

L. Keisling

AGENDA
JOINT MEETING
CITY COUNCIL/PLAN COMMISSION
November 3, 1987
7:30 p.m.

- I. Roll Call
- II. Review of Master Plan Alternatives for Road System in I-75/Crooks Road Interchange
- III. Review of Major Thoroughfare Plan to Remove Major Arterials from East-West Crossing of Civic Center
- IV. Adjourn

Lots (13, 14)

September 23, 1987

TO: Frank Gerstenecker, City Manager

FROM: Laurence G. Keisling, Planning Director

SUBJECT: Impact of "Square Lake Connector" on Master Plan Directions

In my memorandum of August 17, 1987 I reviewed the discussion which the Plan Commission held with Mr. Beaubien and the writer in relation to proposed Interchange Facility Expansion in the I-75/Crooks Road area. I also conveyed the Commission's Resolution recommending that the City Council pursue the development of expanded interchange facilities in this area involving a roadway connection to Square Lake Road, and further, that efforts be made to bring about a six lane bridge at Crooks Road over I-75.


I am writing at this point to emphasize the concerns which I previously expressed to the Plan Commission as to the impact which the provision of a "Square Lake Road Connector", in conjunction with the construction of expanded interchange facilities, would have on future development in the area in line with the established directions of our Master Plan Program. It is my position that, in line with the Master Plan direction, the City has made continuing efforts to de-emphasize traffic volumes on roads such as Square Lake Road, Wattles, and certain of our north-south section line roads, as compared to Long Lake Road and Big Beaver, so that roads like Square Lake could more appropriately serve as residential area collectors or thoroughfares, rather than as non-residential area access facilities. Conversely, this direction has been complemented by emphasizing the development of low-density residential use along corridors such as Square Lake and Wattles, and de-emphasizing non-residential development, even at major thoroughfare intersection locations. Such actions have been based not only on our desire to emphasize, support, and protect residential uses in these areas, but also in recognition of the fact that these roads do not have interchange facilities with I-75 (or with M-59, in the case of the similar north-south thoroughfares). By introducing interchange facilities which would directly serve Square Lake Road, in this case, we would be acting in direct conflict with the above noted previous directions as to the Land Use and Thoroughfare Patterns in this area. Introduction of an additional portion of existing and projected traffic to Square Lake Road would clearly negatively impact adjacent residential areas to a greater degree than has been previously contemplated. I, therefore, recommended to the Plan Commission, and am continuing to recommend, that further actions should be in the direction of supporting roadway patterns in the I-75/Crooks Road area which do not include a Square Lake connector.

In my discussion with the Plan Commission, it was pointed out that all of our section line roads carry a great deal of traffic, and that we cannot expect even roads like Square Lake and Wattles to be "low-key" in character, or similar to other residential streets. In concurring with

the recognition that all of these roads are busy, I continue to take the position that the establishment of a hierarchy or priority system, as to which thoroughfares should be emphasized for the carrying of higher volumes, should continue to be a vital portion of our planning effort. Such an approach also provides an opportunity to concentrate or focus efforts to finance road improvements on a more limited number of corridors, rather than being compelled to attempt to spread our limited resources across all of the City's major thoroughfares.

I concur in your proposal to establish a joint meeting between the City Council and the Plan Commission in order to further discuss this matter, prior to any further action being taken in support of roadway system facilities which might act in conflict with previously-established broadly-based planning objectives. Please advise as to any further assistance or information which I might provide as we proceed in the consideration and discussion of this matter.

Respectfully submitted,



Laurence G. Keisling
Planning Director

LGK/eb

copy: W. Robert Semple, Ass't City Manager
Richard Beaubien, Transportation Engineer

August 17, 1987

TO: Frank Gerstenecker, City Manager

FROM: Laurence G. Keisling, Planning Director

SUBJECT: Proposed Interchange Facilities Expansion - I-75/Crooks Road Area

The enclosed memorandum from Mr. Beaubien, dated July 24, 1987, briefly summarizes the studies which are in progress relative to interchange facilities in the I-75/Crooks Road Area. The City initially got involved in these studies in conjunction with proposals to provide for I-75 ramps to Long Lake Road (as indicated on our Master Thoroughfare Plan) in conjunction with the road improvement projects presently occurring in the Northfield Hills Office and Research area. Necessary involvement of other agencies has caused expansion of the study area to include the I-75 corridor from the Big Beaver interchange area to Adams Road.

The studies in the Crooks Road interchange area have now evolved, in the view of Mr. Beaubien, to basically two alternatives. The difference between the two alternatives is the inclusion of a roadway connection from the interchange complex to Square Lake Road.

The Plan Commission considered these proposals at their Special/Study Meeting of July 28, 1987. Mr. Beaubien was present to review the background of the study and the two alternatives with the Commission. He noted his memorandum which indicated some of the impacts of the alternative roadway patterns.

In the course of the Commission's discussion, Mr. Spilman inquired as whether consideration had been given to more direct southbound access from Crooks Road to I-75. Mr. Beaubien noted that a boulevarded pavement cross-section should likely be constructed on Square Lake Road east and west of Crooks. Mr. Spilman commented that the proposed Square Lake connector would impact the adjacent residential area, and make it difficult to hold the northeast quadrant of Square Lake Road and Crooks in a residential classification. After receiving information from Mr. Beaubien as to progress on the Crooks Road bridge construction, Mr. Wright commented that a three lane bridge should be built at this time, if no substantial additional construction delay will result. In response to Mr. Lepp's question as to problems which would be created by attempting to achieve a total six lane bridge at this time, Mr. Beaubien indicated that some delay would result and that the construction may involve some City participation. Mr. Wright and other Commission members indicated their opinion that the provision of the proposed Square Lake connector would be beneficial to the traffic pattern in the total area.

In my discussion with the Commission, I stated that I was opposed to the roadway pattern including the Square Lake Road connector, particularly due to the additional traffic which such a facility

would introduce on Square Lake Road. I noted the City's continuing efforts to de-emphasize traffic volumes on Square Lake Road and Wattles, as compared to Long Lake Road and Big Beaver, so that Square Lake and Wattles could more appropriately serve as residential area collectors or thoroughfares. I, therefore, recommended that further actions should be in the direction of supporting the roadway pattern which did not include a Square Lake connector, as such would place greater emphasis for traffic-serving purposes on Crooks Road and on Long Lake Road, the roads which we have historically proposed to emphasize.

The Plan Commission subsequently adopted the following Advisory Resolution, which relates both to the overall interchange/roadway pattern, and to the potential for the construction of a six lane bridge for Crooks Road over I-75:

Motion by Wright

Supported by Melaragni

RESOLVED, that following our review of the potential interchange facility expansion patterns in the I-75 Crooks Road area, it is the recommendation of the Plan Commission that the City Council and City Staff pursue the construction of a six lane bridge at Crooks Road over I-75. It is further our recommendation that the City pursue development of the alternative expanded interchange plan which includes a Square Lake Road connector, as such would tend to improve the traffic conditions throughout a larger adjacent area.

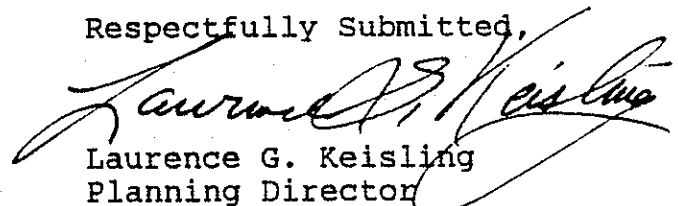
Yeas: All Present - (6)

Absent: Storrs, Ethier
Chamberlain

MOTION CARRIED

It is proposed that this memorandum and resolution be conveyed to the City Council, for their consideration and action.

Respectfully Submitted,



Laurence G. Keisling
Planning Director

LGK/eb

cc: W. R. Semple, Ass't. City Manager
Richard Beaubien, Transportation Engineer

Enc:

August 28, 1987

TO: Frank Gerstenecker, City Manager
FROM: Richard F. Beaubien, Transportation Engineer
SUBJECT: I-75/Crooks Interchange Expansion

During the first half of 1987 representatives of the City of Troy, the Oakland County Road Commission, the Southeast Michigan Council of Governments, and the Michigan Department of Transportation met several times to discuss future travel demand for the I-75 corridor in the vicinity of Crooks Road. To accelerate the process of evaluation which might lead to additional I-75 ramps at Long Lake Road, the City of Troy retained a traffic engineering consultant to evaluate alternatives for providing additional capacity at the I-75/Crooks Road interchange. Past traffic studies have indicated that improvement of the I-75/Crooks Road interchange would be needed and this improvement might include new ramps to and from I-75 at Long Lake Road.

Before recommending a change in interstate access to the Federal Highway Administration, the Michigan Department of Transportation must conclude:

1. The existing interchange cannot serve existing and/or design year traffic.
2. More interchange capacity is needed to serve design year traffic.
3. The recommended conceptual plan will handle the design year traffic.

The traffic engineering consultant was retained to help the Michigan Department of Transportation to demonstrate that the existing interchange is not adequate to serve design year traffic and that more interchange capacity is needed. The consultant is also expected to provide a recommended conceptual plan which will handle design year traffic (for the year 2010).

In a meeting with State Department of Transportation officials in April, 1987, our traffic engineering consultant described the elements of several alternatives for improving interchange capacity in the I-75/Crooks Road area. The most significant elements of these alternatives included:

1. Construction of a new two lane bridge adjacent to the existing Crooks Road ramp bridge to handle traffic entering the freeway, the existing two lane bridge would be used to handle traffic exiting the freeway.
2. Construction of a partial interchange on the south side of Long Lake.
3. Construction of a partial interchange on the north side of Long Lake.
4. Addition of weaving lanes adjacent to the I-75 mainline lanes.
5. Construction of a new loop ramp to the north of the existing loop at Crooks Road.

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RE: I-75/Crooks Interchange Expansion
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6. Addition of collector-distributor roads between the existing Crooks Road ramp and Long Lake Road.
7. Extension of a ramp connection to Square Lake Road.

After reviewing these elements, the consultant indicated that the computer modeling of traffic in this area led to the following conclusions:

- a. If ramps were constructed on the south side of Long Lake, they would be very attractive for traffic entering and leaving the Northfield Hills area.
- b. A connection between the existing ramp and Square Lake Road would be very desirable to improve traffic operations at the Crooks/I-75 ramp intersection, Crooks Road between Long Lake and Square Lake Road, and the Crooks/Square Lake intersection.

After considerable discussion of the improvement possibilities, the State, County and City representatives developed a consensus plan for further evaluation. This plan includes new ramps to and from I-75 at Long Lake Road and a collector-distributor road system adjacent to the I-75 mainline lanes and running between the existing Crooks Road ramp and Long Lake Road. It also includes a connection between the existing Crooks Road ramp and Square Lake Road. There seemed to be agreement that in addition to these improvements, one additional lane in each direction should be added to accommodate through traffic on I-75.

The Michigan Department of Transportation is currently developing a preferred alternative for presentation to the Federal Highway Administration. To assist the Michigan Department of Transportation, our traffic engineering consultant has provided peak hour traffic assignments and turn counts at several critical intersections for the design year. The consultant also provided copies of the conceptual plan for review by the City of Troy and the Oakland County Road Commission.

In the process of reviewing this proposed conceptual plan, it became apparent that the impact of a Square Lake/I-75 connector should be fully evaluated before permitting it to be included in the plan presented to the Federal Highway Administration. The attached blue-line prints show the conceptual plan with and without the Square Lake/I-75 connector.

Using the attached traffic assignments prepared by our traffic engineering consultant, we developed the two tables below. These tables compare traffic volumes during the AM and PM peak hour periods on Square Lake Road at various locations with and without the Square Lake/I-75 connector. Traffic assignments and travel forecasts are for the year 2010. By this year, we would expect that the Northfield Hills Corporate Center would be completely developed and that the 450,000 square foot office building would be in place on the south side of Square Lake Road, adjacent to the Michigan State University Management Education Center.

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 TO: Frank Gerstenecker
 RE: I-75/Crooks Interchange Expansion
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SQUARE LAKE ROAD PEAK PERIOD TRAVEL FORECASTS - YEAR 2010

	AM PEAK HOUR	
	WITH SQUARE LAKE/I-75 CONNECTOR	WITHOUT SQUARE LAKE/I-75 CONNECTOR
EB Square Lake, E. of Connector	857	423
WB Square Lake, E. of Connector	1032	724
EB Square Lake, W. of Connector	225	402
WB Square Lake, W. of Connector	1051	952
EB Square Lake, E. of Crooks	457	756
WB Square Lake, E. of Crooks	809	835
EB Square Lake, W. of Crooks	1034	999
WB Square Lake, W. of Crooks	1008	1037

SQUARE LAKE ROAD PEAK PERIOD TRAVEL FORECASTS - YEAR 2010

	PM PEAK HOUR	
	WITH SQUARE LAKE/I-75 CONNECTOR	WITHOUT SQUARE LAKE/I-75 CONNECTOR
EB Square Lake, E. of Connector	1395	816
WB Square Lake, E. of Connector	364	215
EB Square Lake, W. of Connector	629	854
WB Square Lake, W. of Connector	927	253
EB Square Lake, E. of Crooks	474	862
WB Square Lake, E. of Crooks	1093	579
EB Square Lake, W. of Crooks	402	430
WB Square Lake, W. of Crooks	1039	923

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The most significant impact of the Square Lake Road connector would be on eastbound Square Lake Road traffic, east of the connector, during the afternoon peak traffic period. With a connector in place, we would expect more than 500 vehicles per hour to be added to eastbound traffic flow during the PM peak hour. This volume of traffic would require addition of a through lane for eastbound Square Lake at Livernois. With or without this connector, we should be planning on widening all legs of the Square Lake/Livernois intersection to five lanes, with right turn lanes, by the year 2010.

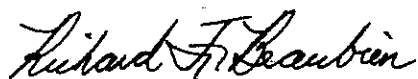
A summary of the impacts of the Square Lake Road connector on Square Lake Road and other parts of the transportation system is listed below:

1. The connector would reduce travel demand on Crooks Road.
2. The connector would divert some traffic from the Crooks Road bridge over I-75, thus avoiding the need to expand the bridge to a six lane cross section at a future date.
3. The connector would remove some of the traffic load from Long Lake Road.
4. The connector would remove some of the travel demand from Livernois, Big Beaver to Square Lake.
5. Travel demand on Square Lake Road, east of the connector, would increase.

The City of Troy Master Plan calls for land uses and thoroughfare systems which would minimize traffic volumes on Square Lake Road and Wattles Road. The Plan generally calls for Long Lake Road and Big Beaver Road to carry higher traffic volumes because they have more continuity in the County highway system and because they serve both residential and nonresidential areas. If the City wishes to continue with this overall planning direction, it would be appropriate to delete the Square Lake Road connector from the conceptual plan to be presented to the Federal Highway Administration. This would mean that more significant roadway improvements would be required on Crooks Road and Long Lake Road, but those roads may be more appropriate for higher traffic loading.

After the City of Troy has determined the most appropriate conceptual plan consistent with Master Land Use Plan and Master Thoroughfare Plan considerations, we should encourage the Michigan Department of Transportation to complete their work so that an appropriate proposal may be presented to the Federal Highway Administration for I-75/Crooks and I-75/Long Lake interchange improvements.

Respectfully submitted,



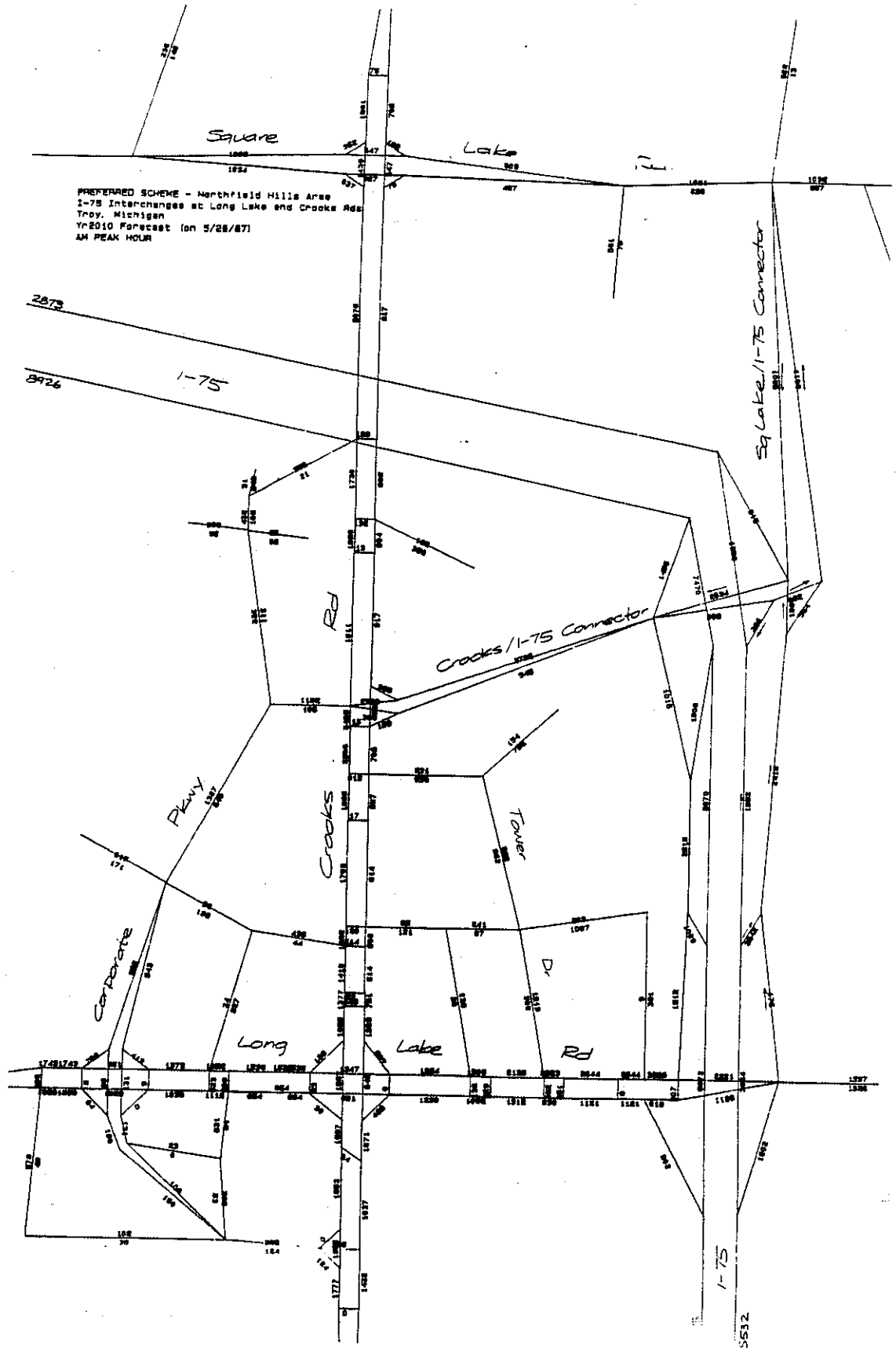
Richard F. Beaubien, P.E.
Transportation Engineer

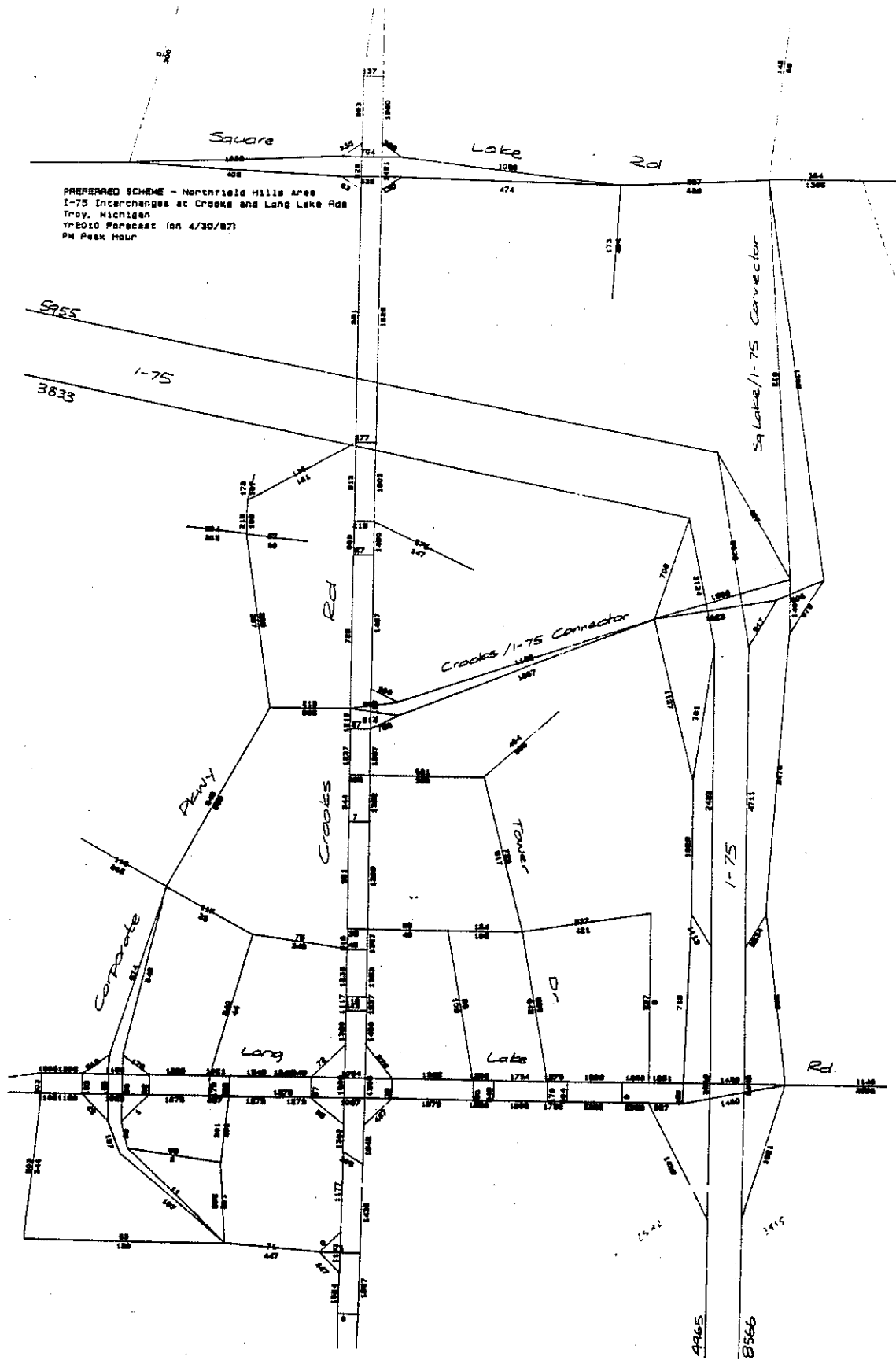
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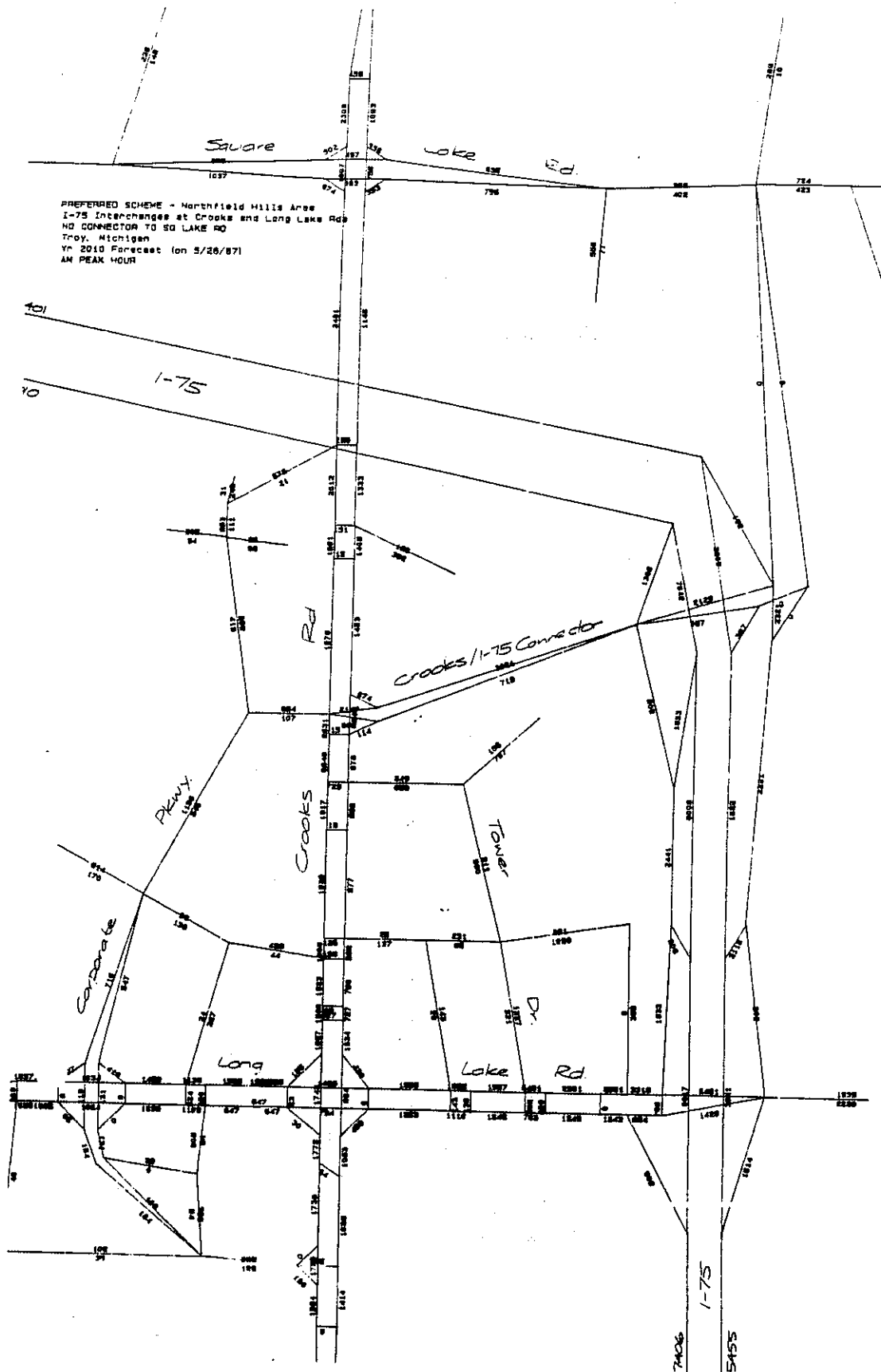
ct.

cc: W. Robert Semple, Assistant City Manager
Laurence G. Keisling, Planning Director
I-75/Crooks Interchange Expansion File

PREFERRED SCHEME - Northfield Hills Area
 I-75 Interchanges at Long Lake and Crooks Ave
 Troy, Michigan
 Yr2010 Forecast (on 5/28/87)
 AM PEAK HOUR







PREFERRED SCHEME - Northfield Mills Area
 I-75 Interchanges at Crooks and Long Lake Rd
 NO CONNECTOR TO SQ LAKE RD
 Troy, Michigan
 Yr2010 Forecast Jan 5/28/87
 PM Peak Hour

6057
 3809
 1-75
 Square
 Lot
 Rd.
 Crooks/I-75 Connector
 Cape
 Tower
 Dr.
 Lake Rd.
 Long
 1-75
 4936
 8413