19 feet 1 inch (at 54th Street); and to the west, are 20 feet 6 inches (proposed) and 19 feet 1 inch (at 67th Street). While studies are under way to effect greater clearances, according to the railroad company's testimony, including that at the B&O bridge, no particulars were given as to the figures proposed to be attained; only that additional clearance would likely be effected through raising of the B&O bridge together with lowering of the Penn Central tracks.

The city's testimony and exhibits presented relatively more specific data as to the effects upon the highway, setting forth figures for the limiting gradient (5.5%) and sight distance (140 feet) which it considers acceptable for safe operations. While these figures are approached under the proposed 18 feet 7 inch clearance, as requested, some leeway still remains.

It appears that, with the exception of the B&O bridge, clearance limitations in this locale are governed by structures providing 19 feet 1 inch above the tracks, either side of the subject bridge. If it is

presumed that this is the figure desirable at the B&O bridge, a total of eight inches additional clearance must be obtained at that location. To do so will require adjustment of the grade lines of two railroads. Logic would dictate this deficiency would be gained half from each, or a four inch raise of the B&O grade together with a four inch drop of the Penn Central grade. By providing a clearance of 18 feet 9 inches to the present grade of the Penn Central tracks at 58th Street, and projecting a future track drop of four inches, as per at the B&O bridge, a final clearance of 19 feet 1 inch will thus be attainable, consistent with conditions at other nearby locations. Our examination of the effects of this condition upon the gradient along 58th Street indicates a relatively minor increase to approximately 5.6%, and an almost negligible decrease in the city's projected 160 foot safe stopping sight distance. We feel such conditions will not be prohibitive to city street traffic.

Accordingly, we will direct that overhead clearance to the existing track gradient shall be not less than 18 feet 9 inches; THEREFORE,

IT IS ORDERED:

1. That sub-part (2) of the application of City of Philadelphia, docketed at A. 99374, seeking exemptions from the minimum overhead and side clearance requirements of Part III of this Commission's Railroad Regulations, to apply in the reconstruction of the 58th Street bridge over the tracks of Penn Central Transportation Company, be and is hereby granted as more specifically indicated hereinbelow.

2. That the minimum overhead clearance to be provided to the top of rail, above the present grade line of any track at this location, shall be not less than 18 feet 9 inches.

3. That the minimum side clearances to be provided from centerline of tracks to face of adjacent obstructions, shall be:

a. Not less than 7 feet 1-3/4 inches from centerline of track No. 0 to face of existing stone wall;

b. Not less than 10 feet 7-1/2 inches from centerline of track No. 0 to face of proposed new pier;

c. Not less than 9 feet 11-1/2 inches from centerline of track No. 2 to face of proposed new pier; and

d. Not less than standard clearance from centerline of track No. 4 to face of proposed new pier.

4. That following completion of the necessary construction plans for the project, further hearing be had in this proceeding upon the adoption thereof, the allocation of the costs and expenses of construction and future maintenance, and any other matters pertinent thereto; and that said hearing be consolidated with further hearing to be had at application docket A. 98061, insofar as that proceeding relates to proposed changes and/or alterations at the subject location.

5. That, in addition to the parties involved in the subject proceeding docketed at A. 99374, a copy of this order be served upon each party to the proceeding docketed at A. 98061, and a copy placed in the record folder thereof.

BY THE COMMISSION,

C. J. McElwee
Secretary

(SEAL)

ORDER ADOPTED: February 26, 1976

ORDER ENTERED: MAR 8 1976

MAR 11 1976