THE WESTERN HILLS VIADUCT

ADDRESS BY

H. M. WAITE, Chief Engineer

The Cincinnati Union Terminal Company

AT PUBLIC HEARING

City of Cincinnati Council Chamber

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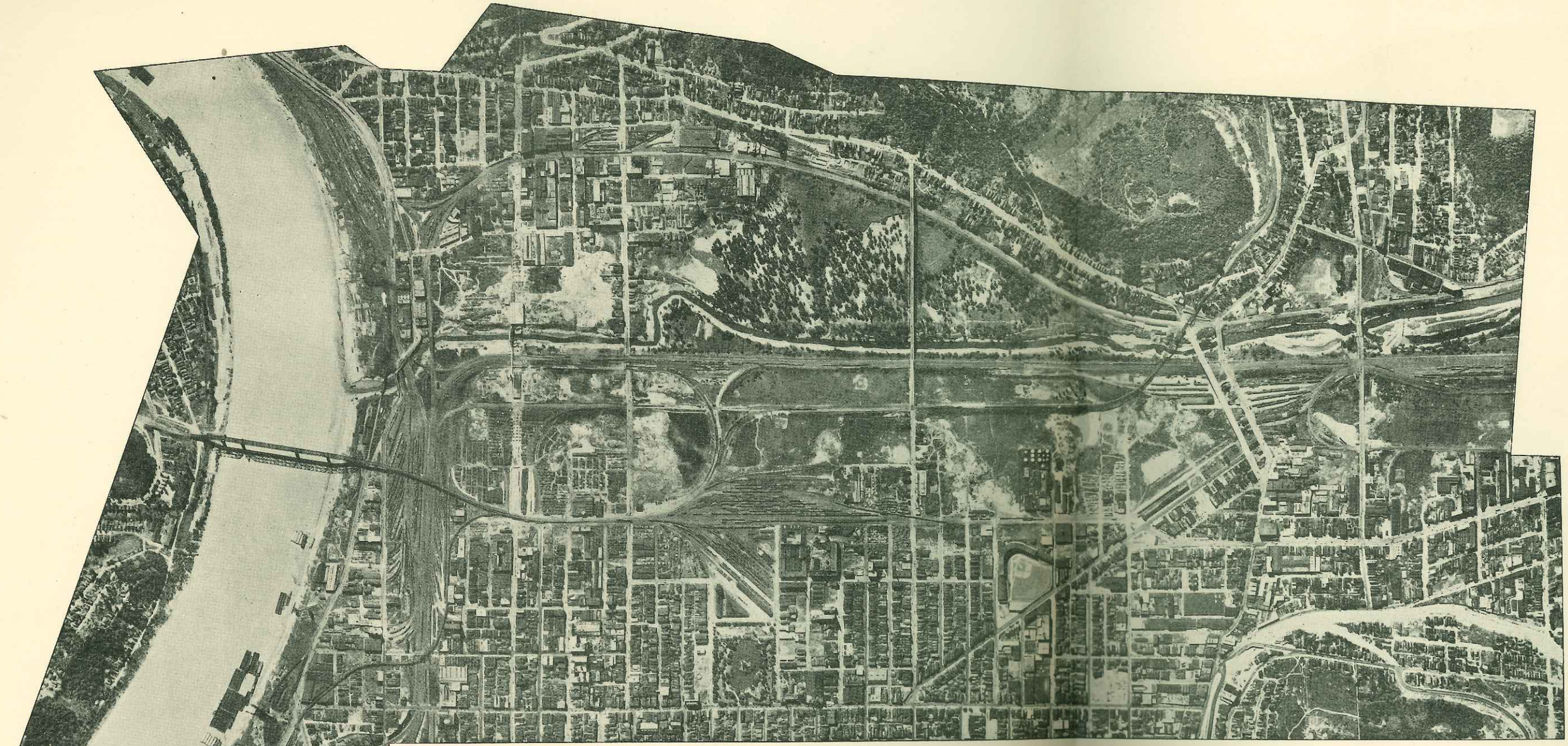
Very early in our studies for the layout of the new union passenger station and connections, we found that changes would have to be made in the existing viaduct structures at Liberty Street and Harrison Avenue. This should seem obvious as the Terminal facilities and the other Railroad facilities in Mill Creek Valley will be raised considerably so as to get them above high water from the Ohio River. In some cases the adjustment of the passenger terminal layout to these viaducts interfered seriously with the most desirable design for the proposed new terminal facilities, both from the standpoint of railway operation and economy, and of public convenience. In some cases, these adjustments presented difficult engineering problems. We have, however, succeeded in solving these problems and have successfully worked out detailed plans for the adjustment of both the Liberty Street and the Harrison Avenue viaducts. We have also prepared estimates of the cost for executing these viaduct changes, the total of which amounted to nearly one and one-half million dollars.

It is common knowledge that both the Harrison Avenue viaduct and the Liberty Street viaduct are improperly located nor suitably designed to carry the traffic to and from the fast developing Western Hills. The question naturally arises: Would it be sound economy to spend such a large sum of money for the adjustment of these structures, which are beyond a doubt unsatisfactory from the standpoint of City traffic circulation as well as from a structural standpoint?

Furthermore, the inadequacy of these two viaducts and the closing of a part of Queen City Avenue for future railroad purposes would necessitate another viaduct over the railroad tracks at Queen City Avenue. This would make three viaducts in approximately the same general location. Existing conditions in this part of Mill Creek Valley are strikingly shown by an aerial photograph which is reproduced on the folded insert.

The Railroads recognize the fact that adequate and appropriate means have to be provided over their tracks and facilities in Mill Creek Valley for street traffic to and from the Western Hills. But the Railroads do not want three or even two viaducts if this can be accomplished by one well located and suitably designed structure.

Mill Creek Valley is and will be the logical location for the development of railroad facilities as time goes on. Need for these facilities will



AERIAL PHOTOGRAPHIC MAP
OF
UNION TERMINAL SITE
MADE FOR
CINCINNATI UNION TERMINALS CO
CINCINNATI OHIO
SCALE. 1 INCH = 400 FEET
JUNE 1928

AERIAL WORK BY
THE EMBRY RIDDLE CO
CINCINNATI OHIO

ENGINEERING & MAP BY
FAIRCHILD AERIAL SURVEYS INC
NEW YORK CITY

surely arise from time to time as Cincinnati continues to grow commercially and industrially, and also as a railroad center. Conversely, it is difficult to conceive of such industrial and commercial growth unless additional railroad facilities are provided. In our design for the new passenger terminal and connections, as I have already mentioned, the difficulties and limitations imposed upon us by the existing viaducts have militated against the best solution of the problem. Two or three viaducts, where one modern suitable structure would meet all requirements, would greatly hamper the Railroads in the future to increase their facilities in Mill Creek Valley. It is for this reason that the Railroads do not want three or even two viaducts in this same general location, if all requirements can be satisfied by one good structure. Neither does the City want three or even two viaducts, since each structure is very costly to maintain and would be a continuous drain on the City's treasury. ($200,000 was spent recently on the repair of the Harrison Avenue viaduct.)

Consequently, we had to find an answer to the question whether or not it was possible to work out a plan for a single viaduct in the general location of the present Harrison Avenue viaduct, that not only will be adequate to take the place of the two existing viaducts and of other street crossings at grade, but will provide a structure with a safe margin for future growth, and one that would meet all requirements of all types of traffic, and with a direct, convenient and attractive crossing of Mill Creek Valley to and from the Western Hills.

The principal requirements to be met by the new viaduct were very largely known at the outset from a study of traffic conditions, of the street system, and from the expressions of the residents of the Western Hills.

These requirements are as follows:

1. The new viaduct should provide for the segregation of the various types of street traffic to obviate conflicts and delays; and freight vehicles and street cars should not use the same roadway as passenger automobiles.

2. Passenger automobiles from the Western Hills should have access to the Central Parkway over the new viaduct by direct connection without having to pass thru congested sections and without conflicts with other types of traffic.

3. Since the use of the Central Parkway is restricted to passenger automobiles and because freight traffic is naturally destined to or originates in the districts along the valley, the viaduct roadway to be provided for these freight vehicles will have to connect with the streets in the valley.

4. The viaduct should be so located as to satisfy primarily the requirements of radial traffic—that is, traffic between the central part of

the City and the Western Hills. At the same time it should satisfactorily accommodate crosstown traffic without conflicts between the two types of movements, either at the viaduct approaches or on traffic arteries nearby. (It is principally this type of conflict that causes the present traffic difficulties at Brighton Corner.)

5. The new viaduct should have adequate street approaches. With the growth of traffic in the future, there should be a possibility for developing street approaches of a combined capacity corresponding to the capacity of the viaduct.

6. The entrances to the new viaduct should be adequate and be so arranged as to permit an unobstructed flow of traffic to and from the viaduct.

7. Since the established street system, especially as the west end is focused on these Mill Creek crossings, the location of the new viaduct should be in a somewhat median position to the existing crossings.

Obviously, the first three requirements, namely: the segregation of the various types of traffic; the carrying of the passenger automobiles directly to the Central Parkway; and a connection between the viaduct and the streets to the west of Colerain Avenue for trucks and street cars, called for a double deck or two-story viaduct structure.

The location of the new viaduct was determined by the requirements just enumerated.

The location of the east end of the upper deck was logically placed opposite the entrance to the Central Parkway of the ramp connecting with McMillan Street, since this is the only location where crosstown traffic between the new viaduct and McMillan Street could cross the Central Parkway with a minimum of traffic interference. Were the new viaduct to connect with the Central Parkway at any other point, crosstown traffic would have to weave in and out of the traffic on the Central Parkway—a most unsatisfactory condition.

The location of the western end of the viaduct was largely determined by the requirement for obtaining clearance for the lower deck over the C. H. & D. tracks without an excessive grade on the viaduct approach. Also, by the requirement to keep even the lower deck above maximum high water. Both of these requirements demanded a location for the western end of the viaduct at the highest possible street elevation, which was found to be on Harrison Avenue just north of the old Herancourt Brewery. Between these termini and within the limitations of a suitable alignment, the right-of-way for the new viaduct was determined by

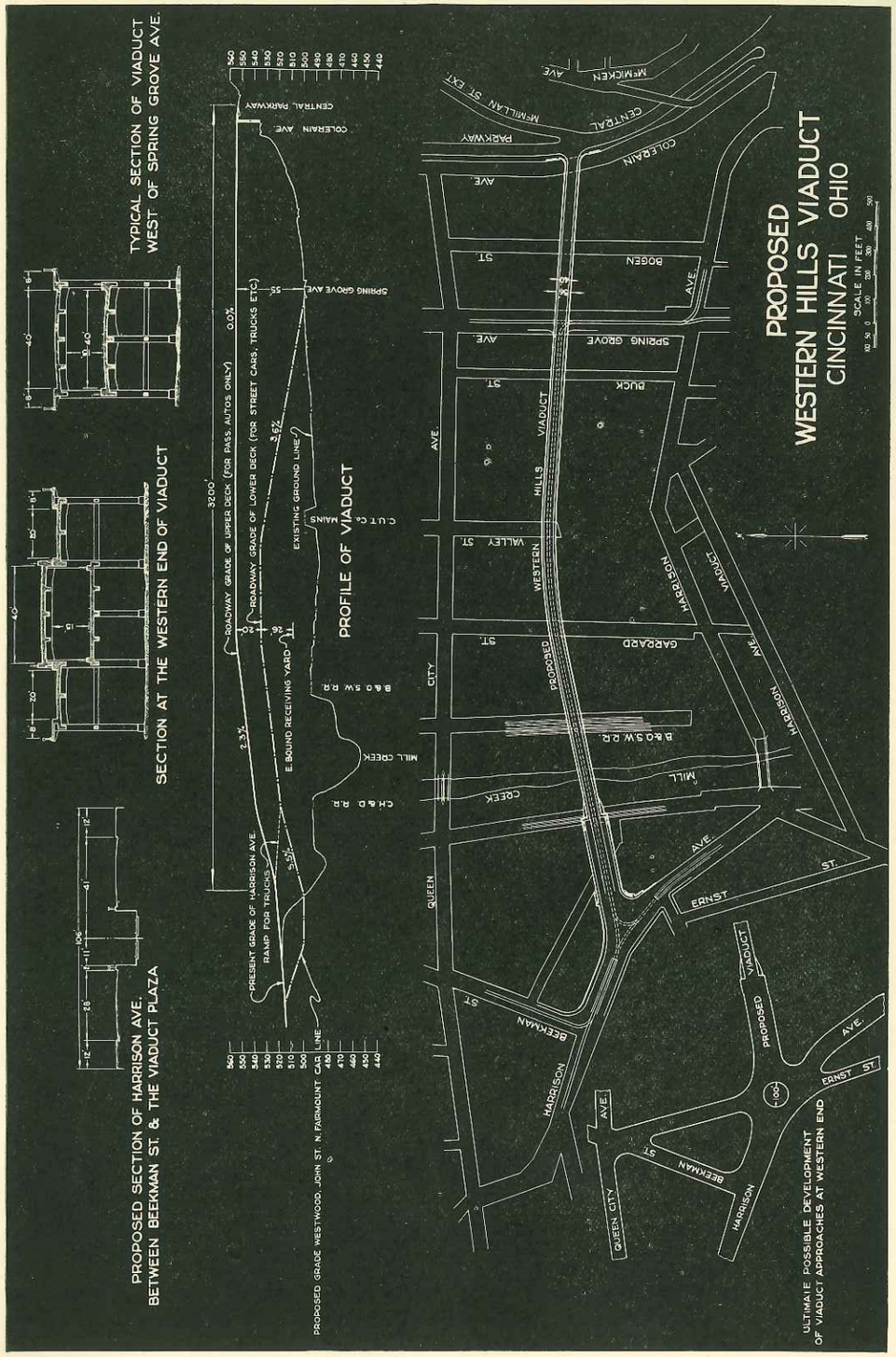
thorough study of property values, to reduce the cost of this right-of-way to the minimum.

Because of the favorable physical conditions and an extensive study of all angles of the problem, it was possible to develop a plan for a new viaduct which we believe meets, *without exception*, all of the requirements previously stipulated. This statement can best be verified by giving you a detailed description of the plans of this viaduct.

The location of the new viaduct is shown on the plan reproduced on Page 6. Generally speaking, it follows the line about mid-way between Queen City Avenue and Harrison Avenue. Obviously, it is so situated that it will permit the crossing of Mill Creek Valley by traffic to and from the Western Hills without requiring this traffic to deviate much from the routes it is now accustomed to follow. The plan shows that the new viaduct, as has already been stated, extends from a point on Harrison Avenue about 400 feet south of Beekman Street across the entire valley and connects with the Central Parkway opposite the approach to McMillan Street.

The two decks of the new viaduct are plainly shown by the sections and profile at the top of the cut. The upper deck, at an elevation of approximately 60 feet above the valley, connects Harrison Avenue directly with the Central Parkway. This is the deck to be used by passenger automobiles. The lower deck has its western end also at the grade of Harrison Avenue. After crossing the railroad tracks and at a point about 1000 feet west of Spring Grove Avenue it begins to descend and connects with Spring Grove Avenue. This lower deck will be used by street cars and trucks and those passenger automobiles having as their destination Spring Grove Avenue.

The entrance for street cars and trucks on the lower deck at the eastern end will be directly from Spring Grove Avenue, which is an exceptionally wide street. At the western end, since both street cars and trucks will approach the viaduct over Harrison Avenue at a high elevation, special facilities had to be worked out for getting these vehicles down to the lower deck. This was accomplished by bringing the street car tracks down on ramps in the center of Harrison Avenue, on both the north and south sides of the viaduct. Descending over these ramps they will be completely underneath a plaza at the western end of the viaduct, leaving this plaza entirely free for the movement of passenger automobiles thereby eliminating all points of conflict between street cars and passenger automobile traffic. Trucks will enter and leave the lower deck at the western end by means of two ramps each 20 feet wide. These ramps will be placed on the sides of the viaduct where trucks naturally are ex-



pected to travel. These will begin just east of the plaza and will connect with the lower deck about 450 feet east of the entering point.

It may be noted that because of favorable topographic conditions it was possible to make these ramps for trucks virtually level. This is a material advantage for these heavy duty vehicles. At the Spring Grove Avenue end of the lower deck, trucks will have to negotiate only the very reasonable grade of 3.6 per cent. By choosing for the western terminus of the viaduct the high point on Harrison Avenue, it was possible to keep all approach grades on the viaduct for vehicular traffic within a maximum of $5\frac{1}{2}$ per cent.

In regard to the approaches to the viaduct: At the eastern end of the upper deck the Central Parkway and the connection to McMillan Street offer adequate approaches for both radial and crosstown passenger traffic; at the east end of the lower deck, Spring Grove Avenue has ample capacity to serve as an approach for trucks and street cars. At the western end, it is proposed to widen Harrison Avenue between Beekman Street and the viaduct plaza from its present width of 75 feet to 106 feet, since this portion of Harrison Avenue will have to handle the traffic between both Harrison Avenue and Beekman Street and the viaduct. This widening is also necessary to permit the depressing of the center section for the street cars. It is also proposed to rearrange the roadway of Harrison Avenue to the south of the viaduct in such manner as to give two lanes of traffic on either side of the street railway ramp.

The ultimate possibilities for providing additional street approaches to the western plaza when demanded by the increased growth of traffic are indicated by the inserted plan in the lower left hand corner of the map. The suggested scheme of the traffic arrangement around a circle in the center is made possible by the absence of street cars and will greatly simplify the handling of vehicular traffic.

To convey a clear understanding of the operation of this viaduct, it may be well to follow through the movements of a passenger vehicle, a truck and street car from west to east and from east to west.

1. A passenger automobile will enter the upper deck at Harrison Avenue and will cross the viaduct on the upper deck. It will enter the Central Parkway opposite the ramp to McMillan Street. It will follow the same course in the opposite direction. This upper deck, it is to be remembered, will be free of street cars and trucks.

2. A truck from the west will enter the viaduct at the same point where the passenger automobile does; but will immediately begin to descend to the lower deck on the truck ramp on the south side of the

viaduct. It will cross the railroad tracks on the lower deck and again descend to Spring Grove Avenue. In the opposite direction trucks will enter the lower deck at Spring Grove Avenue cross the valley on the lower deck and come up to Harrison Avenue by the ramp on the north side of the viaduct at the west end.

3. Street cars on the Westwood, John Street and North Fairmount lines from the west will begin to descend the ramp in the center of Harrison Avenue as soon as they clear the intersection of Harrison Avenue and Beekman Street. They will be completely under cover before they reach the plaza and will enter the lower deck under the plaza. The Crosstown cars east bound will be handled in a similar manner by means of a ramp in the center of Harrison Avenue south of the new viaduct. After crossing on the lower deck the cars of all four car lines will use the tracks on Spring Grove Avenue. Street cars in the opposite direction will naturally follow the reverse course by entering the lower deck from the east at Spring Grove Avenue and emerging from the lower deck at the west end beyond the western plaza. As the result of this arrangement in the handling of street cars at the western plaza, *which will be the point of maximum traffic concentration,* passenger automobile traffic is entirely free from street car interference. Incidentally, underneath the plaza a sheltered street car transfer station can be provided. Street car patrons will enter and leave this transfer station by means of steps on both sides of the viaduct. Again, this arrangement of street cars and the keeping of their grades above high water is made possible by the high elevation of Harrison Avenue at the western end of the viaduct.

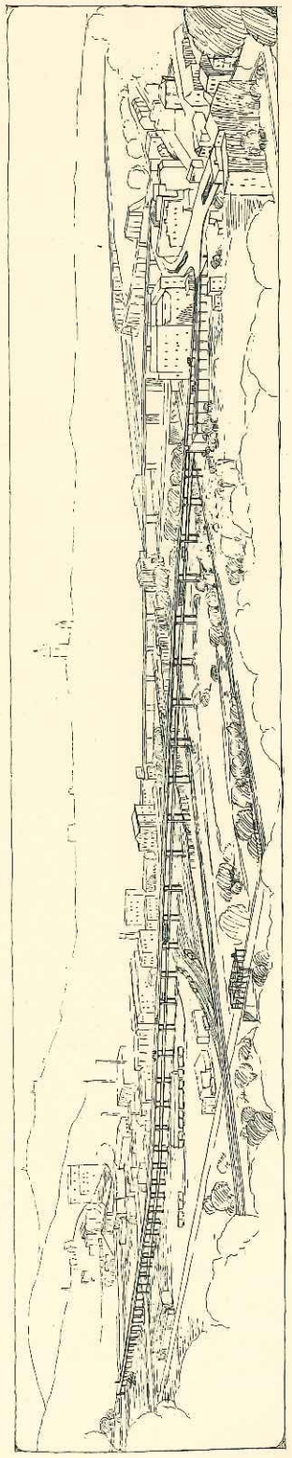
4. Finally the sidewalks for pedestrians are so arranged by the introduction of a few steps that these will cross the trucking ramps overhead instead of at grade. In addition to the steps at the Central Parkway a flight of steps may be provided possibly at Spring Grove Avenue for pedestrians to reach the upper deck of the viaduct.

The artist's drawing showing a bird's eye view of the viaduct may be seen by referring to the cut on the opposite page.

In the general design of the viaduct structure we have tentatively assumed a roadway width of 40 feet both for the upper and lower decks of the viaduct. To test the adequacy of these roadway widths, we have made very comprehensive and careful studies of the present traffic of this entire section of the City that necessarily have to use the viaduct, and additional thereto have made careful estimates of the probable amount of traffic in the year 1970.

An actual traffic count was made during an entire 12-hour day at all

ARTIST'S DRAWING OF PROPOSED DOUBLE-DECK WESTERN HILLS VIADUCT.



West End at Harrison Avenue.

Total Length 3,200 Feet.

East End at Central Parkway.

Mill Creek crossings and on all principal traffic arteries west of Mill Creek tributary to these crossings, which will also be tributary to the new viaduct. In preparing our estimate of the probable growth of this traffic by 1970, the population growth, the increase of motor vehicle registration and car ownership, were carefully studied.

The population growth of the districts tributary to the new viaduct was studied separately for each City school district by Census decades as far back as 1900 and year by year since 1920. These population estimates were checked against similar estimates prepared for the year 1970 by the City Planning Commission.

The growth of motor vehicle registration and car ownership were studied from automobile registration figures since 1920, which is the first year for which such figures were found to be available. The probable future increase of motor vehicle ownership was estimated on the basis of tendencies shown by past growth and by comparisons with similar studies in other Cities.

All available traffic counts taken during former years, at or near the locations in question, were taken into consideration in determining the probable rate of increase in the future.

Full consideration was given to pending and projected street improvements and other changes in the street system that would modify the distribution of traffic in the future such as: The construction of the LaFeuille Avenue extension to Queen City Avenue, the improvement of Westwood Avenue, the improvement of Harrison Avenue and the widening of roadway and installation of safety islands thereon, etc.

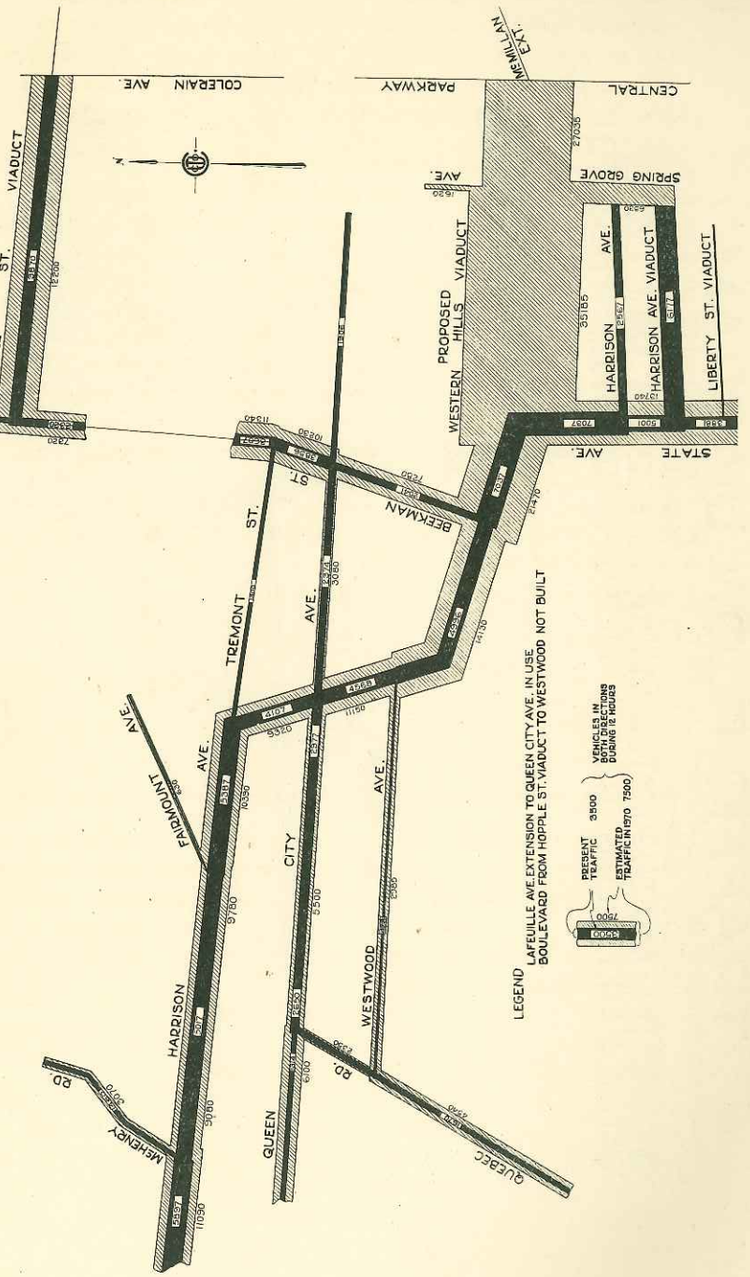
In determining the amount of heavy duty traffic that would use the lower deck of the new viaduct, a special study was made of the amount of trucking traffic to be expected and the number of street cars that would use the lower deck by 1970. In these studies the growth of population, of commerce and industry, and the increase in the riding habit have been given full consideration.

The results of these traffic studies are reproduced and shown on three Traffic Flow Diagrams.

The first of these (page 11) shows the amount and distribution of traffic at present on the Mill Creek crossings from the Liberty Street viaduct to the Hopple Street viaduct, and on the traffic arteries west of Mill Creek tributary to these crossings. This present traffic is shown by the solid black bands, the width of the band corresponding to the amount of traffic observed during a 12-hour day. Our estimates for the probable increase by 1970

TRAFFIC FLOW DIAGRAM

SHOWING PRESENT TRAFFIC AND ESTIMATED TRAFFIC IN 1970
ON VIADUCTS AND STREETS CROSSING MILL CREEK VALLEY
AND ALONG TRAFFIC ARTERIES TRIBUTARY THERETO
DURING A 12 HOUR NORMAL WEEK DAY
6:30 A.M. TO 6:30 P.M.
JUNE 1928



are also shown on this diagram by the widths of the bands that are cross-hatched. The increase of traffic on the Mill Creek crossings may be observed by comparing the total of present traffic on Liberty Street viaduct, Harrison Avenue viaduct, Harrison Avenue and Queen City Avenue, with the probable 1970 traffic shown for the Western Hills Viaduct.

However, from the standpoint of roadway capacity it is not the 12-hour traffic, but the rush hour traffic in one direction that governs. This rush hour traffic in one direction estimated for 1970 is shown on page 12. The solid black bands indicate the amount of this traffic on the various arteries and viaducts. The corresponding ultimate traffic carrying capacities of roadways are also indicated on the diagram by the figures outside the bands and by the lines drawn on the outside of the solid black bands. The difference between the solid black bands and the width of the bands between the outside lines gives the difference between traffic load and roadway capacity. This has been cross-hatched in places where the traffic load by 1970 will exceed the ultimate roadway capacity.

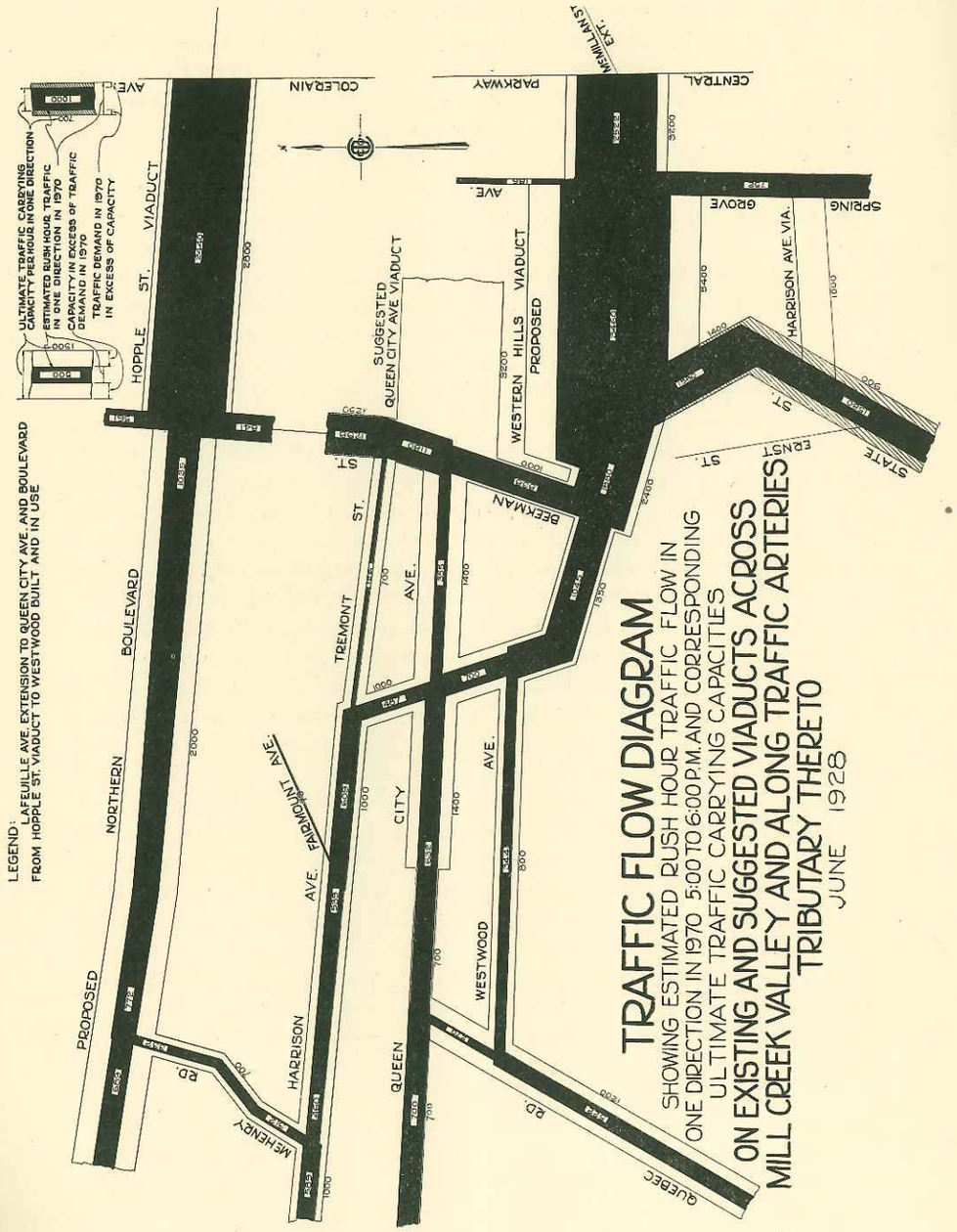
These traffic studies have proven convincingly that the new viaduct with a 40 foot upper and a 40 foot lower roadway will carry *with a safe margin* all traffic that may want to use it by 1970. It may be seen from the diagram that the anticipated rush hour traffic in one direction in 1970 amounts to 4,030 vehicles, while the capacity of the two decks of the viaduct is estimated as 5,400 vehicles in one direction. Furthermore, in estimating this viaduct capacity no allowance was made for the use of three lanes in one direction on the upper deck during the rush hours.

The diagram also shows that both State Avenue and Harrison Avenue will be saturated prior to 1970 and will have to be widened to handle the estimated future traffic. The next diagram, page 14, shows how the need for the widening of Harrison Avenue can be obviated by the development of a boulevard route from the Hopple Street Viaduct to Westwood.

Naturally, the location and the structure of the proposed Western Hills Viaduct just described, has been developed as a result of extensive studies. During the course of these studies other types of structures and other locations have been investigated and dismissed as unsatisfactory or inferior.

We have investigated the possibilities of a new viaduct at the present Harrison Avenue location. The great expense of a right-of-way for the connection with Central Parkway, the difficulties of securing proper foundations for the piers at the foot of Bald Knob (the pier of the existing Harrison Avenue Viaduct is in a slip), and the almost insuperable difficulties of developing suitable approaches to such a viaduct at the western end militated principally against this location.

We have investigated the possibilities of building the new viaduct along Queen City Avenue. We have found the following disadvantages adherent to this location:



(a) A viaduct at this location would have to be approximately 550 feet longer than the proposed Western Hills Viaduct.

(b) At the eastern end, the connection between this viaduct and the Central Parkway would be about 550 feet north of McMillan Street connection. This would force crosstown traffic between the viaduct and McMillan Street connection to weave in and out of traffic on the Central Parkway, causing extreme interference and danger to this traffic.

(c) To obtain the necessary clearance over Colerain Avenue at the eastern end, the present grade of Colerain Avenue would have to be lowered.

(d) At the western end the upper deck of the viaduct would have to be carried about 400 feet west of Beekman Street to obtain the necessary clearance over Beekman Street and over the lower deck that would begin at Beekman Street.

(e) Queen City Avenue at the west end of the viaduct is approximately 3 feet below maximum high water. Harrison Avenue at the western end of the proposed Western Hills Viaduct is about 17 feet above such high water. It was repeatedly mentioned that the favorable grades of the ramps and the attractive arrangement of street cars under the plaza were made possible by the high elevation of this end of the proposed viaduct. These advantages would be lost at the Queen City Avenue location. High water conditions would render it difficult and very expensive to obtain, in this case, a street car arrangement under the plaza similar to that proposed for the Western Hills Viaduct.

(f) All traffic from and to Beekman Street across Mill Creek Valley would have to use the lower deck, passenger cars as well as trucks and street cars, in addition to all other trucking and street car traffic that would normally use this lower deck.

(g) A right-of-way will have to be acquired for the John Street car line from the intersection of Westwood and Harrison Avenues to Queen City Avenue to connect this car line with the lower deck of the viaduct.

(h) Westwood Avenue cannot be expected to serve as a relief street to Queen City Avenue between Quebec Road and Harrison Avenue, since this would require traffic to and from the viaduct to negotiate the offset between Westwood Avenue and Queen City Avenue at Harrison Avenue. Consequently, it would be necessary in the near future to widen Queen City Avenue between Quebec Road and the church near Seegar Avenue where it is only 40 feet wide.

(i) The Crosstown car line at the western end of the viaduct would be required to follow a very circuitous route to and from State Avenue.

(j) In general, the Queen City Avenue location is too far north for a new viaduct if this one viaduct is expected to take the place of the existing viaducts and the street crossings at grade.

The financial aspects of the problem are shown on Page 16.

FINANCIAL ANALYSIS OF THE WESTERN HILLS VIADUCT PROBLEM

PROPOSED WESTERN HILLS VIADUCT

Reinforced Concrete Double-deck Structure		$2,750,000
Rights-of-Way		707,000
TOTAL ESTIMATED COST		$3,457,000
Changes to Existing Viaducts Due to Terminal Work:		
Liberty Street Viaduct		$ 426,230
Harrison Avenue Viaduct		1,056,170
TOTAL ESTIMATED COST		$1,482,400
Railroads' Share of Estimated Cost of Queen City Avenue Grade Separation		$943,500
Proposed Western Hills Viaduct—Total Cost		$3,457,000
Terminal Company to Contribute Cost of Liberty and Harrison Ave. Viaduct Changes	$1,482,400	
Railroad Companies to Contribute Share of Cost of Queen City Ave. Viaduct	943,500	
Total Contribution by Railroads		$2,425,900
CITY'S SHARE OF TOTAL COST OF WESTERN HILLS VIADUCT		$1,031,100

FOR TWO VIADUCTS

1. New Single-deck Viaduct at Queen City Avenue with 53 foot Roadway and Ramps to Spring Grove Avenue		$3,073,000
2. Terminal Changes to Existing Harrison Avenue Viaduct		1,056,170
TOTAL COST TO CITY & RAILROADS		$4,129,170
Division of Cost Queen City Avenue Viaduct:		
(a) Terminal Company may Contribute	$426,230	
(b) Other Railroads may Contribute	943,500	
TOTAL		$1,369,730
(c) City's Share for a New Viaduct at Queen City Avenue		1,703,270
		$3,073,000

FOR THREE VIADUCTS

1. New Single-deck Viaduct at Queen City Avenue with 56 foot Roadway and Ramps to Spring Grove Avenue	$3,073,000
2. Terminal Changes to Existing Harrison Avenue Viaduct	1,056,170
3. Terminal Changes to Existing Liberty Street Viaduct	426,230
TOTAL COST TO CITY AND RAILROADS	$4,555,400
Division of Cost Queen City Avenue Viaduct:	
(a) Railroads May Contribute	$943,500
(b) City's Share for a New Viaduct at Queen City Avenue	$2,129,500
	$3,073,500

I. According to estimates prepared by us, the proposed Western Hills Viaduct of a reinforced concrete double deck structure, will cost $3,457,000.

It was mentioned previously that according to our estimates the Terminal Company would be required to spend about one and one-half million dollars—$1,482,400 to be exact—on the adjustment of the Harrison Avenue and Liberty Street viaducts. In case the Terminal Company would not be required to spend this sum of money on these two viaduct changes, it would be willing to contribute this amount towards the construction of the proposed Western Hills Viaduct. Other Railroads may contribute the amount of $943,500 which is their estimated share of the cost of grade separation on Queen City Avenue. *These contributions would leave the sum of $1,031,100 as the City's share of the cost of the proposed Western Hills Viaduct.*

II. The proposal may be advanced that the Harrison Avenue viaduct should be retained, that the Terminal Company should make the changes in this structure made necessary by the Terminal project, and that another viaduct be built at the Queen City Avenue location; and that in this Harrison Avenue viaduct—Queen City Avenue viaduct combination, the Harrison Avenue viaduct should be used by street cars and trucks and the new Queen City Avenue viaduct by passenger vehicles.

We have investigated the merits of such Harrison Avenue—Queen City Avenue viaduct combination. Our traffic studies have brought out the fact that unless the Harrison Avenue viaduct is completely rebuilt with a wider roadway, it will not be able to fulfill the function assigned to it under this proposal; that is, it will become saturated by heavy traffic long before the year 1970. It should be remembered, in this connection, that the roadway of the present Harrison Avenue viaduct is only 36½ feet wide and that this width does not permit the free passing of street cars by large trucks. Also, that there is considerable conflict between street cars and vehicular traffic at the western end of the viaduct, which also reduces the traffic capacity of the viaduct.

Consequently, the overflow of heavy traffic from the Harrison Avenue viaduct will have to be handled by the new viaduct at Queen City Avenue, which in turn will require, according to our estimates, that the roadway of this viaduct be made at least 56 feet wide and that ramps be provided on the sides of the viaduct to drop the heavy traffic at Spring Grove Avenue. Obviously, under these circumstances, the separation of slow and fast moving vehicles will not be accomplished—passenger automobiles and trucks will have to use the same viaduct roadway.

Estimates were prepared of the cost of such a viaduct structure at

Queen City Avenue. These gave $3,073,000 as the cost of a single-deck viaduct including the ramps to Spring Grove Avenue. The Terminal Company may still be willing to contribute $426,230 towards the construction of this new viaduct, the estimated amount of the cost of adjusting the Liberty Street viaduct which it would not be required to do under this proposal. Other Railroads may also participate to the extent of their estimated share of grade separation at Queen City Avenue, which is $943,500. *Thus the balance to be borne by the City in this case would amount to $1,703,270.*

In other words, under this proposal the City wou'd have to pay nearly $700,000 more for a new viaduct , that will not give the residents of the Western Hills the facilities they desire, namely a viaduct connection with the Central Parkway without interference by freight vehicles, and for a viaduct which in every other respect is inferior to the proposed Western Hills Viaduct.

III. Finally, it may also be proposed to have the Terminal Company make the necessary changes in both the Harrison Avenue and Liberty Street viaducts, and that the City and the other Railroads work out independently the question of a viaduct on Queen City Avenue.

From the physical standpoint, and from the standpoint of traffic, this proposal is not different from the previous one, since the Liberty Street viaduct is of very little value from the point of view of traffic.

From the financial standpoint, this would mean, of course, that the Terminal Company would not participate in the cost of constructing the new viaduct. Therefore, even though other Railroads may contribute their estimated share of the cost of grade separation, which, as has been shown, amounts to $943,500, *the construction of a viaduct so much inferior to the proposed Western Hills viaduct would cost the City $2,129,500, or nearly $1,100,000 more than the proposed Western Hills viaduct.*

The question may arise in the minds of some, just why the Terminal Company is so interested to find and have adopted the best solution for the viaduct problem of the Western Hills, when as far as expenditures by the Terminal Company are concerned, it would make no difference whether they would be required to adjust the Harrison Avenue and the Liberty Street viaducts or to contribute the same amount towards the construction of the proposed Western Hills Viaduct.

I have given you one important reason at the outset. I have told you that the presence of the several viaducts in this part of Mill Creek Valley has interfered with the best design of the proposed new terminal facilities, and would interfere with the free development of additional future railroad facilities. The plans for the new passenger terminal could still be further improved, if these viaduct structures were abandoned.

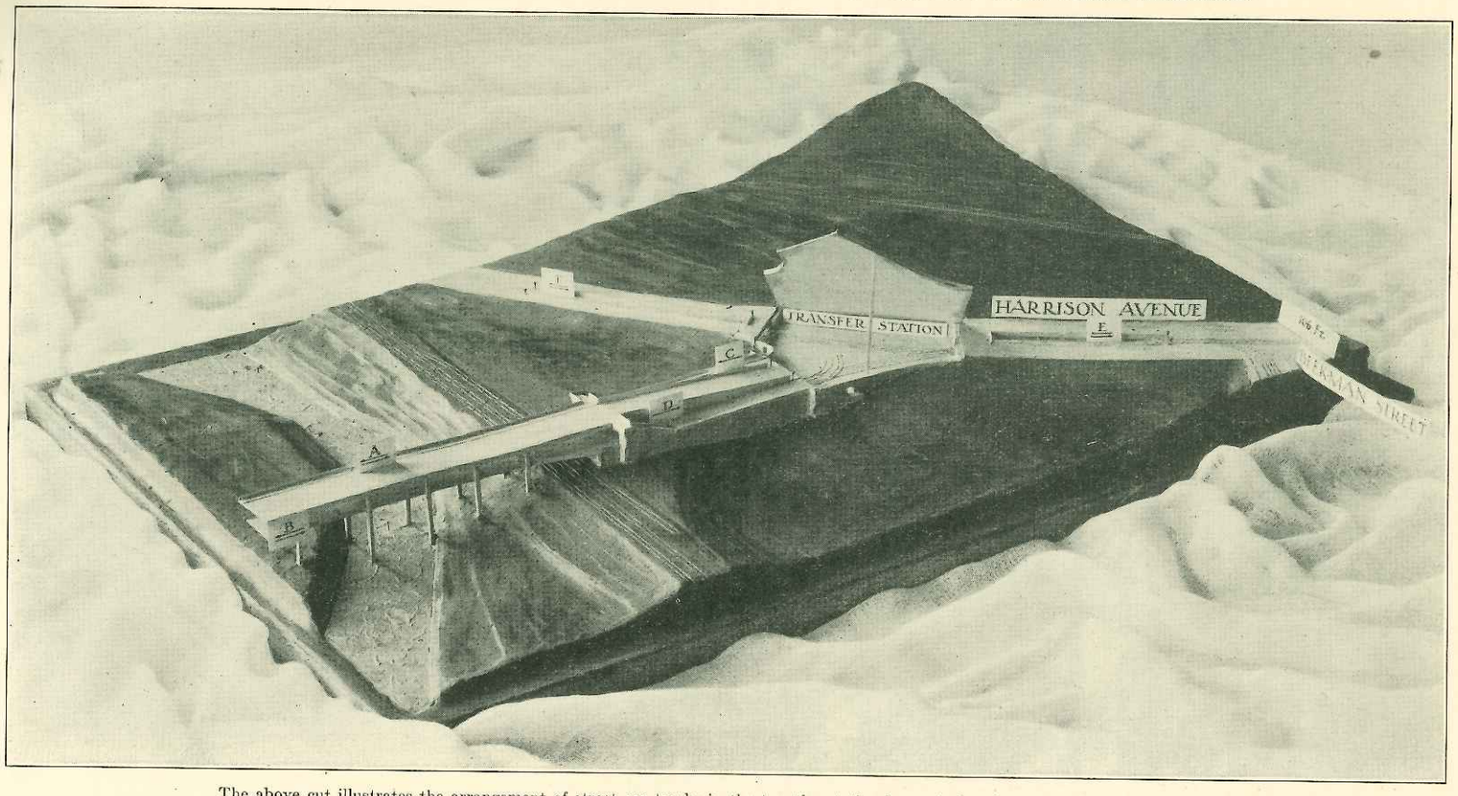
When I left Cincinnati at the end of the year of 1913, I made the prediction that the time would come when all of Mill Creek Valley would be filled, Mill Creek covered, and the entire valley occupied by railroad facilities. I came back to Cincinnati at this time to do part of the predicted filling. Some of you younger ladies and gentlemen will probably see Mill Creek disappear from sight.

With the topography of Cincinnati, there is no other location within the City limits where additional facilities planned by the Railroads for the future can be developed but in Mill Creek Valley.

I have told you repeatedly in the course of this address that the several existing viaducts across this valley greatly interfere with the plans for a new Terminal. I have also told you that these same viaducts, if left standing, will be in the way of the development of additional railroad facilities in the future. I am frank and sincere when I say that this is the reason for our objection to three, or even to two viaducts, in place of a single adequate structure which we have described to you in the proposed Western Hills Viaduct.

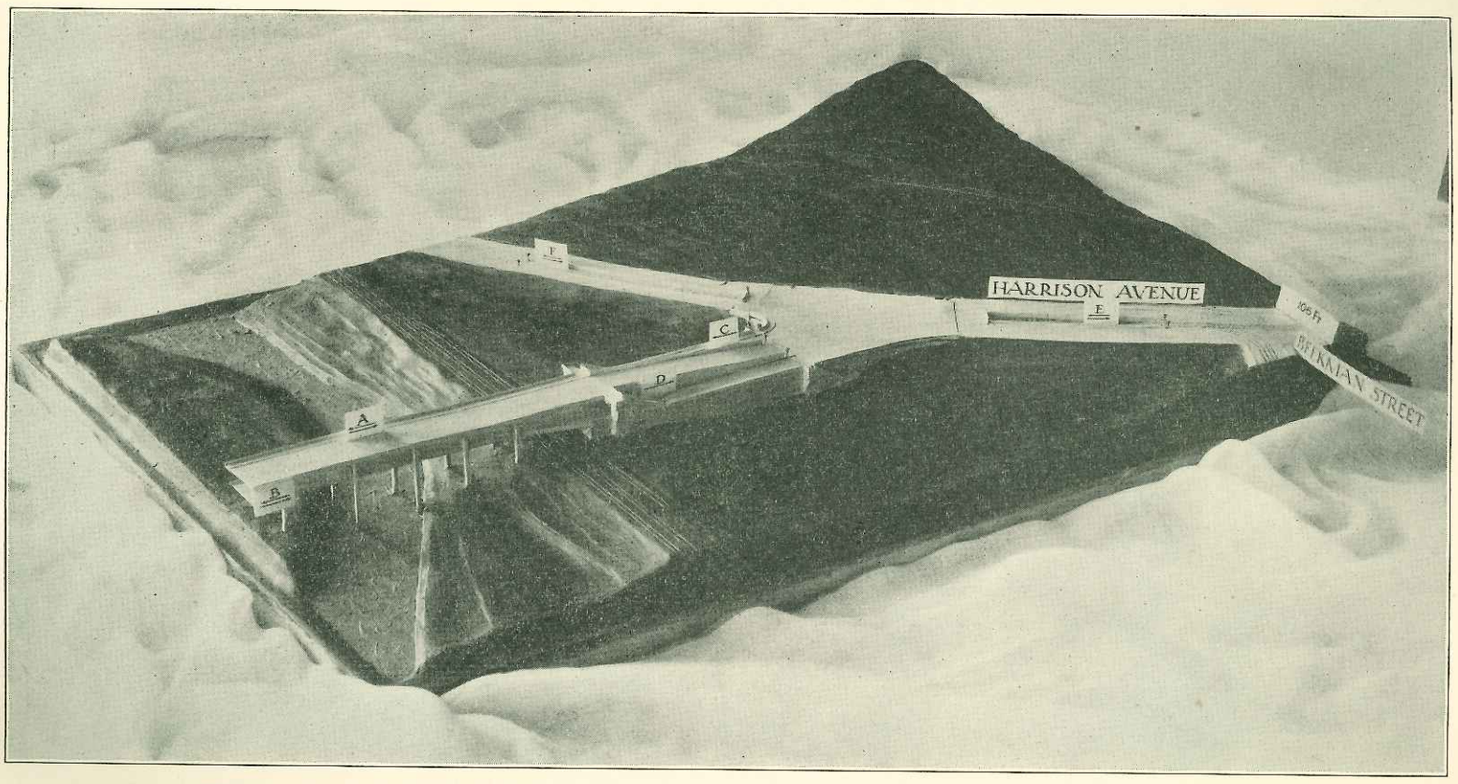
In addition thereto, the Terminal Company and the Railroads have another interest in this question, which interest is common with that of each and every property owner. The Terminal Company and the Railroads are large taxpayers, and they, as any other taxpayer, do not want the City to spend more money for a structure, which, in every respect, I honestly believe I have convincingly shown is inferior to the proposed Western Hills Viaduct.

MODEL OF PROPOSED WESTERN HILLS VIADUCT AT WESTERN END WITH PLAZA REMOVED



The above cut illustrates the arrangement of street car tracks in the transfer station beneath the plaza of the Western Hills Viaduct.
A. Upper deck for passenger vehicles to and from the Central Parkway.
B. Lower deck for street car tracks, trucks and other vehicles to and from Spring Grove Avenue.
C. Entering ramp for trucks and other vehicles bound from Harrison and State Avenues to Spring Grove Avenue.
D. Outlet ramp for trucks and other vehicles from Spring Grove Avenue to Harrison and State Avenues.
E. Ramp to Lower Deck for inbound and outbound John Street, Westwood and North Fairmount street cars.
F. Ramp to Lower Deck for inbound and outbound Crosstown Street cars from State Avenue.

VIEW OF WESTERN HILLS VIADUCT WITH PLAZA CLOSED



Mill Creek is shown beneath viaduct under "A".
B. & O. and Big Four tracks are shown beneath the viaduct to left of "D".
Entering and leaving stairway; for street car passengers to Transfer Station beneath plaza, are shown to the left of "D".
The maximum width of the plaza at the western end of the viaduct is 200 feet.
Proposed width of Harrison Avenue at Beekman Street, 106 feet.