

THOROFARES

Thorofare planning recognizes that there are two principle types of traffic: local and through. Functionally different, these types of traffic should be physically separate, but designed into a unified overall traffic system. That system must recognize the needs of neighborhoods, schools, pedestrians and intensive traffic generating land uses. Generally there is little variation in the configurations of local streets; however, variations in through traffic flow bring about several types of through streets. Beginning with minor streets, the most common thorofare types include collector streets, major thorofares, expressways, and freeways.

REGIONAL HIGHWAY SERVICE

The location of Hancock and Houghton in the northwestern region of the Upper Peninsula places the community in a strategic destination area for metropolitan travelers seeking a northern recreation environment. This has a significant bearing on the volume and frequency of non-local traffic, and reflects on the character of tourist facilities. The tourist visit factor will become increasingly significant if freeway and expressway plans for the U.P. move closer to reality.

The most apparent regional transportation deficiency, is the absence of freeways between the Chicago-Milwaukee metropolitan complexes and the recreation areas of Northern Wisconsin and the Upper Peninsula.

Major Regional highway proposals of importance to Hancock and Houghton are as follows:

- (a) Highway US-141, proposed extension north from Green Bay, Wisconsin to Iron Mountain.
- (b) Highway US-45, suggested routing to Watersmeet through Eagle River, Wisconsin.
- (c) Highway US-51, proposed freeway corridor connecting Madison, Wisconsin with Superior, Wisconsin, via a point southwest of Ironwood.
- (d) Highway US-2, proposed as an east-west expressway from Ironwood to St. Ignace.
- (e) Highway US-41, expressway proposal from Green Bay, Wisconsin to Marquette, Michigan.

The routes above are being encouraged as a means to economic betterment in the northern regions of Michigan, Wisconsin and Minnesota. Final route choices, however, will not be made until engineering feasibility studies have been completed and funding sources obtained.

Following is a list of major midwest traffic destination points calculated from the County Seat:

TABLE 28
REGIONAL HIGHWAY ACCESS

	<u>Approximate Road Distance in Miles</u>	<u>Estimated Travel Time @ 50 M.P.H. Average</u>
Duluth-Superior	214	4
Minneapolis-St. Paul	324	6½
Chicago	429	8½
Milwaukee	326	6
Green Bay	215	4
Detroit	547	10½
Lansing	491	9½
Grand Rapids	488	9½
St. Ignace	261	5
Sault St. Marie	263	5
Copper Harbor	47	1

SOURCE: Thorofare Plan, December, 1971.

Based on TABLE 28, it is evident that major population centers in Michigan are nearly a full day's drive from the County Seat, while Wisconsin and Minnesota centers are about half the distance. Chicago is two to three hours closer than Detroit.

Three trunkline highways which directly serve the Cities of Hancock and Houghton are:

- M-26 extending from US-45 to Copper Harbor via Hubbell and Lake Linden.
- M-203 linking Hancock and Calumet via McLain State Park.
- US 41 from Green Bay, Wisconsin to Copper Harbor via Marquette, L'Anse, Baraga, Houghton-Hancock and Calumet.

Other trunkline routes that interconnect with the above three are US-45, US-141, M-95 and M-38. Each of these routes have some overall influence on the safety, convenience and accessibility of the planning area from more distant locations.

TRAFFIC VOLUME

TABLE 29 presents State Highway Department traffic volume statistics for those routes which serve the planning area. also, indicated is the percent change in average daily traffic volume between 1965 and 1969.

The most significant traffic characteristic is that the annual average daily traffic (ADT) volume on the Lift Bridge averages 19,200 vehicles every 24 hours. This represents a 35% volume increase in only four years and ranks among the highest ADT volumes on the Upper Peninsula Trunkline system.

The next highest volumes were reported on US-41 at a point east of Houghton and on Quincy Hill north of Hancock. M-26 ranked third with higher volumes near Lake Linden and lower volumes near Painesdale. Highway M-203 showed a traffic decline at McLain Park and at Calumet.

The surprising features of the 1965 and 1969 volume comparisons were the declines reported on M-26 at Atlantic Mine and on Quincy Hill (US-41). The volume between Houghton and Atlantic Mine decreased by 29% while the more southern portions of the highway reported no volume change.

Complete average annual traffic count data on streets within the City Limits is not available. However, some unadjusted 24 hour traffic counts for specific days is available on the trunkline system. For example, on selected days in August 1970, the 24 hour traffic counts at various stations were as follows:

TABLE 29

STATE TRUNKLINE TRAFFIC VOLUME
Hancock-Houghton Region

<u>Route and Counter Location</u>	<u>1965 ADT Volume</u>	<u>1969 ADT Volume</u>	<u>Percent Change</u>
US-41:			
North of Baraga Village	1,800	1,900	5%
North of Chassell	2,400	2,800	17%
East of Houghton	4,200	4,500	7%
On Quincy Hill	4,500	4,200	-7%
At County Airport	3,000	3,300	10%
North of Laurium	3,900	3,900	None
At Mohawk	1,300	1,500	15%
M-26			
At Lake Mine	700	700	None
South of Painesdale	1,300	1,300	None
North of Atlantic Mine	4,800	3,400	-29%
North of Dollar Bay	2,100	2,500	19%
North of Lake Linden	2,300	2,700	17%
M-203:			
At Hancock City Limits	700	700	None
At McLain Park	700	500	-29%
At Calumet	1,900	1,800	-5%
Selected Bridges			
Lift Bridge	14,200	19,200	35%
Mackinac Bridge	3,640	5,030	38%
Menominee Bridge	14,000	17,500	25%
Soo International Bridge	1,900	2,030	7%

SOURCE: Michigan Department of State Highways,
Maps "Average 24 Hour Traffic Flow", 1965 and 1969..

Houghton:	6,700	MTU Campus
	12,000	College Avenue
	10,700	Shelden Avenue, CBD (west bound)
	10,200	Montezuma, CBD (east bound)
Hancock:	12,700	Reservation Street, CBD
	10,990	Quincy Street, CBD (west bound)
	12,380	Hancock Street, CBD (east bound)
	7,960	Lincoln Street at Warren Street
	4,140	Anthony (US-41 at Ethel Street)

The foregoing selected counts were taken from Friday noon to Saturday noon on various weekends during August 1970. Since these may be regarded as peak traffic periods they are not used for highway design purposes. The alternate one-way street pairs in Hancock and Houghton show combined traffic counts ranging from 20,900 vehicles to 23,370 vehicles.

THOROFARE DEMAND

Except in University and Central Business Areas, traffic demands in Hancock and Houghton appear to be low to moderate. However, there are several forces in the nature of modern traffic that suggest the need for higher capacity and more efficient thorofares. This is true in respect to the following.

- . Increased number and use of private automobiles.
- . Decline and cessation of passenger railroad service in the Upper Peninsula.
- . Long hours and inconvenient schedules characteristic of commercial bus services into and out of the Upper Peninsula.
- . Current trend toward a motoring vacation rather than spending longer periods of time at a single location.
- . The heterogeneous mix of vehicles, their size, speed and trip purpose.
- . Increased reliance on highway freight rather than rail transportation as more railroad lines are abandoned.

The above characteristics of present day traffic are for the most part applicable to many regions of the nation. However, the Upper Peninsula impact is more severe in terms of seasonal fluctuation and declining bus-train services. Airport expansion and improvement in the U.P. has off set some of the demand previously satisfied by bus train service. However, the proportion of the regions non-auto travel demand satisfied by commercial airline service is not known.

Following is an outline of highway traffic demands which impact the planning area to varying degrees:

1. *Tourist Traffic* - High seasonal variation, characterized by slower speeds due to the recreational nature of the trip.
2. *Industrial Traffic* - Slower moving vehicles involving freight, both raw materials and finished products. Shift changes produce high volumes of employee traffic, contributing to "peak" hour traffic congestion.
3. *Commercial Traffic* - Greatly influenced by the drawing potential of local shopping areas and the number of commercial uses. Typified by traffic congestion resulting from high volume in confined areas.
4. *Public and Institutional* - Involves a wide variety of uses that contribute to local traffic volume.

In addition to the thoroughfare needs of specific land use types, through traffic represents a fair percentage of the total volume (perhaps 25%). This suggests a continuing demand for efficient trunkline routes into and out of the Planning Area.

THOROFARE PLAN

Future thoroughfare needs will be to correct existing physical deficiencies, continue roadway maintenance, seek continuing improvements to regional highways and upgrade the local collector street system. In coordination with surrounding communities, efforts may be made to assure higher service standards from other transportation media - air, rail and bus.

Notwithstanding some of the social-economic consequences of new thoroughfare traffic patterns, there are three basic structures that limit the flexibility of the Thoroughfare Plan. These are: (1) severe topography, (2) high density development in central community areas, and (3) the Portage Waterway Lift Bridge. Unless a second waterway crossover is constructed, all land traffic routes must converge at the Bridge and deploy on the opposite side.

The elements of the functional Thoroughfare Plan to serve the Hancock-Houghton Region follows:

Freeways

The most tangible freeway construction program involves the Federal Interstate system under the jurisdiction of the U.S. Department of Transportation. There are no foreseeable prospects that a freeway will enter the planning area in the foreseeable future.

State Trunkline Roads

It can be assumed that the planning area will be dependent upon existing State Trunklines for major access to industrial and recreation markets throughout the foreseeable future. Hence, the Copper Country communities should make every effort to preserve and enhance, at least the existing route efficiencies. This may involve some County—State policies with respect to the following:

- a) Even if only two lane roads are used, develop a policy to limit access, in a manner similar to full status freeways.
- b) Restrict land uses to avoid the typical inefficient and hazardous strip pattern along the trunkline system.
- c) Construct passing lanes in critical hill and curve areas.
- d) Wider use of deceleration lanes where traffic turning movements are permitted (right & left movements).
- e) Whenever possible use parallel service roads.

Without roadside development controls and more up to date land use policies, the roadway will be less safe, less efficient, and require expensive bypass and widening programs sooner than the volume would otherwise justify.

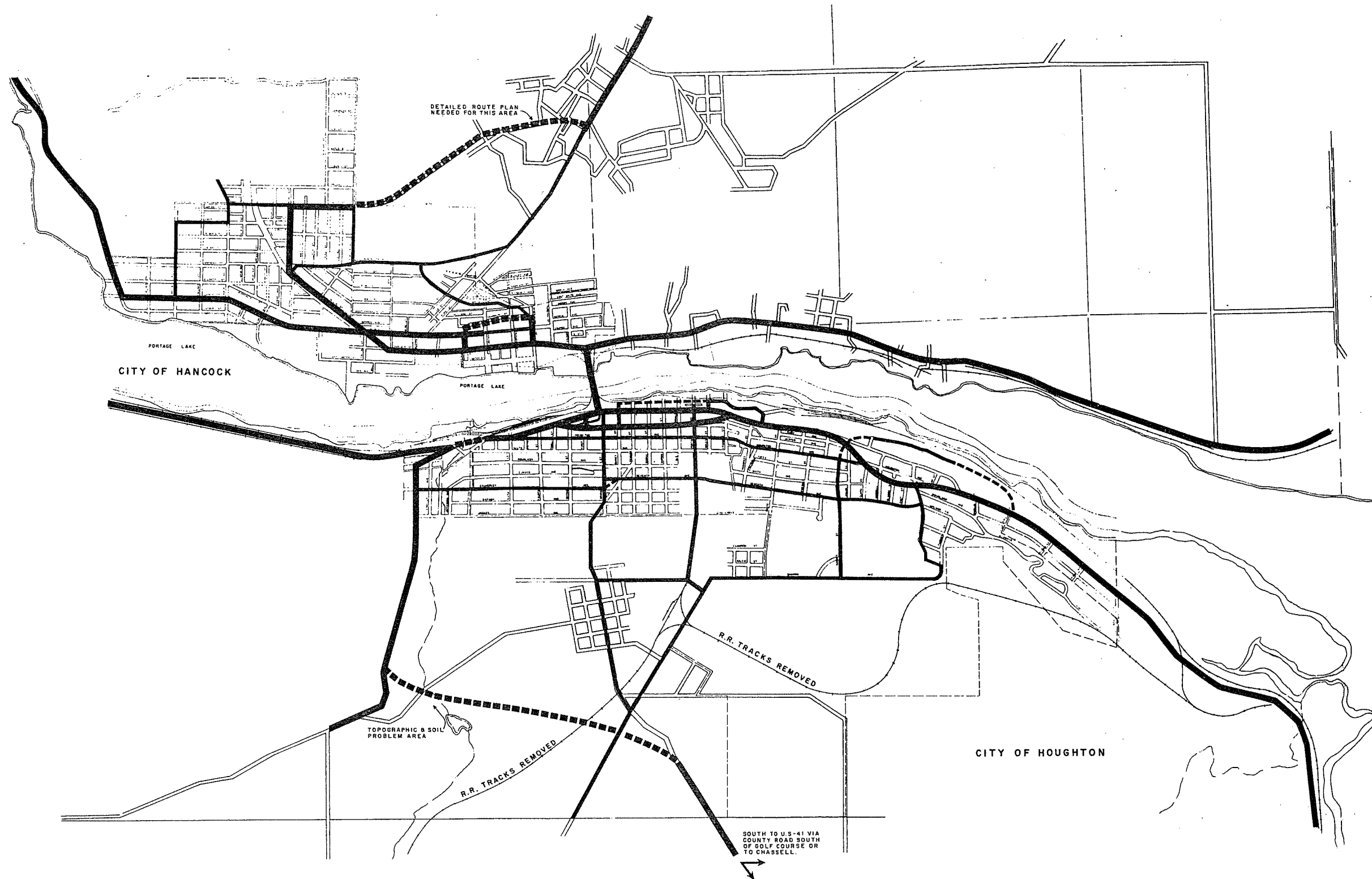
Local Thorofare Routes

The ultimate development of U.P. freeways and improvement of State Trunkline routes (perhaps upgrading to four or five lanes) are largely beyond the direct control of local government. Nevertheless, adopted policies on preferred routing can be beneficial to the evolution of a U.P. Thorofare Plan and it serves as a guide to officials planning highway needs in local areas.

Following are some basic traffic route objectives that would appear to enhance the long term access needs of the Hancock Houghton Region. These are illustrated on the accompanying two phase "Functional Thorofare Plan" , maps.

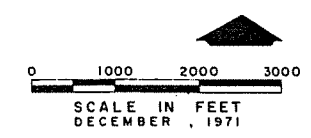
The Phase I Plan shows the following.

- 1) Existing US-41 remaining as the dominant traffic traffic corridor in the foreseeable future, because of the level grade access into Houghton and MTU, the permanent lift bridge crossover, and the switchback grade ascent in Hancock to overcome severe topography.
- 2) An alternate or supplemental access from the south with a new interconnect with M-26 southwest of Houghton. This would enable through traffic to avoid the MTU Campus and the Houghton CBD.
- 3) Straightening of the M-26 route at the railroad roundhouse location. This may involve some sophisticated construction at the roundhouse location or a new right-of-way alignment running southwesterly from the roundhouse.
- 4) Routing through traffic over Ethel and Ingot Streets and on a proposed new roadway to the Franklin Mine Location. Intended to reduce the residential exposure to through traffic, by pass Suomi College property, improve access to a potential industrial area, and eliminate the awkward Anthony-Lincoln Street intersection.
- 5) Sharon Avenue is proposed as a south entrance to MTU and alternate traffic escape route for future sports center patrons. MTU Campus Plan detailing may modify the routes from the patterns illustrated.
- 6) The Hay-Carroll Street improvement through Houghton's CBD along the Portage waterway.
- 7) A north MTU Campus by-pass route (Vivian to First Streets).
- 8) Alignment of Calverley and Seventh Street.
- 9) Extension of Garnet Street across College Avenue to align with the planned circulator around the north edge of the MTU Campus.
- 10) Quincy Street as a modified pedestrian plaza or shopping mall in the Central Business District (CBD).



EXISTING	PROPOSED	
		MAJOR THOROFARES (120' PLANNED RIGHT-OF-WAY)
		COLLECTOR STREETS (86' PLANNED RIGHT-OF-WAY)
		LOCAL STREETS (60' PLANNED RIGHT-OF-WAY)

PHASE I
FUNCTIONAL THOROFARE PLAN
 HANCOCK - HOUGHTON MICHIGAN

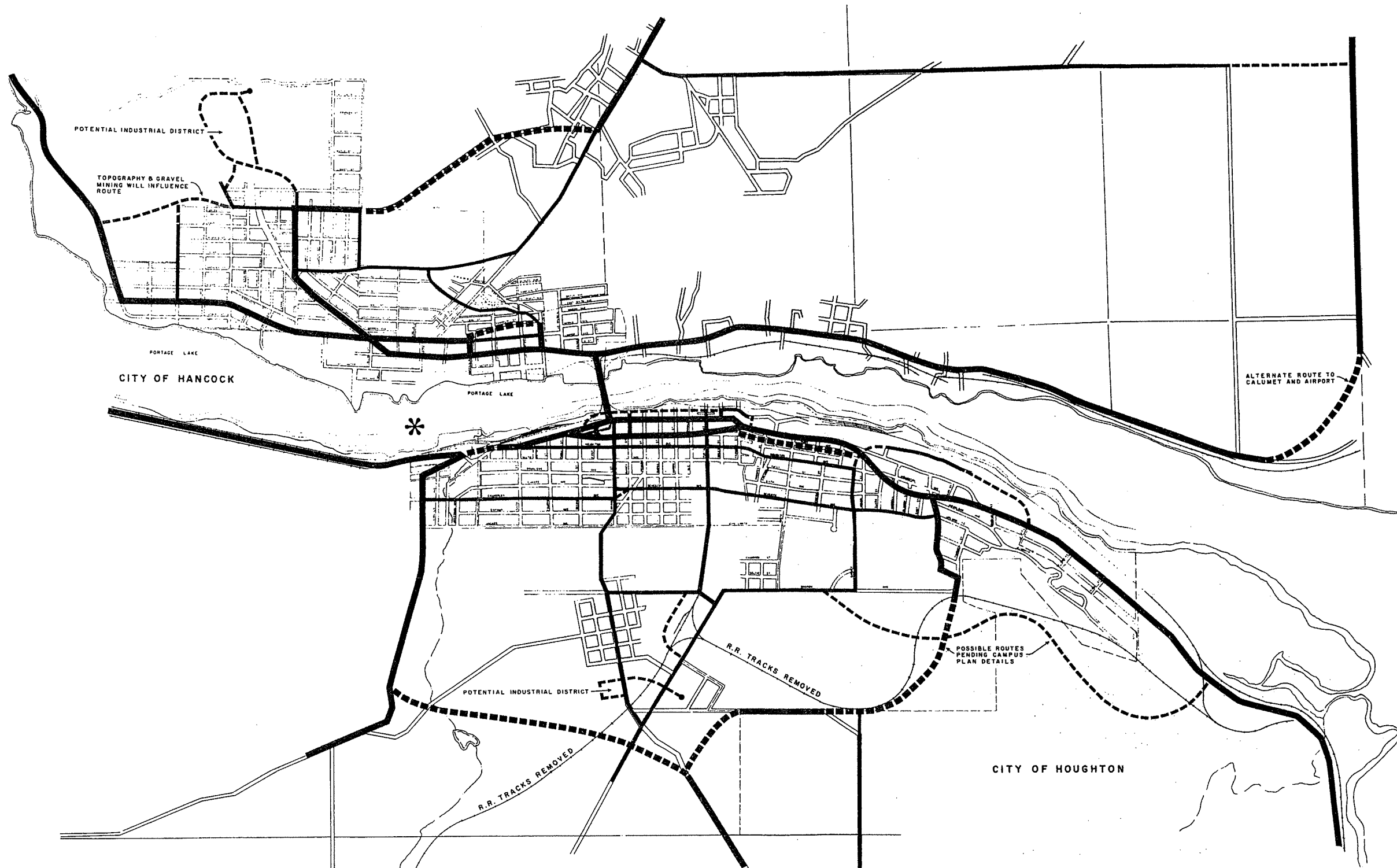


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- 11) Development of Franklin Street in Hancock or a north side CBD circulator and service road.
- 12) Complete network of collector streets to serve secondary thorofare traffic needs.

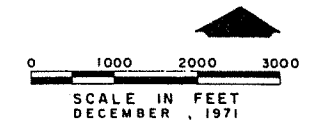
The Phase II Plan

- 1) Builds on the basic functional traffic system of Phase I and may be regarded as an alternative Plan in some respects.
- 2) Suggests a possible alternate route for Sharon Avenue, and south campus entrance. Detailed campus plans may modify the alignment of the route as mapped herein.
- 3) Possible westerly extension of Ingot Street pending the attainment of satisfactory grades to M-203.
- 4) Improvement of an alternate route to Calumet and the County Airport via Ripley and Dollar Bay.
- 5) Although not mapped, the Soo Line Railroad right-of-way through Hancock could become the future route of US-41 or a major City Thorofare if this railroad line is ever abandoned.
- 6) Westerly extension of Hay Street under the Lift Bridge, subject to sufficient under clearance, rail line abandonment, and a suitable exist or entrance grade with M-26 west of the bridge.
- 7) Possible development of College Avenue from the MTU Campus to the CBD as an alternate one-way pair highway. Jasper Street and/or Ruby Street may become the alternate east bound roadway. a detailed corridor analysis is needed for this project.
- 8.) Sharon Avenue re-location and alternate entrance-exit possibilities from the south campus area.
- 9) Quincy Street as a full pedestrian plaza or shopping mall in the Central Business District (CBD).



- | EXISTING | PROPOSED | |
|----------|----------|--|
| | | MAJOR THOROFARES (120' PLANNED RIGHT-OF-WAY) |
| | | COLLECTOR STREETS (86' PLANNED RIGHT-OF-WAY) |
| | | LOCAL STREETS (60' PLANNED RIGHT-OF-WAY) |
| | | POTENTIAL HIGH LEVEL BRIDGE (2 ND CANAL CROSSING) |

PHASE II
FUNCTIONAL THOROFARE PLAN
 HANCOCK - HOUGHTON MICHIGAN



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