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City Agenda Report

Report To: CITY COUNCIL

Report Date: May 16, 2001 **Meeting Date: May 22, 2001**

Subject: Parking and Truck Traffic Study

Department Review:	**Recommended for Agenda:**
D. Bélisle General Manager of Public Works	J.L. (Jim) Rule Chief Administrative Officer
Report Authored by: R. R. Hortness, Co-ordinator of Traffic and Transportation	

Recommendation:

That three traffic studies concerning proposed Elm Street parking and truck traffic along Elm Street and Lorne Street as well as the Elm Street Traffic Report submitted by ORACLE be forwarded to the City of Greater Sudbury's Parking Committee for review.

42

Executive Summary:

In 2000, the former Council for the Region of Sudbury formed a Committee consisting of Elected Officials, a representative for the Metro Centre Board, concerned citizens and staff to deal with a request for additional parking along Elm Street. An additional request for the removal of truck traffic was forwarded to this Committee for review. The Committee requested an opinion poll as well as a traffic analysis of any ramifications regarding the implementation of parking along Elm Street. As well, there was concern regarding the amount of truck traffic along both Elm Street and Lorne Street that could be redirected.

These four reports were completed in early winter of 2000. With amalgamation into the City of Greater Sudbury, the Committee that requested the report was disbanded. The concerns originating these studies still exists. It is recommended that the traffic studies and the opinion survey be submitted to the City of Greater Sudbury's Parking Advisory Committee for consideration.

Background:

A Committee of citizens concerned with the commercial and social life within the Central Business District petitioned the former Regional Council for the implementation of on-street parking along Elm Street. In response to this request, Council formed an Ad-Hoc Committee to look at the feasibility of implementing on-street parking along Elm Street as well as how to deal with "large truck" traffic along Elm Street. The Committee was made up of interested Councillors, Citizens for a Better Downtown, a representative from the Metro Centre Management Board and two staff members. In response to a request from the Commissioner of Public Works, the Committee agreed to include dealing with a complaint from a resident of Lorne Street regarding redirecting through traffic from Lorne Street.

The Committee met and requested that staff carry out three types of analysis. The first was a "Region" wide study relating to attitudes towards parking on Elm Street.

The second set of studies focussed on the amount of truck traffic use on Elm and Lorne Streets. The focus of this study was to identify those heavy trucks that are on either of these routes that could be re-routed.

The last type of study was to investigate the ramifications of implementing parking along either side of Elm Street or along both sides of Elm Street. This study looked at capacity and changes in the ability of Elm Street to carry out its functions should parking be implemented. The traffic studies were completed in early fall and the attitude studies were completed and submitted near the beginning of winter.

With the fall municipal election and the creation of the City of Greater Sudbury, the Ad-hoc Committee was disbanded. Attached are the four reports, the three traffic reports from the Traffic and Transportation Section and the attitude survey. These reports were not commissioned to arrive at any findings but to gather information.

In the past, this type of report would be brought forward to the former Public Works Committee for discussion and review. The only permanent committee that could address many of these concerns is the Parking Advisory Committee of Council.

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City Agenda Report

Report To: CITY COUNCIL

Report Date: March 16, 2001 **Meeting Date:**

Subject: Parking and Truck Traffic Elm Street
Truck Traffic Lorne Street Study

Department Review:	**Recommended for Agenda:**
Don Bélisle General Manager of Public Works	J.L. (Jim) Rule, Chief Administrative Officer
Report Authored by:	R. R. Hortness, Co-ordinator of Traffic and Transportation

45

Findings: The following is a summary of some of the findings of the attached report.

Truck Traffic Elm Street.

- 3.6 % of traffic along Elm Street consists of larger commercial truck traffic
- 65% of the larger commercial truck traffic surveyed along Elm Street are on the most direct route.
- 28% of the larger commercial truck traffic along Elm Street could be redirected to Brady /Douglas Street.

Truck Traffic Lorne Street

- 2.1% of traffic along Lorne Street consists of larger commercial truck traffic.
- 89% of the larger commercial truck traffic surveyed along Lorne Street is on the most direct route.
- 3% of the larger commercial truck traffic along Lorne Street could be redirected.

Parking Elm Street

- The implementation of parking along **both sides of Elm Street** will increase costs to drivers by $1,005,290.00 a year in additional time, and $39,560.00 a year in additional fuel.
- The implementation of parking **during the week along both sides of Elm Street** will increase delays along Elm Street from Level of Service "B" (short traffic delays) to Level of Service "F" (no movement).
- The implementation of parking **during the week along either side of Elm Street** will increase delays along Elm Street from Level of Service "B" (short delays) to Level of Service F" (no movement) or "E" (very long delays).

- The implementation of parking **during the weekend along both sides of Elm Street** will increase delays along Elm Street from Level of Service "B" (short traffic delays) to Level of Service "D" (long traffic delays).

- The implementation of parking **during the weekend along either side of Elm Street** will increase delays along Elm Street from Level of Service "B" (short delays) to Level of Service F (no movement) or "E" (very long delays).

- The implementation of parking along both sides of Elm Street along with the **removal of all truck traffic** and a **reduction of other vehicular traffic by 10% due to congestion** would still increase the levels of congestion along Elm Street from Level of Service B (short traffic) delays to Level of Service E (very Long Traffic delays).

REGION of/de SUDBURY

PUBLIC WORKS COMMITTEE

For Action

Date: May 9, 2000 **File No.:**

Subject:

Elm Street - City of Sudbury, On-Street Parking
and Truck Route Designation

Recommended for Approval by:

J.L. (Jim) Rule
Chief Administrative Officer

D. Bélisle, Commissioner of
Public Works

EXHIBIT A

Background:

We have received the ~~endorsed~~ closed request from a group of citizens who are asking that truck traffic be diverted from Elm Street, and that on-street parking be permitted on a trial basis this coming summer.

Diverting truck traffic away from Elm Street will result in rather lengthy and circuitous routes for trucks north and eastbound through the City. The alternate route would consist of Brady-Douglas-Lorne-Big Nickel Mine Road. Regent Street is not desirable because of the difficulty trucks would have at the intersection of Elm Street.

The Committee may recall a delegation from downtown merchants and hotel operators in 1996. At that time staff had recommended that downtown signage be altered so that Brady-Douglas would become the connecting link between Highway 17 east and west. Provincial road maps would also have been altered accordingly, and Elm Street would no longer appear as the primary east to west connecting link. The merchants and hotel operators objected strenuously, taking the position that they wanted to attract as much tourist traffic as possible through the downtown business district.

We await the Committee's direction on this matter having regard to the opposing interests expressed by merchants in 1996. We also caution against on-street parking unless traffic volumes are substantially reduced. Elm Street continues to carry 18,000 vehicles per day, and until traffic volumes are reduced substantially, we do not recommend parking on Elm Street.

Attachment

May 8, 2000

Public Works Committee
Mr. Jim Ilnitski
City of Sudbury
200 Brady Street, Sudbury, ON P3A 5P3

RE: Elm Street Traffic

Dear Mr. Ilnitski:

Citizens for a Better Downtown are people who advocate the creation of a dynamic and culturally rich neighbourhood. Our goal is to re-establish our city's core, linked to its past, where living, working, walking, shopping, and playing are a pleasure.

We believe that parking on Elm Street, and the diverting of heavy trucks and through-traffic to the Brady Street Expressway are paramount to the re-development and restoration of our city's downtown.

As one of our oldest streets, Elm Street could be considered "Main Street" Sudbury. It was once a vibrant people place, and our center of commerce. It was a destination point branching out to the rest of downtown and should be again. Our main street downtown should be a reflection of our community and welcoming symbol to visitors.

The Brady Street Expressway was built many years ago with the objective, among others, of being a viable alternate route around downtown for trips not destined for the business area. Diverting heavy trucks and through-traffic to Brady Street, and restoring parking on Elm Street will not only provide greater access to the businesses downtown, but Elm Street will once again become an attractive and welcoming symbol of our community while maximizing the convenience and enjoyment of people.

A public forum was held on May 1st, 2000 at Black Cat Too in order to discuss ways of revitalizing Elm Street. In attendance were Councillor De la Riva, Ray Hortness, and Don Belisle, along with downtown business owners and concerned citizens.

As a result of the forum, the Citizens for a Better Downtown (CBD) would like to make the following requests:

1. That heavy truck traffic be diverted from Elm Street to the Brady Expressway.

2. That two (2) lanes of short-term metered parking be permitted on Elm Street with restrictions, if necessary, during peak traffic hours such as: (7am-9am) and (4pm-6pm).

3. That an "introductory project" be initiated this summer, 2000, with parking on Elm Street on Weekends only. This could be an adjustment period until the full-time implementation of Elm Street parking.

Please allow us to make a presentation at the meeting of May 18, 2000 at 7:00 pm, by including us on your agenda.

Thank you for your consideration in this matter.

Yours truly,

S. Skilling

Stephanie Skilling
on behalf of Citizens for a Better Downtown

Background:

The Regional Municipality of Sudbury's Public Works Committee received a request from the Citizens for a Better Downtown requesting that truck traffic be diverted from Elm Street and that on-street parking be permitted at various locations along Elm Street for a trial basis during the summer (see **Exhibit A**). The lack of on-street parking within the Central Business District (CBD) is a long-standing concern of area merchants. Regional Council created an Ad-Hoc Committee of Council to review the questions of truck traffic and on-street parking along Elm Street.

The Region also received a request to look at truck traffic along Lorne Street with the possibility of redirecting through truck traffic. This request was directed to the Ad-Hoc Committee of Council for consideration.

The Traffic and Transportation Section undertook to look at these requests as three separate studies. The first two truck studies consisted of gathering empirical data concerning the types of truck traffic along both Lorne Street and Elm Street and the Origin-Destination (OD) of the truck traffic. The other study consisted of evaluating the effects of the request for various options of installing on-street parking along Elm Street.

TRUCK STUDY ELM STREET

Regional Council's Ad-Hoc Committee of Council directed a review of Elm Street traffic. A study was undertaken to analyze the existing truck traffic patterns. On July 5th and 6th of 2000, the Regional Municipality of Sudbury's Traffic and Transportation Section conducted an OD survey of truck traffic along the Elm Street corridor. This 8 hour survey allows for the evaluation of the types of trucks, the pattern and volume of truck traffic, as well as what traffic could be re-routed. Attached for the information of the Committee is preliminary data pertaining to the existing truck traffic along some City core roadways (see **Exhibit B**).

An OD survey was conducted between Elgin Street and Elgin Street intersections (see **Exhibit C**).

The following information was collected during the survey:

1. Time of survey
2. Type of truck
3. Company name
4. License plate number
5. Origin
6. Destination

Types of truck were further broken down as follows:

1. Type A (Two Axles) light trucks
2. Type B (Three Axles) delivery and dump trucks
3. Type C (Semi-Trailer)
4. Type D (Tanker or Slurry Type)
5. Type E (Buses, Municipal Utility Vehicles and Handi-Transit Vehicles)

The OD survey was only conducted with Types A to D trucks while Type E trucks were checked off but not stopped. A total of 192 trucks were surveyed and the results are tabulated in Table 1.

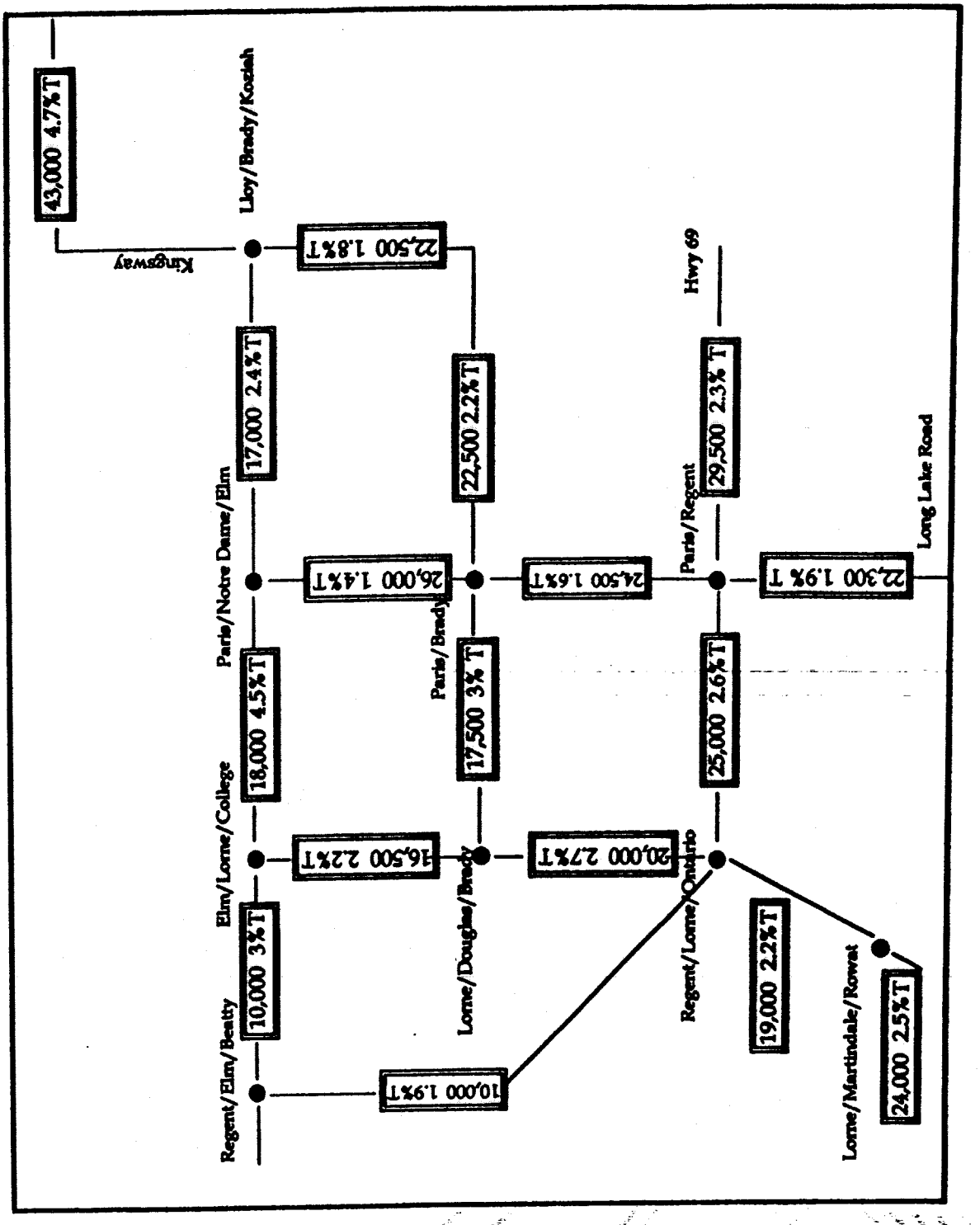
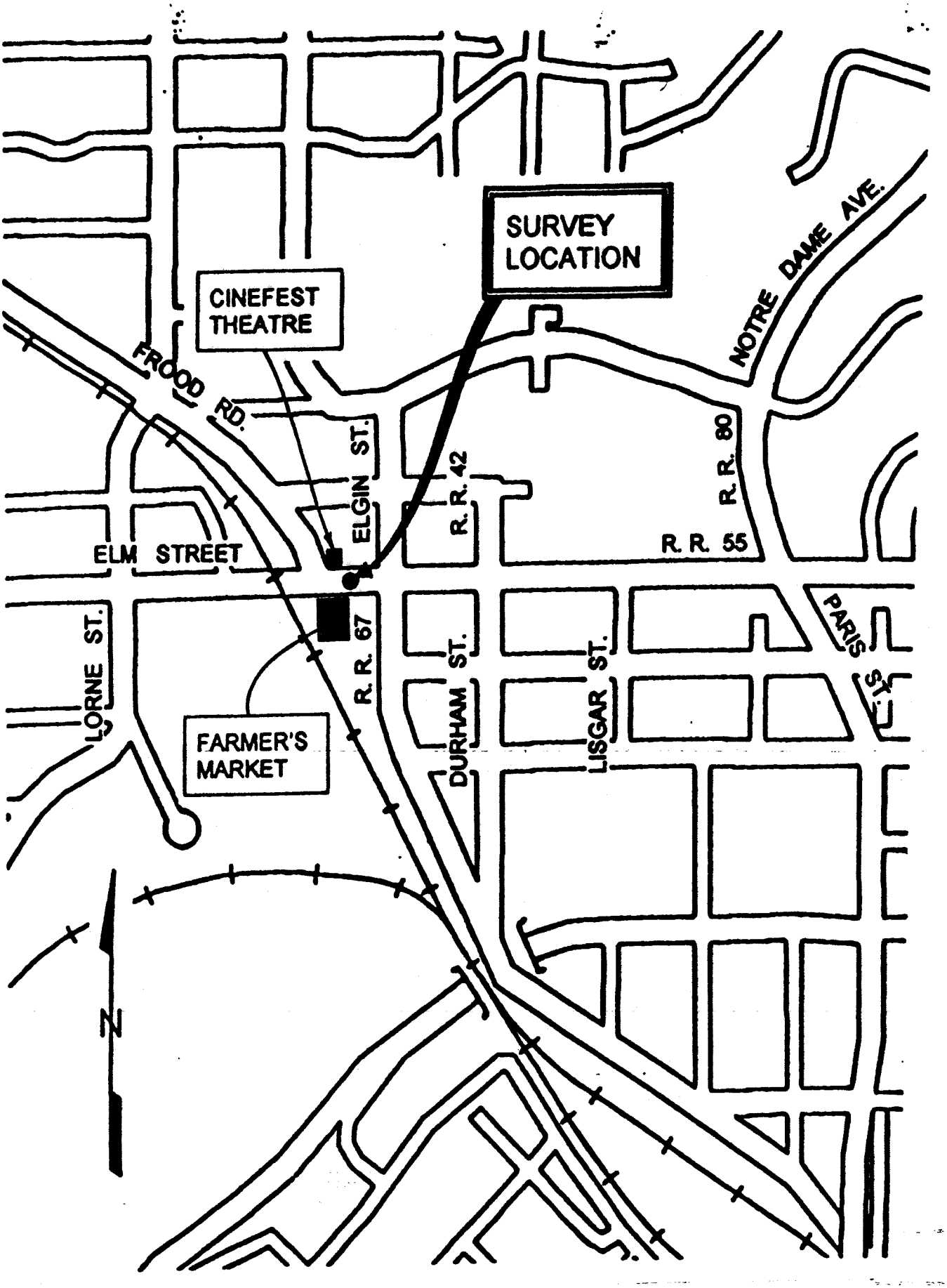


EXHIBIT B

EXHIBIT 54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NOTRE DAME AVE.
FROOD RD.
ELGIN ST.
R.R. 42
R.R. 80
R.R. 55
ELM STREET
LORNE ST.
R.R. 67
DURHAM ST.
LISGAR ST.
PARIS
FARMER'S MARKET
N

EXHIBIT C

Table 1. Origin-Destination Truck Survey on Elm Street

Types of Truck	Eastbound	Westbound	Total
A - Two Axles	38	51	89
B - Three Axles	17	11	28
C - Semi Trailer	14	17	31
D - Tanker or Slurry Types	2	2	4
E - Municipal Vehicles & Buses	20	20	40
Total	**91**	**101**	**192**
Directional Split	**47%**	**53 %**	

The results indicated that the directional split of trucks on Elm Street was 47% (eastbound) and 53% (westbound). This 3% variation is normal for this type of survey.

Exhibit D and Table 3 show a further breakdown by percentage of the types of trucks that were surveyed on Elm Street.

Table 3. Truck Type

Trucks by Type	Volumes	Percent
A - Two Axles	89	46%
B - Three Axles	28	15%
C - Semi Trailer	31	16%
D - Slurry Types	4	2%
E - Municipal Vehicles & Buses	40	21%
Total	**192**	**100%**

Origin - Destination Field Study at Elm Street
Date: July 5 & 6, 2000
Total Survey: 192 Trucks
Directional Split : Eastbound 47% & Westbound 53%

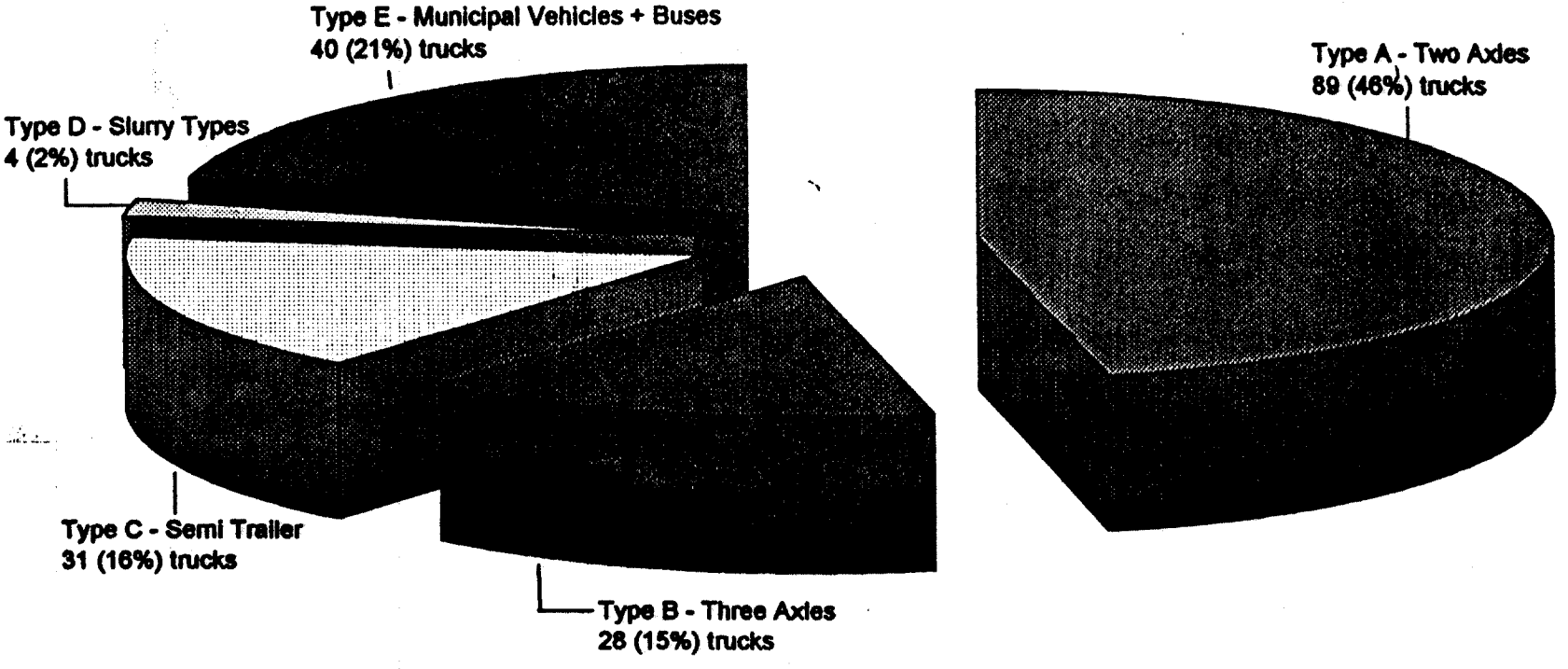


EXHIBIT D

Exhibit E and Table 2 show a breakdown by percentage of the types of vehicles traveling through the area in terms of the Average Annual Daily Traffic (AADT).

Table 2. Vehicle Type as % of AADT

Vehicle by Type	Vehicles % AADT
Cars and Light Trucks	95.5 %
A - Two Axles	2.1 %
B - Three Axles	0.7 %
C - Semi Trailer	0.7 %
D - Tanker or Slurry Types	0.1 %
E - Municipal Vehicles & Buses	0.9 %
Total	100 %

The data also indicated that trucks and municipal vehicles represented 4.5% of all vehicles along Elm Street on the day of the survey. The types of concerns that were most often voiced focused on the larger vehicles, Types B, C, and D. These represent only 1.5 % of the vehicles along Elm Street.

To facilitate the analysis of the OD survey, a map of the Regional Municipality of Sudbury was divided into various zones ranging from A to Q (see **Exhibit F**). The information collected from the OD survey was subsequently incorporated into the OD chart containing these zones.

The survey information was used to derive a breakdown of each category and traffic patterns as follows:

1. Elm Street Route
2. Alternative Routes
3. Questionable Route

Origin-Destination Field Study at Elm Street
Percentage of Types of Vehicles
in terms of AADT

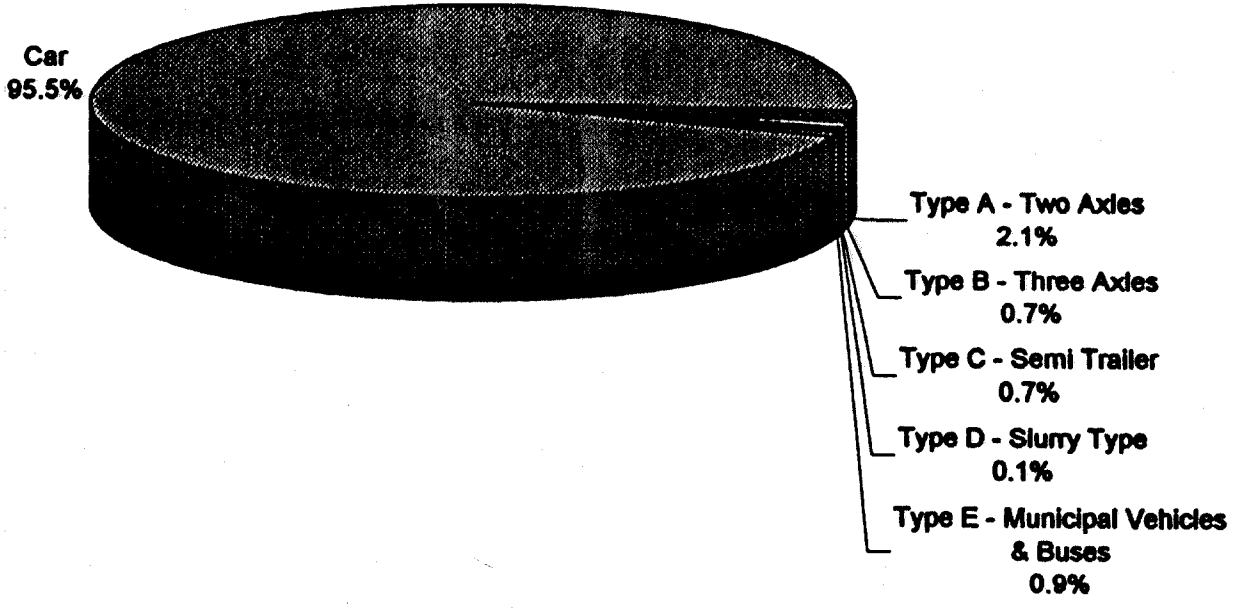
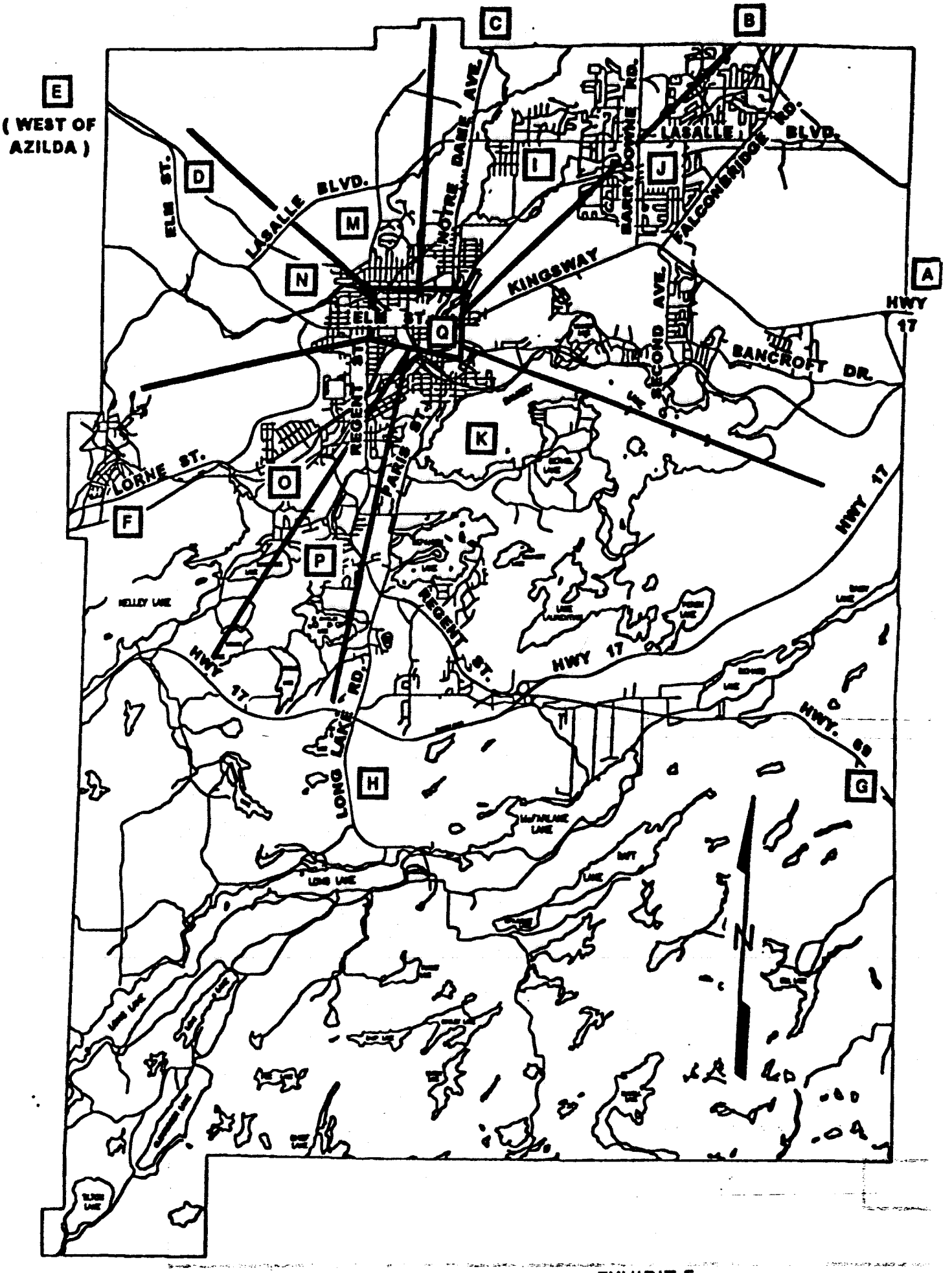


EXHIBIT E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ELM ST.
NOTRE DAME AVE.
BARRYDOWNE RD.
FALCONBRIDGE RD.
KINGSWAY
HWY 17
BANCROFT DR.
REGENT ST.
PARIS ST.
LORNE ST.
LONG LAKE RD.
HWY. 69
KELLEY LAKE
LONG LAKE
N

EXHIBIT F

The Elm Street Route designates those vehicles along Elm Street that are there because it is the most direct route. The Alternative Routes designate vehicles that were on Elm Street during the study that had optional routes (other than Elm Street), which they could use to reach their destination. Lastly, the **Questionable Route** group are those trucks whose responses describe origins and destinations that should not place them along Elm Street.

The results of the OD survey are summarized in Table 4 and illustrated in OD charts (see **Exhibit G**).

Table 4. Summary of the OD Data by Traffic Patterns

Category	Volume	Percent
Elm Street Route	117	61 %
Alternative Routes	68	35 %
Questionable Route	7	4 %
Total	192	100 %

FINDINGS

Along Elm Street, 61% of the trucks are on the most direct route. Relocating these trucks would mean redirecting truck traffic along other routes such as Regent Street, Douglas Street, Beatty Street, Kathleen Street, and/or Frood Road.

Our estimates based on the information supplied indicate that 35% of the trucks surveyed have alternate routes other than Elm Street. Also, 26% of all truck traffic have their origins and destinations within the CBD.

The use of Brady Street for trucks was also reviewed. The OD survey indicated that 57 trucks or 28% of those surveyed, could use the more direct Brady Street route to gain their destination. Since the Elm Street route is still required for 61% of the trucks surveyed, a viable option would be for more directive signing. As directed by Regional Council, the highway markings for the connection between Highway 69, Highway 17 East, and Highway 17 West is along Elm Street. By redirecting these highway markings from Elm Street to Brady Street along with more visible truck route signing, there is an opportunity to redirect up to 28% of the trucks presently along Elm Street.

REGIONAL MUNICIPALITY OF SUDBURY
ORIGIN-DESTINATION SURVEY STUDY ALONG ELM STREET CORRIDOR

LOCATION: Elm St. **DIRECTION:** BOTH **VEHICLE TYPE:** A,B,C,D & E **DATE:** JULY 5 & 6, 2000

TOTAL: 192

DESTINATION

ORIGIN	A	B	C	D	E	F	G	H	I	J	K	M	N	O	P	Q
A						2										
B				1												
C				1										2	1	
D	3	3					1		4	3						
E		2														
F	3	3	1						1	6						
G										1						
H																
I				1		3								13	1	
J						8								3		
K														1		
M																
N														1		
O			2				1		1	6	1					
P										1						
Q																

Elm Street Route 117 61 % Alternative Route 68 35 % Questionable Route 7 4 %

EXHIBIT G

TRUCK STUDY LORNE STREET

The Regional Municipality of Sudbury's Traffic and Transportation Section received correspondence from a resident of Lorne Street regarding the volume and type of truck traffic along Lorne Street (see **Exhibit H**). The correspondence focused on many issues. Some of the issues such as the state of Lorne Street have since been addressed through the reconstruction of Lorne Street between Regent Street and Martindale Road, completed earlier this fall.

The letter addressed possible signing changes, map alterations, and trucking permits within the Region. All highways are truck routes and specific signing is not required. The map referred to in the correspondence was produced for internal use and outlines specifically the Regional and local municipal truck routes. The question of licencing trucks within the Region was reviewed. In Ontario, only the Province is permitted to license vehicles.

The letter improperly indicates that Lorne Street is a residential road. Though there are residences along Lorne Street, Lorne Street was a provincial highway and has always been a truck route. It should be noted that private residences are a small minority of the properties along Lorne Street .

The letter indicated that truck traffic from outside the Region was not using the highway connections and were improperly traveling along Lorne Street. To verify this assumption and to gather data to address this problem should it exist required the gathering of empirical data on Lorne Street truck traffic.

The letter was forwarded to Regional Council's Ad Hoc Committee on Elm Street traffic for review. As directed by the Committee, the Traffic and Transportation Section conducted an 8 hour OD survey of truck traffic along the Lorne Street corridor on July 10th and 11th, 2000. The OD survey was conducted between Martindale Road and Demorest Avenue (see **Exhibit I**). The survey allows for the assessment of the type, pattern, and volume of truck traffic along Lorne Street. As well, the data allowed staff to estimate what truck traffic could be re-routed.

Attached for the information of the Committee is the data pertaining to the existing truck traffic along some City core roadways (see **Exhibit J**).

May 11, 2000

Mr. Ray Hortness
Coordinator of Traffic & Transportation
Regional Traffic Department
Regional Municipality of Sudbury
P.O. Box 3700, Station A
Sudbury, ON P3A 5W5

Dear Mr. Hortness,

In recent telephone conversations with you, I stated my concerns regarding the dramatic increase in the number and type of transport trucks using Lorne Street as a through corridor. I draw your attention once again to this situation with the hope that it can be resolved before we encounter a very serious accident, such as the truck explosion in Walden a few years ago. With the heavy population along the designated Lorne Street truck route, an accident such as this would be disastrous.

My concerns are twofold. First, and foremost, my concern is for the safety of citizens living on this designated truck route, and secondly, the costs associated with the use of city streets by trucks weighing in excess of 100,000 lbs. But, the issue of safety is my primary concern, and needs to be immediately addressed.

I am a resident of Lorne Street and took it upon myself to take a truck traffic count on Lorne Street, between Martindale and Regents Streets, at the same time observing the types of loads passing through this corridor. Some of the loads that were easily discernible were loads of raw timber (at times two LOADED trailers), tankers labelled with flammable goods (many of which were also double trailers), trucks loaded with lumber, trucks loaded with compressed cars obviously destined for melt down, trucks loaded with new cars, various loads of steel, and many other loads that were not obvious, but were certainly very heavy as the house in which I reside vibrated as they passed through. As to the count, my observations posted approximately 60 transport trucks over an 8 hour period on two different days (a Monday and Thursday). Extrapolating this figure times three gives some idea of the numbers. Most trucks were observing the speed limit, but some were not. Given the weight and speed of these trucks mingled with small vehicle traffic, bikes, pedestrian crossings, and traffic lights and we are presented with a recipe for disaster.

The roadway itself is rutted and in abominable shape causing trucks to bounce up and down. My house abuts and is built into solid rock which will give you some idea as to the weight of trucks actually able to vibrate the foundation. It is my understanding that the roadway is to be graded and resurfaced this year, which should provide some temporary relief. It will only be a temporary, not long term solution, as the roadway will return to its present state in a very short period of time due to the amount and weight of truck traffic presently using this roadway as a through highway. The cost to the taxpayer becomes prohibitive given we have a situation which repeats itself over and over, with no apparent long term resolution in place.

I would also like to point out that Lorne Street does not meet the criteria of a true four lane roadway, but is, in actuality, a two way highway masquerading as four. Transport trucks are hard pressed to stay within their designated lanes and quite often cross over the centre line adding to the recipe mix for a potential disaster. Telephone poles, located on the residential side of the street, are inches away from these wide vehicles.

EXHIBIT H

One of the reasons for the increase in truck traffic could be directly attributed to an improved economy and particularly to the "just in time" low inventory practice of many businesses. The Ministry of Transportation recently added the Highway 17 by-pass to route through traffic around the city. Unfortunately, it appears that it is not being utilized by many of the new trucking companies and independents that have been generated by the increased economic activity.

The Ministry of Transportation spent millions of dollars to construct this by-pass. Why is it not being used by many truckers? Two reasons are readily apparent. Number one is that signage does not exist indicating to truckers that a by-pass is available, its location, and that it should be used by through truck traffic. Secondly, I note on a truck routing map which I purchased from the Region that Lorne Street is indicated as a trucking route, while the Highway 17 by-pass is barely noted on the map and does not even indicate that it should be used as a trucking route. These maps need to be immediately updated, before further distribution, indicating very clearly the 17 by-pass as a designated truck route. Also, signage should be available at all ports into the city indicating the by-pass is available, and its location. These two suggestions could be implemented at very little cost to the Region, and ease the number of trucks using city roads as a through highway.

Trucking segregation is a larger issue that needs to be addressed by the Regional Traffic Department. It will not be resolved by refusal to address it. A possible solution is that of only allowing those trucks with a permit and designated business within the city limits use of city streets. Through transport trucks would be forced to use the by-pass, or face a fine.

Lorne Street is used by many local truckers at the present time, i.e., those hauling for construction companies, slurry trucks, lumber companies etc., and this, in and of itself, constitutes a heavy traffic load. Lorne Street is a residential area and residents should not be exposed to dangerous situations generated by unnecessary heavy transport truck traffic. Attempting to exit my driveway each morning is a hair raising experience with double trailer transports bearing down on me as I attempt to enter the traffic flow. My vehicle was rear ended while attempting to make a left turn into my driveway. Fortunately I was hit by a car, not a transport trailer truck with a double load of timber. This mix of traffic cannot be sustained in the city limits and this untenable situation needs to be addressed at the earliest possible date.

Yours very truly,

Sandra Spomy

Sandra M. Spomy

C.C. Kevin Lyle, Area Manager, MOT
Gerry McIntaggart, Alderman, Ward 5

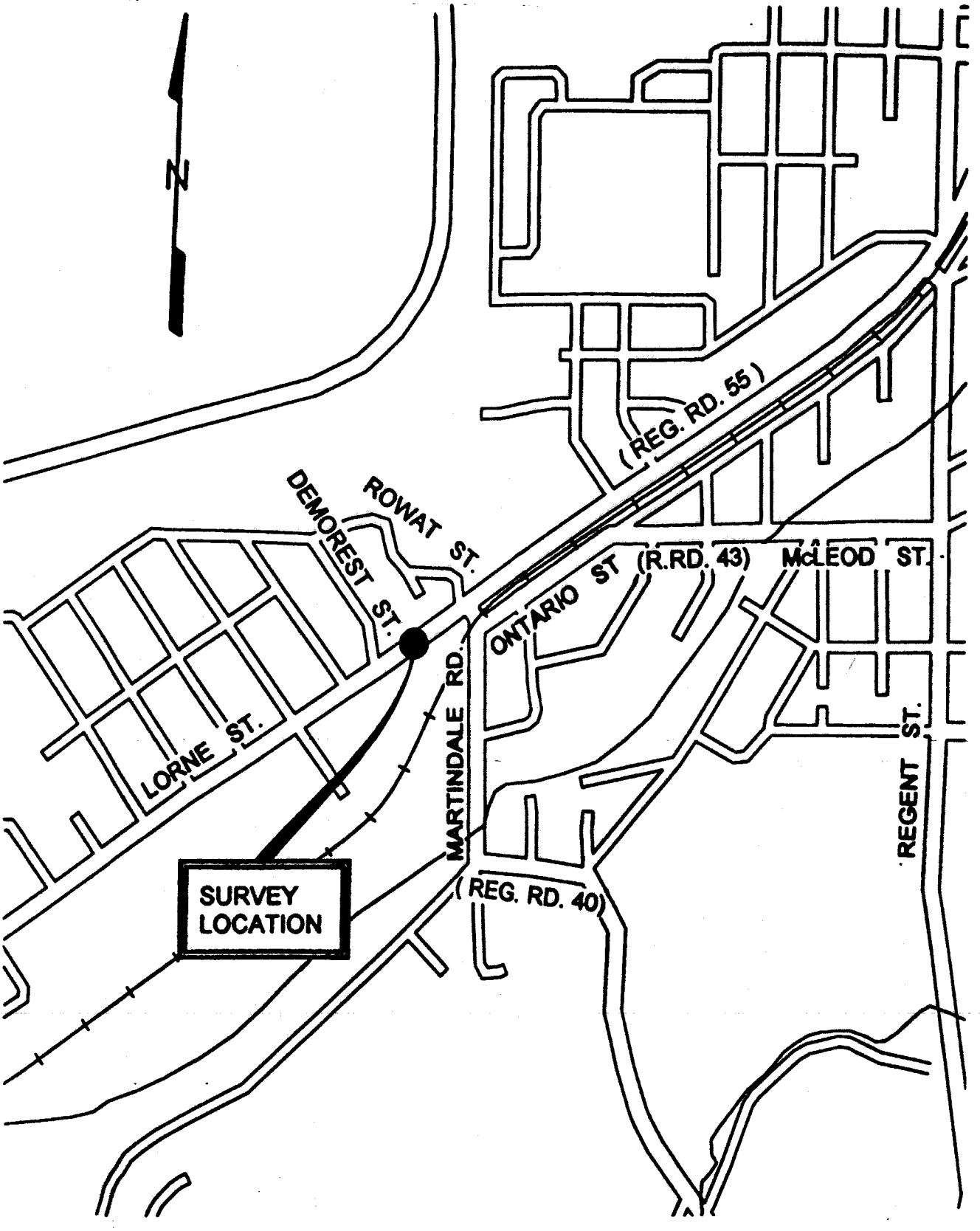

N
(REG. RD. 55)
ROWAT ST.
DEMOREST ST.
ONTARIO ST
(R.RD. 43)
McLEOD ST.
MARTINDALE RD.
LORNE ST.
REGENT ST.
SURVEY LOCATION
(REG. RD. 40)

EXHIBIT I

The following information was collected during the survey:

1. Time of survey
2. Type of truck
3. Company name
4. License plate
5. Origin and Destination

Types of trucks were broken down as follows:

1. Type A (Two Axles) light trucks
2. Type B (Three Axles) delivery and dump trucks
3. Type C (Semi-Trailer)
4. Type D (Tanks or Slurry Types)
5. Type E (Buses, Municipal Utility Vehicles, and Handi Transit Vehicles)

The OD survey was only conducted with Types A to D trucks while Type E trucks were checked off but not stopped. A total of 229 trucks were surveyed, with the results showing that the directional split of trucks on Lorne Street was 56% at eastbound and 44% at westbound (Table 5).

Table 5. Origin-Destination Truck Survey on Lorne Street

Truck Type	Eastbound	Westbound	Total
A - Two Axles	52	36	88
B - Three Axles	32	17	49
C - Semi Trailer	32	25	57
D - Tanker or Slurry Types	2	5	7
E - Municipal Vehicles & Buses	11	17	28
Total	**129**	**100**	**229**
Directional Split	**56 %**	**44 %**	

Exhibit K and Table 6 shows a break down in percentage of the types of vehicles traveling through the area.

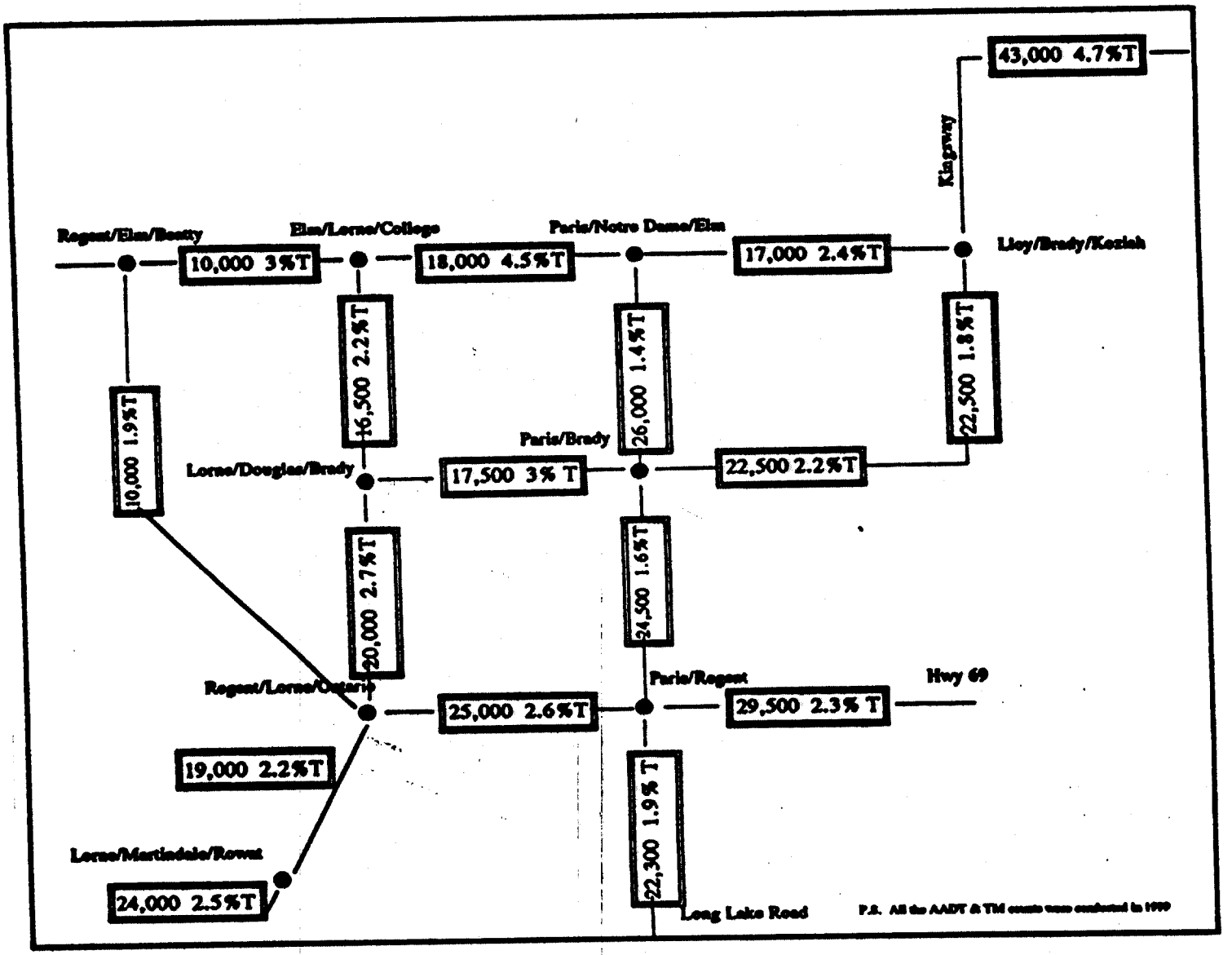

43,000 4.7%T
Kingsway
Regent/Elm/Beatty
Elm/Lorne/College
Paris/Notre Dame/Elm
Lloy/Brady/Keziah
10,000 3%T
18,000 4.5%T
17,000 2.4%T
16,500 2.2%T
26,000 1.4%T
22,500 1.8%T
10,000 1.9%T
Paris/Brady
Lorne/Douglas/Brady
17,500 3% T
22,500 2.2%T
20,000 2.7%T
24,500 1.6%T
Paris/Regent
Hwy 69
Regent/Lorne/Ontario
25,000 2.6%T
29,500 2.3% T
19,000 2.2%T
22,300 1.9% T
Lorne/Martindale/Rowat
24,000 2.5%T
Long Lake Road
P.S. All the AADT & TM counts were conducted in 1999

EXHIBIT J

Origin - Destination Field Study at Lorne Street
Date: July 10 & 11, 2000
Total : 229 Trucks
Directional Split : Eastbound 60% : Westbound 40%

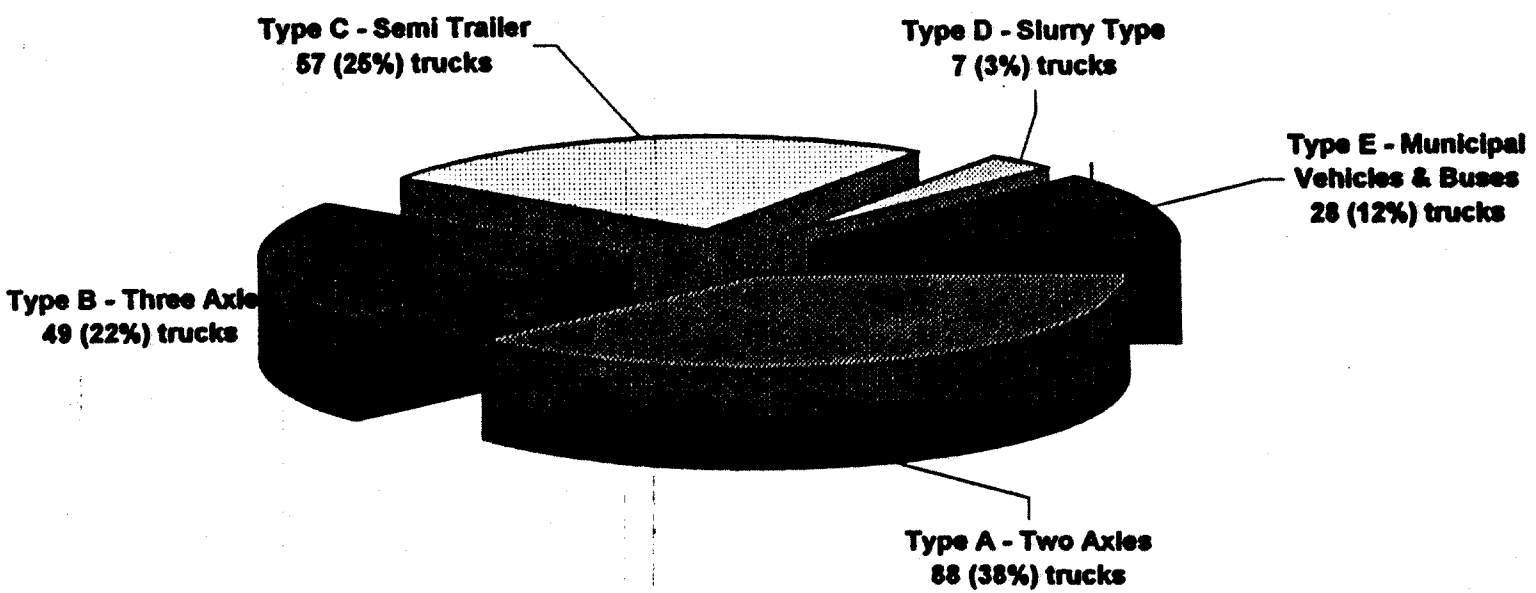


EXHIBIT K

69

Table 6. Truck Type, Lorne Corridor

Truck Type	Volume	Percent
A - Two Axles	88	38 %
B - Three Axles	49	22 %
C - Semi Trailer	57	25 %
D - Tanker or Slurry Types	7	3 %
E - Municipal Vehicles & Buses	28	12 %
Total	**229**	**100 %**

Table 6 is a further break down by percentage, the types of trucks that were surveyed on Lorne Street.

Table 7 and **Exhibit K** further breaks down the vehicle types as a percentage of AADT.

Table 7. Vehicle Type as % of AADT

Vehicle Type	Vehicles % AADT
Cars and Light Trucks	97.8 %
A - Two Axles	0.9 %
B - Three Axles	0.5 %
C - Semi Trailer	0.6 %
D - Tanker or Slurry Types	0.1 %
E - Municipal Vehicles & Buses	0.3 %
Total	100 %

To facilitate the analysis of the OD survey, a map of the Regional Municipality of Sudbury was divided into various zones ranging from A to P (see **Exhibit M**). The information collected from the OD survey was subsequently incorporated into the OD chart containing these zones **(see Exhibit N)**.

Origin-Destination Field Study at Lorne Street
Percentage of Types of Vehicles
in terms of AADT

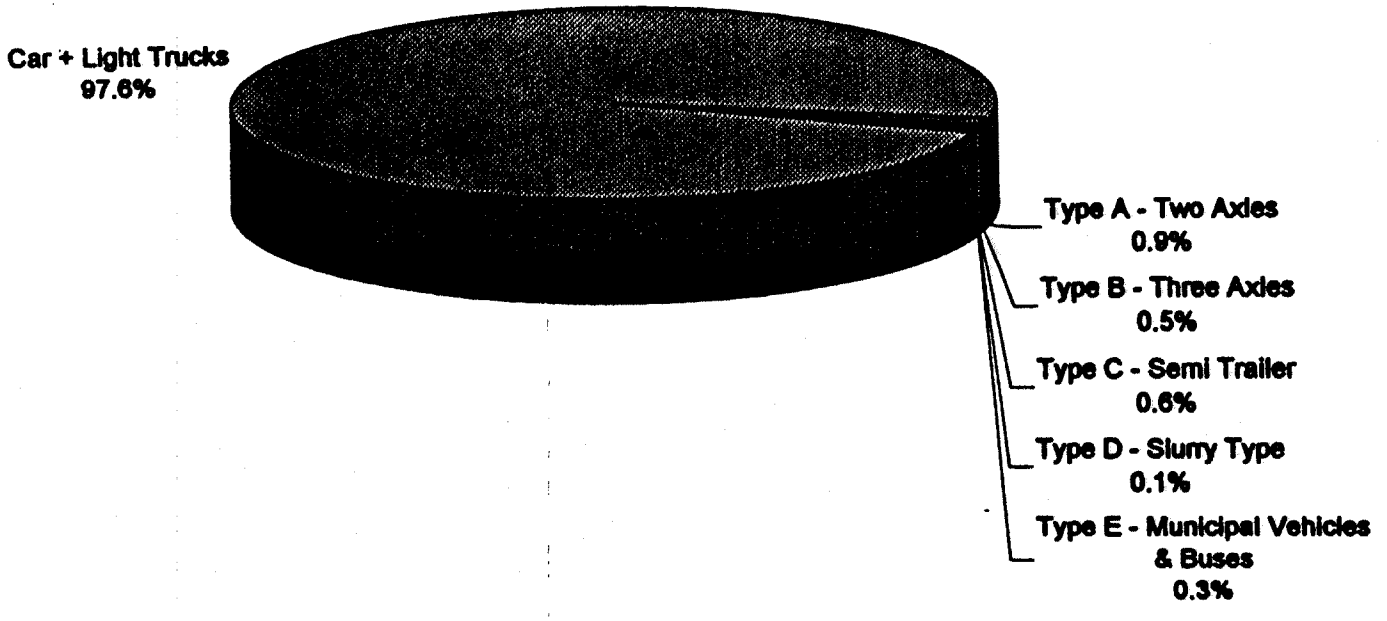


EXHIBIT L

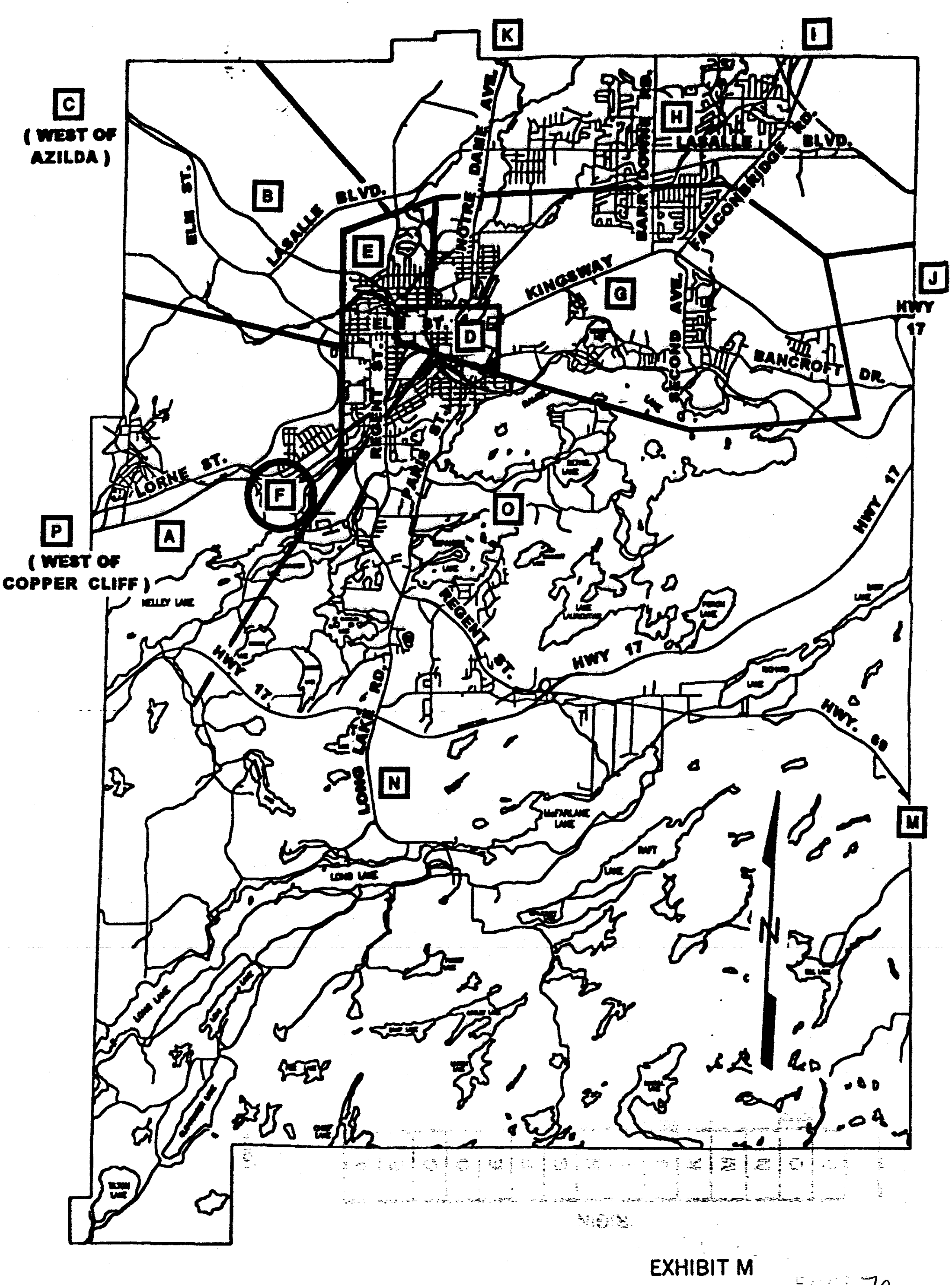

K
I
C
(WEST OF
AZILDA)
B
LASALLE BLVD.
ELM ST.
NOTRE DAME AVE.
H
LASALLE BLVD.
BARRYDOWNE RD.
FALCONBRIDGE RD.
E
KINGSWAY
G
J
HWY
17
ELM ST.
D
SECOND AVE.
BANCROFT DR.
REGENT ST.
PARIS ST.
LORNE ST.
F
O
P
(WEST OF
COPPER CLIFF)
A
HWY 17
REGENT ST.
HWY 17
HWY 17
HWY. 69
LONG LAKE RD.
N
M
LONG LAKE
N

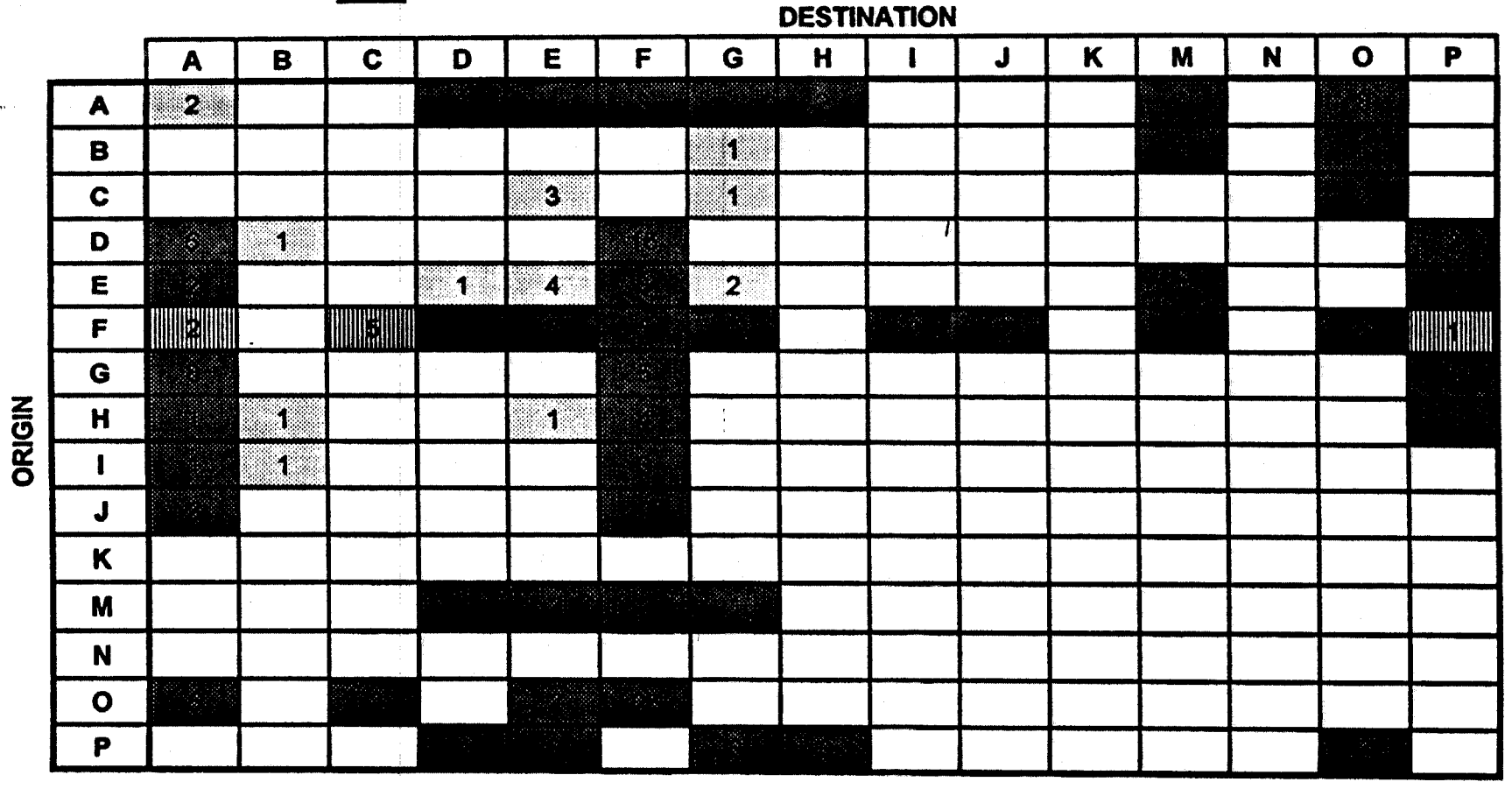
EXHIBIT M

72

REGIONAL MUNICIPALITY OF SUDBURY
ORIGIN-DESTINATION FIELD STUDY

LOCATION: Lorne St. **DIRECTION:** BOTH **VEHICLE TYPE:** A,B,C,D & E **ATE:** JULY 10, JULY 11, 200

TOTAL: 229



Lorne St. Route 203 89 %

Alternative Route 8 3 %

Questionable Route 18 8 %

EXHIBIT N

73

The survey information was used to derive a breakdown of each category and traffic patterns as follows:

1. Lorne Street Route
2. Alternative Routes
3. Questionable Route

The Lorne Street Route designates the route that is the most direct. The Alternative Routes designates optional routes (other than Lorne Street) which may be used to reach their destination. Lastly, the Questionable Route describes a route that is used despite the lack of need.

The results of the OD survey are summarized in Table 8 and illustrated in Exhibit N.

Table 8. Summary of the OD Data by Traffic Patterns

Category	Volume	Percent
Lorne Street Route	203	89 %
Alternative Routes	8	3 %
Questionable Route	18	8 %
Total	229	100 %

Findings

Of the 229 trucks recorded, only 3% or 8 trucks could have used an alternate route, including other municipal truck routes in lieu of Lorne Street. There were an additional 18 trucks or 8% of the trucks surveyed that might have used other routes other than Lorne Street. The contention that Lorne Street carries a large number of heavy vehicles that could be re-routed to the Provincial Highway system is not supported by the data.

ON STREET PARKING

TRAFFIC FLOW ELM STREET

The second type of analysis consisted of evaluating the effects on traffic of various proposals brought to the attention of the Committee for evaluation. The proposals are:

- The implementation of parking along both sides of Elm Street from Frood Road to Lisgar Street.
- The implementation of parking on the north side of Elm Street.
- The implementation of parking along the south side of Elm Street.
- The implementation of parking along either or both sides would reduce traffic volumes and if the truck traffic would be removed.
- Weekday and Weekend analysis.

The analysis carried out consisted of first looking at the existing levels of congestion as the base for the analysis. This consists of calculating at what level the volumes of traffic through the intersections would reach various levels of congestion.

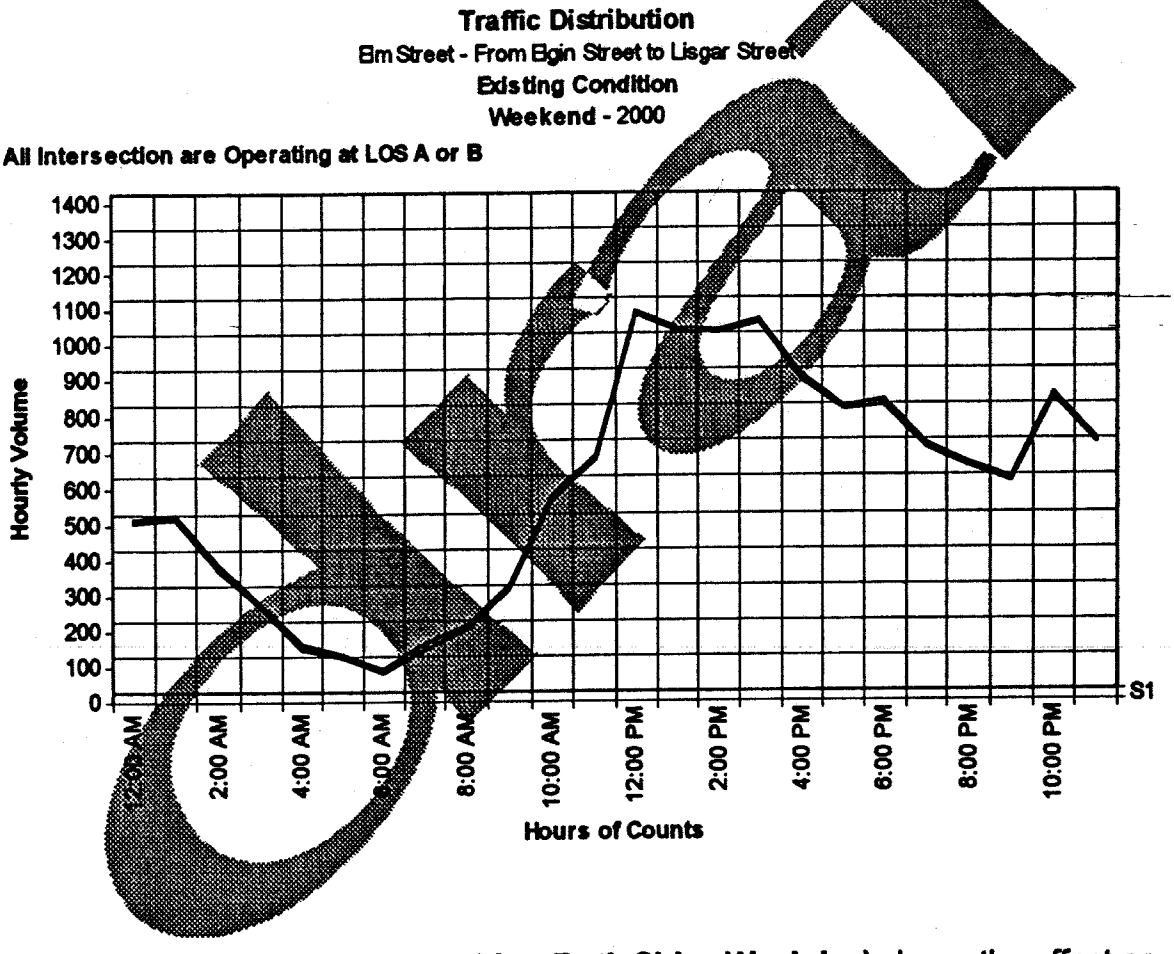
The concept of levels of congestion, levels from "A" to "F" correspond to various levels of vehicular delay ranging from no delay, level of service "A", to intersection saturation where there is no movement. The folliwing chart helps define in words the levels of congestion.

LOS Designation	Description of Delays at Intersections
A	No Delays Due to Congestion
B	Short Traffic Delays
C	Average Traffic Delays
D	Long Traffic Delays
E	Very Long Traffic Delays
F	No Movement

The following graph **(Traffic Distribution Existing Conditions Weekdays)** outlines the various Levels of Service (LOS) and the existing traffic volumes along Elm Street during the weekday. You will note that the graph indicates that at present Elm Street is operating at LOS "B" during the peak periods. There is little or no congestion.

This analysis was also carried out during the weekend. The following graph **(Traffic Distribution Existing Conditions Weekends)** indicates as expected that no congestion along Elm Street exists during the weekend. All the intersections are operating at LOS A or B.

This form of analysis was carried out for the remaining scenarios. We first looked at the levels of congestion that would occur along Elm Street if parking was allowed along both sides. The result of implementing parking would be to have only two lanes for through traffic, increased congestion due to parking maneuvers, and the effects of turning traffic at intersections.



The following graph **(Elm Street Parking Both Sides Weekday)** shows the effect on