PLAN FOR RAILROAD AND HARBOR DEVELOPMENT

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A Plan For

Railroad and Harbor Development

Evansville, Indiana

ISSUED BY
THE CITY PLAN COMMISSION
1929

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Introduction

Evansville is a gateway through which passes a very considerable railroad tonnage, north and south bound. The city itself originates an unusually large amount of freight by reason of its many and varied industries. The territory is highly competitive, but the conditions are such that all railroads must of necessity work in harmony in order to preserve the through character of the traffic. Evansville is actually a terminus for each of the roads that enter it, but practically the lines operate to a large extent as through roads. This they are enabled to do by means of their connections with the L. & N. Railroad, which constitutes the common outlet of the several lines to southern territory.

As is usual with cities similarly situated, the transportation problems of Evansville consist mainly of securing an unimpeded route for through traffic, adequate switching service to present and prospective industries, convenient interchange methods, good passenger handling facilities and the elimination of grade crossings.

River transportation will most likely assume a new and greater role in the industrial and commercial life of Evansville with the completion of the last dam in the Ohio River. The investigation indicates that ultimately a heavy tonnage of river traffic may be expected to move through this port.

Purpose of Railroad Report:

Without adequate and coordinated railroad service, Evansville cannot hope to achieve that prominence in the manufacturing world to which it is by all indications destined to attain. By adequate service is meant that which insures prompt switching and deliveries, ample car supply and freedom from terminal delays. Coordinated railroad service provides uniform switching arrangements which, regardless of the location of an industry, place it on an equality with other industries perhaps more favorably situated. Aside from having the industrial switching of the entire city performed by a single terminal company, the adoption of reciprocal switching rates on an equitable basis is probably most effective.

The City Plan cannot treat exhaustively of all matters pertaining to terminal operations. Rather its purpose is to point out the direction of growth of the railroads and to anticipate so far as possible the effects of such growth on the civic structure as a whole. The railroad study comes into perhaps the most intimate contact with the major streets and zoning plans, and hence it is urged that the railroads especially consider these in connection with the recommendations of the railroad plan.

Consultation With the Railroads, and Their Position:

From time to time during the past four years, the several railroads have met with the Plan Commission and a mutual contact has been maintained also by correspondence, with the result that an agreement has been arrived at as to certain phases of this report, and the railroads' position expressed on other questions.

It may be said that the railroads' viewpoint is, as a rule, restricted to a consideration of more or less immediate requirements. They are reluctant to admit the ultimate necessity of a union passenger station, for example. Surface operations, even for passenger trains will be impractical on the tracks in Division Street when Evansville has reached a population of, say, 300,000 or 400,000.

This conclusion is borne out by the experience of many cities where conditions similar to those in Evansville once existed and finally reached a state intolerable alike to the city and the railroads. It is inevitable, in the evolutionary growth of cities, that the railroad must recognize the predominant right of the public to the use of its thoroughfares, a right that is invariably exercised sooner or later. The proposed outer belt line is a practicable device for solving one of the

most serious transportation problems in Evansville, and the railroads quite generally concede its usefulness in this respect.

The grade crossing provisions outlined cannot be considered by any means over elaborate or extravagant for a city of this size. Few of the separations are immediately necessary, but it is thought that all indicated must eventually be accomplished if the integrity of the street system is to be maintained. A remarkable illustration of the railroad viewpoint is that Columbia Street might well be closed if Virginia Street is provided with a subway under the tracks. Obviously both streets are essential to their respective districts if only for service to industries.

In quite a number of instances, the report has been modified to meet the railroads' ideas of what Evansville needs, but in others it has not been possible to do this. Future events, it is believed, will not only justify the conclusions of the study, but will impose problems even more intricate than have been treated.

RAILROAD TRANSPORTATION

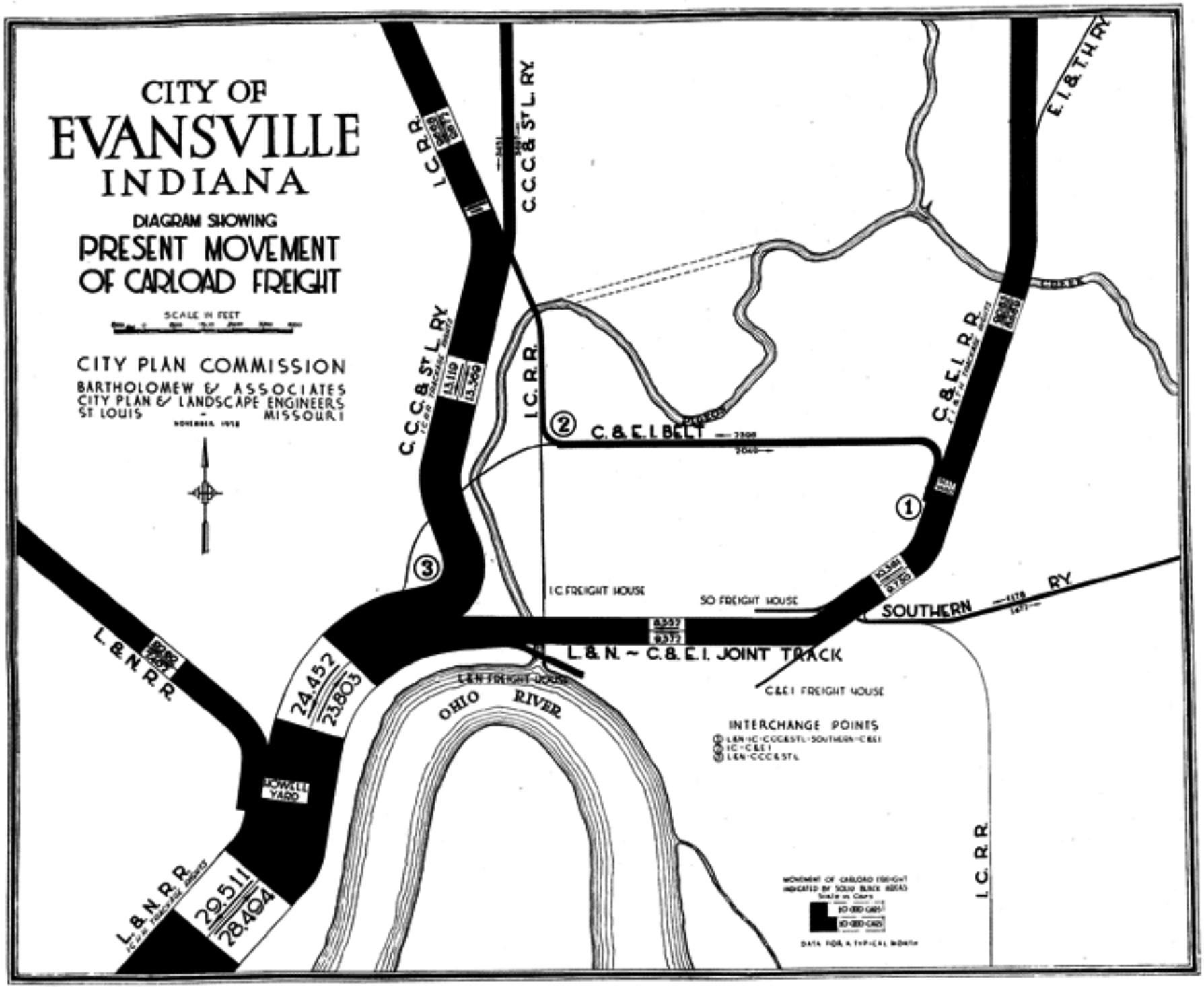

CITY OF
EVANSVILLE
INDIANA
DIAGRAM SHOWING
PRESENT MOVEMENT
OF CARLOAD FREIGHT
SCALE IN FEET
CITY PLAN COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
ST LOUIS - MISSOURI
NOVEMBER 1958
I.C.R.R.
C.C.C.& St.L.RY.
E.I.& T.H.RY.
C.& E.I.R.R.
C.& E.I. BELT
I.C. FREIGHT HOUSE
SO. FREIGHT HOUSE
SOUTHERN RY.
L.& N. ~ C.& E.I. JOINT TRACK
C.& E.I. FREIGHT HOUSE
L.& N.R.R.
L.& N. FREIGHT HOUSE
OHIO RIVER
24,452
23,803
29,511
28,404
TOWLES YARD
INTERCHANGE POINTS
① L&N-IC-CCC&STL-SOUTHERN-C&EI
② IC-C&EI
③ L&N-CCC&STL
MOVEMENT OF CARLOAD FREIGHT
INDICATED BY SOLID BLACK AREAS
Scale in Cars
DATA FOR A TYPICAL MONTH

PLATE 1
12

Present Operating Methods and Recommendations For Their Improvement

FREIGHT TRAFFIC

Through Traffic Movement:

A glance at the diagram showing present movement of carload freight (Plate 1) indicates clearly the relative volume of this traffic and how it is handled through the city over the several lines.

The C. & E. I. trains entering the city from the north formerly terminated in Belt Line Yard, located between Columbia Street and Morgan Avenue, where the cars are classified for delivery to the L. & N. for further movement south, to the industries, the freight house, and to other roads. Within the last five years a new yard has been built just north of the city where much of this work is performed. In a similar manner the L. & N. Railroad, terminating at Howell Yard, transfers its northbound freight cars to the C. & E. I. Railroad and, to a lesser extent, the I. C. and others.

This interchange of cars, as it is called, takes place in a shuttle movement through the city, the jointly owned track in Division Street being largely used for the purpose. As the length of trains over this joint track is restricted by city ordinance to twenty-five cars, and the permitted speed is necessarily very slow, it is readily realized at what a disadvantage through freight service is carried on. The carload movement over this track amounts to about six hundred daily, and there is no reason to believe that it will grow less. On the contrary it should increase, as this is a normal trade route and therefore the problem of how to handle freight traffic through the Evansville gateway will become more and more serious to both the city and the railroads.

Engine handling facilities at new C. & E. I. Yard north of Pigeon Creek, showing modern coal chute in foreground, roundhouse in background.

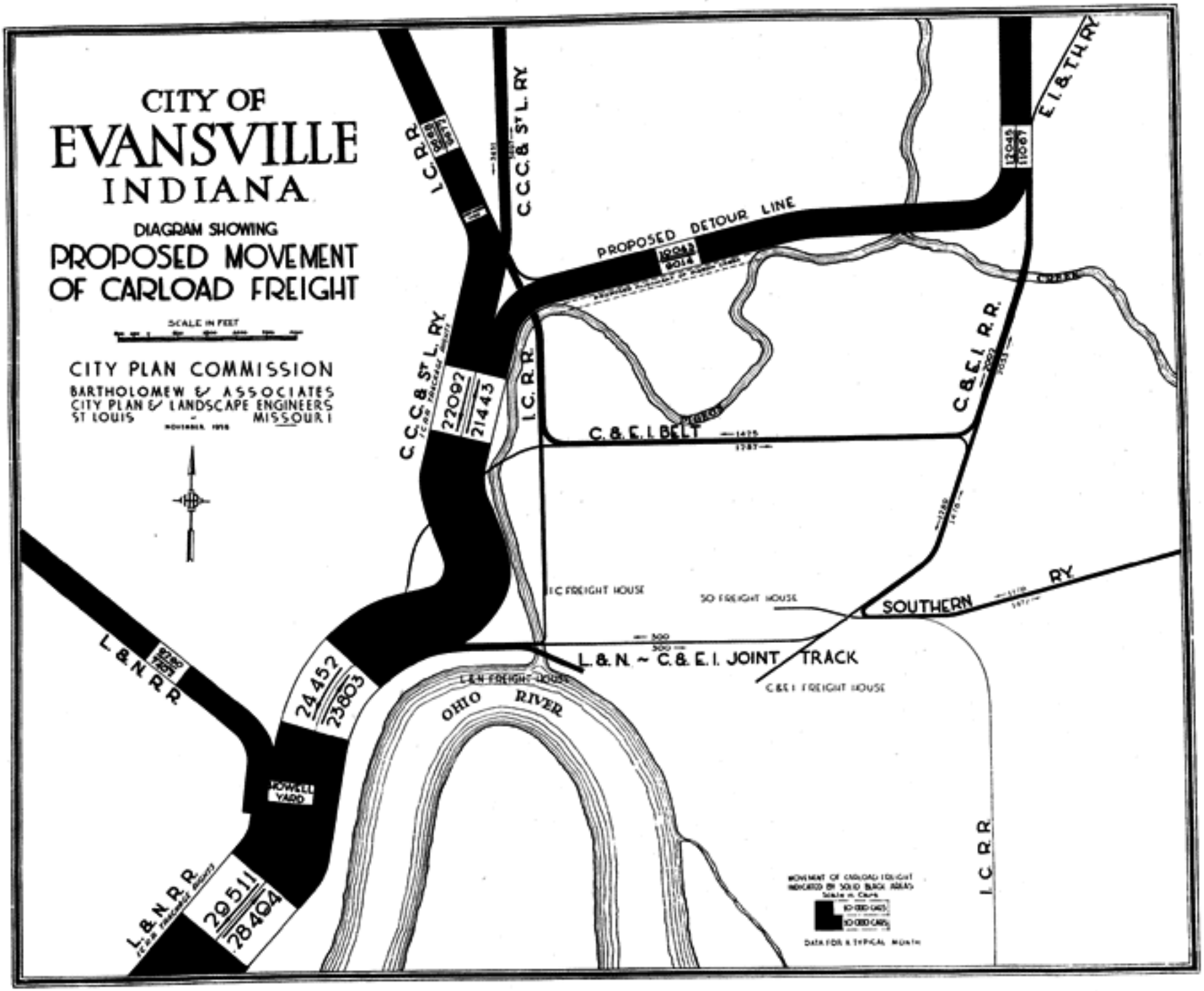

CITY OF
EVANSVILLE
INDIANA
DIAGRAM SHOWING
PROPOSED MOVEMENT
OF CARLOAD FREIGHT
SCALE IN FEET
CITY PLAN COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
ST LOUIS MISSOURI
NOVEMBER 1918
I.C.R.R.
C.C.C.& St.L.RY.
E.I.& T.H.RY.
PROPOSED DETOUR LINE
C.& E.I. R.R.
C.& E.I. BELT
I.C.R.R.
C.C.C.& St.L.RY.
I.C. FREIGHT HOUSE
SO. FREIGHT HOUSE
SOUTHERN RY.
L.& N. ~ C.& E.I. JOINT TRACK
C.& E.I. FREIGHT HOUSE
L.& N. FREIGHT HOUSE
OHIO RIVER
L.& N.R.R.
POWELL YARD
L.& N.R.R.
I.C.R.R.
MOVEMENT OF CARLOAD FREIGHT
INDICATED BY SOLID BLACK AREAS
DATA FOR A TYPICAL MONTH

PLATE 2
14

There are three possible methods of meeting the difficulty; first, by elevating the present joint tracks in Division Street (the inner Belt Line); second, by utilizing the C. & E. I. Belt for all or a portion of the service; or, third, by constructing a new outer Belt Line. The first method, elevation of the joint track, is not recommended on account of the great expense involved and the resulting perpetuation of a busy freight line within the heart of the city, with its accompanying noise, dirt and depressive effect upon adjacent property which is not of a character that would be benefited by a through traffic line. The second method, making more intensive use of the present outer C. & E. I. Belt, would cause interference with the very numerous and important industries along that route. The third method, construction of a new outer belt line, possesses many advantages besides comparative cheapness and is recommended.

Proposed North Detour:

An approximate alignment for a detour or outer belt line is shown on the General Railroad Map, (Plate 4, page 24) extending southwesterly along the north bank of Pigeon Creek from along the west edge of the new C. & E. I. Yard, intersecting the Illinois Central practically at the north city limits, and continuing to a junction with the Big Four tracks. The advantages of this route are that it will be quite free from expensive grade separation, opens up new industrial territory, offers an entirely unobstructed thoroughfare for all L. & N.-C. & E. I. freight, and also permits of the interchange of cars between the C. & E. I., Big Four and I. C. Railroads, without the necessity of having these cars traverse any portion of the city. As will be indicated later, the proposed detour will also eventually provide a desirable route for passenger trains, and remove the necessity for eliminating many grade crossings.

A very desirable feature of the plan is the straightening of a portion of Pigeon Creek, thus making available a valuable section of the city for factories. If this is done, a more favored location for the Detour Line would be just south of Pigeon Creek.

Use of the detour will introduce additional traffic on the Big Four track southward from the point of its junction, and therefore this portion should be made double track, and that from about Maryland Street to and past West Franklin Street elevated. This one piece of work will prove most constructive and useful to the city and the railroads, and its consummation will solve many of the difficulties that are now apparent, besides adding to the industrial resources of the city. A diagram "Proposed Movement of Carload Freight" (Plate 2) has been prepared, showing the effect of the detour upon the traffic situation. It is even probable that the joint line in Division Street could be abandoned after the detour is in use, and the industries now served by it either removed or their transportation needs supplied by trucks and teams.

Classification Yards:

The location and arrangement of classification yards have much to do with the ease and efficiency with which both local and through freight business is handled. In general, it is extremely important to both city and railroad that classification yards be located well beyond the city limits, or at least where the city will not encompass them in its natural growth. A very good location is that of the Harwood Yard of the Illinois Central Railroad, which is about three-quarters of a mile north of the city limits. It is highly desirable that, as soon as the volume of traffic justifies it, the Big Four construct a yard paralleling that of the Illinois Central.

The Harwood Yard now consists of twelve tracks of from twelve to seventy-seven car lengths each, the total capacity being about five hundred cars. The yard, as it stands, is only a collection of side tracks, but can easily be incorporated within a complete terminal when the traffic is sufficient to warrant its construction.

It is recommended that the Illinois Central shops and other terminal facilities now located on West Franklin Street along Seventh Avenue be moved out to Harwood Yard, thus releasing the valuable city property for more useful purposes, such as manufacturing or warehousing, and inciden-

tally reducing the smoke nuisance. Another advantage of this step would be the relief of the grade crossings between West Franklin Street and north city limits from an appreciable number of trains and switching movements.

The Belt Yard of the C. & E. I. and Howell Yard of the L. & N. are both too close to the city, although the Howell Yard, on account of the peculiar conditions, is not likely to be seriously affected thereby.

In concordance with the recommendations of the original draft of this report, the C. & E. I. Belt Yard, which formerly functioned as a general classification terminal and interchange yard, has been replaced by a modern, well constructed yard north of Pigeon Creek. The Belt Yard now finds an appropriate use for storage purposes and for assembling cars destined to and from the industries and the freight station.

It may be emphasized in passing that if the C. & E. I. and L. & N. were operated in this terminal district as one line, there would be necessity for but one complete terminal yard for both roads. This is a clear case of duplication of facilities, inspection service, clerical work and the many other activities incident to terminal operations by independent companies.

Howell Yard is quite elaborate and has a daily handling capacity of from 2000 to 4000 cars. Its icing equipment and stock handling facilities are complete, and the terminal may be considered modern in every essential respect. In this yard all northbound trains are broken up and classified. For the St. Louis Division sixteen freight trains are made up and received daily. The Henderson Division has five scheduled freight trains daily each way, and frequently as many as ten "extras" in addition. For the L. H. & St. L. Division, three scheduled trains and sometimes two extras are handled daily in each direction. The Illinois Central trains pass through this yard but are not classified or made up here.

While the Howell Yard is somewhat close to the city, and isolates a great deal of waterfront that might be useful to the city, it is not obtrusive and can be materially enlarged without interfering with municipal growth, especially if the Broadway grade crossing is eliminated.

The Southern's Yard extends from Garvin Street to Elsas Avenue, and consists of from three to five tracks and an engine terminal, the latter located just east of Governor Street. Both passenger and freight trains are made up in this yard, and the freight house is worked from it. While the switching movements are comparatively infrequent the street traffic is heavy and, therefore, the eventual relocation of this yard should be considered. It is believed that the most satisfactory solution of the problem would be to abandon the Southern facilities altogether, and have their terminal work performed through the agency of the C. & E. I. Railroad and its Belt Yard and freight station.

The Big Four Railroad has no terminal within Evansville, all of its business being handled in and out of Howell Yard by the L. & N. Railroad. If it were not for the competitive feature it is probable that this road could work to better advantage with the Illinois Central through a yard near Harwood Yard and joint operation of the Illinois Central's freight station. This would relieve Howell Yard somewhat and also that rather intensively used stretch of track between Howell Yard and the junction of the Big Four and L. & N. Railroads at Ohio Street.

The E. I. & T. H. Railway, which runs to Terre Haute, does comparatively little business, either passenger or freight, and although owned by the Big Four Railroad, its terminal operations are conducted by the C. & E. I. R. R., which is obviously the practical arrangement. With the Outer Belt Line constructed it would be practical to bring the trains of this road into a Big Four Yard located in the vicinity of Harwood Yard of the I. C. R. R.

Switching Service:

The C. & E. I. Railroad has direct access to about two-thirds of all the industries of Evansville, and the L. & N. to about one-third of the total number. The entire city, however, is remark-

ably well served by all its roads through reciprocal switching agreements, trackage rights, etc. As long as equitable arrangements can be maintained, best results will be afforded if all or nearly all the switching can be performed by a single company. Direct service to any plant by two or more roads is generally impracticable and should not be necessary in order to insure satisfactory service.

The C. & E. I. Belt Line, which begins at Belt Line Yard and extends around the northerly section of the city to its junction with the L. & N. at the foot of Ninth Avenue, is especially important to the city, as it serves directly over sixty prominent industries and has access to a limited area not yet developed. The usefulness of the Belt Line can be increased by relieving it of all interchange movements through the use of the North Detour previously proposed. In addition it is recommended that it be double-tracked wherever possible to do so at a not exorbitant expense. It is also suggested that more intermediate car storage yards for industrial supply be built in the vicinity of Bismark Street and Grove Street, and also near Heinlein Avenue. The second track will permit of quicker switching and eliminate interference of opposing trains, and the storage yards will assist in maintaining a better supply of cars on hand for manufacturing plants.

Interchange Methods:

Under the proposed arrangement with the North Detour or Outer Belt, interchange among the L. & N., I. C., Big Four and C. & E. I. Railroads would take place at or near their crossings with the new Belt Line and elevated Big Four Line instead of, as at present, within the congested interior of the city. The joint line along Division Street and the C. & E. I. Belt would be relieved entirely from interchange service. The Southern Railway alone would continue to deliver and receive at the south end of Belt Line Yard as at present, and the interchange of cars originating from industries could still take place at the junction of the C. & E. I. Belt and I. C. R. R. near Shanklin Avenue.

The extra distance imposed by the new routing of interchange cars would be more than offset by the greater speed at which the movement would take place.

Freight Stations:

Freight stations in this report are intended to include both the freight houses through which less than carload or package freight is handled, and team track yards, usually operated in conjunction with freight houses and at which carload freight is received and delivered.

The Freight Station of the L. & N. Railroad is at Fulton Avenue and Water Street, a very convenient and suitable location. The freight house, the east half of which is used for inbound and the west half for outbound, is substantially constructed of brick, is one story high, fifty feet wide and seven hundred fifty feet long. On the track side the doors are continuous and on the team side are eight feet by eight feet with intervening pilasters four feet wide. There are no trucking platforms outside the house. The house tracks, five in number, are arranged in groups of two and three with a transfer platform fifteen feet wide and six hundred feet long between groups. The car capacity of the house is 75 cars. At the west end of the freight house is a one-ton pillar crane operated by hand power.

The team tracks are six in number, arranged in pairs, spaced alternately thirteen feet and thirty-three feet apart. The driveways between tracks are not paved but are of hard and durable material. The team yard has a capacity of about forty-five cars.

The freight house, although it was built over twenty years ago, is still capable of handling much more tonnage than now passes through it. No special recommendations are to be made concerning this freight house, except that, when Water Street is improved, it should be relocated slightly southward and made sufficiently wide to allow at least twenty-five feet for the exclusive use of the teams and trucks that patronize the freight house. If this cannot be done, the house should

be rearranged to provide the space needed. The L. & N. freight house handles not only its own freight but also that of the Big Four Railroad.

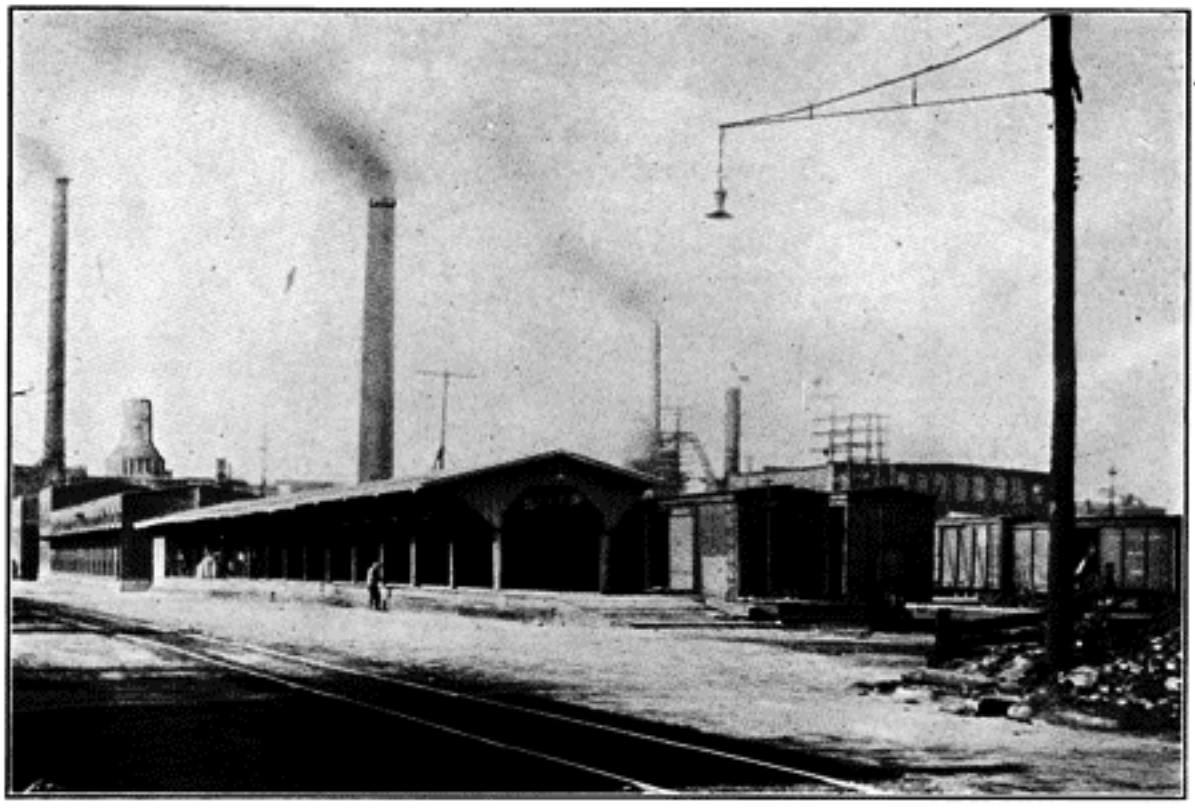
The C. & E. I. main freight station, which is also used by the E. I. & T. H. Railroad, is located on Eighth Street between Walnut Street and Main Street. The inbound house formerly took outbound freight, but a separate outbound house has more recently been built. There is a total of seven house tracks, whose aggregate capacity is about 70 cars. Trucking platforms about nine feet wide are provided on the track side. The team track yard is just east of the freight house, and is composed of five tracks, having a total capacity of about 50 cars.

The entire station of the C. & E. I. is compact and is of ample capacity, only lacking possibly sufficient team tracks for general purposes, such as for the delivery and receipt of produce and merchandise. The station is particularly well situated with reference to wholesale houses and retail establishments from which much of its patronage is drawn.

The West Side freight station on West Franklin at Ninth Avenue is used to serve the industries and other establishments in that vicinity. Its capacity is about 24 cars. It was built in 1912, and admirably suits its purpose.

The freight station of the Illinois Central at West Franklin Street and Sixth Avenue is well arranged and neat in appearance. The houses have a capacity of about 52 cars and the team tracks 36 cars. The station has a ten ton pillar crane. There is ample room for increase of facilities as occasion demands.

Freight Station of the I. C. Railroad at West Franklin Street and Sixth Avenue. Efficiently planned and in a good location.



Southern Railroad Freight Station. An example of poor location. Valuable property near the heart of the city is unprofitably used and intersecting streets cross the entire track layout.

The joint use of the Illinois Central freight station by this road and the Big Four R. R. would reduce congestion in the vicinity of the L. & N. freight and passenger stations and reduce terminal operating costs of these lines.

The Southern freight station is located along Division Street from Elsas Avenue to Lafayette Avenue. The inbound house extends from Elsas Avenue to Heidelbach Avenue, the latter street crossing the entire freight layout. The outbound house extends from Heidelbach Avenue to Lafayette Avenue. It is 20 feet wide and built of timber, being practically merely a covered open platform. The inbound house is of brick, 40 feet wide, with a six-foot platform. A portion of the building is two stories high and is used for offices. The two houses have a combined capacity of from 48 to 60 cars on 6 tracks. Two long team tracks lie north of the house and east from Elsas Avenue. The entire freight station is of ample capacity and constitutes a valuable unit of the transportation facilities of the city; owing to its unfortunate location, however, it is an obstruction to the city's growth and impossible of satisfactory treatment short of actual elimination.

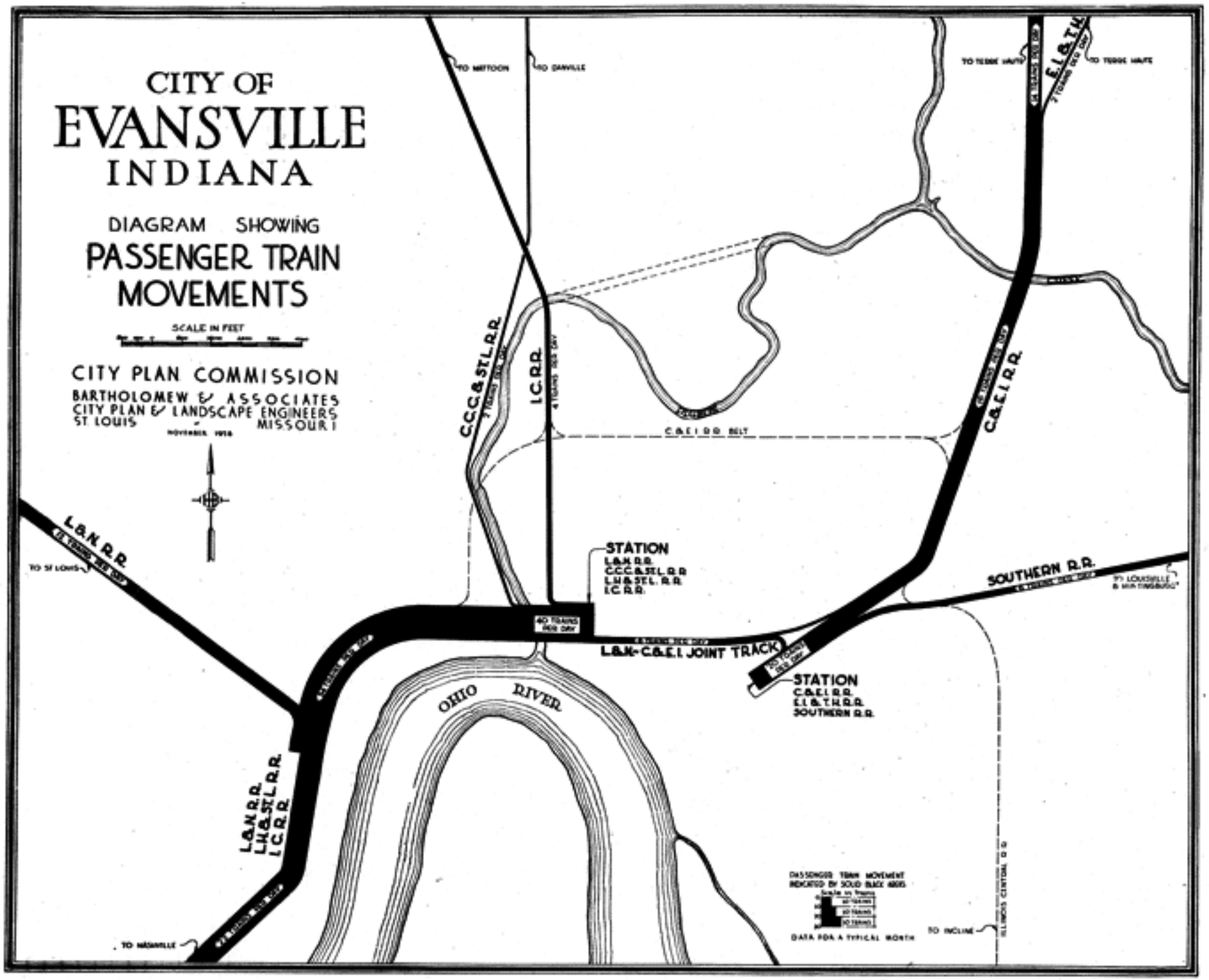

CITY OF
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DIAGRAM SHOWING
PASSENGER TRAIN
MOVEMENTS
SCALE IN FEET
CITY PLAN COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
ST LOUIS MISSOURI
NOVEMBER 1956
TO MATTOON
TO DANVILLE
TO TERRE HAUTE
TO TERRE HAUTE
E.I.&T.H.
C.C.C.&St.L.R.R.
I.C.R.R.
C.&E.I.R.R.
C.&E.I. BELT
L.&N.R.R.
TO ST LOUIS
STATION
L.&N.R.R.
C.C.C.&St.L.R.R.
L.H.&St.L.R.R.
I.C.R.R.
SOUTHERN R.R.
TO LOUISVILLE & MIDDLESBORO
40 TRAINS PER DAY
L.&N.-C.&E.I. JOINT TRACK
STATION
C.&E.I.R.R.
E.I.&T.H.R.R.
SOUTHERN R.R.
OHIO RIVER
L.&N.R.R.
L.H.&St.L.R.R.
I.C.R.R.
TO NASHVILLE
PASSENGER TRAIN MOVEMENT
INDICATED BY SOLID BLACK AREAS
DATA FOR A TYPICAL MONTH
TO INCLINE
ILLINOIS CENTRAL R.R.

PLATE 3

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PASSENGER TRAFFIC

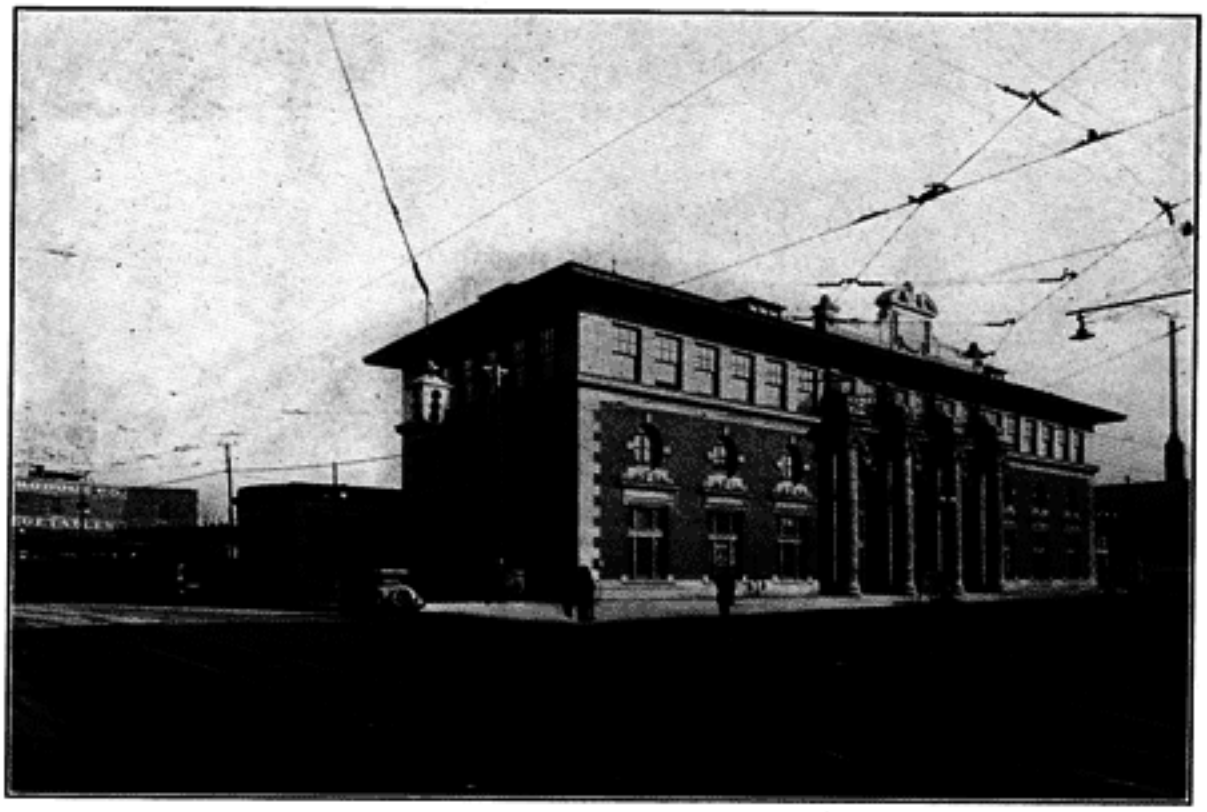
Evansville is characteristically a terminal point for all of the railroads that enter it. Through service is also provided by the C. & E. I. Railroad by way of the joint track in Division Street and the limited use of the L. & N. Passenger Station by both roads.

L. & N. Passenger Station:

This station is used by the L. & N. Railroad and its branch, the L. H. & St. L., the Big Four Railroad, the Illinois Central, and by eight trains of the C. & E. I. Railroad. About 40 trains daily are handled in and out of the station, for which four stub end and one through track are provided. There are in addition one running track which is the Union or Joint Track through Division Street, and two short tracks for baggage, mail and express cars, etc.

The building is well constructed and the general arrangement satisfactory as far as convenience to the public is concerned. Additional waiting room space can readily be provided by use of some of the concourse. The need for both increased length and number of station tracks will probably become imperative within the near future, and in this connection a separation of the leads to the passenger track layout from that of the freight houses and team yard would be desirable in order to reduce the interference between freight, passenger and switching movements. The cost of these improvements will be very considerable as an additional bridge over Pigeon Creek may be required, and the removal of several buildings necessary. It may be said that the present site occupied by the L. & N. passenger station can be developed to care for a normal increase of business during the next 25 years of each of the roads now using it.

L. & N. Railroad Passenger Station; a suitable and conveniently arranged building. A station plaza opposite would be of immense benefit to the city.



C. & E. I. Railroad Passenger Station 20 years old but still of ample capacity.

PRESENT OPERATING METHODS (Continued)

C. & E. I. Passenger Station:

The C. & E. I. Station is advantageously situated on Eighth Street at Main Street. Its five station tracks are somewhat too short for present day trains and their lengthening is a difficult matter owing to the general congestion of track in this vicinity. There is ample opportunity for increasing waiting room space by utilizing portions of the concourse, and the concourse itself can be enlarged considerably.

While the location and general fitness of the C. & E. I. Station, so far as present requirements are concerned, cannot be greatly criticised, it is certain that future traffic will demand more track space than is now available, especially if the other railroad activities within the same group such as the C. & E. I. freight terminal and I. C. Team Yard are to remain. One solution is suggested if the present station is retained; that is, to remove the freight station which is next to the passenger station, east to Walnut Street. In this connection, the company will remove the shops and roundhouse which will afford space for additional team tracks besides lengthening the station tracks.

The C. & E. I. station now accommodates 18 trains daily, four of the Southern Railway, four of the E. I. & T. H., and ten of the C. & E. I. R. R. There are four through trains of the C. & E. I. R. R., each way, that do not make this station but use the L. & N., by which arrangement they avoid the backing up movement that would be required if they entered their own station.

Union Station

Consideration of one station for all roads should be based upon the economic needs of the railroads and the real requirements of the public. In Evansville it is likely that the enforced abandonment of the Division Street track for through train operation will necessitate a Union Station.

From the standpoint of the railroads a Union Station at this time is not necessary to attain satisfactory operating conditions, as their wants can be taken care of several years longer by the more complete development of existing space and present facilities, possibly somewhat in line with previous suggestions. Looking forward to that time, however, when the movement of trains through the business district will become so restricted as to seriously offset schedules, and the railroads are faced with the alternative of elevating the joint track in Division Street, or constructing an outer belt line, a new or greatly modified station for at least C. & E. I. R. R. and tenants will be required. It will then be to the interest of all the railroads to unite in a single station so designed and placed that their requirements will be fulfilled as completely as possible. Neither of the sites now occupied for passenger terminals is well adapted for a Union Station. The C. & E. I. site is entirely impracticable, and the L. & N. station does not offer adequate operating advantages, altho either is suitably located to serve the public.

In the event that the outer belt line for all crosstown railroad traffic is constructed, as recommended in the first section of this report, the choice of a Union Station site, somewhat naturally falls to that area adjacent to West Franklin Street and along the Big Four Railroad. Much of the land would have to be reclaimed by filling. A station at this point would probably consist of from 10 to 13 stub and 6 thru tracks, room for which is available. All tracks would be elevated and six or eight of them would cross West Franklin Street, forming a subway at this point.

A Union Station located as proposed would have the advantage of being upon a wide major thoroughfare, easily accessible to all parts of the city. Its construction would proceed without serious delay to train operations, and at considerably less cost than would be required at other locations. The site is well adapted for the type of station required; that is, one equipped with both thru and end tracks. With the exception of the Southern Railway, a station on West Franklin Street can be reached more conveniently than the present stations, and it is not particularly difficult to arrange for the Southern to use the new station altho it involves a longer haul than they now have.

A Union Station will not only afford additional advantages to railroad operation, but should prove of value to the traveling public and the city itself, especially in later years when the surrounding country becomes more densely populated.

In conclusion, it may be said that while not immediately an economic necessity, a Union Station will eventually become indispensable to both the railroads and the public, and the present time is appropriate for considering its location and functions with regard to the general scheme of the City Plan. In this connection, it should be borne in mind that the City Plan is a visualization of conditions as they will appear from twenty to fifty years hence, and while the suggestion of a single passenger station for all railroads in Evansville may seem extravagant today, it is nevertheless good judgment to anticipate the need for this facility, if only for the purpose of making its ultimate attainment economically possible.

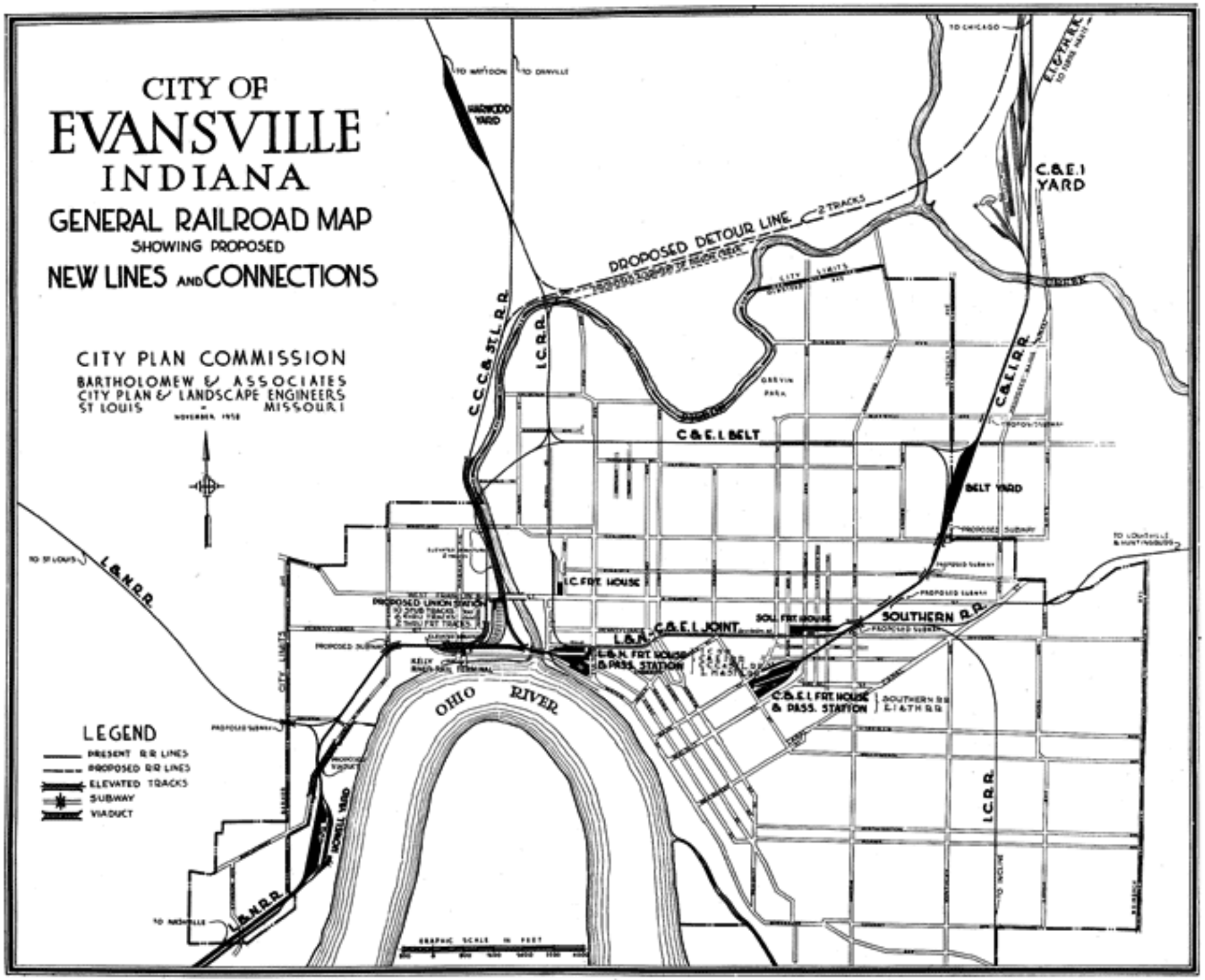

CITY OF
EVANSVILLE
INDIANA
GENERAL RAILROAD MAP
SHOWING PROPOSED
NEW LINES AND CONNECTIONS
CITY PLAN COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
ST LOUIS MISSOURI
NOVEMBER 1958
LEGEND
PRESENT R.R. LINES
PROPOSED R.R. LINES
ELEVATED TRACKS
SUBWAY
VIADUCT
TO CHICAGO
TO WATSEKA
TO DANVILLE
HAWKINS YARD
C.C.C.& St.L.R.R.
I.C.R.R.
PROPOSED DETOUR LINE 2 TRACKS
C.& E.I. YARD
C.& E.I. R.R.
C.& E.I. BELT
BELT YARD
TO LOUISVILLE & HUNTINGTON
TO ST LOUIS
L.& N.R.R.
I.C. FRT. HOUSE
PROPOSED UNION STATION
SOU. FRT. HOUSE
SOUTHERN R.R.
L.& N.-C.& E.I. JOINT
L.& N. FRT. HOUSE & PASS. STATION
C.& E.I. FRT. HOUSE & PASS. STATION
SOUTHERN R.R. & E.I.& T.H. R.R.
OHIO RIVER
CITY LIMITS
KELLY ISLAND TERMINAL
POWELL YARD
TO NASHVILLE
L.& N.R.R.
I.C.R.R.
GRAPHIC SCALE IN FEET

PLATE 4
24

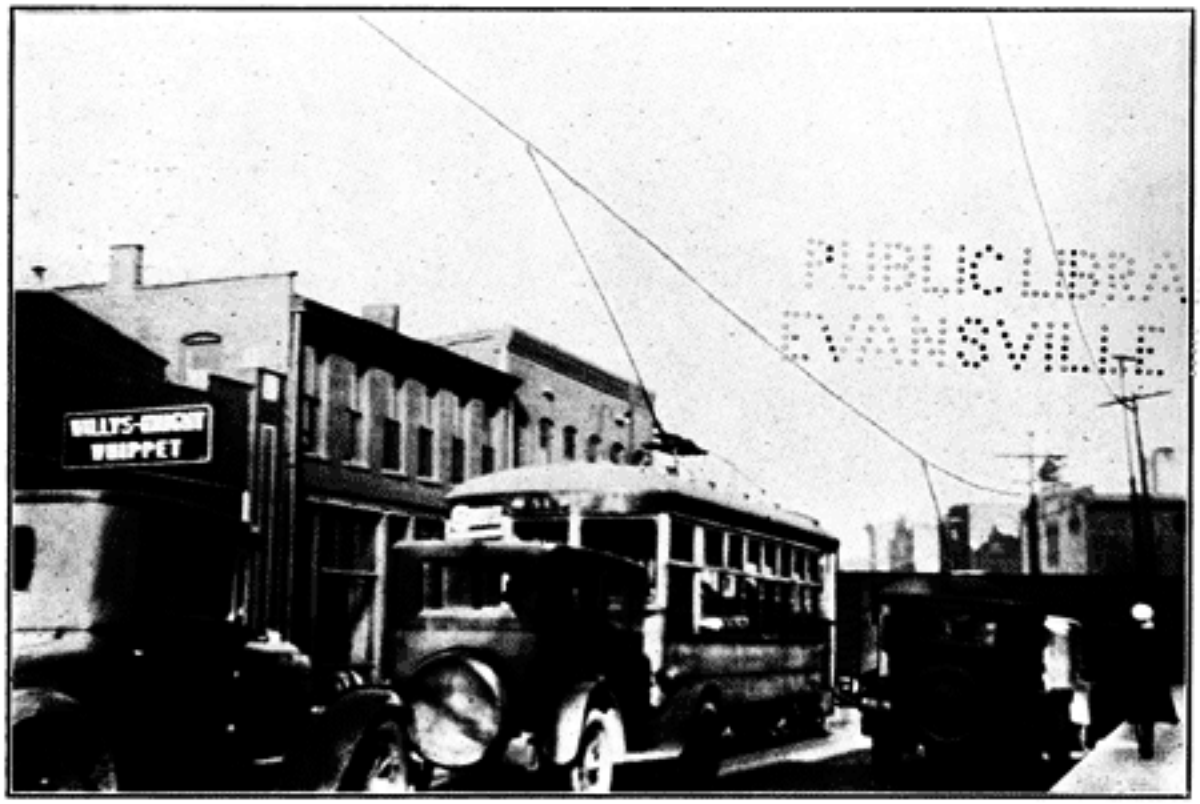
Grade Crossing Elimination

General Conditions:

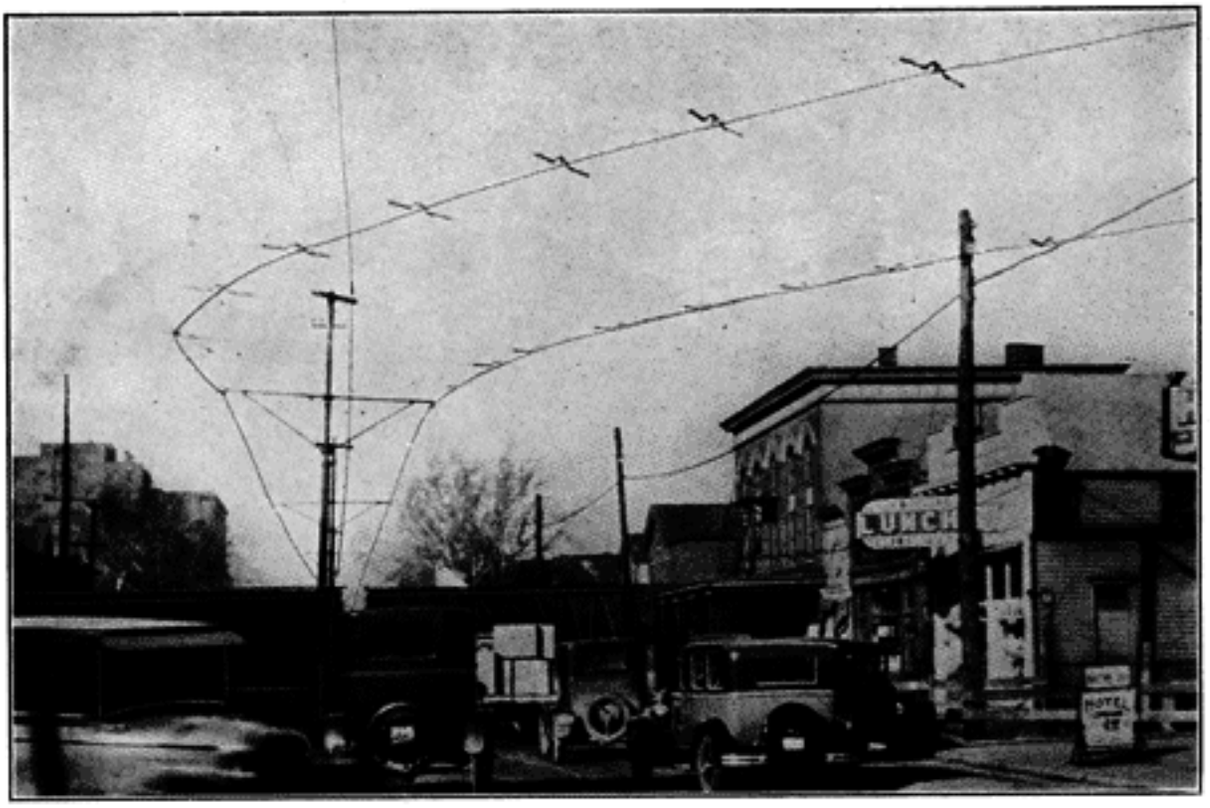
Little has been done within the city of Evansville toward the elimination of grade crossings, although much has been accomplished in lessening their inconvenience. This is particularly true of the L. & N.-C. & E. I. joint track in Division Street, where trains have been restricted by ordinance to 25 cars each and the speed greatly reduced. Such measures are only temporarily effective, do not give complete relief where main line traffic and major streets are both involved and impose a severe handicap upon the railroad. In such cases either a separation of grade or withdrawal of either street or railroad traffic must take place. In Evansville both methods moderately applied will produce excellent results in freeing both city and railroads from those hampering restrictions for which they are mutually responsible. Recently plans have been approved for a subway under the C. & E. I. tracks at Virginia Street, and the L. & N. Railroad is actively engaged in the study of the Broadway and St. Joseph Avenue crossings.

L. & N.—C. & E. I. Joint Track:

By referring to the diagrams showing movement of freight and passenger traffic, pages 12, 14 and 20, it will be observed how effectively the proposed detour north of Pigeon Creek relieves the grade crossing situation along the L. & N.-C. & E. I. joint track in Division Street. With the Union Passenger Station located as proposed, all of the passenger traffic would be removed and all freight except possibly four or five hundred cars each way per month, which could be handled by one train movement per day each way. With operations so reduced over this track, its abandonment for all except industrial switching would follow. In event the Southern's branch into Evansville were electrified, this track might be used by it in reaching the passenger station and performing switching service to those few industries that require it.



Main Street crossing of L. & N.-C. & E. I. Joint Track on Division Street. During the rush hours several times this number of automobiles are held up by freight trains. Rerouting freight via the proposed North Detour would relieve this condition.



Fulton Avenue crossing of the L. & N.-C. & E. I. Joint Track on Ohio Street—another of eight main thoroughfare crossings which would be relieved by the North Detour. Switching of freight cars across Fulton Avenue causes traffic tie-ups to occur more frequently here than at Main Street.

GRADE CROSSING ELIMINATION (Continued)

C. & E. I. and I. C. Main Line, Heidelbach Avenue to Division Street:

This series of crossings will also be greatly relieved by detouring all passenger traffic to the north. The remaining railroad traffic will consist of service to the freight house, and I. C. yard at this point, and the several industries along Main, William and Walnut Streets. Under these conditions the tracks should remain at grade indefinitely. If grade separation here eventually becomes advisable, it can best be accomplished through closing Heidelbach Avenue and William Street and elevating tracks sufficiently at Lafayette, John and Governor Streets.

The difficulty involved in separating grades at Division Street is very great on account of the number of industries and complicated track layout nearby. With the L. & N.-C. & E. I. joint track and the Southern freight yard both out of the way, however, it would be possible to raise the tracks and depress the street sufficiently to effect a separation.

C. & E. I. Main Line—Division Street to Maxwell Avenue:

Crossings from Division Street to and including Virginia Street can properly remain at grade if the proposed north detour is constructed. Columbia Street, however, should be depressed and the track raised in any event, as this street is a major street and crosses the throat of Belt Line Yard and will always be subject to switching movements.

Between Columbia Street and Morgan Avenue there are no through streets and it is therefore imperative that Morgan Avenue be kept open. In lieu of this, it is proposed to close Morgan Avenue and to construct a subway under the tracks at Maxwell Avenue. This is a satisfactory solution of the problem.

A future problem is that of Franklin Street and the C. & E. I. When this street is widened and paved in accordance with the recommendations of the Major Street Plan, much traffic will be attracted to it by reason of its strategic position and through character. Eventually consideration must be given to a subway at Franklin Street.

A subway at Garvin Street is now being considered and in view of the traffic conditions at that point is well worth while, Garvin Street being an essential major street.

Plans for a subway at Virginia Street are under way and the terms as to division of cost practically agreed upon.

C. & E. I. Belt Line:

About one-half the traffic now handled on that portion of the Belt Line between Belt Line Yard and the I. C. R. R. Crossing could be routed over the detour and in this way the grade crossing situation improved. It is not serious now nor is it ever likely to be, so long as movements over this track are confined to industrial service. Any method of elimination for the C. & E. I. Belt Line would be so expensive and impose such hardships upon both the industries and the railroad that it is not thought consideration should be given to such a project. The required degree of safety may be obtained most satisfactorily through regulatory measures and systematic switching movements.

Illinois Central Railroad:

The Illinois Central Railroad occupies Devon Street from the north city limits to Maryland Street about where its track enters the yards and freight station on West Franklin Street. A single track continues on to the L. & N. depot and serves several intermediate industries of importance. While this road crosses all streets at grade, the density of traffic carried by the railroad is so light and train movements so infrequent that grade separation would be unjustifiable. Use of the proposed detour for passenger trains and interchange movements, together with removal of the shops from the Franklin Street Yard to Harwood, will further lessen what little interference there now is between railroad and street traffic.

Traffic delays are becoming more and more noticeable at the C. & E. I. crossing on Columbia Street. Eventually a subway will be needed. Much of the delay at this point is due to switching from the Belt Yard just north of Columbia Street.

GRADE CROSSING ELIMINATION (Continued)

Big Four Railroad:

Under the detour plan, the Big Four Railroad would be elevated from about Maryland Street to its junction with the L. & N. at Ohio Street, thus eliminating intermediate grade crossings.

L. & N. Railroad—Fulton Avenue to Howell Yard:

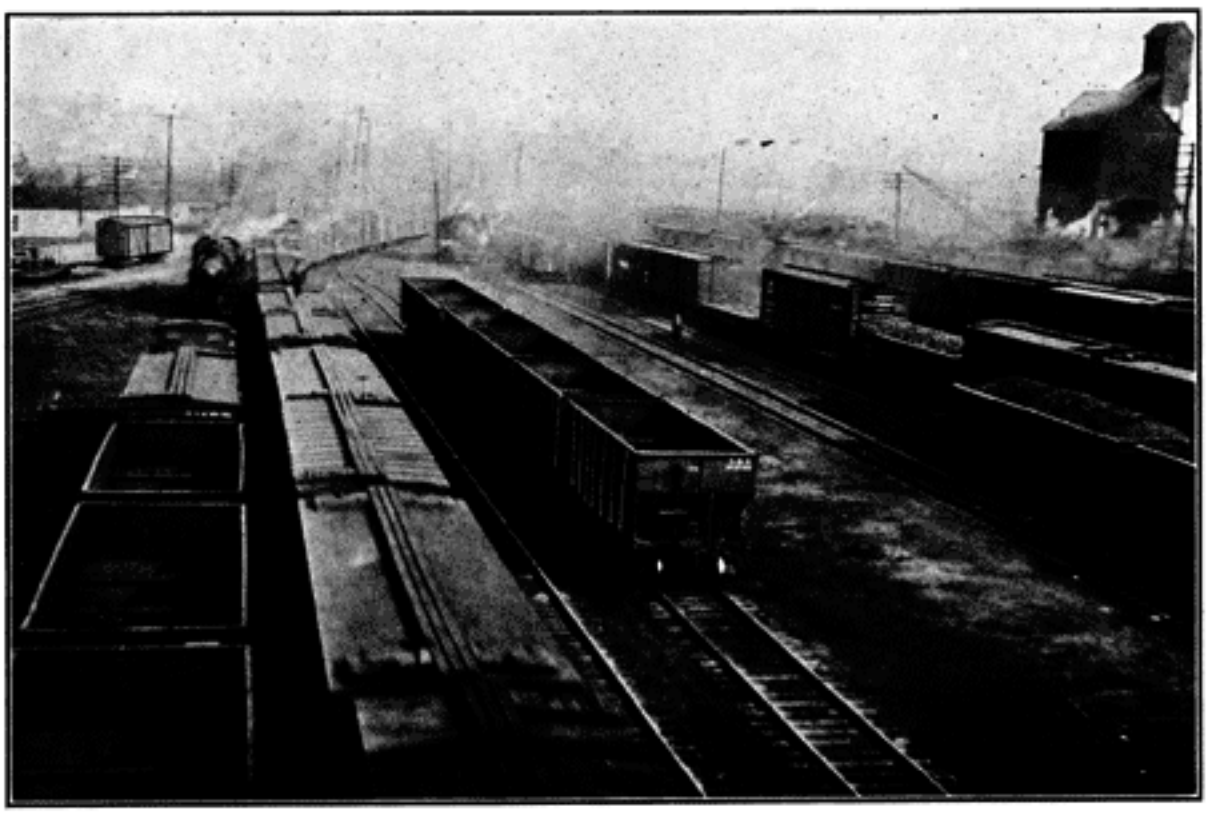
As will be noted from the traffic density diagrams, this stretch of track is the most heavily loaded of any within the Terminal District, both with passenger and freight business. It is double track now and should have an additional track for switching purposes.

In order to facilitate train movement and also provide access to the river front in the vicinity, it is recommended that the tracks along Ohio Street (which will form the throat of the new station layout) be kept elevated as far as Wabash Avenue. By depressing Wabash Avenue, a satisfactory grade separation can be obtained for that street.

St. Joseph Avenue is a rather heavily traveled thoroughfare and early consideration of a subway at this point is appropriate. The street can be depressed approximately eight feet and suitable street and railroad grades secured.

Decker Avenue, though not improved throughout, is used considerably. Owing to the very steep grade descending toward the track from the west, a subway will require considerable raise of track and will cost a great deal. There are two main line tracks, one industry spur, and one leg of the wye to the St. Louis branch to be considered.

The Broadway crossing of the L. & N. at Howell Yard is one requiring fairly early action as the situation is peculiarly aggravating. The street crosses two main line tracks and several approach tracks leading into the yard, where switching movements are frequent. It is difficult to conceive



Broadway Crossing is at the throat of Howell Yard of the L. & N. Railroad. The almost continual switching of yard cars and frequent passage of both freight and passenger trains create a condition decidedly obnoxious both to the railroad and to the city.

"Seven tracks—Danger" is the appropriate warning here at the approach to the Broadway crossing of the L. & N. Railroad tracks.

of a worse location for a street crossing. A subway at this point would most likely be too expensive to consider and the choice lies between a viaduct on the present alignment of Broadway or a subway several hundred feet north where there are only three tracks involved. The latter plan requires a change in the alignment of the street but with long radii and a skew crossing the increased curvature can be made unobjectionable.

Following a conference with the officials of the L. & N. Railroad Company, a detailed study with estimates of cost is being prepared by the engineers of the railroad company, with a view toward eliminating both the Broadway and St. Joseph Avenue crossings. Several plans are under consideration in addition to that discussed above. One involves a material relocation of the tracks sufficient to permit Broadway to skirt Forest Hills Park on the west side of the tracks and practically paralleling them. A grade crossing would remain at St. Joseph Avenue for industrial use and the present Broadway crossing would be closed. Decker Avenue would remain at grade, and the proposed new street would cross the north leg of the L. & N. wye track at grade and would pass under the south leg of the L. & N. wye track (St. Louis Division), thence to a connection with Broadway about opposite the north end of Howell Yard. It is understood, of course, that the north leg of the wye would be for emergency use only and not subject to numerous train movements.

Another plan is to relocate Broadway on the same alignment as above described but only about to Decker Avenue, passing both Decker and Broadway in one subway under the two main line tracks and rejoining St. Joseph Avenue by the present route. A subway would be built to bring St. Joseph Avenue under the main line, but the tracks would be swung southward sufficiently that the City later can extend Broadway along the north side of the track from Decker Avenue to St. Joseph Avenue. The advantage of this plan is that small and inexpensive subways will suffice both at St. Joseph Avenue and Broadway, which, after the relocation of Broadway, will serve for industrial purposes only. This plan avoids the heavy cost of large subways, yet leaves no crossing at grade. The amount of track relocation is also reduced.

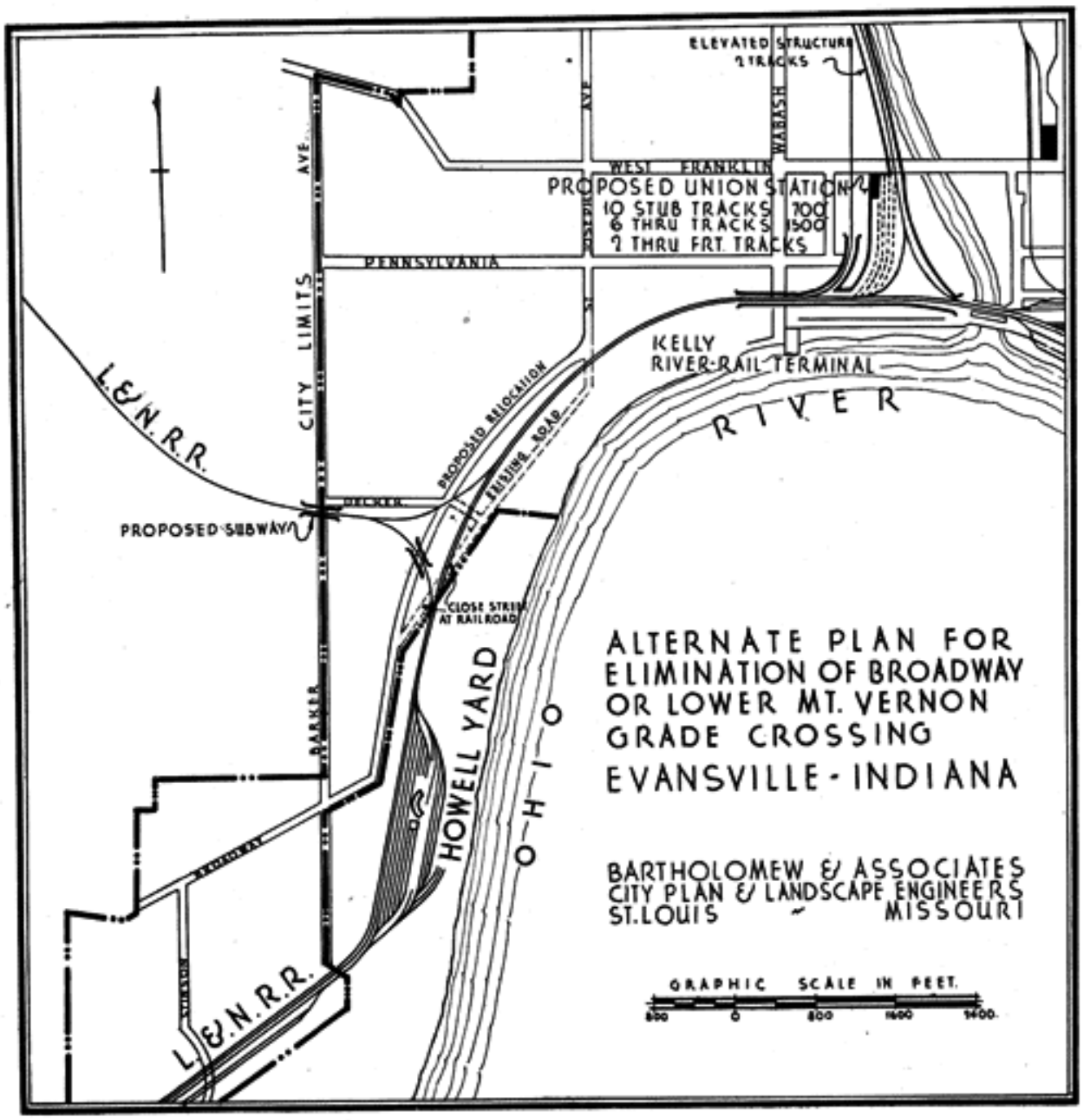

ELEVATED STRUCTURE
2 TRACKS
WABASH
WEST FRANKLIN
PROPOSED UNION STATION
10 STUB TRACKS 700'
6 THRU TRACKS 1500'
2 THRU FRT. TRACKS
PENNSYLVANIA
CITY LIMITS
L&N.R.R.
PROPOSED RELOCATION
KELLY
RIVER-RAIL TERMINAL
RIVER
PROPOSED SUBWAY
CLOSE STREET AT RAILROAD
HOWELL YARD
OHIO
ALTERNATE PLAN FOR
ELIMINATION OF BROADWAY
OR LOWER MT. VERNON
GRADE CROSSING
EVANSVILLE - INDIANA
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
ST. LOUIS MISSOURI
GRAPHIC SCALE IN FEET.
800 0 800 1600 2400

PLATE 5

Program and Procedure

The foregoing grade crossing elimination projects cover in general all that are likely to become of moment within the near future. Many cases can be handled individually, as, for example, Broadway and St. Joseph Avenue on the L. & N., Franklin Street on the Big Four, and that group on the C. & E. I. to and including Maxwell Avenue. The West Franklin-Big Four crossing is properly a part of the detour plan and work on it should be deferred at least until the North Detour is adopted.

The grade crossing elimination program has been prepared with a view toward disturbing the industries as little as possible and minimizing the cost of the work.

The principal features that determine the method to be selected in separating grades are the railroad grades and alignment, street grades, clearances, depth at which natural drainage can be obtained, location, number and character of industries, effect upon adjacent property, appearance and cost.

Railroad Grades:

It is the endeavor to secure for the railroad better operating conditions than previously existed. The most important item is the matter of grade, a material increase in the severity of which may cause the railroad a considerable and never ending expense. Where it is necessary to increase the grade of main line track it should be the aim, in general, to let the new grade not exceed about 0.5 per cent. Additional curvature introduced into the alignment is not necessarily of moment unless it is exceedingly sharp.

Street Grades:

More latitude is allowable in fixing street grades although every means should be employed to keep them as low as possible. In general a maximum grade of 4% for subway and viaduct approaches is advisable although in many cities this is exceeded considerably.

Clearances:

For subways a depth of four feet is assumed from top of rail to under side of bridge floor and a clear distance of fourteen feet from bottom of bridge floor to top of paved street. Where no street cars are involved a subway clearance of 13 feet may be sufficient, but this should be considered the minimum. Overhead clearances above the top of rail of railroad tracks should be not less than 22 feet on main lines and 18 feet on industrial tracks. For viaducts over tracks a depth of deck of three feet is ordinarily sufficient, which, added to the clearances, fixes the viaduct street grade at around 25 feet above the railroad main track. Side clearance is usually not less than 7' 6" from center of track to nearest edge of fixed structure, and should preferably be 10 feet from main line track.

Drainage:

Natural drainage is that which can be obtained without the use of pumps. The depth at which natural drainage is feasible normally fixes the amount that a street or railroad track can be depressed. However, many subways are now built with sumps and automatic pumps where natural drainage is not obtainable.

Industries:

It is of extreme importance to see that track changes do not decrease the earning capacity of industries served by the railroads, or cause them undue expense on account of necessary physical adjustments. Care must also be taken to insure that the availability of land for industrial uses is

not lessened, in order that the resources of the city, the individual and the railroad may be conserved.

Appearance:

Appearance is a relative matter and its degree is greatly dependent upon location. Very conspicuous crossings or those in residential districts and parks should receive careful architectural treatment. Consideration of appearance may, in exceptional cases, affect the method of grade separation, that is, such as the extent to which a track or street shall be elevated or depressed. Through the better and thoroughly stabilized residential districts and parks, inconspicuousness is sought if it can be obtained at a not prohibitive cost and without a permanent or potentially continuing loss to the railroad.

The foregoing outline of a grade separation program is necessarily tentative in nature as it is evident much engineering work must be done in the field and estimates made before final decision in every case can be reached. The effect upon industries is especially important and must receive the greatest possible attention.

In any plan for actual work, the railroads must, of course, cooperate freely and be permitted latitude in the procedure and methods of handling the various projects.

RIVER TERMINALS

River Terminals

Ownership and Control of Water Terminals:

The following general rules pertaining to waterfront development apply to all cities so fortunate as to be situated upon a navigable waterway, and constitute what is conceded to be good practice:

1. The City should own outright its entire waterfront, including all land lying between its outermost boundary and low water elevation.
2. The granting of permanent rights to individuals or corporations to occupy or make use of any portion of the waterfront should be avoided. This is especially true of railroad tracks which should be owned by the city, in which event they become a valuable asset.
3. The port should be controlled by a well organized body in which personal responsibility is definitely placed.
4. A rather broad plan for port development should be worked out and nothing permitted to interfere with its gradual adoption.

The following principles regarding terminal operation are also of general application:

1. In constructing terminal facilities, a capacity considerably in excess of immediate needs should be provided.
2. Docks or other permanent structures should be built in units, so that they can be easily added to as increased traffic demands.
3. No water terminal is complete unless it has also good rail connections. Preferably this should be accomplished by a municipally owned belt line reaching as many trunk roads as possible.
4. Warehouse and yard tracks of a terminal should be owned by the City and made available for use to all railroads on equal terms.
5. Ample space should be reserved for yard tracks on which cars destined to and from the terminal can be sorted and classified.
6. Warehouses in connection with river terminals can be used for the combined purpose of receiving, sorting, delivering cargo and for storage. It is essential that storage space be an integral part of the terminal in order that handling of freight be reduced to a minimum.
7. Mechanical freight handling devices should be adopted where their use will be of advantage.
8. The assessment of wharfage fees should be rigidly supervised by the port authority. The fees should not be higher than is customarily charged at other cities.

Theoretically it is a sound principle that municipalities should not only own but operate their river facilities, such as wharf boats, docks, warehouses, and freight handling machinery, but, owing to the specialized knowledge required to manage such equipment, city authorities seldom make a financial success of their control. It is also difficult to develop a sense of personal responsibility in those in direct charge as they have no immediate financial interest involved. Frequent changes of administration further disorganize the management.

Advantages of River Terminals:

Adequate river terminals benefit a city both directly and indirectly if an appreciable amount of tonnage is available and can be attracted to them. A direct benefit to a community is derived when a considerable portion of the raw materials used by its factories, of its food products or its finished products can be shipped by river. The saving in transportation cost stabilizes industries and encourages others to locate in the city. Longer periods of employment and greater opportunities are thus afforded.

Indirect benefits are received through the advertising the city may get by reason of well equipped river terminal facilities.

If through, or interline tonnage, as it is called, is attracted in sufficient quantities, it is possible that some of it might be intercepted at Evansville and new industries encouraged to locate here in order to make use of such freight instead of hauling it to more distant points. For example, if rates and other conditions were so favorable that a large volume of steel products, lumber, or cotton would be started through Evansville, via river and rail, industries using these raw materials could possibly lower their cost of production by locating in Evansville.

Future Terminal Requirements:

The extent to which any river city requires terminal facilities depends upon:

(1) Its strategic location as a distributing center,

(2) Its ability to originate and consume tonnage.

A casual glance at the map of Indiana shows Evansville to be the focus of several important trunk line railroads and on one of the main highways between the North and South. It is as close to Chicago, from which district much of the Mississippi river tonnage originates, as is St. Louis, where this tonnage is transferred to river barges.

It is not only the most important city of Indiana on the Ohio River, but is the third largest in the state. The construction of a highway bridge, at or near the city, will greatly add to its value as a market. It, therefore, appears that as a distributing center Evansville is well qualified.

Evansville produces a considerable tonnage at present and of great variety. Its resources as a manufacturing city, however, have scarcely been touched. With its abundant water, fuel, transportation and cheap land, its steady uninterrupted growth is as certain as time itself.

Just as Pittsburgh firms are now investing thousands of dollars in floating equipment and freight handling machinery, so it may be expected that manufacturers of Evansville will sometime be not only obliged but glad to take advantage of what the Ohio River will offer in the way of transportation, in order to dispose of their products and obtain raw materials.

There is little doubt but that Evansville will some day be the center of distribution for a considerable amount of freight—how much, it is impossible to estimate, although a large portion of that now going through St. Louis could profitably be routed via Evansville, the distance, Chicago to Cairo, being exactly the same as via St. Louis by rail and river. The Evansville route, however, has the important advantage of making it possible to avoid the complicated St. Louis-East St. Louis railroad terminals, thereby saving an appreciable time in transit.

An attractive possibility is the interchange of freight via the Evansville gateway between points east and west, utilizing the upper Ohio River as far as Evansville and the L. & N. Railroad from Evansville to St. Louis. It is believed that the saving in time and cost of this movement over that via Cairo all river or Cairo to St. Louis river and rail, would justify the inauguration of this service. The advantage to the L. & N. is obvious in that it would permit participation in eastern business.

Prospective Freight Tonnage Originating at Evansville:

In order to determine the probable extent to which the river might be used by the industries, manufacturers and merchants of Evansville, a questionnaire was sent to representative firms, in which they were asked to state the origin of their raw materials, destination of finished product and approximate annual tonnage of each. The answers were tabulated and the following conclusions derived:

The principal raw materials which are used in Evansville and which might conceivably be received by river, are coke, broom corn, sugar, coffee, groceries, logs, lumber, paper, pig iron, structural steel, steel tubing, wheat and cotton.

The outgoing shipments, finished products, etc., consist of auto trucks and bodies, bottles, brooms and mops, flour and mill feed, furniture, refrigerators, castors, stoves and heaters, groceries, plows, castings, sweat pads, trunks, wooden boxes, shooks. The total annual tonnage represented by these two groups amounts to about 700,000 tons, of which 100,000 tons are tributary to the Ohio River, and 600,000 to the Mississippi River. All of this and, of course, much more is now hauled

by the railroads and it is impossible to say just how much would eventually favor river transportation, but it is reasonably sure that the amount would not exceed 15%, and that it would possibly take from 5 to 10 years of satisfactory service by the river craft to attain that figure.

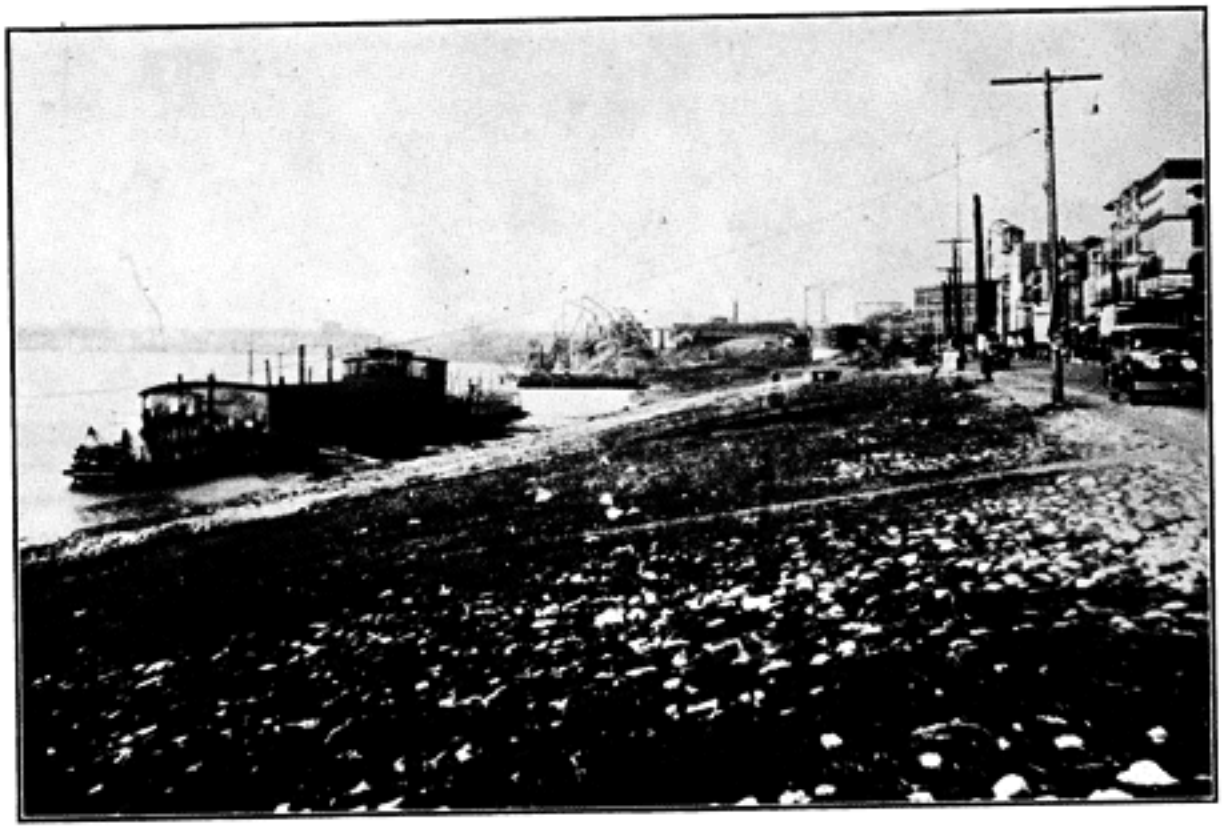
Of interline tonnage, that is, freight that is transferred from river to rail or vice versa in order to complete its journey, it is estimated that possibly 75,000 tons might reasonably be expected to find the Evansville gateway. This is about 25% of the total amount that in 1922 passed through Cairo, Illinois, from territory much of which would be properly tributary to Evansville. There is also considerable freight shipped from the Chicago district via St. Louis and the Federal Barge Line that might be better routed through Evansville in order to avoid the complicated terminals at St. Louis and East St. Louis.

Summing up, it may be roughly estimated that the Evansville river terminals would handle annually 100,000 tons of miscellaneous matter for Evansville proper, and possibly 75,000 tons of interline freight and that this rate may be attained within from 5 to 10 years after their completion.

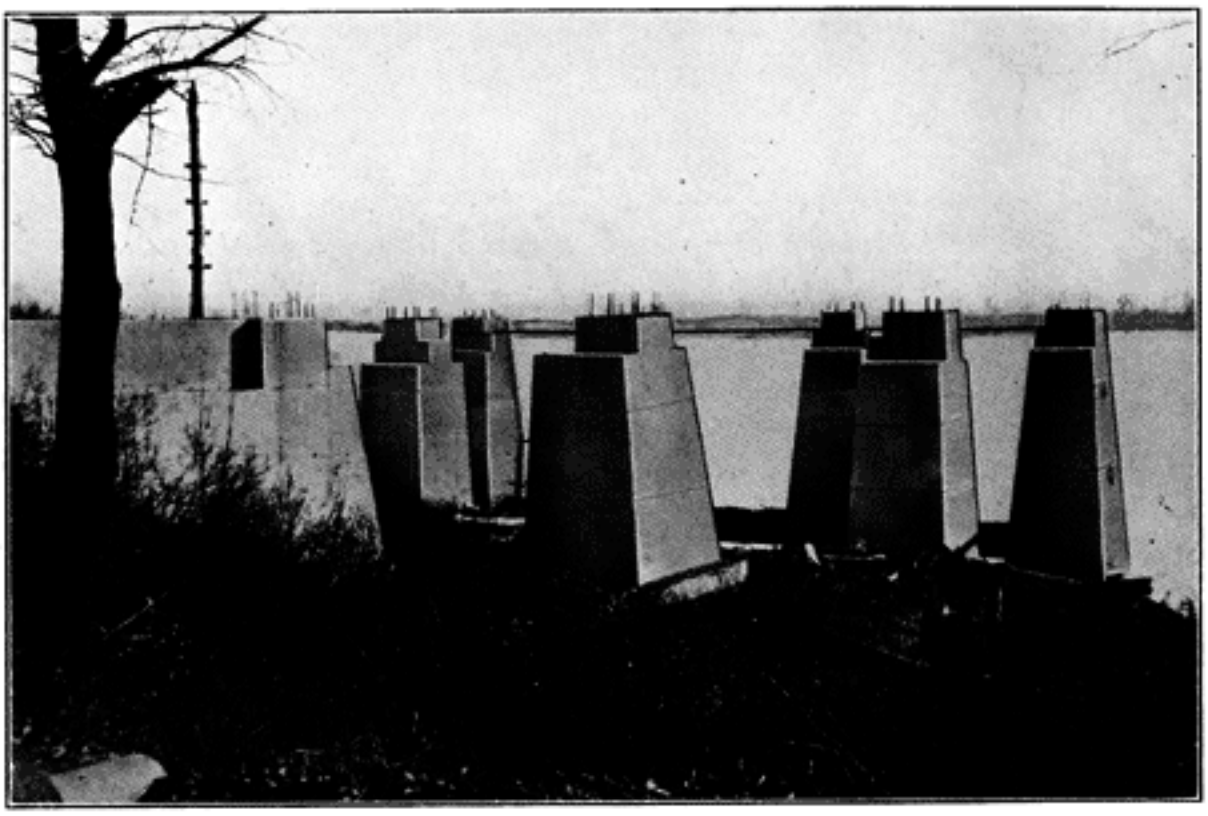
Type of Terminal Required:

In accordance with the figures arrived at in the preceding paragraph it will be assumed that a municipal terminal for Evansville should have a capacity of approximately 175,000 or 200,000 tons per year, or, say 1,200 tons daily, which is twice the probable average daily movement.

If patrons of the terminal are charged 15 cents per ton for its use, the annual income accruing to the city will be approximately $30,000, which, capitalized at 6%, would justify an expenditure of $500,000. It would be a number of years, of course, before any such return could be realized, but the figures give a rough indication of the best that might be expected. It is also assumed in the computation that all maintenance and replacements will be at the expense of those operating the terminal, and not of the City.



Riverfront, showing paved City Wharf, wharfboat and sand and gravel industries. Concrete piers of the river-rail terminal now under construction are visible in the distance.



Piers of the Kelly river-rail terminal under construction on the Ohio River at the foot of Ninth Avenue.

The type of terminal to select depends largely upon the freight handled as well as the money available for the purpose. The analysis of tonnage showed that a large proportion would consist of bulk shipments such as coke, lumber, steel, etc., which require open top barges and a vertical lift. A very considerable part will be classed as package freight, sugar, groceries, furniture, etc., and will be handled in covered or decked barges. For this purpose a horizontal side or conveyor movement is most suitable.

It is evident then that the terminal should provide for both kinds of freight and be equipped for receiving and delivering not only by trucks and teams but railroad cars as well.

It must be thoroughly understood at the outset that for handling interline freight, the cooperation of the railroads is essential. The City manifestly cannot afford to spend the millions of dollars necessary to build an independent belt line, terminal yards, and purchase the locomotives and cars that would be needed if it entered the terminal business. The City should, however, purchase the land upon which its terminal equipment is located, and build, own, or control sufficient trackage to connect with at least one of the railroads that is qualified to operate the distributing and warehousing end of the business. This would be the L. & N. Railroad which is admirably situated to do this work.

The packet freight business will probably continue to be transacted at its present location, the city wharf, as, although invited to do so, packets seldom attempt to make use of a barge line terminal such as is under consideration for Evansville.

The essential features of the Evansville Terminal would be as follows:

1. Either a wharf boat with inclined conveyors to a freight house at top of bank accessible to teams, trucks and railroad cars (the freight house should be of sufficient capacity to hold and store any reasonable amount of general merchandise offered), or:

   A vertical wall surmounted by derricks, cranes, or other devices arranged for handling bulk materials and transferring them from barge to car, team, or truck, and vice versa.

   It is possible that a combination of both methods may be advantageous.

2. A small terminal yard with connections to the L. & N. Railroad, and through equitable agreements to every other railroad in Evansville.

The American Barge Line Company's Terminal (the Kelly Terminal):

The new river-rail terminal now being constructed near the foot of Wabash Avenue is designed to transfer cargo directly from barges to railroad cars, to a warehouse built as an integral part of the terminal, or to platforms for further movement by trucks. It is to be a substantial steel-framed structure resting upon concrete piers and represents the investment of a considerable sum of money.

In general this terminal conforms to the vertical wall type described above; that is, loading and unloading will be by vertical movement from barges with removable hatches. Direct rail service is provided by the L. & N. tracks and its central location assures convenient approach for local firms using the terminal.

Although the terminal is privately owned and operated its success is a matter of great public interest in that it will afford a practical demonstration of the value to Evansville of an improved Ohio River, and at an early date should test the theory that this is a logical distributing point for rail-and-river freight.

RULES REGARDING DEVELOPMENT OF NEW INDUSTRIAL AREAS

Rules Regarding Development of New Industrial Areas

The zoning plan of Evansville provides certain areas to be used for industrial purposes and, as these are situated, railroad service is or can be made available. In addition to the districts so designated, others will develop beyond the city limits, especially along railroads entering the city or belt lines such as the one proposed in this report, north of the city.

Vacant areas within and adjacent to a city, suitable for industrial development, constitute one of its most important assets and are its guarantee against stagnated growth. It is, therefore, of the utmost consequence to make the most of such tracts of land by carefully planning how and to what extent they may be utilized for factory and commercial purposes.

Considerations such as fire hazard, water supply, direction of prevailing winds and proximity of residential sections often determine what parts of a city shall be devoted to industrial purposes and the kind of an enterprise that will be tolerated there.

Under present conditions industries are usually established through the agency of the industrial commissioner of the railroads or of some civic body such as the Chamber of Commerce. Often the site is given gratis to the newcomer, and smaller cities even bid against one another for the privilege of having an additional enterprise within their gates.

Railroads almost invariably possess property within or near a city which they are compelled to purchase in addition to their actual needs, for the reason that it was as cheap to buy an entire lot as a portion, and it also occasionally happens that an owner refuses to sell unless his entire holdings are included in the purchase. Such lots are usually small, oddly shaped, and entirely unfit for railroad purposes. They do, however, offer advantages as industrial sites owing to their proximity to the railroad and to the very favorable terms upon which such parcels can be leased or purchased.

The location of industries upon such tracts of land usually results in the gathering together of a miscellaneous collection of buildings situated without regard to future requirements of their own or other possible industries in the vicinity. Switching tracks, perhaps ample at the time of their construction, soon become so limited in capacity that their operation is a continual source of annoyance and expense, with the result that some industries move to another locality, others take their place, and the operation is repeated.

So far as practicable, projects of a similar nature should be grouped together for the reason that their needs for transportation are almost identical. For example, coal yards, lumber yards, building material supply stations, furniture factories, foundries, flour mills and allied industries, each have a more or less common source of supply for their raw materials, and their finished products are usually shipped out in the same general direction.

It is evident that if each of these industries were located in its own general district the necessity for intraterminal switching and hence congestion would be reduced to a minimum, and the work in the railroads' classification yards lessened, owing to the simplified method of distributing required.

Where a city has already developed along well established lines and there still remain near its boundaries vacant tracts of land, it is entirely feasible to so control the use of such vacant areas that little or no congestion will occur and the maximum of benefit will result.

This calls for the enactment of well considered legislation and the exercise of a high degree of municipal patriotism.

It is especially desirable that the railroads be called upon for their advice and assistance in formulating any plan of industrial development, as the success of such a plan depends primarily upon their ability to serve a given area.

The following general rules for laying out and controlling the use of industrial areas are offered as applicable to Evansville:

1. Industries of like nature should be confined to the same district so far as possible.
2. Industrial districts should be protected from the encroachment of residential development and the consequent restrictions pertaining thereto.
3. Industrial districts should be made up of as large blocks or parcels of land as it is practicable to keep intact.
4. Streets through industrial areas should be wide, well paved, and, so far as possible, free from through traffic or traffic not directly concerned with that area.
5. Sewer and water lines leading to an industrial district should be of ample size to meet the special requirements imposed.
6. A certain proportion of the area adjacent to an industrial district, within walking distance, should be reserved for the homes of the mass of the employees.
7. Adequate street car service should be provided.
8. Sufficient right-of-way for railroads serving the district should be reserved so that their future growth will be unrestricted.
9. Each industry should have spurs and platform space to care for at least a day's run, with some additional room for future requirements.
10. The district should be accessible to railroads on equal terms.
11. As requirements demand, common freight houses, receiving and loading platforms and team tracks should be provided in the districts by the railroads.
12. Particularly within crowded areas and on the more valuable ground, it is desirable to establish industrial terminals, which consist of large, fireproof, multiple buildings, capable of housing a number of industries, all sharing in common the facilities provided.

In the actual laying out of an industrial district, too much care cannot be taken in the manner in which railroad transportation service is provided. The tendency, if there is more than one road, is for each to endeavor to serve the district independently, with a view, of course, to securing as much as possible of the traffic for its own line. The inevitable result of such procedure is confusion and a wasteful interference in each other's operations, greatly to the detriment of the shippers, and hence the City's interests.

An essential feature is the establishment of small yards or sidings within or very near the district, to act as reservoirs for the temporary storage of loads and empties which have been collected for delivery to or received from nearby industries.

Streets should be sufficiently wide to accommodate railroad tracks, for switching only, as it is generally unavoidable that they be used for this purpose sooner or later. By no means, however, should such tracks be used for through or main line traffic, or in fact any other business that does not directly concern the industries within the immediate district.

Grade crossings may be minimized in number and importance by a careful study of the probable amount of cross traffic that may arise due to residential or other development on either side of a given area.

The exact location where separation of grades will be required should be fixed as soon as possible in order that buildings and other improvements in the vicinity may be planned to conform to the permanent lines and grades.

There is no question but that an industrial district planned and laid out in a logical systematic manner, with some assurance that conditions therein will remain stable to a reasonable degree, will prove infinitely more attractive to capital than one which is permitted to develop haphazardly and at random.

The benefits accruing to a city from a healthy, free industrial growth are not to be estimated and there is no reason why Evansville should not quickly make use of its natural advantage in this respect.