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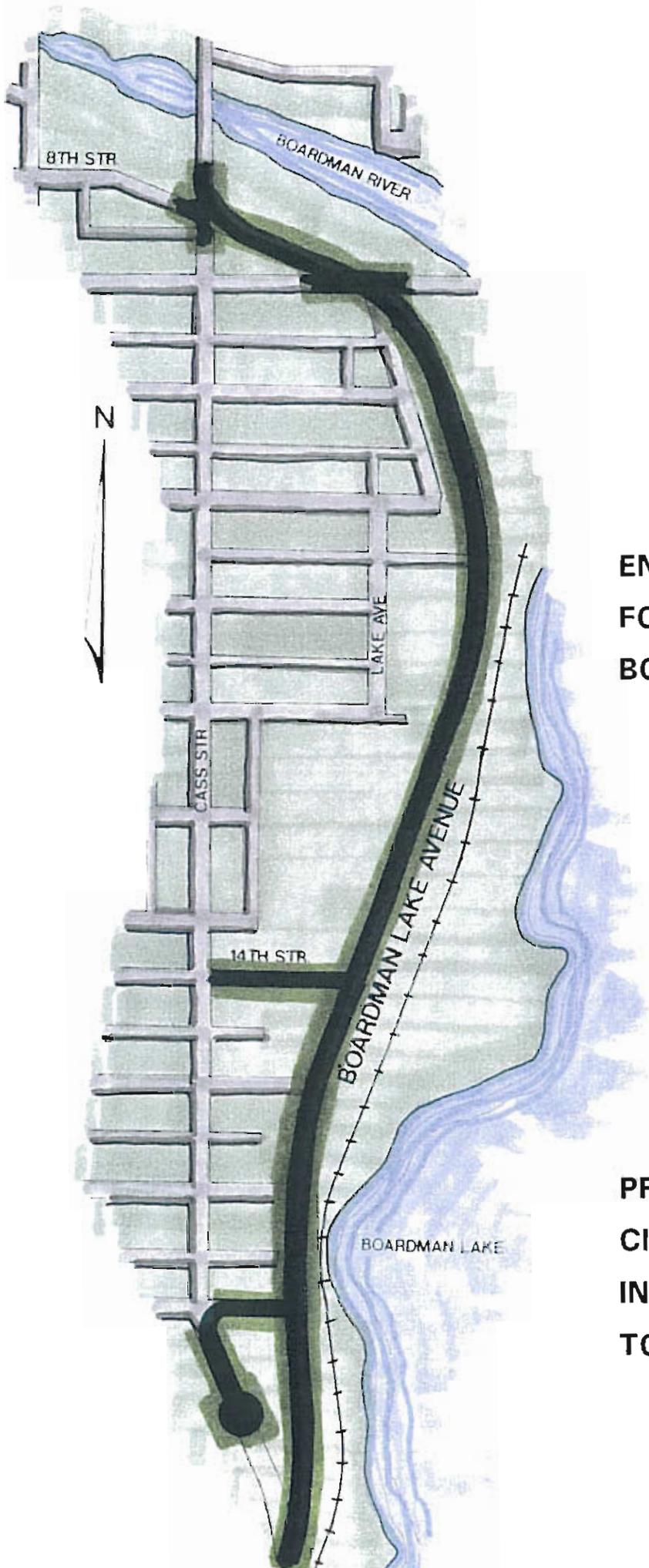
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**ENGINEERING STUDY
FOR
BOARDMAN LAKE AVENUE**

**PREPARED FOR
CITY OF TRAVERSE CITY
IN COOPERATION WITH
TC TALUS**

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**BY
GOURDIE/FRASER & ASSOCIATES, INC.
FEBRUARY 1994**

TABLE OF CONTENTS

- I. Executive Summary
- II. Review and Evaluation Of Alternatives
- III. Traffic Counts and Discussion
- IV. Cost Estimates
- V. Funding Options
- VI. Environmental Phase I Assessment
- VII. Appendix "A" - Traffic Counts
- VIII. Appendix "B" - Funding Information
- IX. Appendix "C" - Maps & Figures

I. EXECUTIVE SUMMARY

Introduction

For years, the City of Traverse city has realized the need to relieve traffic congesting along the Cass and Union Street corridors. It has been the vision to return these roads to typical neighborhood roadways, thereby eliminating the negative impact the current traffic loads have on the surrounding area. There has also historically been an increasing need to provide good north/south access to the downtown area. With the recent commercial development that has been taking place in Garfield Township and the proposed parkway or beltline proposed to the south, this need has been magnified.

One plan that has been discussed in order to help this vision become a reality is to construct a new roadway along the west side of Boardman Lake. This new roadway has been visualized to run from the south city limit line north to the Cass Street/Lake Street intersection. This study evaluated existing traffic, road conditions, environmental concerns and economics of several alternatives for providing this proposed north/south roadway and has recommended a preferred alternative.

During the information gathering portion of the study, several meetings, presentations and individual interviews were performed which resulted in the establishment of certain criteria to evaluate the alternatives with including:

1. Elimination of through traffic from the neighborhoods.
2. Providing an uninterrupted, comfortable traffic flow pattern from the south to downtown.
3. Encourage east/west traffic flow currently utilizing Eight Street and Fourteenth Street to utilize proposed roadway.
4. Limit access along proposed route to promote maximum traffic flow.
5. Incorporate pedestrian traffic and bike path plans into plan.
6. Address impact of railroad usage and future layout.
7. Provide access to potential future development plans along west side of Boardman Lake.
8. Minimize impacts on vacant Traverse City Ironworks parcel.
9. Layout should accommodate future extension across Boardman River to the east side of city (reference 1980 East/West Arterial Study).

The alternatives considered were evaluated based on these identified criteria. The study area was broken down into 3 segments to facilitate evaluation:

1. The main corridor.
2. The north end connection.
3. The South Cass Street Termination.

These segment alternatives are each individually evaluated in section II.

Recommendation

The recommended cross-section for the proposed Boardman Lake Avenue is a two lane boulevard with paved shoulders (See Figure II). This cross section with limited access enforced will provide for a roadway which is capable of carrying the proposed 16,000 vehicles per day ADT projection at suggested speed limit of 35 mph. However, the section will provide a low level of service initially under the expected traffic loads. The cross section provides for easy expansion to a four lane boulevard in the future as traffic loads increase or need for a better level of service is required.

The recommended route for the roadway (See Figure I) parallels the existing railroad tracks while providing for adequate room for relocation of tracks as a part of the overall project. Access would be provided at the North end off existing Cass Street, Eighth Street, Fourteenth Street and Seventeenth Street. The limited access will provide for an increased level of service over a typical multi-access roadway.

The estimated cost for the entire project is approximately \$3,000,000 with rail relocation as shown in Figure I. The cost for the project with rail abandonment through the corridor is revised to an estimated cost of \$1,900,000. A cost breakdown is provided for under section IV of this study. Consideration should be given to phasing or delaying of the project until the rail issue can be settled on a regional basis as this directly effects the final alignment as well as the overall project cost.

II. REVIEW AND EVALUATION OF ALTERNATIVES

A. The Main Corridor

The main corridor section starts at the south city limit line and extends to Eighth Street to the north. The recommended alignment follows the east side of the existing railroad right of way and requires relocation of the railroad track along

its entire length. The rail relocation is required to minimize the number of road/rail crossings in the proposed layout (See Figure I).

1. Cross Section

The recommended cross section at the time is a boulevard with single traffic lanes in each direction and turning lanes at intersections. The proposed roadway would be projected to initially carry 16,000 vehicles per day. The traffic could adequately be handled by a two lane boulevard section initially (See Figure II). The roadway section should be designed to be easily expandable to a four lane boulevard (two lanes in each direction) as traffic flows increase and demand a better level of service.

2. Posted Speed Limit

Speed limits should be posted at 35 MPH which the alignment will be designed to accommodate. This will further encourage the through traffic to utilize the proposed roadway working towards reducing traffic on Cass and Union Streets.

3. Railroad Concerns

The recommended alternative (Figure I) shows the preferred alignment following the east side of the existing railroad right of way. This alignment would require either elimination of or relocation of the existing railroad tracks. The current status of this rail line is that it services a route between Bates (Shultz, Snyder & Steele) and Grawn (cherry growers). The main users are at each end of this rail line with other minor users along this route. The Grand Traverse Region in general is trying to formulate a consensus in regards to the regional rail issue. there currently exists a movement to eliminate the tracks on the east side of Boardman Lake which would leave tracks on the west side of the lake as

the only link between current users. The MDOT UBTRAN Freight department who regulates these rail right of ways is currently looking to the community for a consensus of opinion on this issue prior to making any decision on elimination of existing rails on either side of the river.

Due to the current rail status, we have provided for a recommended alternative that will physically work without the tracks on the west side of Boardman Lake. If the tracks are to remain, which they more than likely will in the short term of 5-10 years, then it creates some economic, environmental and safety concerns that needed addressing under this study. These concerns are listed below:

a. Economically the retaining of the railroad tracks creates cost in the following areas:

- Relocating the tracks to the east side of the rail right of way for approximately 5,500 LF along the length of the project.

Estimated Cost	\$416,000.00
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- Construction of a retaining wall will be required just south of Sixteenth Street. The magnitude of this retaining wall varies depending on several criteria including:

- Final road cross section.
- Setback required from rail to road.
- Soil conditions.
- Environmental constraints.

We have made some assumptions to come to an estimated cost for this retaining wall including:

- Provide for a two lane boulevard roadway expandable to four lane.
- Provide minimum of 30' setback from rails to road.
- Soil conditions are acceptable to construction of a closed cell sheet pile retaining wall.
- Environmental concerns will allow construction if lakeshore is not encroached upon.

35' High Closed Cell Retaining Wall Estimated Cost	\$400,000.00
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- The railroad turn-around that currently existing just north and south of Fourteenth Street can be eliminated or relocated to a location with less impact to road project.

(If Relocated) Estimated Cost \$30,000.00

- The large amount of cut/fill earthwork required near the south end of the project is directly attributed to the necessity of maintaining both the tracks and the proposed roadway in this

corridor. This cut/fill earthwork required could be greatly reduced if the tracks were eliminated on the south end of the corridor.

Additional Earthwork Estimated Cost \$250,000.00

Total Estimated Cost Attributable to maintaining active rails within the corridor.

(Total Items 3 Through 5) \$1,080,000.00

As can be seen from the estimates above, retaining of the railroad tracks within this right of way generates considerable, additional cost to this project. However, the majority of this cost is generated in the section south of Fourteenth Street. In reviewing the proposed road study in light of these increased costs due to the railroad, consideration should be given to the phasing of the road project to avoiding most of these rail related cost until a regional consensus is developed on the rail issue.

Our suggested phasing here would be to allow the project to proceed with the north end (north of Fourteenth Street) first thereby incurring only a portion (\$200,000 ±) of the track relocation cost at this time: this would act to minimize any rail related additional cost to the project until such time that a better directive is available on the rail issue region wide.

- b. Environmental concerns generated by retaining or relocating the existing rails include the required retaining wall adjacent to the lake which will require an P.A. 346/203 permit application. Also, the cut/fill area on the south end creates some concern in that it will eliminate vegetation cover along the lake shore in that segment.

- c. Safety concerns created by the rails and roadway being contained within the same corridor include the crossing required to access the lake properties. The separation required between the proposed road and rails will vary dependant upon final profiles and physical constraints. However, for this study we have maintained a minimum separation of 30' between edge of shoulder and track centerline. The final bikepath location will also be effected by maintaining the rails.

4. Limited Access

It was identified throughout the process that limiting of the access to the proposed roadway is a priority. Limiting of the access to the roadway

will enhance its vehicle carrying capability and safety. It is suggested that an access be allowed at the following locations starting at the south end.

a. Seventeenth Street

A potential access is suggested to Seventeenth Street which allows direct access to the existing businesses on the south end of the project. There is concern that this may act as a short-cut, routing traffic through the southern residential districts. Placement of a traffic diverter at the Cass/Seventeenth intersection would eliminate this concern while providing direct access to the commercial businesses.

b. Fourteenth Street

The connection with Fourteenth Street would be designed as a major intersection (See Figure III and IIIa in Appendix "C"). The intersection would warrant use of a traffic signal and would provide additional lanes and pavement markings to facilitate turning movements. Access to Cone Drive Gear could be from Fourteenth Street, however, vehicle stacking requirements may be a concern. Access to Cone Drive needs to be evaluated from the proposed roadway and also at the preliminary design stage dependent upon final road alignment and other criteria that will be better suited to evaluation at that time.

We have shown two alternative intersection layouts, Figures III and IIIA in Appendix "C". The recommended alternative is Figure III due to the improved geometrics and sight distances

provided. This Figure III layout will require purchase of an existing business and parcel located south of the existing Fourteenth Street R.O.W. Figure IIIa indicated the required intersection geometrics without this property purchase, however, that layout provides for limited sight distances aesthetics and safety of the intersection are greatly diminished under that option.

Access to the properties adjacent to the lake can be provided by a service drive whose entrance will be located at the east side of the intersection with Fourteenth Street as shown in Figure III.

c. Eighth Street

This will require another major intersection layout to facilitate traffic movements. This intersection will warrant design of a traffic signal and concerns regarding signal timing with the existing Boardman Street signal needs to be further evaluated. This intersection, like Fourteenth Street, will need to facilitate heavy traffic turning movements requiring turning lanes and extensive pavement markings. This intersection geometrics also relies heavily on the preferred connection to downtown via Cass Street. We have included a detailed drawing indicating intersection construction and traffic movements in Appendix C, Figure IV.

These are the only three access points proposed at this time for the new road alignment. Consideration needs to be given to a future road extension to an east/west connection following the existing railroad route across the Boardman River and on to the east side of the lake. This can be addressed during the design stages dependent upon the need at that time.

B. The North End Connection

The terminus of the proposed road on the north end of the project is a critical component of the project. This connection will dictate the effectiveness of the new road in satisfying the objectives identified through the study.

We have created a decision matrix which will assist in evaluating the five (5) alternatives developed and received for the North end connection. These alternatives were discussed throughout the study process and at the presentations given to various boards. The selective criteria used was identified during those presentations. The weighing or importance of the individual decision criteria used varies between public entities. Also, the importance of certain criteria may change on the North end connection dependent upon the eventual use and location of the proposed Traverse City Iron Works parcel.

We have attached layouts showing the alternatives #1 through #5 for review and reference. We feel any of the alternatives will physically work and have recommended the selected alternative #5 at this time for the purpose of providing cost estimates. The alternative #5 intersection is shown in detail in Figure IV in Appendix "C".

The final selected north end alternative will be based on data provided within this study and evolution thereof at the time of final design process.

Cost estimates for the north end intersection include all work required from the north connection near the Cass Street Bridge to just south of the Eighth Street intersection. This cost is estimated at \$270,000 and is included in the overall cost estimate shown in Section IV.

SELECTION CRITERIA	Criteria Weighing Factor	Alt. #1	Alt. #2	Alt. #3	Alt. #4	Alt. #5
Discourage thru traffic in central neighborhood	1.0	2	2	2	1	3
Encourage smooth traffic flow in downtown	1.0	3	2	2	0	3
Encourage traffic to take new road	1.0	1	2	2	1	2
Intersection geometrics	0.8	1	2	1	3	1
Right of way acquisition required	0.5	0	2	1	1	1
Requires residential/commercial relocation	0.5	3	3	1	0	1
Economics (not considering R.O.W.)	1.0	1	1	2	3	1
Maintains pedestrian flow	0.8	2	2	1	3	2
Effects on TCIW parcel	1.0	1	2	3	3	2
Maintains eastbound thru traffic along Eighth St	0.5	2	0	2	2	2
Unweighted Totals		13	16	14	18	18
Current Weighted Totals		9.9	12.7	11.5	15.3	15.4

C. South Cass Street Termination

The existing businesses located near the Seventeenth Street and Cass Street Intersection need to have easy access maintained to a city arterial. We have reviewed the criteria obtained for evaluating this Cass Street Termination and have developed the three (3) alternatives attached. The evaluation matrix that applies to the South Cass Street Termination is listed below. Here again the weighing of the criteria may change as time progresses so each of the alternatives need re-evaluating in the future at the time of final design.

SOUTH CASS STREET TERMINATION

ALTERNATIVE 2 Selection Criteria	Weighing Factor	Alt. #1	Alt. #2	Alt. #3
1. Discourage thru/commercial traffic thru neighborhoods	1.0	2	3	3
2. Provides easy access to new arterial	1.0	0	2	3
3. Minimizes off-street intersections on new arterial	0.5	3	2	1
4. Economics	0.8	2	1	1
5. Right of way required	0.8	2	1	1
Unweighted Totals		9	9	9
Weighted Totals		6.7	7.6	8.1

The alternative #2S was the most well received during the presentations and would be our recommended alternative at this juncture. Cost for the work required under the 2S alternative on the south end is estimated at approximately \$80,000 and is included in the overall cost estimate (See Section IV).

This alternative #2S provides good use of the existing Cass Street location while providing efficient movement for shipping or maintaining vehicles. The traffic diverter placed at the intersection could be tried on a trial basis along with traffic counts to determine it's efficiency. The adjoining neighborhoods will need to weigh the elimination of access to the South against the reduced traffic flow through their neighborhoods.

The thru connection illustrative under alternative #3S was well received due to maintenance vehicle access, however, was not recommended due to physical grade constraints at the south intersection and the philosophy of limiting the access to the roadway as much as possible.

III. TRAFFIC COUNT DATA AND DISCUSSION

Existing Traffic Count Data was researched and reviewed as part of this study. Recent Traffic Counts were made available to us by the City Engineering Department and T.C. Talus and are incorporated into this report in Appendix "A". We also reviewed Traffic Count Data and projectives included in the 1980 Crosstown Arterial Study to attempt to identify historic trends.

In review of the 1980 traffic study, we found the projections to be fairly accurate in regards to the traffic counts projected at that time. We focussed on the traffic counts for the streets that will be effected by the proposed Boardman Lake Avenue. These streets included Cass, Union, Fourteenth, Eighth and Lake Avenue at various locations. All counts available were for through traffic on the streets. Turning movement counts were not currently available for any intersections and it is a recommendation of this study for the City to obtain turning movement counts in the future to supplement the usefulness of the data.

We have assembled a table of available traffic counts for these streets for reference and to assist in providing projection for future traffic counts. The T.C. Talus staff has inserted the new proposed Boardman Lake Avenue into the Traffic Flow Program and it indicated that the traffic from Cass Road would simply transfer to the new roadway with no other effort on the adjoining roadways. We feel that is not the case entirely and the program used is not sensitive enough to analyze the secondary impacts a new road would have on adjoining streets.

By assembling and analyzing the current Traffic Count Data we were able to estimate the turning movements currently taking place at the intersections within the study area. We have assembled intersection schematics on the Traffic Count Map (see Figure V) that indicate our findings. We then analyzed the effect of the new roadway on these intersection turning movements and the through traffic on the involved streets. The Traffic Count Map indicates the existing traffic flows as well as the projected traffic flows with the new roadway in place. The accuracy of our projections will be dependent upon how the city decides to assemble the North and South end roadway terminations and what other restrictions such as signing, directional restrictions (one-way), etc. they decided to put in place on adjacent streets in the future. However, we feel the projections provide an accurate representation of the effect a new roadway would have on the traffic flows along the existing streets.

In regards to the new roadway, it is expected to see an ADT of 16,000 vehicles per day initially north of 14th Street and 12,000 vehicles per day south of 14th Street, based on available data. Future projections will vary dependent upon:

- 1) Whether connection is improved to east side of the lake (i.e. cross four arterial study).
- 2) Future parkway to the south and what is provided for connection to downtown Traverse City Access.
- 3) Development of vacant industrial land adjacent to roadway.

The recommended section could be at capacity as soon as it is constructed dependent upon project schedule and level of service desired. It is recommended that adequate space be provided for in the road cross-section design to allow for future expansion to adequately handle potential increases in traffic flow as they develop.

Average Daily Traffic Vehicle/Day (Two-Way)				
	1992 - 1993 City of T.C. & Talus Counts	1980 Counts	Avg Increase Over 10 Years	Projected Counts With New Road in Place
Cass St. (N of 8th)	9,800	-	-	9,800
Cass St. (S of 8th)	15,330	-	-	3,000
Cass St. (S of 14th)	11,200	9,600	19%	1,000
Union St. (N of 8th)	10,000	-	-	6,000
Union St. (S of 8th)	7,400	-	-	3,000
Union St. (S of 14th)	1,900	-	-	2,500
14th St. (E of US-31)	19,100	16,000	19%	19,100
14th St. (W of Union)	17,000	14,100	20%	17,000
14th St. (E of Union)	-	8,161	-	14,500
Eighth St. (E of Boardman)	24,120	22,271	8.3%	24,120
Eight St. (E of Cass)	19,000	-	-	4,500
Eighth St. (W of Cass)	17,000	-	-	4,500
Eighth St. (W of Union)	2,800 East Bound Only	-	-	2,800
Lake Avenue (E of Cass St.)	-	-	-	-
Lake Avenue (E of Union)	3,600	-	-	-
7th St. (W of Union)	1,500 West Bound Only	-	-	16,500 1,500
Boardman Lake Avenue (N of 14th)	-	-	-	12,000 16,500
Boardman Lake Avenue (S of 14th)	-	-	-	12,000

CORRECTED
BY AUTHOR 2/2011

IV. COST ESTIMATES

As stated previously, the cost of the project will depend upon this corridor. We have prepared cost estimates for each type of cross section reviewed (See Figure) in a format that provides for easy deletion of certain costs dependent upon the outcome of the rail issue.

Each of the cross sections reviewed have a lineal footage cost attached to each of them throughout most of the project. The various intersection areas cost will remain constant with any of the cross-sections used since they will be designed for a full range of turning movements in all cases.

We have assembled a table showing typical lineal footage cost of several roadway cross section alternatives (Table III-1).

The lineal foot cost provided are used for inserting into the overall cost estimate as a unit price for that typical section. Additional cost such as rail relocation, retaining walls, intersections, signalization, landscaping, water management procedures, lighting, etc. are then included in the overall cost estimate as additional items.

**TABLE IV-1
LINEAL FOOT
COST ESTIMATES FOR
VARIOUS ROADWAY CROSS-SECTIONS**

I)	Two Lane Road w/Paved Shoulder and Open Ditches	\$ 68.00/Ft.	
II)	Two Lane Boulevard w/Paved Shoulder and Open Ditches (one lane each direction)	\$ 81.00/Ft.	(Recommended Alternative)
III)	Four Lane Roadway w/Paved Shoulder and Open Ditches	\$112.00/Ft.	
IV)	Four Lane Roadway w/o Shoulders and with Curb & Gutter & Storm Sewer	\$140.00/Ft.	
V)	Four Lane Boulevard w/Paved Shoulder and Open Ditches	\$115.00/Ft.	

Notes (Table III-1):

- 1) These costs do include sub-base cost.
- 2) These costs assume minimal earthwork cost of \$10.00/Ft.
- 3) Curb, gutter & storm sewer add approximate \$52.00/Ft. to integral section and approximately \$75.00/Ft. to a boulevard section.
- 4) Right-of-way cost is not included in these lineal foot costs.
- 5) Rail relocation cost not included in these lineal foot costs.
- 6) Bike path or street scaping not included in these lineal foot costs.
- 7) Stormwater management measures are included in these lineal foot costs.

TABLE IV-2

TOTAL COST ESTIMATE FOR BOARDMAN LAKE AVENUE

**Recommended Alternative
(Two Lane Boulevard, Open Ditches)**

Note - This Cost Estimate is broken down into various segments I thru V starting at the North End and progressing south.

**I. Intersection with Eight Street and Boardman Lake Avenue
(Includes construction from north termination to south of Eighth Street intersection).**

<u>DESCRIPTION</u>	<u>EST QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
a) Demolition	1 LS	20,000	20,000.00
b) Traffic Maint.	1 LS	3,000	3,000.00
c) Right of Way	1 LS	10,000	10,000.00
d) Earthwork	1 LS	15,000	15,000.00
e) Curb & Gutter	3000 LF	10	30,000.00
f) Storm Sewer	1800 LF	25	45,000.00
g) Catch Basin	15 EA	1000	15,000.00
h) Adjust Utilities	1 LS	5000	5,000.00
i) Sub-Base	2500 CY	5	12,500.00
j) Aggregate	1000 CY	15	15,000.00
k) Bituminous Surfacing	1500 TON	30	45,000.00
l) Sidewalks	15000 SF	2.50	37,500.00
m) Signalization	1 LS	10,000	10,000.00
n) Pavement Marking	1 LS	2,000	2,000.00
o) Restoration	1 LS	5,000	5,000.00
			<hr/>
	Subtotal North End Intersection		<u>\$270,000.00</u>

II. Eight St to 14th St

<u>DESCRIPTION</u>	<u>EST QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
a) Two Lane Blvd. w/Open Ditches	2800 LF	81.00	226,800.00
b) Stormwater Mgt. Practices	1 LS	15,000.00	15,000.00
c) Rail Relocation	.53 Miles	400,000.00	212,000.00
d) Demolition & Cleanup	1 LS	30,000.00	30,000.00
e) Right of Way	1 LS	0.00	0.00
f) Pedestrian Crossing	80 LF	1250.00	100,000.00
g) Pedestrian Pathway	2800 LF	10.00	28,000.00
Subtotal Main Corridor Eighth St to 14TH St			<u>\$611,800.00</u>

III. 14th St. Intersection

<u>DESCRIPTION</u>	<u>EST QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
a) Demolition	1 LS	10,000	10,000.00
b) Traffic Maint.	1 LS	2,000	2,000.00
c) Right of Way	1 LS	0	0.00
d) Earthwork	1 LS	10,000	10,000.00
e) Curb & Gutter	2000 LF	10	20,000.00
f) Storm Sewer	1700 LF	25	42,500.00
g) Catch Basin	8 EA	1000	8,000.00
h) Adjust Utilities	1 LS	5000	5,000.00
i) Sub-Base	2800 CY	5	14,000.00
j) Aggregate	900 CY	15	13,500.00
k) Bituminous Surfacing	1300 TON	30	39,000.00
l) Sidewalks	7000 SF	2.50	17,500.00
m) Signalization	1 LS	10,000	10,000.00
n) Pavement Marking	1 LS	2,000	2,000.00
o) Restoration	1 LS	5,000	5,000.00
Subtotal 14TH St Intersection			<u>\$ 198,500.00</u>

IV. Boardman Lake Avenue 14th St. to South Connection

<u>DESCRIPTION</u>	<u>EST QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
a) Two Lane Blvd. w/Open Ditches	3100 LF	81.00	251,100.00
b) Stormwater Mgt. Practices	1 LS	20,000.00	20,000.00
c) Pedestrian Pathway	3100 LF	10.00	31,000.00
d) Demolition & Cleanup	1 LS	10,000.00	10,000.00
e) Rail Relocation			
1) remove/replace tracks	.51 mile	400,000.00	204,000.00
2) construct retaining wall	40,000.00 SF	10.00	400,000.00
3) additional earthwork	CY		0.00
Subtotal Boardman Lake Ave from 14TH to S. Connection			<u><u>\$916,100.00</u></u>

V. South End (Recommended Alternative 2S)

<u>DESCRIPTION</u>	<u>EST QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
a) Curb & Gutter	300 LF	10.00	3,000.00
b) Bituminous Surfacing	1000 TON	30.00	30,000.00
c) Aggregate	500 CY	15.00	7,500.00
d) Sub-Base	1500 CY	5.00	7,500.00
e) Right of Way	1 LS		0.00
f) Traffic Diverter Island	1 LS	3000.00	3,000.00
g) Storm Sewer	800 LF	25.00	20,000.00
h) Catch Basins	6 EA	1000.00	6,000.00
Subtotal Boardman Lake Ave. South End Alternative 35			<u><u>\$77,000.00</u></u>

VI. Summary

Construction Cost Estimated Subtotal for entire recommended Route & Section w/rail Relocation.	\$ 2,246,300.00
10% Contingencies	\$ 263,700.00
Design engineering	\$ 200,000.00
Construction Engineering, Surveying & Testing	\$ 250,000.00
MDOT Right of Way Acquisition Cost	Not Included
Parcel Cost for Preferred 14th Street Intersection	Not Included
TOTAL ESTIMATED PROJECT COST W/RAIL RELOCATION	\$ 2,960,000.00
TOTAL ESTIMATED COST W/RAIL ABANDONMENT	\$ 1,894,000.00

V. AVAILABLE FUNDING ALTERNATIVES

The purpose of this section is to investigate the potential financing programs for this project. The estimated probable costs are discussed in the previous section with the final project cost relying on the overall scope of the project in regards to length, rail issues, etc. For the purpose of discussion within this section we will use the total estimated cost figure of 2,969,000 discussed in the previous section.

A. Special Assessment Bonds

Special Assessment Bonds are often used to fund projects which benefit a select group of individuals within a designated area. The bonds are retired by the individuals within the special assessment district either as a revenue or tax basis. This type of bonding is effective when the adjoining landowners have a vested interest in the project and assessments are based upon the front footage each land owner has along the road or utility route.

This type of funding does not apply well to the Boardman Lake Avenue project since it is being constructed to benefit the general public. In summary, it is impractical to consider Special Assessment bonds for financing of this project.

B. Transportation Economic Development Funds (TEDF)

Enacted in 1987, The Transportation Economic Development Funds (TEDF) was created to assist in funding highway, road, and street projects necessary to promote economic growth. The fund is administered through the Office of Economic Development.

The types of projects eligible for TEDF assistance are:

- Category "A": Road projects related to economic development and re-development opportunities.
- Category "C": Reduction of traffic in urban counties.
- Category "D": Road improvements in rural counties to create an all-season road network.
- Category "E": Construction or reconstruction of roads essential to the development of commercial forest in Michigan.
- Category "F": Road and street improvements in cities in rural counties.

The most applicable category to this project is category "A" Funding. If this project can be coordinated with creation of jobs for the area, then pursuing this category "A" financing assistance would be viable.

The development of the TCIW parcel, the expansion of Cone Drive Gear or similar job creating projects would enhance the acceptability of a TDEF category "A" funds grants application. Improvement of category "A" funding requires a 20% local match of financing of the projects.

Current regulations allow for right-of-way acquisition cost and/or engineering cost to be credited towards the required 20% local match. Refer to appendix "B" for further information on the TEDF funding program.

C. Federal Aid Funds

1. State Transportation Plan (ISTEA) Funds

The city is currently a member of an Task Force which determines to which projects the available Federal Funding will be allotted to. Currently this Boardman Lake Avenue project is not included in a State Transportation Improvement Plan (STIP) Listing for projects planned for this Task Force Area.

Inclusion of this project into the plan would require a revision to the existing STIP for this area. However, only certain monies are appropriated to this task force area and for the Boardman Lake Avenue Project to be financed, other projects would be delayed. This is a decision that will need to be made by the city and the regional task force.

2. Enhancement Project Funds

These funds are set aside for certain transportation enhancement improvements including scenic turnouts, bike paths, stormwater mitigation, etc. These funds

may be able to be utilized in part to finance certain portions of the project including:

- a. Pedestrian bike path that parallels the road along the lake.
- b. Pedestrian crossing of proposed roadway.

- c. Stormwater mitigation measures put in place within the project.
- d. Aesthetic concerns of the project including turnouts, roadside parks, etc.

3. T.C. Beltline Corridor Funds

Funds are currently appropriated to the study and design of a by-pass south of Traverse City. If this project acts as a access arterial from that proposed beltline to downtown Traverse City, then perhaps the appropriate funds can be utilized in part for this project. This warrants further discussion regionally through the T.C. Talus committees.

D. ACT 175 Bonds

The City of Traverse City can finance improvements to their road system through the sale of Act 175 bonds. These bonds commit the City's Act 51 funds to pay for the bonds. The City's available bonding capacity would allow this project to be financed over a 15-20 year period. Prior to committing future Act 51 revenues to support a bond issue for the Boardman Lake Avenue project, the City should exhaust all other funding sources for the project since Act 51 funds are used for the maintenance and operation of the City's street system. We have included a discussion of Act 175 bonds in this report to be comprehensive not because we recommend committing future Act 51 funds in this manner. In effect, using Act 51 funds to pay off bonds reduces funding available for street maintenance.

E. General Obligation Bond

The city could finance a portion of the Boardman Lake Avenue improvements through a General Obligation Bond which would require a vote of City citizens. This method of financing, in effect, increases the millage citizens pay on real

property to finance the bonds. The advantage of such a financing strategy is to obtain the support of the community through a vote of the people for the project.

The City could finance the estimated \$3,000,000 in construction cost with a voter approved millage debt service levy for 15 years. The amount of this debt service levy would reduce each year as the assessed value of the real property increased due to new construction.

With the estimated project cost at \$3,000,000 and financed over 15 years at a current bond rate of 6%, equates to a annual level yearly payment of \$310,000.00.

The City could attempt to raise this money through a special millage assessment for debt retirement and pay off the total bond issue without grant assistance.

VI. ENVIRONMENTAL PHASE I ASSESSMENT

Introduction

As part of the Boardman Lake Avenue Feasibility Study, Gourdie/Fraser & Associates, Inc. has performed a Level I Environmental Assessment for the proposed roadway corridor. The purpose of the study was to assess the possibility of significant contamination resulting from past or present activities at or near the site, and to identify other items of potential environmental concern. The Level I Environmental Assessment is intended to demonstrate due diligence on the part of the client in evaluating the potential environmental risks associated with owning and/or developing the property.

The scope of our site assessment study consisted of a search of pertinent historical records and governmental documents, contacts with environmental agencies, and a review of available subsurface data. A field reconnaissance was also conducted in order to identify visual signs of contamination or other areas of concern. We also interviewed a number of private individuals and public officials who are familiar with the site and surrounding areas. The findings of our study and our overall environmental assessment of the site are presented in the following sections of this report.

Existing Conditions

On October 8, 1993, we conducted a field reconnaissance of the proposed Boardman Lake Avenue corridor. During the reconnaissance, existing surface features within the proposed corridor and in adjacent areas were identified and noted. The site surface was visually inspected for signs of possible contamination, such as discarded containers and debris, existing underground storage tanks, distressed vegetation, or unusual colors or odors in the site soils or surface waters. The existing conditions observed at the site are described below.

The majority of the proposed roadway corridor (central and southern portions) is presently used by Tuscola-Saginaw Bay Railroad Company as a rail-line for transporting freight. The northernmost portion of the route was previously occupied by the Traverse City Ironworks. The foundation remnants of the previously existing Ironworks buildings are located east of Cass Street along the Boardman River.

Miscellaneous surface debris is present throughout a majority of the proposed corridor. A pile of demolition debris (bricks, wood, etc.) is present north of the intersection of Lake and Eighth Streets on the Ironworks property. Several piles of old locomotive

brake shoes are scattered throughout the MDOT Railyard property. Additionally, a 55-gallon drum filled with oil/grease saturated rags was observed on the MDOT property.

In addition to the surface debris, surficial ground staining was observed on the Ironworks and MDOT properties. The staining on the Ironworks property was primarily concentrated east of Cass Road along the Boardman River, and probably resulted from the disposal of foundry sand and slag as fill material. The staining on the MDOT property was scattered over the entire parcel, and is probably the result of past fueling and repair operations that took place on the property.

Environmental Agencies

As part of this Level I Environmental Assessment, we contacted the Michigan Department of Natural Resources (MDNR), the Michigan State Fire Marshal's office, and the Grand Traverse County Health Department, regarding their knowledge of possible contamination problems in the area. We have also reviewed the "Michigan Sites of Environmental Contamination Priority Lists" prepared by the MDNR pursuant to Public Act 307, the current MDNR "Leaking Underground Storage Tank" (LUST) list, and USEPA National Priorities List (NPL) and CERCLIS List, which lists sites that are contaminated, or that have been investigated for the possibility of contamination in accordance with federal Superfund legislation (CERCLA).

Environmental Concerns

Sites of Known Contamination

Our research has identified a total of twenty-eight sites of confirmed environmental contamination within a one-mile radius of the proposed roadway corridor. A listing of these sites, as well as their general locations, is presented on Plate 1 of Appendix "C".

Based on our review of MDNR files and local hydrogeological flow patterns, the data indicates that twenty-one of the known contaminated sites (#4 United Technologies, #6 Meach Cleaners, #7 Post Property, #8 Randy's Olde Towne Shell, #9 Boardman Lake Canning Company, #11 No. 1 Cab Company, #12 Amoco #0188, #13 Vern's Standard, #14 Aunt Barb's Day Care, #15 Clark Station #667, #16 Crandall's Service, #17 Frank Tezak Estate, #18 Gilbert's Service Station, #19 Overhead Door Company, #21 Schmuckal Oil Company, #22 Vencle Kauek Trust, #23 Venture's Investment, #24 Ware's Auto, #25 Woodland Shop-N-Go, #26 Grand Traverse County Governmental Center and #28 Junior's Discount Tire) are situated in "cross-gradient" positions to the corridor in terms of groundwater flow. In other words, because of the easterly or westerly orientation of these sites in relation to the proposed corridor, groundwater contamination emanating from these sites would be expected to bypass the corridor as the plumes migrate northerly toward Grand Traverse Bay, easterly (#9) or westerly (#4 and #21) toward Boardman Lake, or south-southwesterly towards the Boardman River (#12 and #26). Additionally, two other of the listed sites, the Front Street Area site (#5) and

the Riverfront Plaza site (#20), are generally located north of the proposed corridor and therefore "down-gradient" in terms of groundwater flow; i.e., groundwater at these sites is flowing away from the corridor. Based on the foregoing comments and our overall evaluation of local hydrogeological conditions, it is therefore our opinion that the potential risks of an adverse impact to the proposed corridor due to the presence of the twenty-three nearby contaminated sites listed above are relatively low.

However, the remaining five sites (#1 Cone Drive Textron, #2 Stromberg Carlson Products, #3 MDOT Boardman Yard, #10 Ron's Service, and #27 Cliff's Major Muffler) are located generally west of the proposed corridor and "up-gradient" in terms of groundwater flow. Accordingly, these sites would have a potential to have an adverse impact on the proposed corridor groundwater via the groundwater migration of contaminants. A summary of the specific contamination problems and/or remediation efforts at these sites is presented below.

#27 Cliff's Major Muffler

The contamination at the Cliff's Major Muffler site stems from leaks in one or more of the former underground storage tanks and/or the associated piping located on the premises. The contamination was detected when the tanks were removed in the Summer of 1993. Our review of the MDNR files regarding the site indicates that contaminated soils in the area of the leak were excavated down to the groundwater table and disposed at a licensed sanitary landfill. Low, but acceptable, levels of toluene were detected in the site groundwater. Our recent conversation with Ms. Ann Emington of the MDNR-Cadillac District Office indicates that it is the opinion of the MDNR that the Cliff's site has been effectively remediated, and is proposing to delist the site. On the basis, we do not consider the Cliff's Major Muffler site to be of eminent environmental concern.

#2 Stromberg Carlson Products

The Stromberg Carlson Products site appears on the MDNR Act 307 Priority list. Relatively high concentrations of toluene, xylene, ethylbenzene and metals were detected in the soils at this site (from painting operations). Subsequently, the contaminated soils have been removed from the site and disposed of in a licensed sanitary landfill. Based on our recent conversation with Mr. Brian Brady of the MDNR, we understand that with additional confirmatory analytical testing in the contaminated areas, the MDNR is considering the granting of a Type B closure for this site indicating that the contamination problem has been effectively remediated. Based on the above information, we do not consider the contamination at this site to represent a significant environmental risk to the proposed corridor.

#10 Ron's Service

The Ron's Service site is located on the northwest corner of Union and Fourteenth Streets and appears on the MDNR LUST List. Groundwater has been contaminated by gasoline leaking from one or more former underground storage tanks that were located on the property. Our review of the MDNR files regarding the site indicates that several

hundred cubic yards of contaminated soil have been removed from the site. A number of groundwater monitoring wells have been installed to monitor the migration of the contaminant plume. The well data indicates that groundwater is encountered approximately 20 feet below the ground surface and generally is flowing in an easterly direction (toward the proposed corridor), with very high levels of BTEX contaminants concentrated near the site's eastern property line. Plate 1 of Appendix C shows the extent of the contaminant plume. As indicated on Plate 1, the plume has migrated approximately 500 feet east of Ron's Service property, or within 50 feet of the most proximate portion of the proposed corridor. We understand that currently a remedial action plan (pump and treat) has been approved, but to date no groundwater clean-up has taken place. Based on the foregoing comments, it is our opinion that the potential risk of an adverse impact to the corridor from the contamination at Ron's is relatively low.

#1 Cone Drive Textron and #3 MDOT Boardman Yard

Both the Cone Drive Textron and MDOT Boardman Yard (part of proposed corridor) sites are identified on the Act 307 List, and are among the highest ranking sites in the State in regard to environmental contamination. Extensive investigation has taken place at both sites, however, no clean-up activities have been initiated to date. Our review of the investigative reports for Cone Drive and MDOT by WW Engineering & Science and Kraus & Kriscunas, P.C., respectively, indicate both extensive soil and groundwater contamination at both sites and that the contaminant plumes have commingled (groundwater is flowing west to east and is encountered approximately 28 feet below the ground surface). Contaminants at both sites include: metals (arsenic, cadmium, lead, and barium - all predominantly in upper soils), solvents (TCE and PCE), BTEX, and polynuclear aromatic hydrocarbons. Plates 2, 3, 4 and 5 in Appendix C indicate areas of detected contaminants and list contaminant concentrations in several areas for both soil and groundwater. Based on our recent conversation with Mr. Brian Brady of the MDNR, we understand that further investigation is to take place at these sites, and that to date, no clean-up action plan has been approved. On the information presented above, it is our opinion that the MDOT and Cone Drive properties represent a potential environmental risk in regard to owning and/or developing the property.

Nearby Concerns

In addition to the twenty-eight sites of known contamination within a one-mile radius of the proposed corridor, our research has identified 3 sites as potential sources of environmental contamination. The first is the former Ironworks property east of Cass Road. As previously detailed, surface debris and surficial ground staining are present on the Ironworks property. In a study performed by ASI Environmental Technologies in 1988, several soil samples were obtained from the fill (foundary sand and slag) areas and chemically analyzed for metals and petroleum related contamination. The test results indicate elevated levels of total chromium, copper, and lead. In addition to the metals found, elevated levels of polynuclear aromatic hydrocarbons were detected. Further investigation has been recommended, however, to date, no additional work has been completed.

The second nearby site is Wares & Son Mechanical Contractors located at the east end of Fourteenth Street. During our field reconnaissance, several 55-gallon drums of "kathene" were observed on the Wares & Sons property. According to Mr. Pat Brady, owner of the Wares & Son property, kathene is a solvent used in refrigeration operations. He also stated that the solvent is only temporarily stored at the site. Mr. Brady stated that a Level I Environmental Assessment was recently completed for his property and that no on-site environmental concerns were identified. Furthermore, our contacts with the MDNR and local health department indicate no reported problems associated with the Wares & Son property.

The final nearby concern is associated with the various operations that take place at the Cherry Capitol Cab Company office/garage, which is located just south of the Wares & Son office building. In general, there may be a potential for environmental contamination resulting from maintenance (oil changing, engine replacement, etc.) operations conducted on the premises. However, our contacts with MDNR and Health Department personnel indicates no problems or concerns in connection with the cab company operations.

Overall Environmental Assessment

Our contacts with Federal, State, and local environmental agencies indicate the presence of existing environmental contamination on a portion of the proposed Boardman Lake Avenue corridor, specifically the MDOT Boardman Yard property. Our research indicates that this contaminated area, shown on Plate 1, has been contaminated with elevated levels of heavy metals, solvents, BTEX, and PNA's. Additionally, a site near the proposed corridor, the Cone Drive Textron Property, has been contaminated by similar compounds. A total of twenty-six other nearby sites (within a one-mile radius of the subject property) also have histories of reported contamination. However, our review of local hydrogeological data indicates that all twenty-six of these nearby sites are located in either "cross gradient" or "down gradient" positions and are not likely to have an impact on the Boardman Lake Avenue corridor.

The observations and recommendations provided in this report are intended to assist in making a reasonable assessment of risk with respect to the possible presence of toxic and/or hazardous substances in the proposed corridor. The report presents our opinion of the subject property as of this date, based on the results of this study and on information made available to us. The results are based primarily on review and evaluation of available records and historical data, interviews with persons familiar with the site, and a field reconnaissance. However, the scope of our study did not include the sampling and chemical analysis of the site subsoils or groundwater.

INTERVIEWS

1. Michigan Department of Natural Resources: Environmental Response Division, Cadillac District Office, Ms. Ann Emington, Mr. Jim Skipper, and Mr. Brian Brady, (616) 775-9727.
2. Tri-County Health Department: Captain Frank Olson, (616) 922-4833.
3. Traverse City Fire Department: Captain Frank Olson, (616) 922-4930.
4. Wares & Son Inc., Mr. Pat Brady.
5. Cone Drive Textron, Mr. Keith Brueker.
6. Michigan Department of State Police - Fire Marshal Division: Ms. Terri Harmon, (517) 322-1935.

REVIEWED MATERIALS

1. United States Environmental Protection Agency: National Priorities List, 9-11-90; CERCLIS List, 10-2-90; and RCRA List, 10-2-90.
2. Michigan Department of Natural Resources, Sites of Environmental Contamination Proposed Priority Lists, Act 307, November 1993 for Fiscal Year 1995.
3. United States Geological Survey: Quadrangle Topography Map, May, 1983.
4. United States Department of Agriculture Soil Conservation Service, Soil Survey.
5. Michigan Department of Natural Resources, Leaking Underground Storage Tank (LUST) List, November 1993.

Appendix "A"
Traffic Count Data

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	AERO PARK	1000 S	2904 05/23/89	C
CITY	AERO PARK	2400 E	2230 05/25/89	C
CITY	AERO PARK	2880 BLOCK	2092 05/09/90	C
CITY	AERO PARK	900 BLOCK	2822 05/09/90	C
CITY	AIRPORT ACCESS	600 S S'BD	1494 06/06/89	C
CITY	AIRPORT ACCESS	700 S N'BD	1409 06/06/89	C
CITY	AIRPORT ACCESS	1100	3279 07/05/90	C
CITY	AIRPORT ACCESS	700	4942 07/05/90	C
CITY	AIRPORT ACCESS	@PARSONS S'BD	1698 10/25/90	C
CITY	AIRPORT ACCESS	@PARSONS N'BD	1454 10/25/90	C
CITY	ANDERSON	1100 E	402 06/14/89	C
CITY	ANDERSON	1100	504 09/07/90	C
CITY	ARROWHEAD	900 E	289 07/04/89	C
CITY	BALDWIN	800	460 07/02/90	C
CITY	BARLOW	400 S	1659 06/30/89	C
CITY	BARLOW	700 S	1430 05/09/89	C
CITY	BARLOW	800 S	1972 06/01/89	C
CITY	BARLOW	1000 S S'BD	958 05/11/89	C
CITY	BARLOW	1100 S N'BD	4468 05/11/89	C
CITY	BARLOW	1100	10810 08/15/90	C
CITY	BARLOW	1200	9998 05/03/90	C
CITY	BARLOW	200	2001 08/24/90	C
CITY	BARLOW	400	2335 08/21/90	C
CITY	BARLOW	800	1916 05/01/90	C
CITY	BARLOW	1000 S'BD	849 09/25/90	C
CITY	BARLOW	1100 N'BD	4665 09/25/90	C
CITY	BARLOW	1000 S'BD	841 09/18/90	C
CITY	BARLOW	1100 N'BD	4874 09/18/90	C
CITY	BARLOW	100	1026 09/13/90	C
CITY	BATES	700 S	494 06/15/89	C
CITY	BAY	100' W OF OAK	5305 05/16/89	M
CITY	BAY	100' W OF US-31	2830 10/24/90	M
CITY	BAY	1000 W	4483 07/19/89	C
CITY	BAY	1000	5579 06/25/90	C
CITY	BEADLE	1400 E	1012 06/19/89	C
CITY	BEAUMONT PLACE	200	1353 07/24/90	C
CITY	BELMONT	500 S	194 06/07/89	C
CITY	BELMONT	500	242 08/24/90	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	BIRCHWOOD	400 N	2337 06/27/89	C
CITY	BIRCHWOOD	500	2576 05/30/90	C
CITY	BLOOMFIELD	400 N	477 05/20/89	C
CITY	BOARDMAN	100' S OF FRONT NORTHBOUND	6305 05/23/89	M
CITY	BOARDMAN	100 S	7751 06/30/89	C
CITY	BOARDMAN	400 S	7208 07/05/89	C
CITY	BOARDMAN	425	8765 05/17/90	C
CITY	BOON	800 E	1002 06/07/89	C
CITY	BOON	1000 E E'BD	639 06/05/89	C
CITY	BOON	1100 E W'BD	1277 06/05/89	C
CITY	BOON	600	3159 05/15/90	C
CITY	BOON	900	1085 07/05/90	C
CITY	BOUGHEY	400 W	613 08/01/89	C
CITY	BOUGHEY	400	420 09/12/90	C
CITY	BOYD	1000 E	354 06/22/89	C
CITY	BOYD	1000	332 08/09/90	C
CITY	CARVER	600 E E'BD	407 05/30/89	C
CITY	CARVER	700 E E'BD	4257 05/11/89	C
CITY	CARVER	700 E W'BD	5555 05/30/89	C
CITY	CARVER	800 E W'BD	3912 05/11/89	C
CITY	CARVER	900 E	8117 06/09/89	C
CITY	CARVER	1100 E	6344 05/25/89	C
CITY	CARVER	1100	6776 05/15/90	C
CITY	CARVER	800	7532 05/03/90	C
CITY	CARVER	700 W'BD	2620 09/27/90	C
CITY	CARVER	700 E'BD	3404 09/25/90	C
CITY	CARVER	800 W'BD	3886 09/25/90	C
CITY	CARVER	800 W'BD	3838 09/18/90	C
CITY	CASS	100' S OF US-31, M-72	3500 05/23/89	M
CITY	CASS	100' S OF STATE	7860 05/24/89	M
CITY	CASS	100' S OF 8TH	11327 07/17/89	M
CITY	CASS	100 S	7630 08/14/89	C
CITY	CASS	500 S	11371 05/16/89	C
CITY	CASS	700 S	12686 07/12/89	C
CITY	CASS	1500 S	14149 08/10/89	C
CITY	CASS	1500	13654 06/06/90	C
CITY	CASS	500	15333 06/27/90	C
CITY	CASS	700	11536 06/27/90	C
CITY	CASS	100	9800 07/19/90	C
CITY	CASS ST. APPR.	S'BD	5605 08/16/90	C
CITY	CASS ST. APPR.	N'BD	7221 08/16/90	C
CITY	CEDAR	100 N	2207 08/09/89	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	CEDAR	200 BLOCK	924 07/10/90	C
CITY	CENTRE	800 E	870 05/10/89	C
CITY	CENTRE	1000 E	718 06/13/89	C
CITY	CENTRE	1000 E E'BD	343 06/20/89	C
CITY	CENTRE	1100 E W'BD	444 06/20/89	C
CITY	CENTRE	1000	738 05/08/90	C
CITY	CENTRE	700	657 05/24/90	C
CITY	CHEROKEE	600 N	97 07/13/89	C
CITY	CHIPPEWA	2000	113 08/28/90	C
CITY	CIRCLE	1200 W	660 07/24/89	C
CITY	CIVIC CENTER	400 S	1677 08/24/89	C
CITY	CLINCH	1100 S	266 06/05/89	C
CITY	COCHLIN	400 S	758 06/15/89	C
CITY	COCHLIN	400	1094 07/12/90	C
CITY	COMANCHE	1600 E	172 06/13/89	C
CITY	CROMWELL	500	206 08/24/90	C
CITY	DAVIS	200 S	372 06/13/89	C
CITY	DAVIS	400 S	394 06/14/89	C
CITY	DAVIS	400	453 07/17/90	C
CITY	DAVIS	300	837 07/17/90	C
CITY	DIVISION	700 S	24567 08/14/89	C
CITY	EAST BAY	100 S	935 05/18/89	C
CITY	EAST BAY	200 S	1194 05/16/89	C
CITY	EAST BAY	200	2063 05/29/90	C
CITY	EAST SHORE	.1 MI S OF MCKINLEY	875 05/16/89	M
CITY	EAST	2100 E	387 06/30/89	C
CITY	TIMBERLANE			
CITY	EASTERN	100' E OF PENINSULA DR EASTBOUND	1869 07/12/89	M
CITY	EASTERN	100' E OF PENINSULA DR	1902 07/12/89	M
CITY	EASTERN	100' E OF PENINSULA DR	4401 05/17/89	M
CITY	EASTERN	100' E IF PENINSULA DR EASTBOUND	3982 04/23/90	M
CITY	EASTERN	100' E OF PENINSULA DR EASTBOUND	1886 04/23/90	M
CITY	EASTERN	100' E OF PENINSULA DR WESTBOUND	1801 04/23/90	M
CITY	EASTERN	1200 E	3414 06/15/89	C
CITY	EASTERN	1300 E	4732 06/26/89	C
CITY	EASTERN	1600	3458 05/29/90	C
CITY	EASTWOOD	500	380 09/07/90	C
CITY	EIGHTH	100' W OF US-31,M-72 EASTBOUND	4420 05/17/89	M
CITY	EIGHTH	100' W OF US-31,M-72 WESTBOUND	3924 05/17/89	M

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	EIGHTH	100' E OF BOARDMAN EASTBOUND	12757 05/23/89	M
CITY	EIGHTH	100' E OF BOARDMAN WESTBOUND	11376 05/23/89	M
CITY	EIGHTH	100' W OF UNION EASTBOUND	2831 05/23/89	M
CITY	EIGHTH	100' E OF UNION	7719 10/27/90	M
CITY	EIGHTH	100 W	2392 08/03/89	C
CITY	EIGHTH	200 E	18955 05/25/89	C
CITY	EIGHTH	600 E	5745 07/04/89	C
CITY	EIGHTH	600 W	1816 08/01/89	C
CITY	EIGHTH	800 E E'BD	7291 05/09/89	C
CITY	EIGHTH	800 E	16377 06/06/89	C
CITY	EIGHTH	900 E W'BD	7537 05/09/89	C
CITY	EIGHTH	1000 E	13880 05/23/89	C
CITY	EIGHTH	1100 E	12621 05/18/89	C
CITY	EIGHTH	600	3036 07/11/90	C
CITY	EIGHTH	100	17980 08/24/90	C
CITY	EIGHTH	1400	10710 08/15/90	C
CITY	EIGHTH	200	2332 07/26/90	C
CITY	EIGHTH	900	14202 08/15/90	C
CITY	EIGHTH	900	12976 08/09/90	C
CITY	EIGHTH	@ ROSE E'BD	6880 10/18/90	C
CITY	ELEVENTH	100 W	973 07/27/89	C
CITY	ELEVENTH	200 E	456 08/10/89	C
CITY	ELEVENTH	300 W	830 08/09/89	C
CITY	ELEVENTH	600 W	218 08/03/89	C
CITY	ELEVENTH	700 W	2722 08/14/89	C
CITY	ELEVENTH	700	2070 06/26/90	C
CITY	ELEVENTH	100	1190 07/09/90	C
CITY	ELEVENTH	200	479 07/30/90	C
CITY	ELEVENTH	300	830 08/02/90	C
CITY	ELEVENTH	600	623 07/31/90	C
CITY	ELMWOOD	100' N OF SILVER LAKE	1663 05/17/89	M
CITY	ELMWOOD	100' N OF 7TH	2024 10/24/90	M
CITY	ELMWOOD	200 N	2269 07/03/89	C
CITY	ELMWOOD	200 S	930 07/20/89	C
CITY	ELMWOOD	500 N	1870 08/09/89	C
CITY	ELMWOOD	200	2689 07/12/90	C
CITY	ELMWOOD	600	2016 07/10/90	C
CITY	ELMWOOD	200	1823 06/18/90	C
CITY	ELMWOOD	700	2527 07/24/90	C
CITY	FAIR	300 S	1338 06/15/89	C
CITY	FAIR	400 S	1183 06/19/89	C
CITY	FAIR	331	3222 05/15/90	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' COUNT	DATE	A G E N C Y
CITY	FAIR	400	2251	07/09/90	C
CITY	FAIRLANE	400 W	559	08/01/89	C
CITY	FERN	500 S	1242	06/26/89	C
CITY	FERN	1000 S	759	06/13/89	C
CITY	FERN	1000	740	05/24/90	C
CITY	FIFTEENTH	100 E	852	05/25/89	C
CITY	FIFTEENTH	500 W	736	05/24/89	C
CITY	FIFTEENTH	500W	974	08/07/89	C
CITY	FIFTEENTH	400	804	07/17/90	C
CITY	FIFTH	600 W	505	07/26/89	C
CITY	FIFTH	600	457	08/09/90	C
CITY	FITZHUGH		816	08/08/89	C
CITY	FOURTEENTH	100' E OF US-31, M-37	18093	05/23/89	M
CITY	FOURTEENTH	100' E OF UNION	11217	05/24/89	M
CITY	FOURTEENTH	100' E OF US-31, M-37 EASTBOUND	8519	08/14/90	M
CITY	FOURTEENTH	100' E OF US-31, M-37 WESTBOUND	8944	08/14/90	M
CITY	FOURTEENTH	300 W	17009	05/18/89	C
CITY	FOURTEENTH	500 W	18755	07/24/89	C
CITY	FOURTEENTH	400 W'BD	8165	10/03/90	C
CITY	FOURTEENTH	500 E'BD	7967	10/03/90	C
CITY	FOURTEENTH	300	15524	06/12/90	C
CITY	FOURTEENTH	600	19194	08/15/90	C
CITY	FOURTEENTH	APPR. W'BD	191	08/16/90	C
CITY	FOURTEENTH	APPR E'BD	5570	08/16/90	C
CITY	FRANKLIN	200 S	735	08/21/89	C
CITY	FRONT	100' N OF CEDAR RUN NORTHBOUND	3890	05/17/89	M
CITY	FRONT	100' N OF CEDAR RUN SOUTHBOUND	3621	05/17/89	M
CITY	FRONT	100' W OF US-31, M-37	12520	05/22/89	M
CITY	FRONT	100' W OF CASS	8756	05/23/89	M
CITY	FRONT	100' E OF US-31, M-37	13661	05/24/89	M
CITY	FRONT	100' N OF CEDAR RUN	4080	07/17/89	M
CITY	FRONT	100' N OF CEDAR RUN SOUTHBOUND	3814	07/17/89	M
CITY	FRONT	300 E	10163	07/05/89	C
CITY	FRONT	400 E	11636	07/04/89	C
CITY	FRONT	900 W	11193	07/05/89	C
CITY	FRONT	1400 E	226	06/14/89	C
CITY	FRONT	1500 E	1614	06/23/89	C
CITY	FRONT	2000 E	2313	06/14/89	C
CITY	FRONT	1600	2853	05/24/90	C
CITY	FRONT	2000	1599	05/24/90	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' COUNT	DATE	A G E N C Y
CITY	FRONT	300	9266	07/26/90	C
CITY	FRONT	3500	9512	07/24/90	C
CITY	FRONT	400	10008	07/26/90	C
CITY	FRONT	900	11363	06/13/90	C
CITY	GARFIELD	100' N OF CENTRE NORTHBOUND	8436	05/23/89	M
CITY	GARFIELD	100' N OF CENTRE SOUTHBOUND	9622	05/24/89	M
CITY	GARFIELD	100' S OF US-31, M-72	14854	05/23/89	M
CITY	GARFIELD	700 S	19941	08/16/89	C
CITY	GARFIELD	800 S S'BD	10219	06/20/89	C
CITY	GARFIELD	900 S N'BD	12772	06/28/89	C
CITY	GARFIELD	1200 S S'BD	7484	06/05/89	C
CITY	GARFIELD	1300 S N'BD	12195	06/05/89	C
CITY	GARFIELD	600	18272	08/15/90	C
CITY	GARFIELD	100	15989	08/16/90	C
CITY	GILBERT	100 S	795	06/29/89	C
CITY	GILBERT	100	355	09/11/90	C
CITY	GRANT	700 S	150	06/15/89	C
CITY	HAMILTON	400 S	440	06/14/89	C
CITY	HAMILTON	400	427	07/17/90	C
CITY	HANNAH	600 E E'BD	162	05/31/89	C
CITY	HANNAH	700 E W'BD	2747	05/31/89	C
CITY	HANNAH	800 E	5937	06/26/89	C
CITY	HANNAH	1000 E	5802	05/16/89	C
CITY	HANNAH	1000	1861	05/24/90	C
CITY	HANNAH	950	3244	06/11/90	C
CITY	HANNAH	901 APPROACH	2468	05/22/90	C
CITY	HANNAH	700	5507	05/01/90	C
CITY	HANNAH APP	700	2524	09/13/90	C
CITY	HANNAH APP	800 W'BD	2883	06/28/90	C
CITY	HANNAH APP	900 E'BD	3273	06/28/90	C
CITY	HANNAH	700 W'BD	2935	06/05/90	C
CITY	HANNAH	900 E'BD	3043	06/05/90	C
CITY	HASTINGS	100' S OF PARSONS	8373	07/17/89	M
CITY	HASTINGS	600 S	4152	06/07/89	C
CITY	HASTINGS	700 S	8281	05/18/89	C
CITY	HASTINGS	600	2001	09/29/90	C
CITY	HASTINGS	800	4230	09/29/90	C
CITY	HASTINGS	600	5762	05/09/90	C
CITY	HASTINGS	800	12014	05/08/90	C
CITY	HIGHLAND	400 N	434	06/26/89	C
CITY	HILL	1000 W	402	07/27/89	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	HOPE	200 S	1027 06/30/89	C
CITY	HOPE	300	504 04/23/90	C
CITY	HURON	400 S	429 06/09/89	C
CITY	HURON	100	331 09/05/90	C
CITY	INCOCHEE TRAIL	400 N	252 07/13/89	C
CITY	INDIAN WOODS	100 S	327 08/07/89	C
CITY	INDIAN WOODS	1700 E	216 06/13/89	C
CITY	IROQUIS	1900 E	158 06/12/89	C
CITY	IROQUOIS	2000	67 08/28/90	C
CITY	JEFFERSON	1000 W	366 07/20/89	C
CITY	KELLEY	800 E	161 05/11/89	C
CITY	KELLEY	900 E	216 06/25/89	C
CITY	KEWAUNEE	2100 E	410 06/29/89	C
CITY	KINROSS	800 E	747 06/05/89	C
CITY	KINROSS	1000 E	112 06/08/89	C
CITY	LAKE	100 E	3255 07/12/89	C
CITY	LAKE	600 S	1851 07/19/89	C
CITY	LAKE	700 S	1791 07/19/89	C
CITY	LAKE	100	3576 07/26/90	C
CITY	LAKE	700	970 07/30/90	C
CITY	LINCOLN	1000 E	388 06/22/89	C
CITY	LINCOLN	1000	752 08/09/90	C
CITY	LONG LAKE	100' SW OF CEDAR RUN	4773 05/17/89	M
CITY	M-37	100' NE OF PENINSULA DR NORTHBOUND	4188 07/12/89	M
CITY	M-37	100' NE OF PENINSULA DR SOUTHBOUND	4150 07/12/89	M
CITY	M-37	100' N OF JCT. US-31 M-72 SOUTHBOUND	4560 05/17/89	M
CITY	M-37	100' N OF JCT. OF US-31 M-72 NORTHBOUND	4667 05/17/89	M
CITY	M-37	200' N OF ANDERSON NORTHBOUND	5363 07/12/89	M
CITY	M-37	200' N OF ANDERSON SOUTHBOUND	5263 07/12/89	M
CITY	M-37	100' N OF JCT. US-31 M-72 NORTHBOUND	4631 09/18/89	M
CITY	M-37	100' NW OF JCT. US-31 M-72 SOUTHBOUND	6456 09/18/89	M
CITY	M-37	100' N OF EASTERN AVE.	10702 05/17/89	M
CITY	M-37	100' SW OF EASTERN AVE SOUTHBOUND	7579 07/12/89	M
CITY	M-37	100' SW OF EASTERN AVE. NORTHBOUND	7765 07/12/89	M

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	M-37	250' NE OF M-37 NORTHBOUND	7987 07/12/89 M	
CITY	M-37	250' NE OF M-37 SOUTHBOUND	7720 07/12/89 M	
CITY	M-37	100' S OF ORCHARD NORTHBOUND	6590 07/12/89 M	
CITY	M-37	100' S OF ORCHARD SOUTHBOUND	6328 07/12/89 M	
CITY	M-37	100' N OF EASTERN NORTHBOUND	6693 07/12/89 M	
CITY	M-37	100' N OF EASTERN SOUTHBOUND	6409 07/12/89 M	
CITY	M-37	100' N OF EASTERN AVE.	10329 09/25/89 M	
CITY	M-37	100' N OF JCT US-31 M-72 NORTHBOUND	4402 10/22/90 M	
CITY	M-37	100' N OF JCT US-31 M-72 SOUTHBOUND	4941 08/15/90 M	
CITY	M-37	100' N OF JCT US-31 M-72 SOUTHBOUND	4344 10/22/90 M	
CITY	M-37	100' SW OF EASTERN AVENUE NORTHBOUND	6217 04/23/90 M	
CITY	M-37	100' SW OF EASTERN AVENUE SOUTHBOUND	6462 04/23/90 M	
CITY	M-37	100' SW OF EASTERN AVENUE	13955 08/15/90 M	
CITY	M-37	100' N OF EASTERN AVENUE NORTHBOUND	4883 04/23/90 M	
CITY	M-37	100' N OF EASTERN AVENUE SOUTHBOUND	5238 04/23/90 M	
CITY	M-37	100' N OF EASTERN AVENUE	11980 08/15/90 M	
CITY	M-72 M-22	.1 MI SE OF M-72&M-22 JCT SOUTHBOUND	11654 05/17/89 M	
CITY	M-72 M-22	.1 MI SE OF M-72&M-22 JCT NORTHBOUND	11902 05/17/89 M	
CITY	M-72 M-22	100' NW OF DIVISION SOUTHBOUND	11461 09/18/89 M	
CITY	M-72 M-22	100' NW OF DIVISION NORTHBOUND	10459 09/18/89 M	
CITY	M-72 M-22	100' NW OF DIVISION SOUTHBOUND	13947 08/15/90 M	
CITY	M-72 M-22	100' NW OF DIVISION NORTHBOUND	13622 08/15/90 M	
CITY	MADISON	200 N	311 07/18/89 C	
CITY	MADISON	100	5425 07/24/90 C	
CITY	MAPLE	100 S	1130 07/26/89 C	
CITY	MAPLE	200 N	1273 07/19/89 C	

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	MAPLE	500 S	1179 07/27/89	C
CITY	MAPLE	900 S	1767 08/03/89	C
CITY	MAPLE	1200 S	1135 08/03/89	C
CITY	MAPLE	100	1024 06/11/90	C
CITY	MAPLE	200	915 06/11/90	C
CITY	MAPLE	500	1023 05/26/90	C
CITY	MAPLE	1300	1239 07/11/90	C
CITY	MAPLE	900	1601 07/12/90	C
CITY	MILIKEN	1200	3660 05/22/90	C
CITY	MILLIKEN	100' N OF US-31 M-37	4495 10/29/90	M
CITY	MILLIKEN	300 N	2440 06/15/89	C
CITY	MONROE	200 N	1930 07/19/89	C
CITY	MONROE	500 N	2423 07/17/89	C
CITY	MONROE	200	1404 06/18/90	C
CITY	MONROE	700	1695 06/25/90	C
CITY	N ORCHARD	100' E OF M-37	200 07/12/89	M
CITY	N. ORCHARD	1200 E	224 08/18/89	C
CITY	N. ORCHARD	1200 E	104 08/18/89	C
CITY	NINETEENTH	300 W	112 08/24/89	C
CITY	NINTH	100 W	1128 08/14/89	C
CITY	NINTH	200 E	367 08/14/89	C
CITY	NINTH	300 W	1064 07/12/89	C
CITY	NINTH	600 W	64 07/31/89	C
CITY	NINTH	100	1626 07/09/90	C
CITY	NINTH	200	385 07/30/90	C
CITY	NINTH	300	890 08/02/90	C
CITY	NINTH	600	624 07/31/90	C
CITY	OAK	100 S	1191 07/24/89	C
CITY	OAK	200 N	1160 07/20/89	C
CITY	OAK	500 S	987 07/31/89	C
CITY	OAK	900 S	1116 08/01/89	C
CITY	OAK	200	878 06/18/90	C
CITY	OAK	400	1178 06/11/90	C
CITY	OAK	900	995 06/14/90	C
CITY	OAKDALE	800 E	219 06/07/89	C
CITY	OAKDALE	800	64 09/11/90	C
CITY	PARSONS	100' NW OF 3 MI	5392 05/24/89	M
CITY	PARSONS	1100 E	8118 05/18/89	C
CITY	PARSONS	1600 E E'BD	5261 06/15/89	C
CITY	PARSONS	1800 E	14035 05/23/89	C
CITY	PARSONS	1800 E E'BD	5202 06/06/89	C
CITY	PARSONS	1900 E	9193 05/23/89	C
CITY	PARSONS	1900 E W'BD	4874 06/06/89	C
CITY	PARSONS	2000 E W'BD	4561 06/20/89	C
CITY	PARSONS	900	9112 05/09/90	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' COUNT	DATE	A G E N C Y
CITY	PARSONS	@ AIRPORT ACCESS	E'BD	5604 10/25/90	C
CITY	PARSONS	@ AIRPORT ACCESS	W'BD	5402 10/25/90	C
CITY	PENINSULA	100' N OF M-37		2515 07/12/89	M
		NORTHBOUND			
CITY	PENINSULA	100' N OF M-37		2822 07/12/89	M
		SOUTHBOUND			
CITY	PENINSULA	100' SW OF GARFIELD		3397 07/12/89	M
		NORTHBOUND			
CITY	PENINSULA	100' SW OF GARFIELD		3600 07/12/89	M
		SOUTHBOUND			
CITY	PENINSULA	100' N OF M-37		3660 10/29/90	M
CITY	PENINSULA	1000 E		7158 06/29/89	C
CITY	PENINSULA	1300 N		12306 06/27/89	C
CITY	PENINSULA	1000		6707 05/30/90	C
CITY	PENINSULA	1200		21689 05/22/90	C
CITY	PENINSULA CT	200		167 09/07/90	C
CITY	PINE	100 S		12483 08/10/89	C
CITY	PINE	900 S		601 08/07/89	C
CITY	PINE	100		11995 07/19/90	C
CITY	PINE	900		616 08/02/90	C
CITY	PINE CREST	500		310 09/06/90	C
CITY	PROSPECT	400 S		345 06/27/89	C
CITY	PROSPECT	400		251 08/07/90	C
CITY	QUAIL RIDGE	400 N		900 07/04/89	C
CITY	QUAIL RIDGE	500		821 09/14/90	C
CITY	RAILROAD	200 S		1651 08/21/89	C
CITY	RAILROAD	1000		1084 04/23/90	C
CITY	RAMSDELL	1100 W		604 07/13/89	C
CITY	RANDOLPH	600 W		1374 07/17/89	C
CITY	RANDOLPH	900 W		1334 07/17/89	C
CITY	RANDOLPH	600		1057 06/13/90	C
CITY	RANDOLPH	900		1682 07/10/90	C
CITY	RENNIE	100' N OF FAIRLANE		4551 05/24/89	M
CITY	RENNIE	1200 S		6621 07/25/89	C
CITY	RENNIE	1600 S		5252 07/27/89	C
CITY	RENNIE	1500		5212 06/11/90	C
CITY	ROSE	200 S		1228 06/29/89	C
CITY	ROSE	400 S	S'BD	1166 05/09/89	C
CITY	ROSE	500 S	N'BD	1319 05/09/89	C
CITY	ROSE	700 S		2149 05/30/89	C
CITY	ROSE	700 S		2146 06/26/89	C
CITY	ROSE	900 S		2044 05/31/89	C
CITY	ROSE	1100 S		1531 06/02/89	C
CITY	ROSE	600	S'BD	2210 05/22/90	C
CITY	ROSE	600	S'BD	3679 07/02/90	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	ROSE	700 N'BD	2534 07/02/90	C
CITY	ROSE	1000	2011 05/01/90	C
CITY	ROSE	200	1740 04/30/90	C
CITY	ROSE	600	2591 05/01/90	C
CITY	ROSE	@ 8TH N'BD	1508 10/18/90	C
CITY	ROSE	@ 8TH S'BD	1565 10/18/90	C
CITY	ROSE APP	700 S'BD	1185 06/28/90	C
CITY	ROSE APP	800 N'BD	2700 06/28/90	C
CITY	ROSE CT.	900 E	617 06/08/89	C
CITY	S AIRPORT ACC	1900	3749 05/17/90	C
CITY	S CIVIC CENTER	500	3487 05/15/90	C
CITY	S UNION	1200	2250 06/06/90	C
CITY	S UNION	1200	2282 06/07/90	C
CITY	S UNION	1700	1063 06/07/90	C
CITY	S UNION	1700	1192 06/06/90	C
CITY	S UNION	500	10306 06/27/90	C
CITY	SECOND	600 W	382 07/18/89	C
CITY	SECOND	900 W	108 07/18/89	C
CITY	SENECA	1900 E	102 06/09/89	C
CITY	SEQUOIA	1900 E	51 06/12/89	C
CITY	SEVENTEENTH	100W	247 08/16/89	C
CITY	SEVENTEENTH	100	367 08/07/90	C
CITY	SEVENTH	100' E OF ELMWOOD	1734 10/24/90	M
CITY	SEVENTH	300 W	1470 06/29/89	C
CITY	SEVENTH	600 W	1588 07/27/89	C
CITY	SEVENTH	700 W	3282 07/25/89	C
CITY	SEVENTH	600	1619 06/14/90	C
CITY	SEVENTH	700	2609 07/24/90	C
CITY	SHAWNEE	1900 E	129 06/12/89	C
CITY	SHAWNEE	1900	79 08/28/90	C
CITY	SHERIDAN	400 N	831 06/19/89	C
CITY	SHERIDAN	500	785 09/06/90	C
CITY	SILVER LAKE	100' SW OF ELMWOOD NORTHBOUND	6557 05/17/89	M
CITY	SILVER LAKE	100' SW OF ELMWOOD SOUTHBOUND	6188 05/22/89	M
CITY	SILVER LAKE	100' SW OF ELMWOOD NORTHBOUND	6457 07/17/89	M
CITY	SILVER LAKE	100'SW OF ELMWOOD SOUTHBOUND	6062 07/17/89	M
CITY	SILVER LAKE	100'SW OF US-31 M-37 SOUTHBOUND	5133 08/13/90	M
CITY	SILVER LAKE	900 W	11644 08/23/89	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	SIXTEENTH	100 E	680 05/30/89	C
CITY	SIXTEENTH	100 E W'BD	402 06/01/89	C
CITY	SIXTEENTH	100 W	165 07/13/89	C
CITY	SIXTEENTH	400 W	887 05/22/89	C
CITY	SIXTEENTH	200 W	367 08/21/89	C
CITY	SIXTEENTH	300	598 09/10/90	C
CITY	SIXTEENTH	100	779 08/07/90	C
CITY	SIXTH	300 W	2196 07/28/89	C
CITY	SIXTH	600 W	945 07/26/89	C
CITY	SIXTH	900 W	3644 07/25/89	C
CITY	SIXTH	1100 W	3538 06/12/89	C
CITY	SIXTH	1200 W	3254 06/12/89	C
CITY	SIXTH	900	3868 07/12/90	C
CITY	SIXTH	1000	3704 06/25/90	C
CITY	SIXTH	600	2078 07/10/90	C
CITY	SPRUCE	200 S	296 07/18/89	C
CITY	SPRUCE	400 N	260 07/17/89	C
CITY	STATE	100' E OF CASS EASTBOUND	8450 05/23/89	M
CITY	STATE	100' W OF CASS EASTBOUND	8503 05/23/89	M
CITY	STATE	100' S OF FRONT	9153 05/24/89	M
CITY	STATE	100' W OF CASS EASTBOUND	10755 07/17/89	M
CITY	STATE	100 E	12657 07/25/89	C
CITY	STATE	200 E	10259 07/26/89	C
CITY	STATE	200 W	10080 08/10/89	C
CITY	STATE	300 E E'BD	5248 05/29/89	C
CITY	STATE	600 E	3977 07/04/89	C
CITY	STATE	900 E	2608 06/30/89	C
CITY	STATE	900	1959 07/02/90	C
CITY	STATE	100	10089 07/19/90	C
CITY	STATE	100	10093 07/19/90	C
CITY	STATE	200	10028 06/28/90	C
CITY	STATE	600	2282 04/23/90	C
CITY	STATE	800	1767 08/28/90	C
CITY	TENTH	100 W	963 07/26/89	C
CITY	TENTH	200 E	748 07/20/89	C
CITY	TENTH	300 W	855 08/09/89	C
CITY	TENTH	600 W	876 08/01/89	C
CITY	TENTH	100	1047 07/09/90	C
CITY	TENTH	200	705 07/30/90	C
CITY	TENTH	300	1100 08/02/90	C
CITY	TENTH	600	673 07/31/90	C
CITY	TERRACE	500 S	395 06/07/89	C
CITY	TERRACE	500	249 08/21/90	C
CITY	THIRD	500 W	429 08/24/89	C
CITY	THIRTEENTH	100 W	992 08/01/89	C

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	THIRTEENTH	300 W	958 08/03/89	C
CITY	THIRTEENTH	600 W	739 08/07/89	C
CITY	THIRTEENTH	500	2445 08/06/90	C
CITY	THIRTEENTH	600	1148 08/08/90	C
CITY	TITUS	1200	544 05/09/90	C
CITY	TITUS	1100	1632 07/05/90	C
CITY	TWELFTH	100 W	858 07/31/89	C
CITY	TWELFTH	200 E	849 08/09/89	C
CITY	TWELFTH	300 W	731 08/03/89	C
CITY	TWELFTH	600 W	645 08/07/89	C
CITY	TWELFTH	200	1154 07/31/90	C
CITY	TWELFTH	300	959 08/08/90	C
CITY	TWELFTH	600	700 08/06/90	C
CITY	TWELFTH	100	1007 07/09/90	C
CITY	UNION	100' S OF US-31, M-72	7964 05/23/89	M
CITY	UNION	100' S OF US-31,M-72	9017 07/17/89	M
CITY	UNION	100 S	11810 08/15/89	C
CITY	UNION	200 S	10137 05/16/89	C
CITY	UNION	500 S	10429 05/16/89	C
CITY	UNION	1200 S	2740 08/04/89	C
CITY	UNION	1500 S	1248 08/02/89	C
CITY	UNION	100	15785 07/19/90	C
CITY	US-31 M-37	100' S OF SILVER LAKE NORTHBOUND	10329 09/11/89	M
CITY	US-31 M-37	100' S OF SILVER LAKE SOUTHBOUND	10552 09/11/89	M
CITY	US-31 M-37	100' N OF 14TH NORTHBOUND	13004 05/22/89	M
CITY	US-31 M-37	100' N OF 14TH SOUTHBOUND	10721 05/22/89	M
CITY	US-31 M-37	100' S OF FRONT NORTHBOUND	11222 05/22/89	M
CITY	US-31 M-37	100' S OF FRONT SOUTHBOUND	10613 05/22/89	M
CITY	US-31 M-37	100' N OF 14TH NORTHBOUND	11397 09/11/89	M
CITY	US-31 M-37	100' N OF 14TH	10516 09/11/89	M
CITY	US-31 M-37	100' S OF 8TH NORTHBOUND	11171 09/11/89	M
CITY	US-31 M-37	100' S OF 8TH SOUTHBOUND	10323 09/11/89	M
CITY	US-31 M-37	100' S OF 6TH NORTHBOUND	11438 09/18/89	M
CITY	US-31 M-37	100' N OF BAY NORTHBOUND	9525 09/18/89	M
CITY	US-31 M-37	100' N OF BAY SOUTHBOUND	9010 09/18/89	M
CITY	US-31 M-37	100' N OF SILVER PINES	14071 11/08/90	M
CITY	US-31 M-37	100' S OF SILVER LAKE NORTHBOUND	12044 08/13/90	M
CITY	US-31 M-37	100' S OF SILVER LAKE	12574 08/14/90	M

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
		NORTHBOUND		
CITY	US-31 M-37	100' S OF SILVER LAKE	12184 08/13/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' S OF SILVER LAKE	12130 08/14/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' S OF SILVER LAKE	12788 08/15/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' N OF 14TH	12956 08/13/90 M	
		NORTHBOUND		
CITY	US-31 M-37	100' N OF 14TH	12742 08/14/90 M	
		NORTHBOUND		
CITY	US-31 M-37	100' N OF 14TH	13267 08/15/90 M	
		NORTHBOUND		
CITY	US-31 M-37	100' N OF 14TH	11682 08/13/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' N OF 14TH	11489 08/14/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' N OF 14TH	12018 08/15/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' S OF 8TH	12743 08/13/90 M	
		NORTHBOUND		
CITY	US-31 M-37	100' S OF 8TH	10217 08/13/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' S OF 6TH NORTHBOUND	13262 08/13/90 M	
CITY	US-31 M-37	100' S OF 6TH SOUTHBOUND	12034 08/13/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' N OF BAY	11243 08/13/90 M	
		NORTHBOUND		
CITY	US-31 M-37	100' N OF BAY NORTHBOUND	9002 10/22/90 M	
CITY	US-31 M-37	100' N OF BAY SOUTHBOUND	8824 10/22/90 M	
CITY	US-31 M-37	100' SE OF W JCT M-37	13819 08/15/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' SE OF W JCT M-37	13755 08/15/90 M	
		NORTHBOUND		
CITY	US-31 M-37	100' NW OF UNION	16062 08/15/90 M	
		SOUTHBOUND		
CITY	US-31 M-37	100' NW OF UNION	14938 08/15/90 M	
		NORTHBOUND		
CITY	US-31 M-72	.1 MI SE OF AIRPORT ACCESS SOUTHBOUND	13047 09/25/89 M	
CITY	US-31 M-72	.1 MI SE OF AIRPORT ACCESS NORTHBOUND	12483 09/25/89 M	
		NORTHBOUND		
CITY	US-31 M-72	100' NW OF 8TH	10034 09/25/89 M	
		SOUTHBOUND		
CITY	US-31 M-72	100' NW OF 8TH	10254 09/25/89 M	

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
		NORTHBOUND		
CITY	US-31 M-72	300' SE OF 8TH	13994 09/25/89 M	
		SOUTHBOUND		
CITY	US-31 M-72	300' SE OF 8TH	13345 09/25/89 M	
		NORTHBOUND		
CITY	US-31 M-72	100' E OF M-37 E JCT.	13031 09/18/89 M	
		EASTBOUND		
CITY	US-31 M-72	100' E OF M-37 E JCT.	12670 09/18/89 M	
		WESTBOUND		
CITY	US-31 M-72	100' E OF M-37 E JCT	15722 08/15/90 M	
		WESTBOUND		
CITY	US-31 M-72	100' NW OF 8TH	14336 08/08/90 .	
		SOUTHBOUND		
CITY	US-31 M-72	100' NW OF 8TH	14456 08/08/90 M	
		NORTHBOUND		
CITY	US-31 M-72	300' SE OF 8TH	18858 08/08/90 M	
		SOUTHBOUND		
CITY	US-31 M-72	300' SE OF 8TH	17803 08/08/90 M	
		NORTHBOUND		
CITY	US-31 M-72	.1 MI SE OF AIRPORT ACCESS SOUTHBOUND	17793 08/08/90 M	
CITY	US-31 M-72	.1 MI SE OF AIRPORT ACCESS NORTHBOUND	17301 08/08/90 M	
CITY	US-31 M-72	100' W OF HOPE WESTBOUND	14453 04/27/89 M	
	M-37			
CITY	US-31 M-72	100' W OF HOPE EASTBOUND	9517 04/27/89 M	
	M-37			
CITY	US-31 M-72	100' SE OF W JCT. M-37	12507 05/17/89 M	
	M-37	SOUTHBOUND		
CITY	US-31 M-72	100' SE OF W JCT M-37	11587 05/17/89 M	
	M-37	NORTHBOUND		
CITY	US-31 M-72	400' NW OF CASS	12523 05/17/89 M	
	M-37	NORTHBOUND		
CITY	US-31 M-72	400' NW OF CASS	13697 05/17/89 M	
	M-37	SOUTHBOUND		
CITY	US-31 M-72	100' W OF HOPE	19533 07/20/89 M	
	M-37	EASTBOUND		
CITY	US-31 M-72	100' SE OF W JCT M-37	9612 09/18/89 M	
	M-37	NORTHBOUND		
CITY	US-31 M-72	100' SE OF W JCT M-37	12021 09/18/89 M	
	M-37	SOUTHBOUND		
CITY	US-31 M-72	100' NW OF FRONT	10538 09/18/89 M	
	M-37	NORTHBOUND		
CITY	US-31 M-72	100' NWOF UNION	12404 09/18/89 M	
	M-37	NORTHBOUND		

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	US-31 M-72 M-37	100' NW OF UNION SOUTHBOUND	13875 09/18/89 M	
CITY	US-31 M-72 M-37	100' W OF HOPE EASTBOUND	15348 09/21/89 M	
CITY	US-31 M-72 M-37	100' W OF HOPE WESTBOUND	17730 09/21/89 M	
CITY	US-31 M-72 M-37	100' NW OF FRONT SOUTHBOUND	15618 08/15/90 M	
CITY	US-31 M-72 M-37	100' NW OF FRONT NORTHBOUND	14598 08/15/90 M	
CITY	US-31 M-72 M-37	100' W OF HOPE EASTBOUND	15224 10/22/90 M	
CITY	US-31 M-72 M-37	100' W OF HOPE WESTBOUND	15505 10/22/90 M	
CITY	US-31 M-72 M-37	100' E OF M-37 E JCT EASTBOUND	14640 08/15/90 M	
CITY	WADSWORTH	200 S	1521 07/12/89 C	
CITY	WADSWORTH	500 S	898 07/31/89 C	
CITY	WADSWORTH	900 S	635 08/01/89 C	
CITY	WADSWORTH	100	1209 07/17/90 C	
CITY	WADSWORTH	500	612 08/06/90 C	
CITY	WADSWORTH	900	426 08/06/90 C	
CITY	WALNUT	1000 E	1549 06/22/89 C	
CITY	WALNUT	1000	1375 08/09/90 C	
CITY	WASHINGTON	300 E	2444 08/20/89 C	
CITY	WASHINGTON	600 E W'BD	506 05/22/89 C	
CITY	WASHINGTON	800 E	1217 05/24/89 C	
CITY	WASHINGTON	900 E	446 06/27/89 C	
CITY	WASHINGTON	300	1971 05/24/90 C	
CITY	WASHINGTON	1000	813 04/30/90 C	
CITY	WASHINGTON	600	992 04/23/90 C	
CITY	WAYNE	1200 W	379 07/13/89 C	
CITY	WEBSTER	400 E	1194 08/22/89 C	
CITY	WEBSTER	600 E	890 07/12/89 C	
CITY	WEBSTER	1000 E	445 06/22/89 C	
CITY	WEBSTER	1000	376 08/08/90 C	
CITY	WEBSTER	400	965 07/10/90 C	
CITY	WEBSTER	800	653 08/08/90 C	
CITY	WELLINGTON	100 S	757 07/05/89 C	
CITY	WELLINGTON	100	2981 07/26/90 C	
CITY	WENOHAN	400	1552 07/05/90 C	
CITY	WENONAH	400 S	1171 06/09/89 C	
CITY	WENOWAH	100	1194 09/05/90 C	
CITY	WILLOW	1100 W	427 07/13/89 C	
CITY	WOOD	900 E	229 06/19/89 C	

TC-TALUS
 TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR START AVG' DATE COUNT	A G E N C Y
CITY	WOOD	900	180 09/11/90	C
CITY	WOODLAND	500 S	102 06/07/89	C
CITY	WOODLAND	500	224 08/24/90	C
CITY	WOODMERE	100' S OF 8TH	13348 05/23/89	M
CITY	WOODMERE	600 S	15296 05/11/89	C
CITY	WOODMERE	600 S S'BD	7485 05/31/89	C
CITY	WOODMERE	700 S N'BD	5084 05/31/89	C
CITY	WOODMERE	1000 S	5675 05/25/89	C
CITY	WOODMERE	1000 S S'BD	5484 05/30/89	C
CITY	WOODMERE	1100 S N'BD	1894 05/30/89	C
CITY	WOODMERE	1300	5018 08/21/90	C
CITY	WOODMERE	500	15466 08/21/90	C
CITY	WOODMERE	700	15133 05/17/90	C
CITY	WOODMERE	1000 S'BD	5167 09/27/90	C
CITY	WOODMERE	1100 N'BD	3255 09/27/90	C
CITY	WOODMERE APP	600 N'BD	5166 09/13/90	C
CITY	WOODMERE APP	700 S'BD	7379 09/13/90	C

TRAVERSE CITY TRAFFIC COUNTS

NO.	STREET NAME	BLOCK NO.	DAY DIR	LANES	YR-MO-DAY	24 HR TL
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TRAVERSE CITY TRAFFIC COUNTS

NO.	STREET NAME	BLOCK NO.	DAY DIR	LANES	YR-MO-DAY	24 HR TL
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1	Aero Park Drive @ S. Airport		T	Both	2 92-06-16	1693
2	Airport Access @ Airport		M	Both	2 92-08-03	3526
3	Alley E. of Fair S. of Munson		W	Both	2 92-07-28	235
4	Alley S. of Munson E. of Fair		T	Both	2 92-05-26	178
5	Alley S. of Munson E. of Fair		M	Both	2 92-07-27	203
6	Alley S. of Munson E. of Fair		T	Both	2 92-06-02	257
7	Anderson 1100 E.		W	Both	2 92-08-05	458
8	Arnold Court		T	Both	2 92-05-26	240
9	Baldwin St. 900 E.		T	Both	2 92-07-14	870
10	Barlow 800 S.		W	Both	2 92-08-25	1581
11	Barlow 300 N.		R	Both	2 92-06-11	2269
12	Barlow 1100 S.		R	Both	2 92-06-18	2957
13	Beadle 1600 E.		W	Both	2 92-07-01	149
14	Belmont S. 500		M	Both	2 92-07-13	888
15	Birchwood 200 S.		M	Both	2 92-07-13	1006
16	Birchwood 200 S.		T	Both	2 92-07-14	1025
17	Boon St. 900 E.		S	Both	2 92-08-07	702
18	Boon St. 900 E.		F	Both	2 92-08-07	1232
19	Boon St. 900 E.		M	Both	2 92-08-10	1331
20	Boon St. 1100 E.		M	Both	2 92-08-10	2553
21	Boon St. 900 E.		W	Both	2 92-08-05	1177
22	Boughay St. 200 W.		R	Both	2 92-07-09	514
23	Boyd 1000 E.		T	Both	2 92-06-23	222
24	Carver St. 800 E.		T	Both	2 92-08-25	5511
25	Cass N. of 14th St. 1100 S.			Both	2	0
26	Cass N. of 14th St. 1100 S.		W	Both	2 92-07-15	12401
27	Cass S. of 14th St. 1200 S.		W	Both	2 92-07-15	11146
28	Cass S. of 14th St. 1200 S.			Both	2	0
29	Cedar 200 N.		T	Both	2 92-07-21	581
30	Centre 800 E.		W	Both	2 92-06-23	404
31	Clinch 1100 S.		M	Both	2 92-07-27	256
34	Conklin 400 S.		M	Both	2 92-07-08	598
35	Crowell 500 S.		T	Both	2 92-07-14	195
36	Davis 400 S.		M	Both	2 92-07-06	485
37	Eastern 1300 E.		T	Both	2 92-08-25	4357
38	Eastern 1500 E.		W	Both	2 92-06-03	3664
39	Eastern 1900 E.		T	Both	2 92-08-25	1710
40	Eastwood 600		T	Both	2 92-06-09	100
41	Eighth 400 W.		T	Both	2 92-06-30	2126
42	Eighth 800 E.			Both	2 92-08	0
43	Eighth St. 2000 E.		T	Both	2 92-07-28	2015
44	Eighth St. 300 W.		W	Both	2 92-07-08	2451
45	Eighth St. 300 W.		M	Both	2 92-07-06	2425
46	Eleventh St. 200 E.		R	Both	2 92-08-13	394
47	Eleventh St. 400 W.		W	Both	2 92-07-01	866
48	Eleventh St. 100 E.		M	Both	2 92-09-17	1301

EIGHTH at Cass 17,980 8/14/90

HHH @ Jiffy Lube 12,431 1991

" @ 30 Block 15,524 1991

TRAVERSE CITY TRAFFIC COUNTS

NO.	STREET NAME	BLOCK NO.	DAY	DIR	LANES	YR-MO-DAY	24 HR TL.
49	Elmwood	400 S.	M	Both	2	92-06-22	2001
50	Elmwood	500 S.	M	Both	2	92-07-06	2913
51	E. Bay Blvd	200 N.	W	Both	2	92-06-10	1968
52	E. Bay Blvd	200 N.	M	Both	2	92-07-13	1371
53	E. Bay Blvd	100 N.	T	Both	2	92-08-25	1308
54	E. Bay Blvd.	200 N.	T	Both	2	92-07-14	1452
55	E. Front St.	100 W.	W	Both	2	92-06-08	9808
56	E. Front St.	2000 E.	T	Both	2	92-08-04	2014
57	Fair St.	400 S.	T	Both	2	92-06-30	2213
58	Fairlane	400 W.	R	Both	2	92-07-30	104
59	Fern St.	800 S.	W	Both	2	92-06-17	890
60	Fifteenth St.	500 W.	R	Both	2	92-08-20	1333
61	Fifteenth St.	W 500 Block	M	Both	2	92-07-13	973
62	Fifth St.	500 E.	T	Both	2	92-06-16	393
63	Franklin	300 S.	R	Both	2	92-06-11	228
64	Franklin	S.400	R	Both	2	92-06-18	1301
65	Gilbert	100 S.	T	Both	2	92-07-28	586
66	Grant St.	800 S.	F	Both	2	92-06-26	233
67	Hamilton	400 S.	F	Both	2	92-07-07	210
68	Hannah	700 E.	W	Both	2	92-09-02	5039
69	Hannah St.	800 E.	W	Both	2	92-06-10	5966
70	Hastings	600 S.	R	Both	2	92-06-18	2218
71	Hill St.		W	Both	2	92-05-13	622
72	Hope	300 S.	M	Both	2	92-06-15	658
73	Huron St.	100 S.	M	Both	2	92-07-20	122
74	Indian Woods Dr.	100 S.	F	Both	2	92-07-16	193
75	Indian Woods Dr.	100 S.	M	Both	2	92-07-20	154
76	Iroquis	1900 E.	M	Both	2	92-08-03	90
77	Jefferson	1100 W.	W	Both	2	92-07-22	353
78	Kelly	800 E.	M	Both	2	92-07-27	201
79	Kiercross	1000 E.	M	Both	2	92-06-29	247
80	Lake Ave	700 S.	M	Both	2	92-07-27	1145
81	Lincoln	1000 E.	F	Both	2	92-06-26	350
82	Maple	200 S.	M	Both	2	92-06-15	879
83	Maple	400 N.	T	Both	2	92-06-23	1035
84	Maple St.	700 S.	W	Both	2	92-08-20	1118
86	Miliken	300 N.	M	Both	2	92-08-03	2710
87	Monroe St.	100 N.	R	Both	2	92-06-04	1410
89	Ninth	400 W.	T	Both	2	92-06-30	901
90	Ninth St.	200 E.	T	Both	2	92-08-11	388
91	Oak	400 N.	M	Both	2	92-06-23	1073
92	Oak St.	600 S.	W	Both	2	92-07-01	1026
93	Oakdale	800 E.	T	Both	2	92-08-04	73
94	Parsons	2000 E.	W	Both	2	92-08-12	6297
95	Parsons	2000 E.	R	Both	2	92-08-13	6837
96	Peninsula Dr.	1000 N.	M	Both	2	92-08-03	6401
97	Pine Crest	400 N.	W	Both	2	92-07-29	427
98	Pine St.	600 S.	W	Both	2	92-07-01	571
99	Quail Ridge	500 N.	W	Both	2	92-07-29	1049
100	Railroad	300 S.	M	Both	2	92-06-15	2115
101	Ramsdell	1300 S.	F	Both	2	92-07-24	561

TRAVERSE CITY TRAFFIC COUNTS

NO.	STREET NAME	BLOCK NO.	DAY	DIR	LANES	YR-MO-DAY	24 HR TL
102	Randolph	1000 W.	T	Both	2	92-07-21	894
103	Rennie St.	1500 S.	W	Both	2	92-06-23	4263
104	Rose 500 S.			Both	2	92-08	0
105	Rose St.	600 S.	T	Both	2	92-06-02	2559
106	Rose St.	1000 S.	R	Both	2	92-06-04	2379
107	Rose St.	500 S.	T	Both	2	92-06-09	2456
108	Second St.	600 E.	R	Both	2	92-06-25	338
109	Seventeenth St.		T	Both	2	92-05-26	231
110	Seventh St.	400 W.	R	West	1	92-06-16	1349
111	Seventh St.	400 E.	R	Both	2	92-06-17	1347
112	Shawnee	1900 E.	W	Both	2	92-07-29	148
113	Sheridan		T	Both	2	92-09-08	0
114	Sheridan		T	Both	2	92-09-08	0
115	Sheridan	100 N.	T	Both	2	92-08-18	717
116	Sheridan	200 N.	M	Both	2	92-06-08	971
117	Sheridan	200 N.	F	Both	2	92-06-05	1330
118	Sheridan	2000 N.	M	Both	2	92-08-17	567
119	Sheridan	400 N.	S	Both	2	92-06-06	763
120	Sheridan	400 N.	F	Both	2	92-06-05	992
121	Sixteenth St.	400 W.	W	Both	2	92-07-08	1055
122	Sixteenth St.	100 W.	R	Both	2	92-07-09	809
124	Spruce	300 N.	T	Both	2	92-07-21	504
125	State St.	500 E.	T	Both	2	92-06-09	2390
126	State St.	1000 E.	W	Both	2	92-08-05	1305
127	S. Civic Center	400 S.	M	Both	2	92-06-29	1918
128	S. Orchard	1500 E.	M	Both	2	92-06-08	44
129	S. Orchard	1500 E.	F	Both	2	92-06-05	74
130	Tenth St.	400 W.	M	Both	2	92-07-01	770
131	Tenth St.	200 E.	W	Both	2	92-08-12	703
132	Terrace	500 S.	F	Both	2	92-07-10	354
133	Third St.	500 W.	R	Both	2	92-06-25	318
135	Thirteenth St.	400 W.	T	Both	2	92-07-07	1690
136	Titus	400 S.	F	Both	2	92-06-26	793
137	Twelfth St.	200 E.	M	Both	2	92-08-17	1047
138	Twelfth St.	400 W.	T	Both	2	92-07-07	1172
139	Union	1100 S.	T	Both	2	92-07-21	7326
140	Union	1200 S.	T	Both	2	92-07-21	1892
141	Union St.	1100 S.	M	Both	2	92-08-17	0
142	Union St.	1200 S.	M	Both	2	92-08-17	0
143	Wadsworth	400 W.	T	Both	2	92-06-30	691
144	Walnut	1000 E.	T	Both	2	92-07-28	1233
145	Washington	300 E.	T	Both	2	92-06-09	929
146	Washington	1000 E.	W	Both	2	92-08-11	757
147	Wayne	600 E.	R	Both	2	92-07-23	565
148	Webster	300 E.	R	Both	2	92-06-11	772
149	Webster	1000 E.	F	Both	2	92-08-06	424
150	Wellington	300 S.	T	Both	2	92-06-16	1127
151	Wenonah	300 S.	T	Both	2	92-07-14	1448
152	Willow	1200 W.	R	Both	2	92-07-23	134
153	Wood	700 E.	W	Both	2	92-07-16	131
154	Woodland	500 E.	M	Both	2	92-07-13	232

TRAVERSE CITY TRAFFIC COUNTS

NO.	STREET NAME	BLOCK NO.	DAY	DIR	LANES	YR-MO-DAY	24	HF	TL
155	Woodmere	1000 S.	Nb	only	W	north	2	92-08-26	5445
156	Woodmere	1000 S.	Sb	only	W	south	1	92-09-02	5318
157	Woodmere	1300 S.			W	Both	2	92-08-26	6344
158	W. Front St.	900 W			R	Both	2	92-07-23	11417
159	W. Orchard	600 E.			T	Both	2	92-06-09	212

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	AGENCY
GARFIELD	BARLOW	.1 MI S OF BOONE	10257	05/22/89	M
GARFIELD	BARLOW	100 FT NORTH OF AIRPORT RD. DIR. N-S 2-WAY	10867	10/29/91	M
GARFIELD	BARLOW	300 FT. NORTH OF SOUTH AIRPORT	11957	07/20/92	G
GARFIELD	BARNES	100' W OF RD 633	4812	05/17/89	M
GARFIELD	BIRMLEY	100' E OF GARFIELD	283	10/31/90	M
GARFIELD	BIRMLEY	624' WEST OF GARFIELD	71	08/13/91	G
GARFIELD	BIRMLEY	WEST OF GARFIELD	3944	07/28/92	G
GARFIELD	BLUE STAR	CORNER OF BLUE STAR AND 31	261	09/04/92	G
GARFIELD	CASS	500' NW OF KEYSTONE	2113	06/25/90	G
GARFIELD	CASS	4800' N OF KEYSTONE	3557	09/05/90	G
GARFIELD	CASS	3800' S OF S AIRPORT	4839	08/21/90	G
GARFIELD	CASS	.1 MI N OF S AIRPORT	12072	05/22/89	M
GARFIELD	CASS	2700' NORTH OF HARTMAN RD.	5836	10/07/91	G
GARFIELD	CASS	2700 FT. NORTH OF HARTMAN RD.	5836	08/04/92	G
GARFIELD	CEDAR RUN	1500' W OF N LONG LAKE	2231	08/17/90	G
GARFIELD	E SILVER LAKE	1000' S OF SILVER LAKE	2342	06/04/90	G
GARFIELD	FRANKE	N OF MEIJER ENTRANCE	5272	07/26/91	G
GARFIELD	FRANKE	BETWEEN MEIER AND SILVER LAKE ROAD	15848	07/26/91	G
GARFIELD	FRONT	100 FT WEST OF CASS ST. DIR. WEST	8917	10/28/91	M
GARFIELD	GARFIELD	0.75 MI S OF SPRING HILL	4536	06/21/91	T
GARFIELD	GARFIELD	3600' N OF HAMMOND	11973	09/05/90	G
GARFIELD	GARFIELD	.1 MI N OF HAMMOND	9647	05/16/89	M
GARFIELD	GARFIELD	.3 MI NW OF POTTER	3978	05/16/89	M
GARFIELD	GARFIELD	100' N OF S AIRPORT	9565	05/22/89	M
GARFIELD	GARFIELD	100' N OF S AIRPORT	9783	05/22/89	M
GARFIELD	GARFIELD	.3 MI N OF S AIRPORT NORTHBOUND	11408	05/22/89	M
GARFIELD	GARFIELD	.3 MI N OF S AIRPORT SOUTHBOUND	12116	05/22/89	M
GARFIELD	GARFIELD	.1 MI N OF HAMMOND	11596	07/17/89	M
GARFIELD	GARFIELD	.3 MI N OF S AIRPORT SOUTHBOUND	13299	07/17/89	M
GARFIELD	GARFIELD	.3 MI N OF S AIRPORT NORTHBOUND	12171	07/17/89	M
GARFIELD	GARFIELD	100' S OF S AIRPORT	14320	10/31/90	M
GARFIELD	GARFIELD	100' S OF HAMMOND	9740	10/31/90	M
GARFIELD	GARFIELD	3/4 MI. SOUTH OF SPRING	12543	06/21/91	G

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	AGENCY
		RD.			
GARFIELD	GARFIELD	3/4 MI. SOUTH OF SPRING HILL RD.	5890	05/28/92	G
GARFIELD	GARFIELD	BETWEEN DUELL AND OAK TERRACE	7933	07/08/92	G
GARFIELD	GARFIELD	NORTH OF BIRMLEY	10763	07/28/92	G
GARFIELD	GARFIELD	3/4 OF A MI. SOUTH OF SPRING HILL RD.	5685	07/31/92	G
GARFIELD	HAMMOND	100' W OF GARFIELD	3640	06/24/91	T
GARFIELD	HAMMOND	100' E OF GARFIELD	7001	06/24/91	T
GARFIELD	HAMMOND	100' EAST OF GARFIELD RD.	13370	06/24/91	G
GARFIELD	HAMMOND	1800' EAST OF GARFIELD RD.	2383	08/12/91	G
GARFIELD	HAMMOND	100' WEST OF GARFIELD RD. INT.	6907	06/24/91	G
GARFIELD	HAMMOND	100 FT. WEST OF GARFIELD RD	5401	06/18/92	G
GARFIELD	HAMMOND	100 FT. EAST OF GARFIELD RD.	7408	06/26/92	G
GARFIELD	HAMMOND	100 FT. EAST OF GARFIELD RD.	3342	06/29/92	G
GARFIELD	HAMMOND	BETWEEN GARFIELD & LAFRANIER (EASTBOUND)	2499	07/16/92	G
GARFIELD	HAMMOND	BETWEEN GARFIELD & LAFRANIER(WESTBOUND)	2989	07/23/92	G
GARFIELD	HAMMOND	BETWEEN GARFIELD AND THREE MILE RD.	8035	08/06/92	G
GARFIELD	HARTMAN	1500' E OF US-31	1715	10/03/91	T
GARFIELD	HARTMAN	100' E OF US-31 M-37	1588	11/08/90	M
GARFIELD	HARTMAN	1500' EAST OF US-31	6064	10/06/91	G
GARFIELD	HARTMAN	1500 FT. EAST OF US-31	1398	06/17/92	G
GARFIELD	HOCH	WEST OF RUSCH	262	08/23/91	G
GARFIELD	HOCH	WEST OF RUSCH RD.	259	08/23/91	G
GARFIELD	KEYSTONE	100' N OF BIRMLEY	3785	10/31/90	M
GARFIELD	KEYSTONE	400' SOUTH OF BRIMLEY RD.	32287	10/07/91	G
GARFIELD	KEYSTONE	400 FT SOUTH OF BIRMLEY	9493	06/10/92	G
GARFIELD	KEYSTONE	2/10 MI NORTH OF INTERSECTION OF RIVER RD	9451	10/05/92	G
GARFIELD	KEYSTONE	400 FT SOUTH OF BIRMLEY RD	5848	10/05/92	G
GARFIELD	LA FRANIER	100' S OF S AIRPORT	10948	10/31/90	M
GARFIELD	LA FRANIER	100 FT. S. OF S. AIRPORT RD. DIR. N-S 2-WAY	6365	10/29/91	M
GARFIELD	LAFRAINER	4550' N OF HAMMOND	4488	09/05/90	G
GARFIELD	LAFRAINER	SOUTH OF KEYSTONE	8216	07/15/92	G

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	AGENCY
GARFIELD	LAFRANIER	100 YRD. NORTH OF HAMMOND	5180	07/21/92	G
GARFIELD	M-37	100 FT N OF JCT FRONT & GARFIELD DIR. N	5146	06/17/91	M
GARFIELD	M-37	100 FT N OF JCT FRONT & GARFIELD DIR. S	5095	06/17/91	M
GARFIELD	M-37	100 FT SW OF EASTERN AVE. DIR. NE-SW 2-WAY	14422	06/17/91	M
GARFIELD	M-37	100 FT N OF EASTERN AVE. DIR. N-S 2-WAY	11867	06/17/91	M
GARFIELD	M-72 M-22	100 FT NW OF DIVISION DIR. SE	12855	06/10/91	M
GARFIELD	M-72 M-22	100 FT NW OF DIVISION DIR. NW	12520	06/10/91	M
GARFIELD	MANUFACT MKT PL	100 FT WEST OF US-31 M-37 DIR.E	3536	07/15/91	M
GARFIELD	MANUFACT MKT PL	100 FT WEST OF US-31 M-37 DIR. W	3104	07/15/91	M
GARFIELD	MANUFACT MKT PL	100 FT WEST OF US-31 M-37 E-W 2-WAY	3147	01/14/91	M
GARFIELD	MEADOWLANE	WEST OF US-31 SOUTH	1508	07/07/92	G
GARFIELD	N LONG LAKE	500' W OF ZIMMERMAN	7473	06/11/91	T
GARFIELD	N LONG LAKE	.1 MI E OF ZIMMERMAN	7205	05/17/89	M
GARFIELD	RENNIE SCHOOL	150 FT. EAST OF US-31	250	08/07/91	G
GARFIELD	RENNIE SCHOOL	200 FT. EAST OF US-31	1680	06/30/92	G
GARFIELD	RENNIE SCHOOL	200 FT. EAST OF US-31	1040	07/04/92	G
GARFIELD	RENNIE SCHOOL	200 FT. EAST OF US-31	1480	07/06/92	G
GARFIELD	RIDGEMORE	100' S OF N LONG LAKE	919	04/25/90	T
GARFIELD	RUSCH	N OF HOCH	311	08/23/91	G
GARFIELD	RUSCH	NORTH OF HOCH RD.	1389	08/23/91	G
GARFIELD	S AIRPORT	WESTBOUND LANES 20' E OF BRIDGE OVER BOARDMAN	14503	06/28/91	T
GARFIELD	S AIRPORT	EASTBOUND LANES 20' E OF BRIDGE OVER BOARDMAN	13783	06/28/91	T
GARFIELD	S AIRPORT	2250' E OF CASS (EASTBOUND TRAFFIC)	14103	06/25/90	G
GARFIELD	S AIRPORT	2250' E OF CASS (WESTBOUND TRAFFIC)	15532	06/25/90	G
GARFIELD	S AIRPORT	2400' E OF CASS (EASTBOUND TRAFFIC)	14865	07/09/90	G
GARFIELD	S AIRPORT	2450' E OF CASS (WESTBOUND TRAFFIC)	16354	07/09/90	G

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	A G E N C Y
GARFIELD	S AIRPORT	.5 MI W OF 3 MILE	8115	05/16/89	M
GARFIELD	S AIRPORT	.1 MI E OF CASS EASTBOUND	8451	05/17/89	M
GARFIELD	S AIRPORT	.1 MI E OF CASS WESTBOUND	9546	05/17/89	M
GARFIELD	S AIRPORT	BETWEEN BARLOW & GARFIELD EAST	13668	05/22/89	M
GARFIELD	S AIRPORT	BETWEEN BARLOW & GARFIELD WEST	14004	05/22/89	M
GARFIELD	S AIRPORT	100' W OF GARFIELD EAST	11375	05/22/89	M
GARFIELD	S AIRPORT	100' W OF GARFIELD WEST	11160	05/22/89	M
GARFIELD	S AIRPORT	100 W OF US-31 M-37 EASTBOUND	3833	08/07/89	M
GARFIELD	S AIRPORT	100' E OF US-31 M-37 WESTBOUND	9188	08/07/89	M
GARFIELD	S AIRPORT	100' E OF US-31 M-37 EASTBOUND	6015	08/07/89	M
GARFIELD	S AIRPORT	100' W OF US-31 M-37 WESTBOUND	3678	08/07/89	M
GARFIELD	S AIRPORT	100' W OF BARLOW EASTBOUND	12322	10/31/90	M
GARFIELD	S AIRPORT	100' W OF BARLOW WESTBOUND	13786	10/31/90	M
GARFIELD	S AIRPORT	.1 MI W OF CASS	16904	10/31/90	M
GARFIELD	S AIRPORT	100' E OF GARFIELD	10001	10/31/90	M
GARFIELD	S AIRPORT	100' S OF GARFIELD	15598	10/31/90	M
GARFIELD	S AIRPORT	100' E OF SILVER LAKE	5429	10/24/90	M
GARFIELD	S AIRPORT	100 FT WEST OF BARLOW ST. DIR. E	13310	10/29/91	M
GARFIELD	S AIRPORT	100 FT WEST OF BARLOW DIR. W	15061	10/29/91	M
GARFIELD	S AIRPORT	0.1 MILE WEST OF CASS RD. DIR. E	9839	10/29/91	M
GARFIELD	S AIRPORT	0.1 MILE WEST OF CASS RD. DIR. W	10599	10/29/91	M
GARFIELD	S AIRPORT	100 FT EAST OF GARFIELD RD. DIR. E-W 2-WAY	11464	10/29/91	M
GARFIELD	S AIRPORT	20' EAST OF THE BRIDGE OVER BOARDMAN (WESTBOUND)	27517	06/28/91	G
GARFIELD	S AIRPORT	20' EAST OF BRIDGE OVER BOARDMAN (EAST BOUND)	17392	06/18/91	G
GARFIELD	S AIRPORT	300' EAST OF CONTINENTAL DR. (WESTBOUND)	4901	08/13/91	G
GARFIELD	S AIRPORT	100' SOUTH OF MARMAC (EASTBOUND)	44782	10/17/91	G
GARFIELD	S AIRPORT	300' S. OF MARMAC (WESTBOUND)	17220	10/17/91	G

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	A G E N C Y
GARFIELD	S AIRPORT	20' EAST OF BRIDGE OVER BOARDMAN (EASTBOUND)	16440	06/15/92	G
GARFIELD	S AIRPORT	WEST OF BARLOW (EASTBOUND)	31033	07/14/92	G
GARFIELD	S AIRPORT	EAST OF BARLOW (WESTBOUND)	15322	07/14/92	G
GARFIELD	S AIRPORT	WEST OF US-31	10800	07/20/92	G
GARFIELD	S AIRPORT	EAST OF BARLOW WESTBOUND, FAR RIGHT LANE	8390	07/29/92	G
GARFIELD	S AIRPORT	WEST OF BARLOW (EASTBOUND)	7641	08/03/92	G
GARFIELD	SILVER LAKE	500' N OF S AIRPORT	7805	06/11/91	T
GARFIELD	SILVER LAKE	100' NE OF ZIMMERMAN	9422	10/24/90	M
GARFIELD	SILVER LAKE	100' NE OF BARNES	10713	10/24/90	M
GARFIELD	SILVER LAKE	100' SW OF ZIMMERMAN	7781	10/24/90	M
GARFIELD	SILVER LAKE	100' S OF BARNES	7212	10/24/90	M
GARFIELD	SILVER LAKE	100 FEET N.E. OF ZIMMERMAN	10799	10/28/91	M
GARFIELD	SILVER LAKE	500' NORTH OF SOUTH AIRPORT	16104	06/11/91	G
GARFIELD	SILVER LAKE	500' NORTH OF S. AIRPORT RD.	5711	06/02/92	G
GARFIELD	TOWNHALL	100' N OF S AIRPORT	3488	10/31/90	M
GARFIELD	TOWNLINE	1350' S OF S AIRPORT	271	09/05/90	G
GARFIELD	US-31 M-37	.5 MI NE OF FRANKE RD NORTHBOUND	10227	05/16/89	M
GARFIELD	US-31 M-37	.5 MI NE OF FRANKE SOUTHBOUND	10471	05/16/89	M
GARFIELD	US-31 M-37	100' N OF S AIRPORT	8247	05/16/89	M
GARFIELD	US-31 M-37	100' S OF FRANKE NORTHBOUND	8985	05/16/89	M
GARFIELD	US-31 M-37	100' S OF FRANKE SOUTHBOUND	8962	05/16/89	M
GARFIELD	US-31 M-37	100' S OF S AIRPORT	19222	05/16/89	M
GARFIELD	US-31 M-37	100' N OF S AIRPORT NORTHBOUND	8866	05/16/89	M
GARFIELD	US-31 M-37	.1 MI N OF THE S JCT. OF M-37&US-31 NBOUND	10081	07/11/89	M
GARFIELD	US-31 M-37	.1 MI N OF THE S JCT. OF M-37&US-31 SBOUND	10091	07/11/89	M
GARFIELD	US-31 M-37	100' S OF FRANKE NORTHBOUND	11624	07/17/89	M
GARFIELD	US-31 M-37	100' S OF FRANKE SOUTHBOUND	10605	07/17/89	M
GARFIELD	US-31 M-37	.5 MI NE OF FRANKE	12487	07/17/89	M

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	AGENCY
		SOUTHBOUND			
GARFIELD	US-31 M-37	.5 MI NE OF FRANKE	12302	07/17/89	M
		NORTHBOUND			
GARFIELD	US-31 M-37	100' S OF S AIRPORT	11643	08/07/89	M
		NORTHBOUND			
GARFIELD	US-31 M-37	100' S OF S AIRPORT	12168	08/07/89	M
		SOUTHBOUND			
GARFIELD	US-31 M-37	100' N OF S AIRPORT	12417	08/07/89	M
		SOUTHBOUND			
GARFIELD	US-31 M-37	100' N OF S AIRPORT	16174	08/07/89	M
		NORTHBOUND			
GARFIELD	US-31 M-37	.1 MI N OF THE S JCT. OF M-37&US-31	16226	09/11/89	M
GARFIELD	US-31 M-37	2.4 MI N OF S JCT. M-37	15848	11/08/90	M
GARFIELD	US-31 M-37	100 FT N. OF TOWNHALL S. AIRPORT DIR. N	11575	07/15/91	M
GARFIELD	US-31 M-37	100 FT. N. OF TOWNHALL S. AIRPORT DIR. S	11933	07/15/91	M
GARFIELD	US-31 M-37	100 FT S. OF FRANKE RD. DIR. N	7337	01/14/91	M
GARFIELD	US-31 M-37	100 FT SOUTH OF FRANKE RD. DIR. N	11763	07/15/91	M
GARFIELD	US-31 M-37	100 FT SOUTH OF FRANKE RD. DIR. S	12130	07/15/91	M
GARFIELD	US-31 M-37	0.5 MI. NE OF FRANKE RD DIR. NE	9725	06/03/91	M
GARFIELD	US-31 M-37	0.5 MI. NE OF FRANKE RD. DIR. SW	10103	06/03/91	M
GARFIELD	US-31 M-37	100 FT S. OF SILVER LAKE RD. DIR. N	10898	10/28/91	M
GARFIELD	US-31 M-37	100 FT S. OF SILVER LAKE RD. DIR. N	12111	06/03/91	M
GARFIELD	US-31 M-37	100 FT S. OF SILVER LAKE RD DIR. S	10450	10/28/91	M
GARFIELD	US-31 M-37	100 FT S. OF SILVER LAKE RD DIR. S	11790	06/03/91	M
GARFIELD	US-31 M-37	100 FT N. OF 14TH ST. DIR. N	13629	06/03/91	M
GARFIELD	US-31 M-37	100 FT N. OF 14TH ST. DIR. S	11109	06/03/91	M
GARFIELD	US-31 M-37	100 FT S. OF 8TH ST. DIR. N.	11885	06/03/91	M
GARFIELD	US-31 M-37	100 FT S. OF 8TH ST. DIR. S	10879	06/03/91	M
GARFIELD	US-31 M-37	100 FT S. OF 6TH ST. DIR.	15035	06/10/91	M

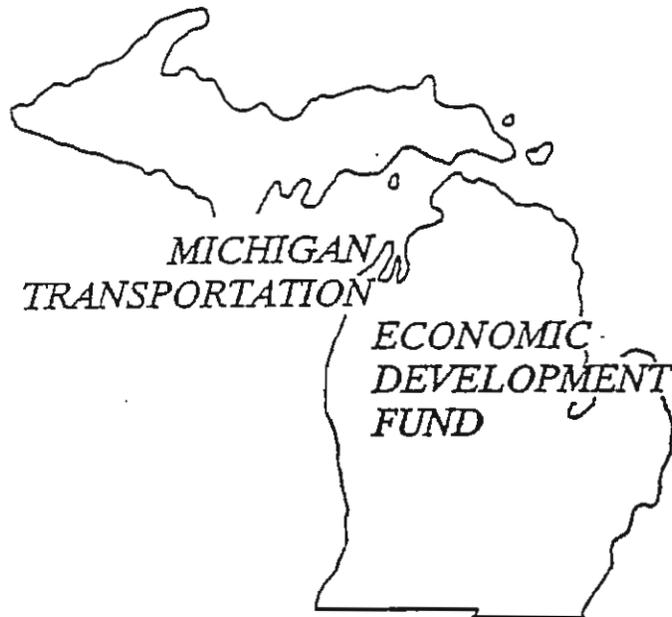
TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	AGENCY
		N			
GARFIELD	US-31 M-37	100 FT S. OF 6TH ST. DIR. S	13752	06/10/91	M
GARFIELD	US-31 M-37	100 FT N. OF BAY ST. DIR. N	10985	06/10/91	M
GARFIELD	US-31 M-37	100 FT. N. OF BAY ST. DIR. S	10653	06/10/91	M
GARFIELD	US-31 M-72	100 FT E. OF M-37 E. JCT. DIR. E	14453	06/10/91	M
GARFIELD	US-31 M-72	100 FT E. OF M-37 EAST JCT. DIR.W	15455	06/10/91	M
GARFIELD	US-31 M-72	100 FT NW OF 8TH ST. DIR. SE	18077	06/17/91	M
GARFIELD	US-31 M-72	100 FT NW OF 8TH ST. DIR. NW	17240	06/17/91	M
GARFIELD	US-31 M-72	300 FT SE OF 8TH ST. DIR. SE	16286	06/17/91	M
GARFIELD	US-31 M-72	300 FT SE OF 8TH ST. DIR. NW	15600	06/17/91	M
GARFIELD	US-31 M-72	0.1 MI. SE OF AIRPORT ACCESS RD. DIR. SE	15405	06/17/91	M
GARFIELD	US-31 M-72	0.1 MI. SE OF AIRPORT ACCESS RD. DIR. NW	14928	06/17/91	M
GARFIELD	US-31 M-72 M-37	100 FT SE OF W. JCT M-37 DIR. SE	14230	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT SE OF W. JCT M-37 DIR. NW	13775	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT NW OF UNION DIR. SE	16469	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT NW OF UNION ST. DIR. NW	15371	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT NW OF FRONT ST. DIR. SE	14988	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT NW OF FRONT ST. DIR. NW	13641	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT W. OF HOPE ST. DIR. E	37672	06/10/91	M
GARFIELD	US-31 M-72 M-37	100 FT W. OF HOPE ST. DIR. W	26975	06/10/91	M
GARFIELD	W SILVER LAKE	1100' N OF BOONE	5604	08/23/90	G
GARFIELD	W SILVER LAKE	675' S OF BOONE	5332	08/23/90	G
GARFIELD	W SILVER LAKE	500 FT. SOUTH OF S. AIRPORT	15485	07/08/92	G

TC-TALUS
TRAFFIC COUNTS

TOWNSHIP	ROAD NAME	POINT TAKEN	24 HR AVG' COUNT	START DATE	A G E N C Y
GARFIELD	ZIMMERMAN	500' S OF N LONG LAKE	3079	08/14/90	G

Appendix "B"
Program Funding Data



PROGRAM SUMMARY

JULY, 1993

TRANSPORTATION COMMISSION

BARTON LABELLE
RICHARD WHITE
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MICHIGAN DEPARTMENT OF TRANSPORTATION

RECEIVED
OCT 2 8 1993

PROGRAM SUMMARY

OFFICE OF ECONOMIC DEVELOPMENT
P.O. BOX 30050
LANSING, MICHIGAN 48909
517/335-1069

TABLE OF CONTENTS

OVERVIEW	1
CATEGORY A: ECONOMIC DEVELOPMENT	2
CATEGORY B: STATE TRUNKLINE	5
CATEGORY C: URBAN CONGESTION RELIEF	6
CATEGORY D: ALL-SEASON SYSTEM	8
CATEGORY E: FOREST ROADS	12
CATEGORY F: CITIES IN RURAL COUNTIES	14
MAPS:	
RURAL TASK FORCES	10
ELIGIBLE CATEGORY E COUNTIES	11
ELIGIBLE COUNTIES FOR CATEGORY F GRANTS	13

MICHIGAN TRANSPORTATION ECONOMIC DEVELOPMENT FUND

OVERVIEW

Attracting industry to locate in a community frequently requires an investment in road improvements. When local resources cannot support those improvements, development opportunities and jobs are lost to that community. Enacted in 1987, the Transportation Economic Development Fund (TEDF) was created to assist in the funding of highway, road, and street projects necessary to support economic growth. The Fund was reauthorized with revisions in 1993. The program mission continues to be to *enhance the ability of the state to compete in an international economy, to serve as a catalyst for economic growth of the state, and to improve the quality of life in the state.*

The fund, which is administered through the Office of Economic Development, provides a means for State government, local agencies, and business to work together to meet the often extensive and urgent demands placed upon the transportation system by economic development throughout the state. Those eligible to apply for funds are the Michigan Department of Transportation, all county road commissions, and all city and village street agencies.

The types of projects eligible for TEDF assistance are:

- Category A - Road projects related to economic development and redevelopment opportunities.
- Category C - Reduction of traffic congestion in urban counties.
- Category D - Road improvements in rural counties to create an all-season road network.
- Category E - Construction or reconstruction of roads essential to the development of commercial forests in Michigan.
- Category F - Road and street improvements in cities in rural counties.

The above five categories support projects which complement each other in achieving the overall program mission. Following is specific information on the five fund categories:

CATEGORY A: ECONOMIC DEVELOPMENT ROAD PROJECTS

Funding is available through the Michigan Transportation Economic Development Fund for road projects necessary for immediate development and potential redevelopment opportunities. Eligible applicants include all Act 51 recipient governmental units: The Michigan Department of Transportation, all county road commissions, and all city and village road agencies. Developers must work with one or more of the eligible applicants to access this fund.

Category A projects are intended: 1) to improve the network of highway services essential to economic competitiveness; 2) to improve accessibility to target industries as a catalyst for economic growth; 3) to support private initiatives that create or retain jobs; and, 4) to encourage economic development and redevelopment efforts that improve the health, safety, and welfare of Michigan citizens.

In order to be eligible for Category A funding, projects must satisfy the following requirements:

1. A particular transportation need must be shown to exist in one of the following categories: capacity, condition, safety, or accessibility.
2. The economic development project must create or retain permanent jobs. "Retained" jobs are those that would be transferred outside Michigan if the road improvement is not made.
3. The economic development project must increase the tax base of the local area if the project applicant is a local unit of government, and have an immediate and positive impact on local employment and the economy.
4. Negotiations between an appropriate agency and developers shall be in progress regarding a location or retention decision.
5. Non-transportation infrastructure and support services necessary to support the economic development project must be available, currently underway, or have been committed for fire protection, water, sewer, drainage, gas or electric services.
6. Applications must be accompanied by a "Resolution of Support" from the appropriate unit(s) of government.

7. The economic development project must relate to one of the following target industries:
 - a. Agriculture or food processing;
 - b. Tourism;
 - c. Forestry;
 - d. High technology research;
 - e. Manufacturing;
 - f. Mining; or,
 - g. Office centers of not less than 50,000 square feet.

8. Matching funds of at least 20% of the cost of the transportation improvement are required. Non-Category A funding for the transportation improvement must account for at least 20 percent of the eligible costs for the transportation investment. Determination of which projects are to be funded include consideration as to whether there is a contribution of more than the required 20% matching funds by the applicant. In cases of extreme economic hardship, the 20% match requirement may be set aside by the Commission.

9. Transportation projects related to an immediate and non-speculative economic development will require:
 - a. a schedule for completion of the economic development project;
 - b. a description, schedule, and funding plan for the proposed transportation improvement;
 - c. a list of all applicable permits required for the economic development project and transportation improvement along with the status of obtaining the permits; and,
 - d. evidence of financial viability of the economic development project.

10. Transportation projects related to the redevelopment of an area will require:
 - a. a schedule for completion of the economic development project;
 - b. a description, schedule, and funding plan for the proposed transportation improvement;
 - c. a list of all applicable permits required for the economic development project and transportation improvement along with the status of obtaining the permits;
 - d. negotiations must be in progress with a potential firm; and,
 - e. coordination with appropriate agencies regarding site development and/or match participation (e.g. environmental clean-up, infrastructure development, modifying existing buildings, etc).

FOR FURTHER INFORMATION REGARDING CATEGORY A, CONTACT:

Jacqueline G. Shinn
Office of Economic Development
P. O. Box 30050
Lansing, Michigan 48909
517/335-1069

CATEGORY B: STATE TRUNKLINE SERVICE

In July, 1993, Senate Bill 461 amended P.A. 231 of 1987. Category B, State Trunkline Service, was eliminated at that time for funding through the Transportation Economic Development Fund.

Road projects which will result in the addition of county roads or city or village streets to the state trunkline system are the responsibility of the Michigan Department of Transportation. For information on state trunkline projects, contact:

John Ouderkirk
Michigan Department of Transportation
Bureau of Transportation Planning
P.O. Box 30050
Lansing, Michigan 48909
517/373-9192

CATEGORY C: URBAN CONGESTION RELIEF

Funding is available through the Michigan Transportation Economic Development Fund for projects to reduce congestion on county primary and city major streets in urban counties, including advanced traffic management systems. Eligible applicants are limited to county and city road agencies in those counties with a population greater than 400,000 (Wayne, Oakland, Macomb, Genesee, and Kent).

The overall goal of Category C is to promote increased economic potential and improve the quality of life by reducing urban traffic congestion levels. Specifically, there are four objectives for Category C projects: 1) Improve the operational level of service in heavily congested areas; 2) reduce the accident rate on heavily congested roadways; 3) improve the surface and base condition of heavily congested roadways; and, 4) improve the social, economic, and environmental conditions of areas adjacent to heavily congested roadways.

In order to be eligible for Category C funding, projects must meet the following minimum criteria:

1. The project must reduce traffic congestion on county primary or city major streets within urban counties.
2. The project must be located in a county with a population greater than 400,000 (Wayne, Oakland, Macomb, Genesee, and Kent).
3. The applicant must demonstrate that, as of April 1, 1993, the two lane road carried more than 10,000 vehicles per day, or carried more than 25,000 vehicles per day on roads with more than two lanes.
4. The project must be for a county primary or city major street eligible for federal aid.
5. The project must be for adding travel lanes, left turn lanes, intersection improvements, or advanced traffic management systems.
6. Project costs must be limited to construction and pre-construction costs. Eligible costs shall include costs normally associated with highway construction projects such as project planning, design, right-of-way acquisition, and construction. Routine maintenance costs are ineligible for project funding.
7. Project eligibility requires that local, non-TEDF funding for the transportation project must account for at least 20% of the transportation investment.

In addition to the above minimum eligibility criteria, the following operating guidelines apply to Category C projects:

OPERATING GUIDELINES

1. Applicants will present proposed transportation projects to urban task forces for review.
2. Each urban task force will review proposed projects and make recommendations for funding to the State Transportation Commission.
3. Projects will be coordinated with Category A projects.
4. Projects will be administered by the Michigan Department of Transportation, Office of Economic Development.
5. Project evaluations will be collected from all the task forces and submitted to the Transportation Commission for review and comment on an annual basis.

FOR FURTHER INFORMATION REGARDING CATEGORY C, CONTACT:

Your Local (urban) County Road Commission
(Wayne, Oakland, Macomb, Genesee, and Kent Counties)

or

Jacqueline G Shinn
Office of Economic Development
P.O. Box 30050
Lansing, Michigan 48909
517/335-1069

CATEGORY D: SECONDARY ALL-SEASON ROAD SYSTEM

Funding is available through the Michigan Transportation Economic Development Fund to serve development by establishing and integrating a local secondary all-season road system with the state trunkline system. Eligible applicants are limited to county, city, or village road agencies in counties with a population of 400,000 or less.

The objectives for Category D projects are to: 1) complement the existing state trunkline system with improvements on connecting local routes that have high commercial traffic; 2) minimize disruptions that result from seasonal load restrictions; and, 3) increase the interchange potential between modes.

In order to be eligible for Category D funding, projects must meet the following minimum criteria:

1. A particular transportation need must be shown to exist. The applicant must demonstrate that the improvements are essential to the creation of an all-season road system.
2. The project must be located on a rural primary road or major street in a small city or village (population of 5,000 or less) in counties with a population of less than 400,000.
3. The project must be eligible for federal aid unless waived by the regional rural task force.
4. The project must be for road improvements on existing hard surface roads, unless waived by the rural task force.
5. Category D funds must be spent for construction only and shall not include costs of right-of-way acquisition and engineering. Projects must meet all-season standards.
6. Local, non-TEDF funding for the transportation project must account for at least 20% of the transportation improvement.

In addition to the above minimum eligibility criteria, the following operating guidelines apply to Category D projects:

OPERATING GUIDELINES

1. Applicants will present proposed transportation projects to the Regional Rural Task Force for review. The Task Force areas coincide with the boundaries of the 14 state planning and development regions (see map on page 10). Further partitioning of contiguous counties within the region is permitted if the Regional Task Force agrees.

The task force is made up of one representative from each rural county road commission in the task force area, an equal number of representatives from municipalities of less than 5,000 population, and one representative selected by the administrator of the fund.

2. Projects are reviewed and prioritized by the task force. Recommendations are submitted by the task forces to the Commission and Administrator for funding consideration.
3. Priority routes must begin and end at an existing all-season road or highway or a point of loading origin.
4. Projects will be coordinated with Category F projects to establish all-season system continuity within cities and villages.

FOR FURTHER INFORMATION REGARDING CATEGORY D, CONTACT:

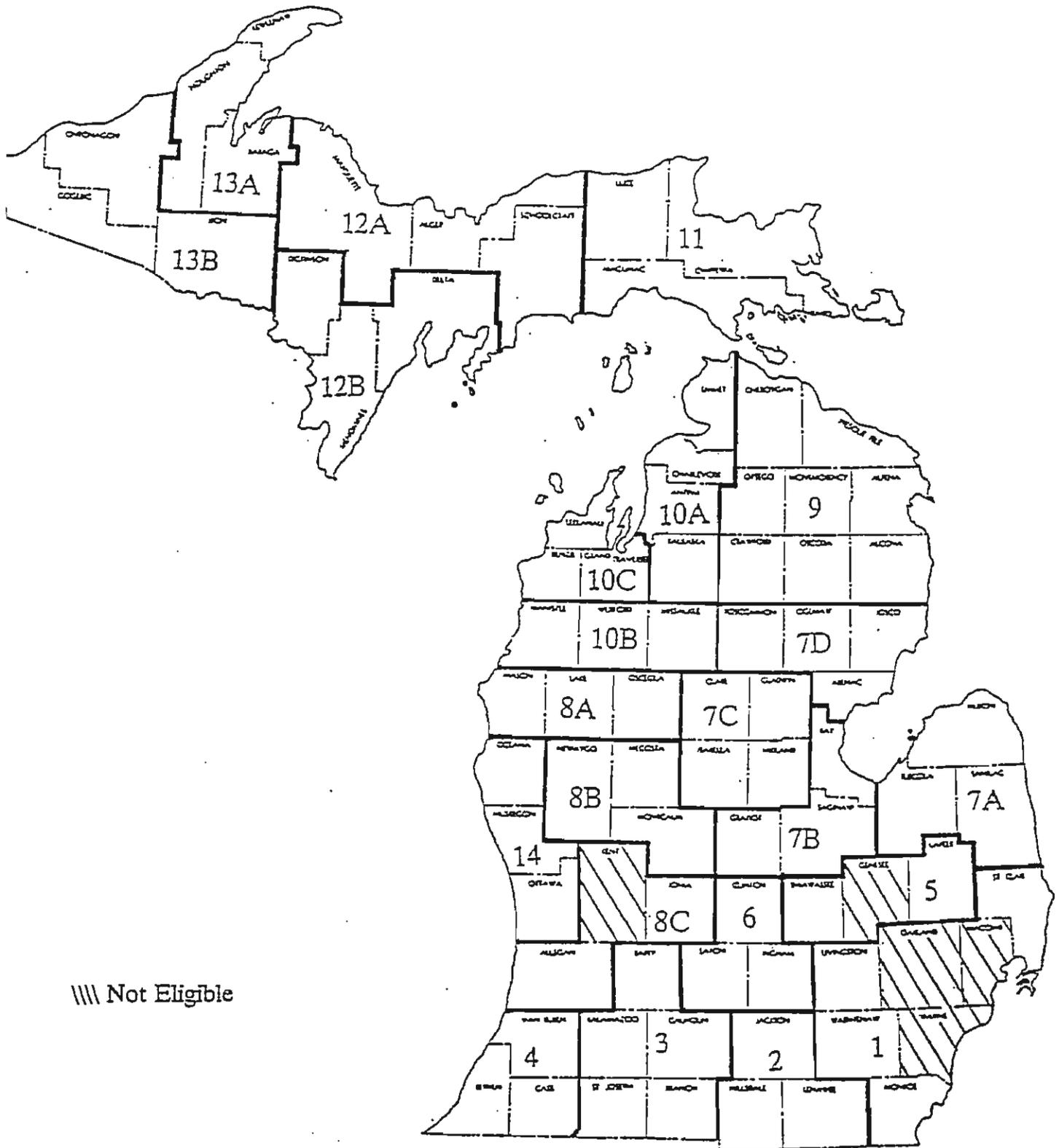
Your Local (rural) County Road Commission
(All counties with the exception of Wayne, Oakland,
Macomb, Genesee, and Kent Counties)

or

Jacqueline G Shinn
Office of Economic Development
P.O. Box 30050
Lansing, Michigan 48909
517/335-1069

RURAL TASK FORCES

CATEGORY D.



//// Not Eligible

CATEGORY E. FOREST ROADS

Funding is available through the Michigan Transportation Economic Development Fund for projects to aid the safe and efficient collection and transport of forest raw materials. Category E funding is limited to county road commissions in counties in which a national lakeshore or national park is located or in which 34% or more is commercial forest land (see map on page 11).

The objectives for Category E projects are to: 1) increase access to forest resources harvestable over the next five years; and 2) increase the safety and efficiency of forest raw material transport. In order to be eligible for Category E funding, projects must: 1) be located in one of the 47 eligible counties; and 2) be for road construction or reconstruction.

In addition to the above minimum eligibility criteria, the following operating guidelines apply to Category E projects:

OPERATING GUIDELINES

1. Funds will be distributed by the Department to the county road commission in each qualified county. Distribution will be based on the percentage of acres of commercial forest, national park and lakeshore land that each eligible county contains relative to all qualified counties in the state.
2. Projects must be directly related to the collection and transport of forest raw products.
3. Counties receiving forest road funds will essentially act as agents of the fund. Under a Memorandum of Understanding containing provisions for using state prevailing wage, those counties may let contracts for projects funded in their respective counties.

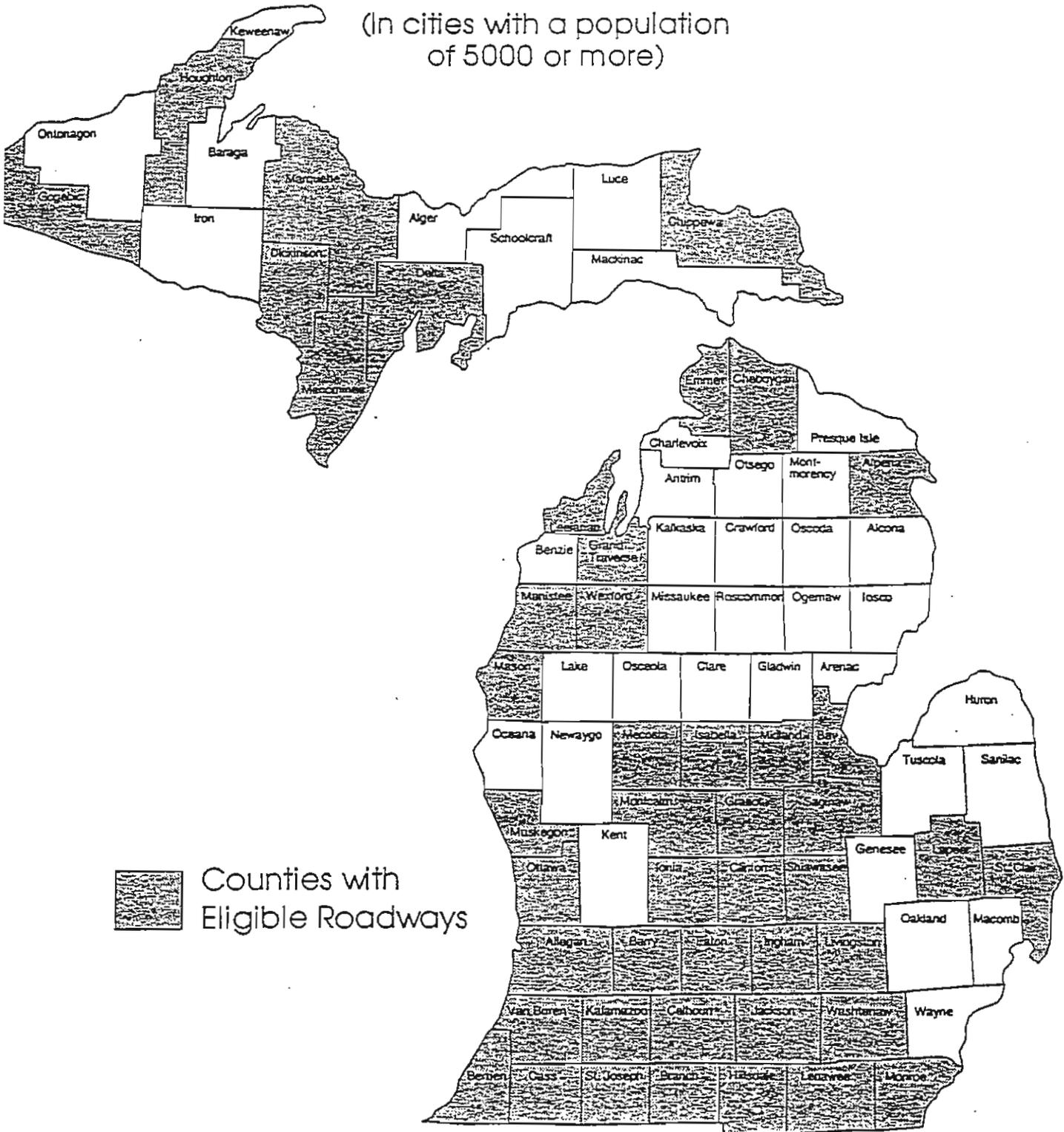
FOR FURTHER INFORMATION REGARDING CATEGORY E, CONTACT:

Your Local County Road Commission

(See map on page 11 for eligible counties)

ELIGIBLE COUNTIES FOR CATEGORY F GRANTS

(In cities with a population
of 5000 or more)



CATEGORY F. CITIES IN RURAL COUNTIES

Funding is available through the Michigan Transportation Economic Development Fund for road improvements in cities and villages having a population of 5,000 or greater in order to provide system continuity and create an all-season road system. Eligible applicants are county, city, and village road agencies within counties with a population of 400,000 or less.

The objectives for Category F projects are to: 1) improve access to the state all-season system, including the Priority Commercial Network; 2) improve safety and all-season capabilities on routes having high commercial traffic; and 3) increase the interchange potential between transportation modes.

In order to be eligible for Category F funding, projects must be for improvements to roads and streets eligible for federal aid. The map on page 13 indicates the counties that have cities with eligible roadways. In addition, the following operating guidelines apply to Category F projects:

OPERATING GUIDELINES

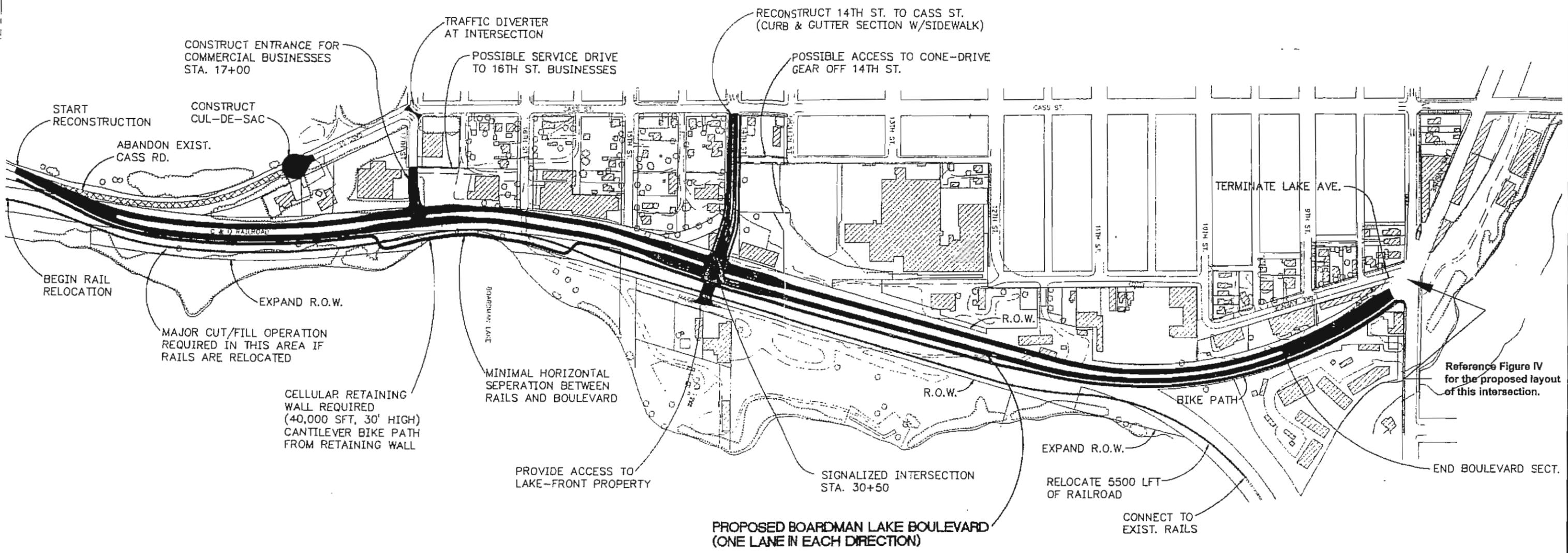
1. Applications will be submitted to the Michigan Department of Transportation for review by the Administrator and recommendation to the State Transportation Commission. Projects will be coordinated with Category D projects or provide all-season routes within a city.
2. Engineering and right-of-way acquisition costs are ineligible for funding under Category F.
3. A minimum local match of 20% is required.

FOR FURTHER INFORMATION REGARDING CATEGORY F, CONTACT:

Jacqueline G Shinn
Office of Economic Development
P.O. Box 30050
Lansing, Michigan 48909
517/335-1069

Appendix "C"

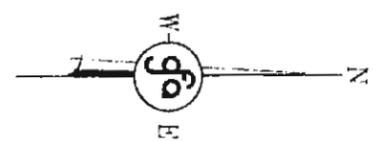
Figures and Maps



OVERALL MAP
FIGURE I

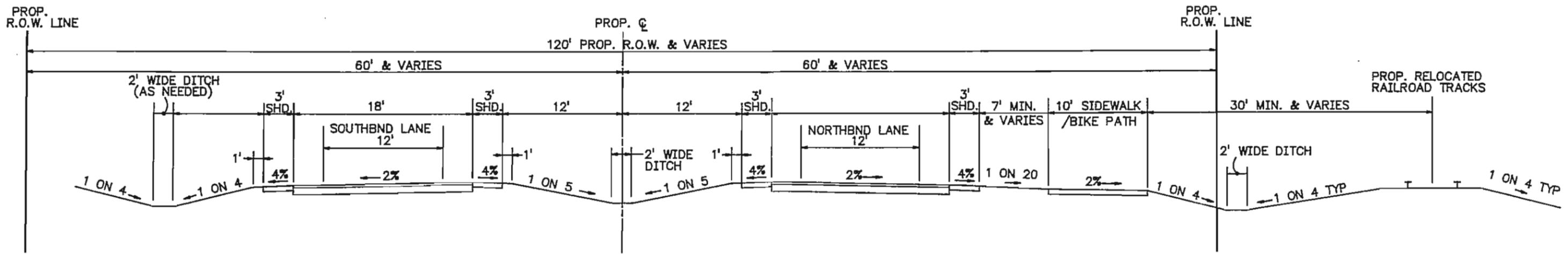
BOARDMAN LAKE AVE. STUDY
CITY OF TRAVERSE CITY

TOPOGRAPHY SHOWN IS BASED ON
CITY OF TRAVERSE CITY MAPPING.



SCALE: 1" = 200'

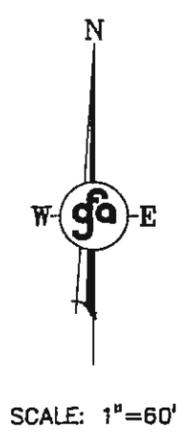
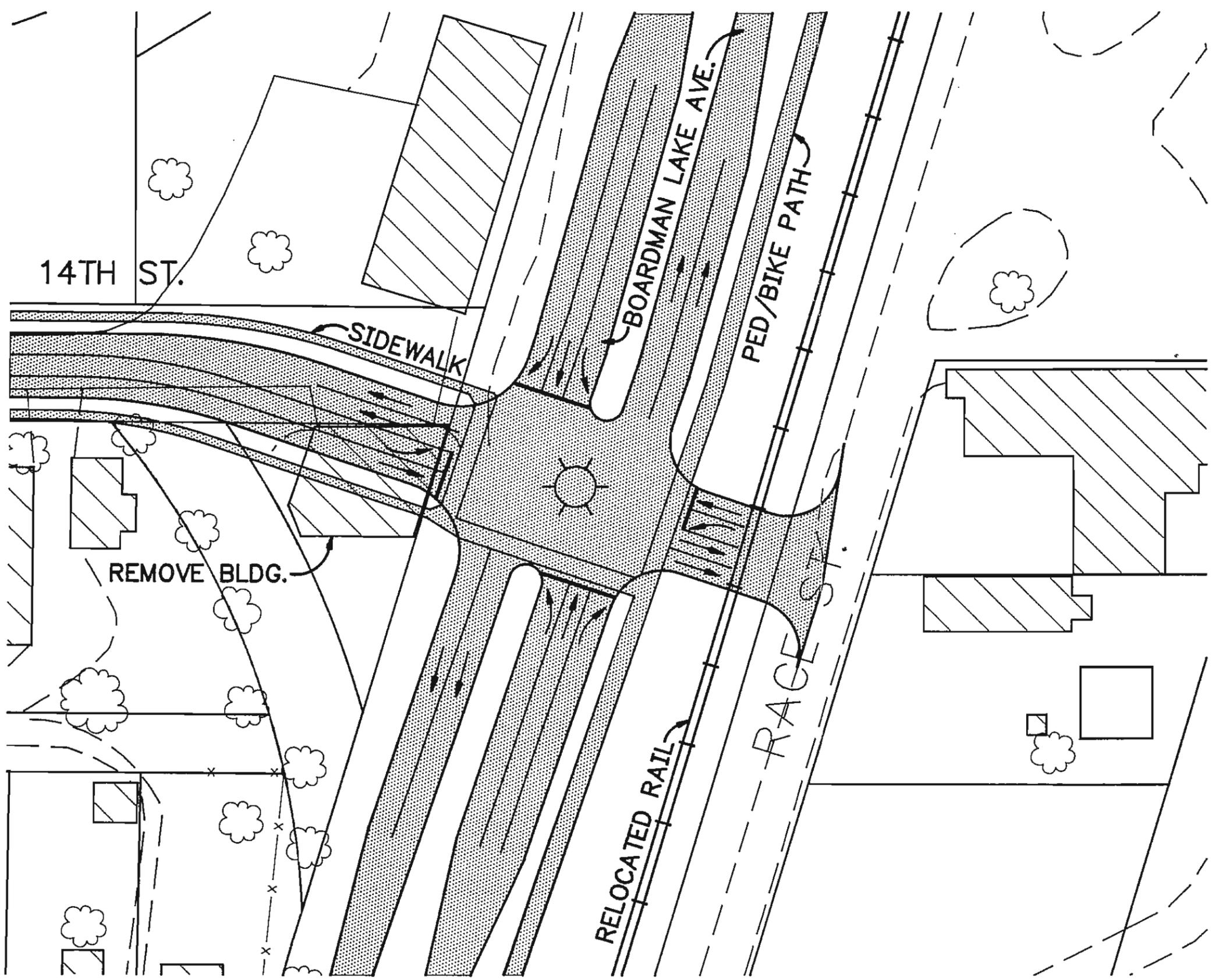
TYPSEC.DWG 930124



2 LANE BOULEVARD WITH OPEN DITCH
 SCALE: 1"=10' LOOKING NORTH

**TYPICAL CROSS-SECTION
 TWO-LANE BOULEVARD
 FIGURE II
 BOARDMAN LAKE AVE. STUDY
 CITY OF TRAVERSE CITY**

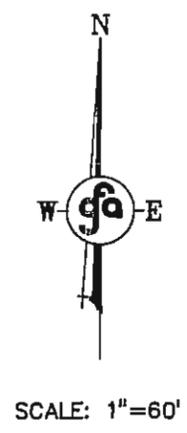
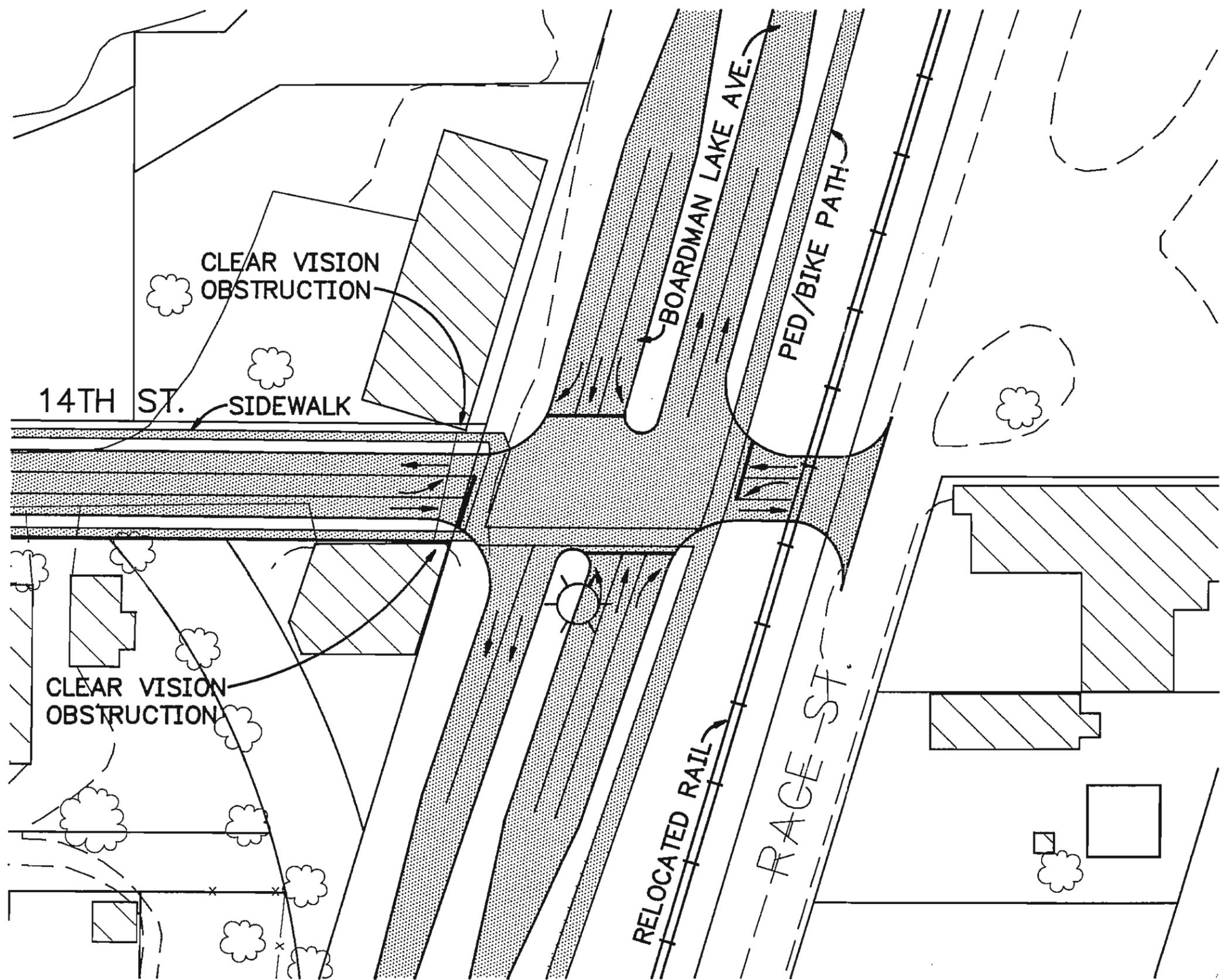
3/31/94 JAB
PROP-2LA.DWG 930124



**14TH ST. INTERSECTION
FIGURE III
BOARDMAN LAKE AVE. STUDY
CITY OF TRAVERSE CITY**

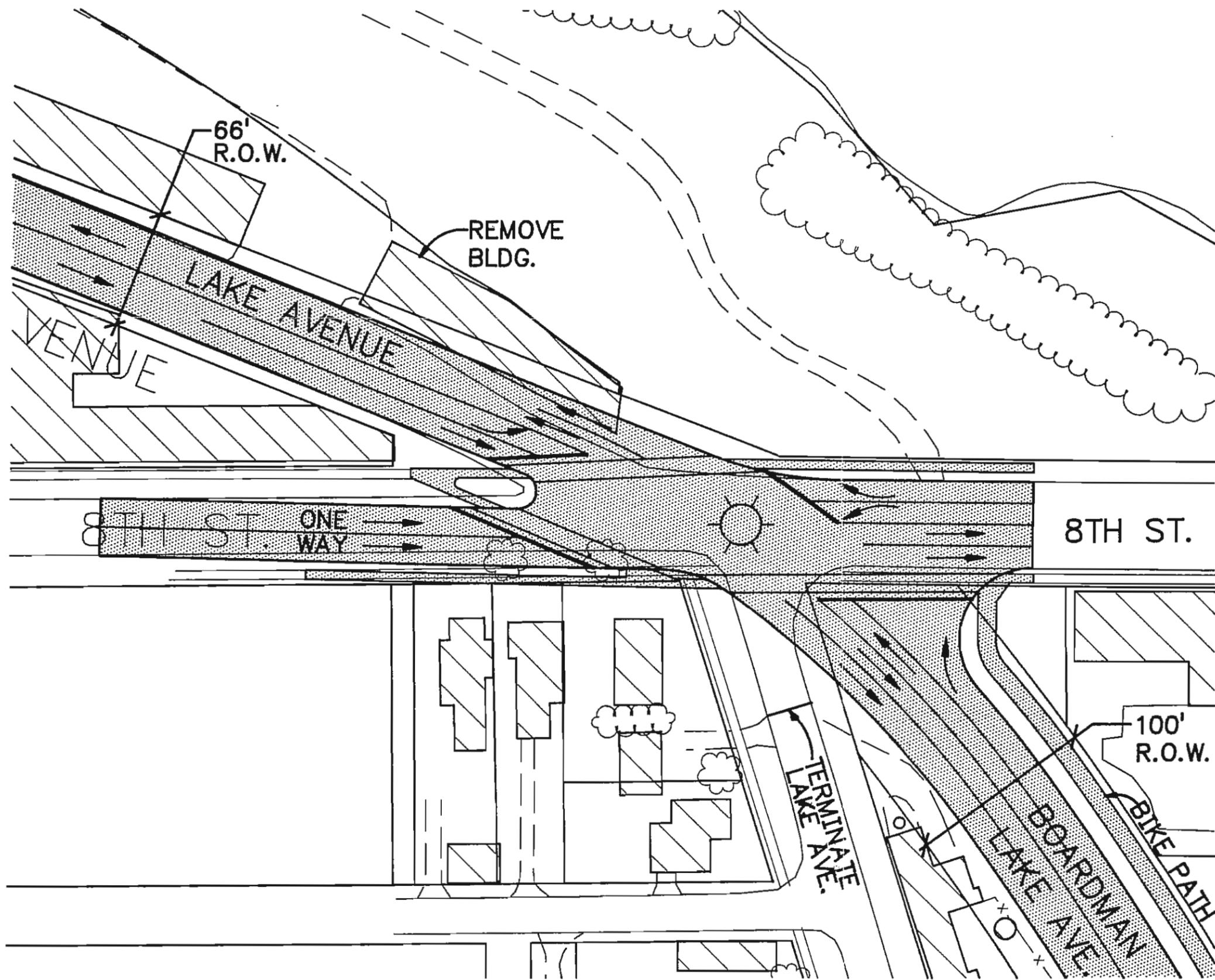
TOPOGRAPHY SHOWN IS BASED ON
CITY OF TRAVERSE CITY MAPPING.

PKUP-2L.DWG 930124



**14TH ST. INTERSECTION
FIGURE III -A
BOARDMAN LAKE AVE. STUDY
CITY OF TRAVERSE CITY**

TOPOGRAPHY SHOWN IS BASED ON
CITY OF TRAVERSE CITY MAPPING.



SCALE: 1"=60'

**8TH ST. INTERSECTION
FIGURE IV
BOARDMAN LAKE AVE. STUDY
CITY OF TRAVERSE CITY**

TOPOGRAPHY SHOWN IS BASED ON
CITY OF TRAVERSE CITY MAPPING.

UNION ST.

CASS ST.

LAKE AVENUE

8TH ST.

9TH ST.

N

78-00
J. J. J. J.
77-00
J. J. J. J.
76-00
J. J. J. J.

65-003-00
ASSOC.

682-004-00
CITY OF T.C.

618-185-00
D. O. B. S. C. H. U. T. T. E.
618-185-00
D. O. B. S. C. H. U. T. T. E.

618-185-00
D. O. B. S. C. H. U. T. T. E.

618-185-00
D. O. B. S. C. H. U. T. T. E.

618-185-00
D. O. B. S. C. H. U. T. T. E.

ALTERNATE #1

gfa Gourdie/Fraser & Associates, Inc.

Consulting Engineers Surveyors Planners

124 West State Street
P.O. Box 927
Traverse City, Michigan
49664
Ph: 616/946-5874
Fax: 616/946-3703

UNION ST.

ONE WAY ←

ONE WAY →

CASS ST.

103-003-10
MANUS

005-00
FRASER

103-003-00
T.C.I. ASSOC.

78-00
MPKINS

77-00
BENBACH

76-00
CHURCH

LAKE AVENUE

004-00
OF T.C.

618-185-00
K&S HM

618-185-00
D.A.

618-185-00
BELCROTT TEL

618-185-00
& D.A. MEHL

618-185-00
R&S HENI

618-185-00
D. OBERSCHUTTE

9TH ST.

LAKE A

N

ALTERNATE #3

gfa Gourdie/Fraser & Associates, Inc.

Consulting Engineers Surveyors Planners

124 West State Street
P.O. Box 927
Traverse City, Michigan
49684
Ph: (616) 946-5874
Fax: (616) 946-3703

UNION ST.

CASS ST.

N

103-003-10
MC MANUS

105-00
[REDACTED]

103-003-00
T.C.I. ASSOC.

78-00
PKINS

77-00
ENBACH

78-00
CHURCH

LAKE AVENUE

8TH ST.

618-00
K&M
[REDACTED]

618-00
BELCHER
HOTEL

618-183-00
DADGREN
[REDACTED]

618-18
R&S
[REDACTED]

618-185-00
D. OEBERSCHUTTE

9TH ST.

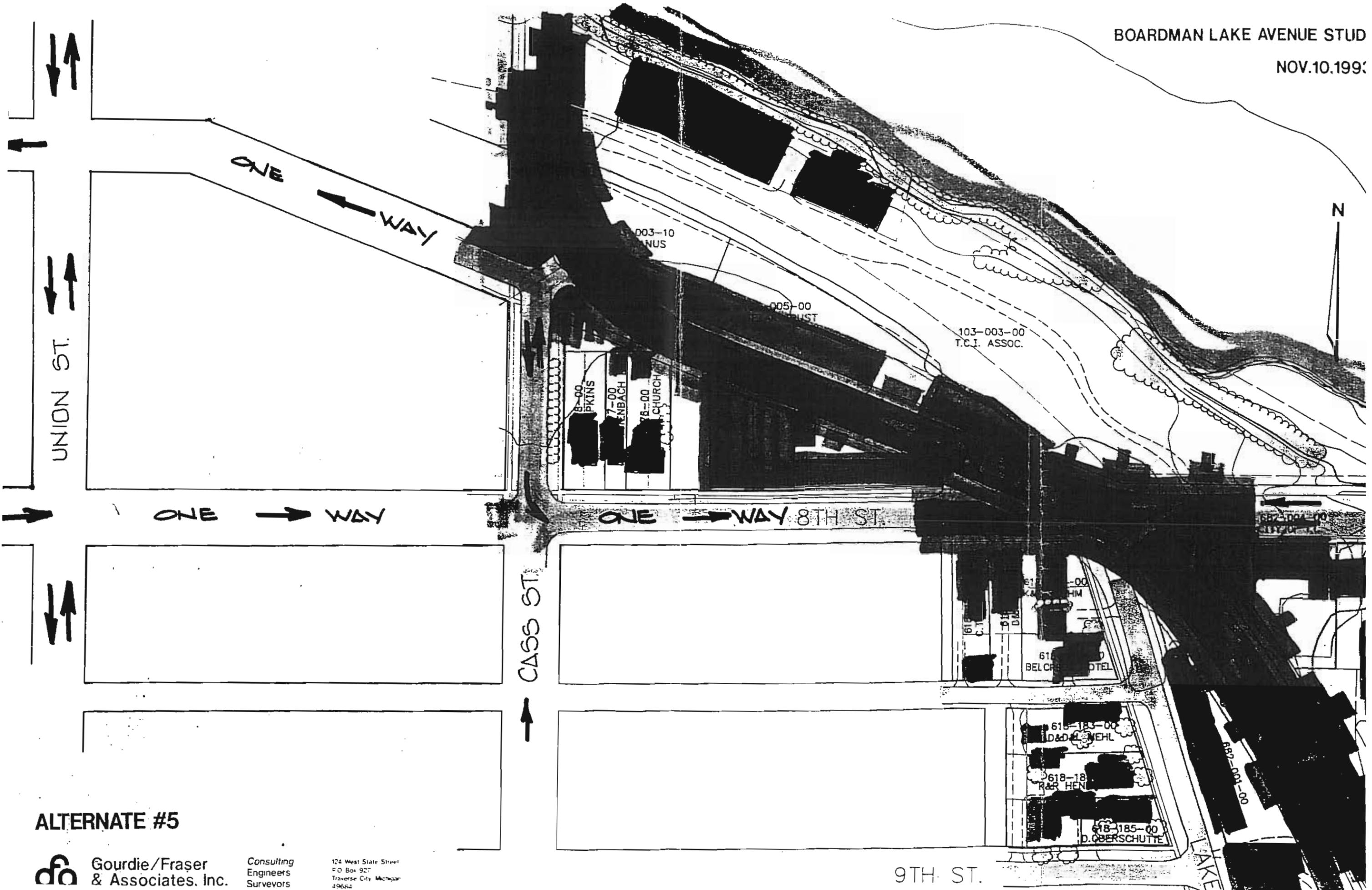
ALTERNATE #4



Gourdie/Fraser
& Associates, Inc.

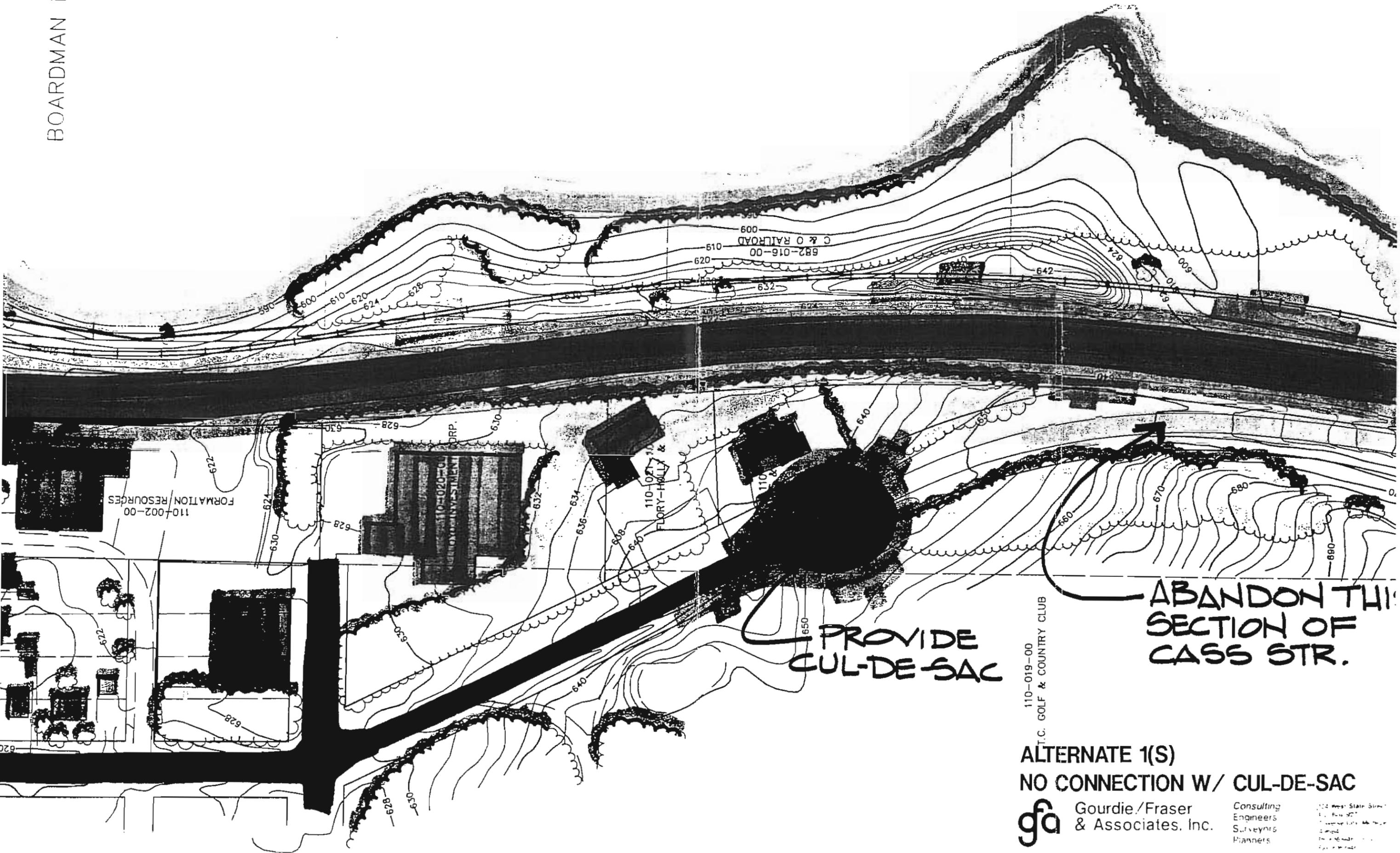
Consulting
Engineers
Surveyors
Planners

124 West State Street
P.O. Box 927
Traverse City, Michigan
49664
PH (616) 946-5874
Fax (616) 946-3703



ALTERNATE #5

9TH ST.



PROVIDE
CUL-DE-SAC

ABANDON THIS
SECTION OF
CASS STR.

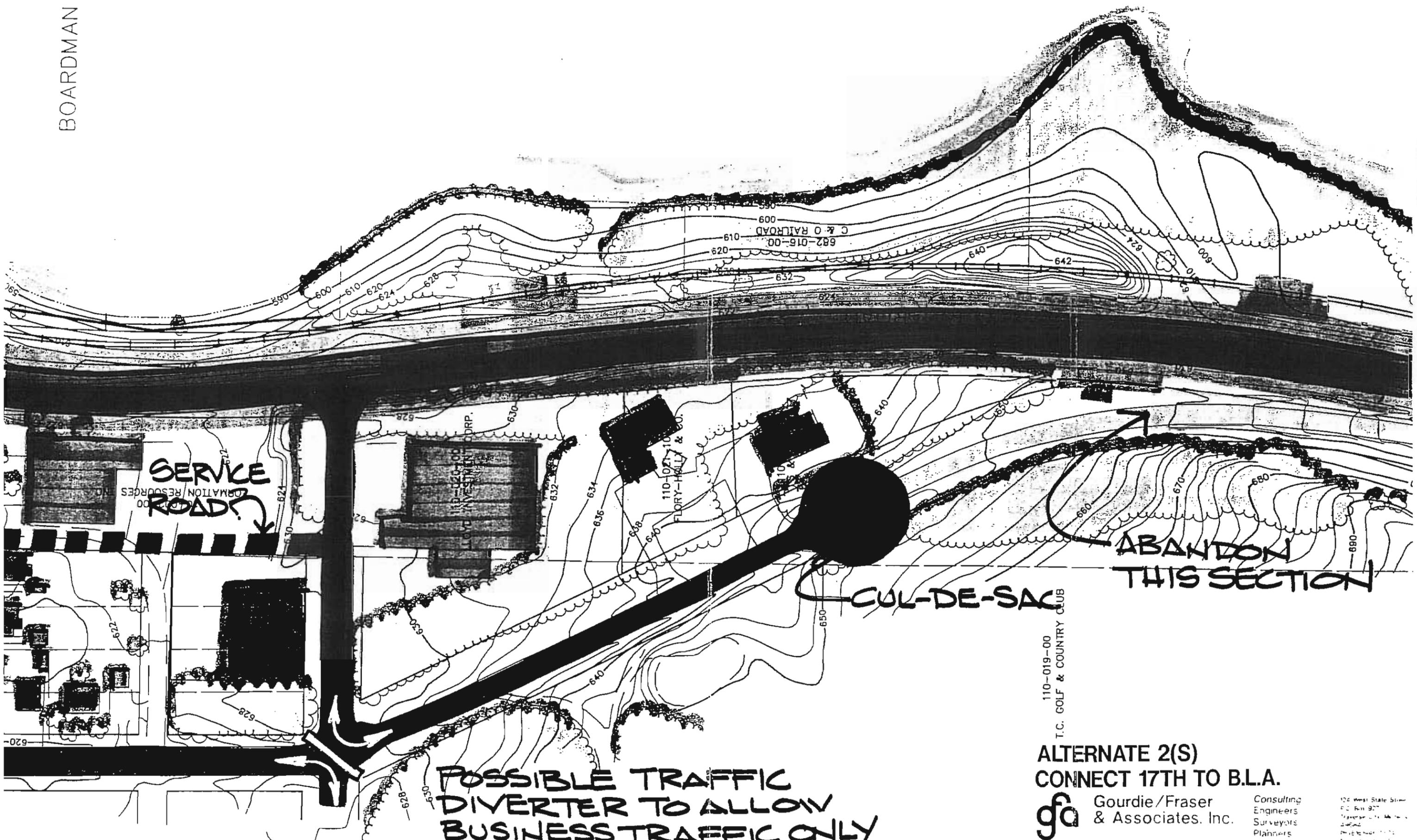
110-019-00
T.C. GOLF & COUNTRY CLUB

ALTERNATE 1(S)
NO CONNECTION W/ CUL-DE-SAC


 Gourdie/Fraser
& Associates, Inc.

Consulting
Engineers
Surveyors
Planners

112 West State Street
 St. Paul, MN 55102
 Telephone: 612-222-1111
 Telex: 251111
 Fax: 612-222-1111



**POSSIBLE TRAFFIC
DIVERTER TO ALLOW
BUSINESS TRAFFIC ONLY**

CUL-DE-SAC

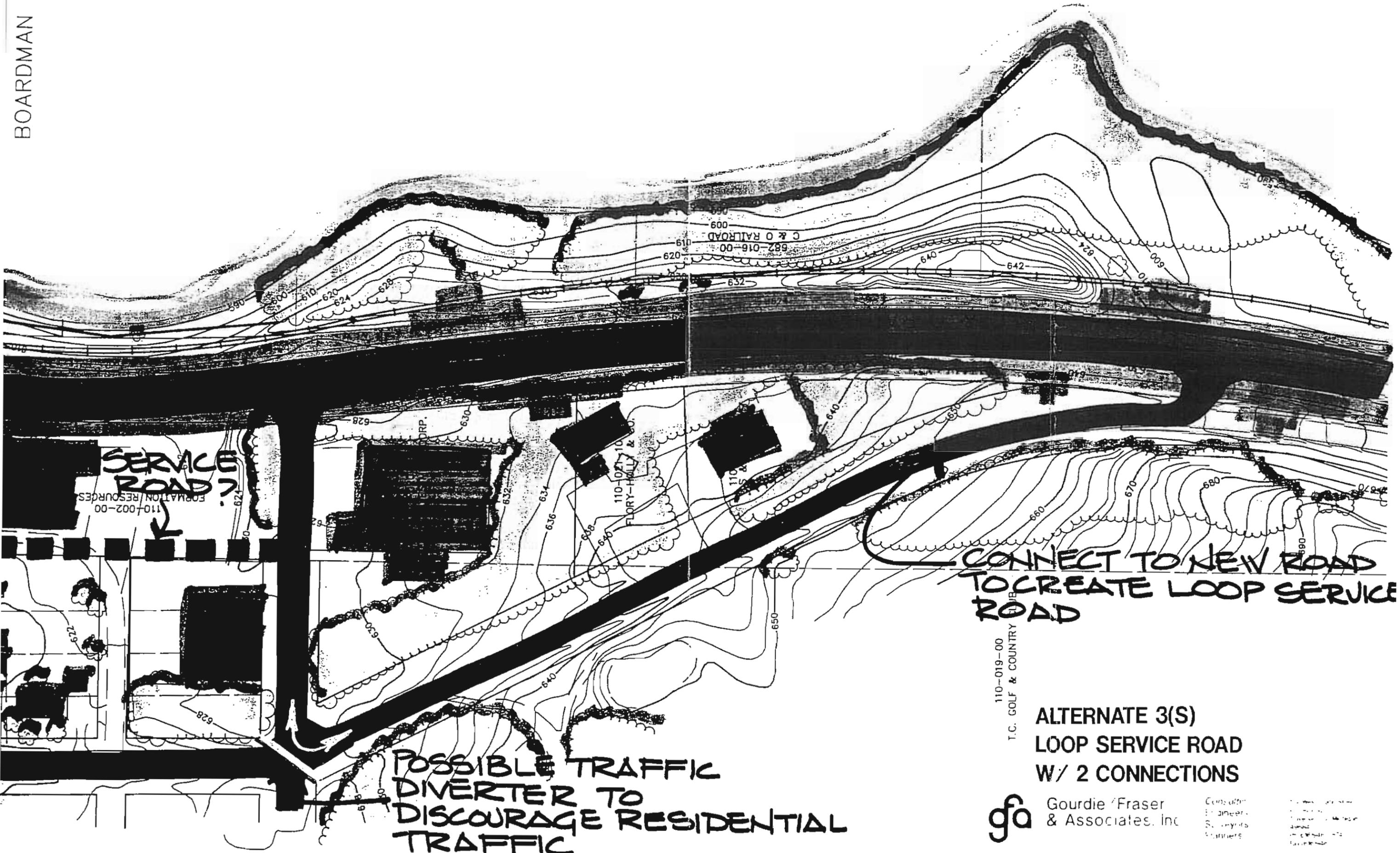
**ABANDON
THIS SECTION**

110-019-00
T.C. GOLF & COUNTRY CLUB

**ALTERNATE 2(S)
CONNECT 17TH TO B.L.A.**

gfa Gourdie/Fraser
& Associates, Inc. Consulting
Engineers
Surveyors
Planners

100 West State Street
P.O. Box 907
Troy, Michigan 48060
Phone: 313.257.1100
Fax: 313.257.1101



**CONNECT TO NEW ROAD
TO CREATE LOOP SERVICE
ROAD**

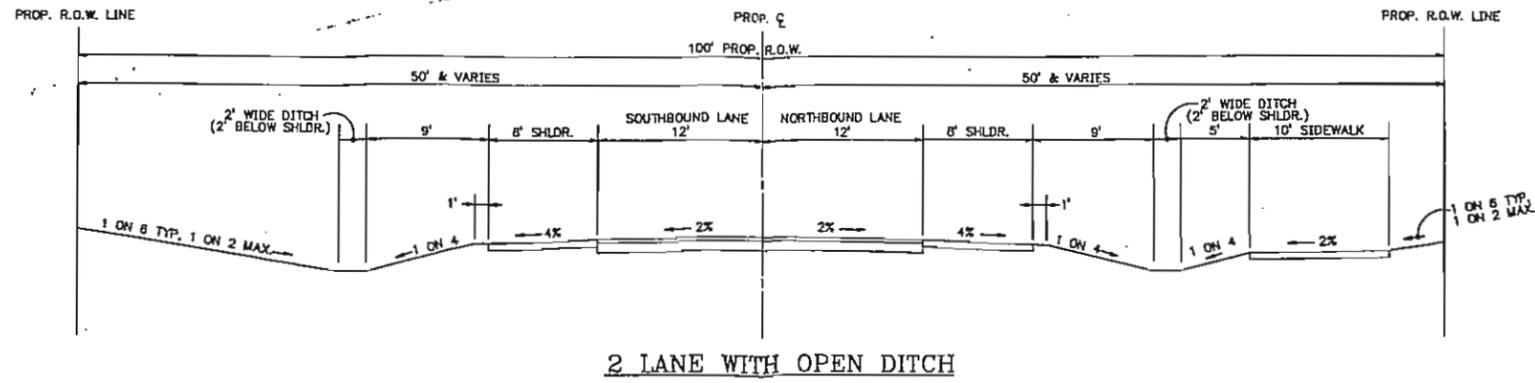
**POSSIBLE TRAFFIC
DIVERTER TO
DISCOURAGE RESIDENTIAL
TRAFFIC**

110-019-00
T.C. GOLF & COUNTRY CLUB

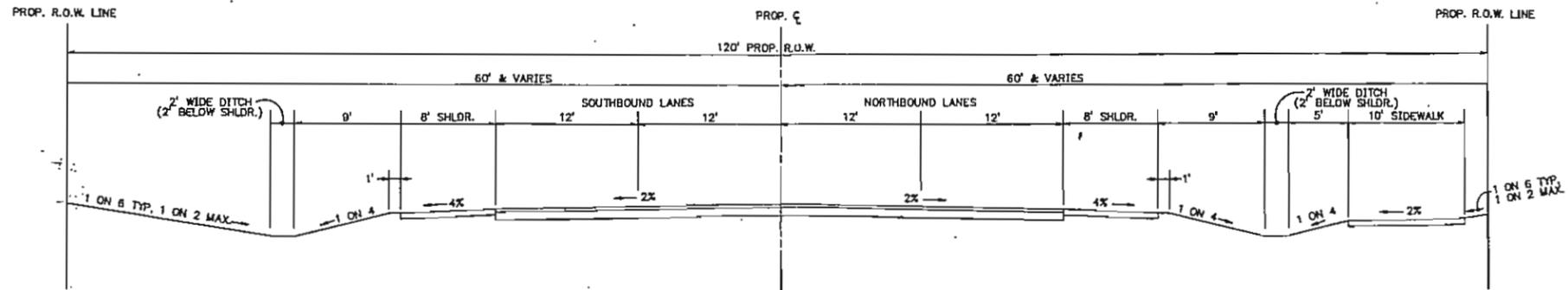
**ALTERNATE 3(S)
LOOP SERVICE ROAD
W/ 2 CONNECTIONS**

gfa Gourdie / Fraser
& Associates, Inc

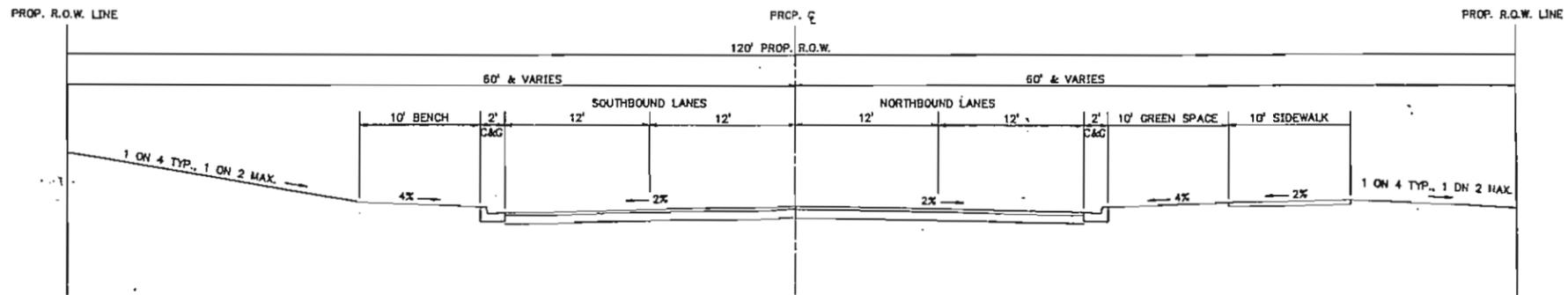
Consulting
Engineers
Surveyors
Planners



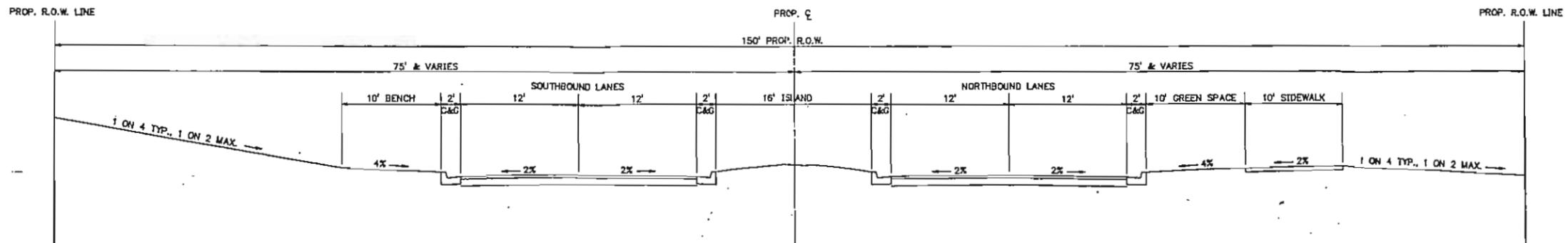
2 LANE WITH OPEN DITCH



4 LANE WITH OPEN DITCH



4 LANE WITH CURB & GUTTER



4 LANE BOULEVARD

104 West State Street
P.O. Box 827
Traverse City, Michigan
49784
PH: (616) 948-8874
FAX: (616) 948-9703

Consulting
Engineers
Surveyors
Planners

Gourdie/Fraser
& Associates, Inc.



REVISIONS:

CITY OF TRAVERSE CITY
BOARDMAN AVENUE STUDY
ALTERNATIVE CROSS-SECTIONS

ISSUED FOR:

CDL

DATE: JAN 08/17/03

FILE NAME: TPCCL080

JOB NO. 930124

SHT. OF