

Chapter 5

PUBLIC RESPONSE TO THE EVACUATION

5.1. INTRODUCTION

This chapter is concerned with the public response to the emergency, and in particular, how the public evacuated Mississauga. Using both survey data and information gathered from many personal interviews with evacuees, the chapter seeks to document how nearly a quarter of a million people left their homes within one day. It remains an achievement for the people of Mississauga as well as for the authorities; 95% of the evacuees found their own accommodation and made their own travel arrangements. They were out of their homes for periods ranging from 1-8 days with staying away for 3 days or more (Table 5.1).

Table 5.1. Number of days evacuees stayed away from home

<u>AWAY FOR:</u>	<u>Number of households</u>	<u>Percent</u>
1 day ¹	450	< 1
2 days	14,000	19
3 days	24,200	32
4 days	8,000	10
5 days	10,600	14
6 days	12,800	17
7 days	5,000	7
8 days	<u>450</u>	< 1
Total	75,500	

¹ Not necessarily the first day of the evacuation.

The accident took place at midnight on a Saturday so that most families were together, and at home, when they were asked to evacuate. Over 70% of the households surveyed had all their members together when the accident happened. The timing of the evacuation on a Sunday, and the fact that most people who live in Mississauga work outside the city, meant that the majority of people had to evacuate their home rather than their workplace (Table 5.2).

Table 5.2. Places from which people were evacuated

	<u>Number of households</u>	<u>Percent</u>
Home	63,500	84
Workplace	1,500	2
Both home and work	9,500	13
Stayed inside evacuation zone	<u>1,000</u>	<u>1</u>
Total	75,500	100%

Although the majority of evacuees left Mississauga until they were allowed to return, a few people deliberately stayed behind (Section 5.6) and many more tried to re-enter the closed city (Section 5.7). Two other groups had different experiences from the other evacuees; people using the Evacuation Centres (Section 5.5), and people living on the edge of the evacuation zone (Section 5.8).

5.1.1. Convergence on the accident scene

Within minutes of the accident, many people rushed to the scene. Those who lived within a few blocks ran

Going to see the accident.....

Mr. and Mrs. R. and their children, a son aged 15 years and a daughter aged 10 years, live only 2 miles from the accident site.

When they saw the explosion, they thought at first it was a gas station or a chemical factory blowing up. Then they thought of the railway line. They did not feel or hear the explosion, although they heard later that it could be heard as far away as Bathurst and St. Clair. The windows in their home did not even rattle. But they saw the explosion. Mrs. R. thought that she could smell something and became scared. Mr. R. and his teenage son set off to investigate the flames. The traffic was very bad. Mr. R. describes what happened.

"We got up to Mavis Road where the lights are and we were stopped there. I stopped there. The cars were all stopped. There were cars parked on both sides of the road with people standing in groups. We rolled down the window and this huge ball, fire, went up in the sky. It was actually quite magnificent and it lit up everything. And the heat.....you could feel the heat from it. It didn't shake the car or anything, though. As it went out, the whole sky was quite black and you could see all these sparkles just coming down."

At the time, Mr. R. thought that a train had hit a truck carrying gas. He could not get any news on his car radio and he could not turn around because of the traffic. He drove on westwards away from home. By 1:15 A.M., the news finally started to come through on the car radio and Mr. R. and his son were still trying to negotiate traffic jams and closed roads to get back home. It took them 1-1/2 hours to drive the 2 miles.

Meanwhile, recalls Mrs. R.,

"Here I am pacing the floor, wondering why its taken them so long to come back from the so-called "fire".....until I heard that it was an actual explosion and then I was really petrified".

Reunited, the family retired to bed.

Living close to the accident site.....

Mr. and Mrs. B. were at home when the accident occurred. Their 12 year old daughter was asleep in bed. When the train derailed, everything went black for an instant, then the flames shot up and the heat became so intense they thought they were going to burn right in their home. They shut the door against the heat and heard their daughter wake up. Mr. B. went outside to see what was happening.

He got as far as the railway tracks and found that it was a derailment. There were already lots of people there. When they thought it would blow again, everyone began screaming and running away. People were tripping over one another. At the second explosion, Mr. B. thought that his clothes were on fire. He ran furiously home to find his wife and daughter in tears. They were terrified by the explosion but he told them it was just a propane car exploding and that seemed to calm them down a bit.

As the flames quietened down, they all went upstairs to go to bed. It was 2:30 A.M. when the police knocked on the front door and told Mr. B. to leave as fast as they could. They were told not to make any preparations and were not told about the chlorine gas. They all left immediately and went to Square One Evacuation Centre. It was 2:45 in the morning.

Mr. B. didn't consider leaving before the police asked him because he didn't know about the chlorine and the flames seemed to be dying down. In any case, there were so many cars and people, it would have been difficult to get out. Some neighbours did leave straightaway after the third blast, before the police came round.

Mr. B.'s house was damaged with cracks in the roof and inside walls. Although the CP Rail inspectors came and wrote down things, he has never heard from them. Afterwards, he was afraid to eat the vegetables in his garden but the government department told him that they were safe to eat. He doesn't really have any anxiety now although he is more concerned about trains going by with dangerous chemicals. They haven't considered moving although they might, if they lived right next to the tracks.

towards the accident while hundreds of others living farther away, got in their cars and drove there. Some of the eye-witness accounts are in the evacuees' own stories, which are included in the report.

The majority of the onlookers were probably men. When families heard the first explosion and saw the flames, it was often the father and older boys who went to see what was happening. Mothers, girls and younger children stayed at home. Many had to wait an uncomfortably long time for the onlookers to return and endured their most anxious moments during the whole emergency.

The number of cars converging on the accident site produced large traffic jams. People could not turn round in the road to return by the same route by which they had come and families near the site had trouble leaving. When the second and third explosion occurred, hundreds of onlookers ran away, screaming. At the time, these people did not realise the danger of poisonous gas inhalation to which they were exposing themselves. In retrospect, they felt frightened and today say that they would not rush so close to unknown dangers again.

Thus, for some evacuees, the experience was a salutary one. They have learnt not to assume that a fire is simply a fire. It is likely, however, that in other emergencies, people will still converge on the accident scene.

5.2. PUBLIC RESPONSE TO THE EVACUATION ORDER

5.2.1. Initial Preparations

As the evacuation zone widened, people began to anticipate that they might have to evacuate their homes.

However, the majority (65-70%) made no preparations at this time. Less than 5% made arrangements about emergency accommodation before they were officially told to leave, and about 15-20% started to pack suitcases. Among those who did start to collect their belongings were families who knew that it would take them longer than for others because they had children or older people needing special assistance.

For most families, the time between the accident and when they were officially told to leave was not spent preparing to evacuate. This was partly because people did not expect that they would need any overnight belongings. They did not expect to be away for more than a few hours (Table 5.3).

Table 5.3. Expected length of evacuation by whether households made plans to be away

	<u>Made plans</u>	<u>No Plans</u>
	%	%
<u>Expected to be away:</u>		
Less than one day	7	83
More than one day	7	3
N = 555		

People largely spent the time listening to news broadcasts on the radio and television, and discussing the situation with family and neighbours. Many contacted friends and relatives by phone, or were called by them (Section 5.9).

5.2.2. The search for accommodation

Once they knew that their home was in an official evacuation zone, families began to discuss where they should go. For the 4,000 households that were evacuated without warning while it was dark early on Sunday morning, the decision was made rapidly while the police waited at the door. Some went initially to Square One Evacuation Centre and there discussed where to go. Other evacuees usually had, or took, a little more time. The decision was almost always arrived at after a family discussion of the alternatives. The factors involved in the selection of a private home destination included:

- (a) whether they had received an invitation to stay;
- (b) how far away it was;
- (c) how comfortable they felt in "imposing" on the family;
- (d) how appropriate the size and facilities of the accommodation were for their needs; in particular, whether they could all go together;
- (e) (for those with pets) whether they could take pets with them;
- (f) (for a few only) its location with respect to their workplaces.

People who chose to go to hotels as a first destination tended to be those who could afford it and/or who expected that someone would have to compensate them. They would make telephone arrangements with a hotel that they knew by name, or had visited before. They took an overnight suitcase. Other people made no advance arrangements but simply kept driving until they found an empty room.

The people who went to Evacuation Centres did so for a variety of reasons. Some had no relatives or friends they felt they could stay with; some could not afford hotels or

could not take their pets there; some were taken to the Centres and once there, many thought that they could not leave. This included some senior citizens living alone. Younger people, especially teenagers, wanted to go to the Centres to be "with the crowd and to have a good time". Not all of these people went directly to an Evacuation Centre - some had tried without success to find private accommodation first and had "ended up" at the Centres.

Whatever the type of accommodation sought, it appears that two important elements in the choice were that:

- (a) the household would remain together;
- (b) the evacuation was expected to be for only a few hours, or at most, overnight.

5.2.3. Time delays in leaving home

The official evacuation zones were declared throughout Sunday, November 11, starting at 01:47 and ending at 23.30. Table 5.4 gives the population that had to be evacuated at each time.

Most families responded rapidly to the evacuation order; 50% left within half an hour of their zone being declared (Figure 5.1); within one hour, 80% of the evacuees had left. A few people took much longer - up to several hours - but this occurred with only 5% of all households.

The speed with which the public responded was influenced by the time of day when they received the order. Families in the first zone who were asked to leave within two hours of the accident at 01:47 responded the most rapidly. Those who could (more than 60%) had left their homes within 15 minutes. Another group took between 45 minutes and one hour to leave. Within one hour, 90% of the houses in the

The search for shelter.....

Mr. and Mrs. M. live with their 20 year old son in a two bedroom apartment in an old apartment block. Mr. M. is not very well and they only just manage to make do financially.

They saw the fire from the apartment window. They could see the flames. Mrs. M. called to her husband to look and he got to the window just in time to see the explosion. It was awe inspiring. Mrs. M. recalls, that she saw some things during the war, but never anything like this. There was a mushroom cloud. Mr. M. was only worried that the fireball was not blue (a nuclear blast).

They tried to get information. It was difficult. Mrs. M. was switching from one radio channel to another. They turned on the T.V. but still could not find out what it was. Sirens were going by along Highway 10 where they lived. Mrs. M. stayed up until 4:00 A.M. when she heard that it was the railroad. When she went to bed, there was still no talk of an evacuation.

At eight o'clock on Sunday morning, Mrs. M. got up to do the chores. She was dressed only in her work-around-the-house clothes. Soon afterwards, a knock at the door revealed "a great, big, gorgeous cop, who grins and says 'Out!'. Nothing more."

Mrs. M. didn't argue. She grabbed the cat, his harness and her purse. The three of them left with the cat for a friend's apartment located a mile to the south-east of them. They thought that they would be safe there.

As it turned out, they were soon re-evacuated as the perimeter widened. Mr. and Mrs. M. decided to go to another friend's apartment in the east of Mississauga. It took two trips in the car to move everyone. They had only just settled in when they were evacuated a third time. They had nothing with them, except her purse and some cat food they had managed to buy on one of the car journeys. They realised by now that they were going to be out of their home overnight.

Everyone decided to stay with some relatives of (the second set of) friends. They were all made welcome, but their host's two children were highly allergic to Mrs. M.'s cat so that the couple could not stay.

Continued. . .

Mr. and Mrs. M. went out and sat in their car, and wondered what to do. They couldn't afford a hotel and couldn't think of anywhere else to stay. On the car radio, they heard that the International Centre was just opening.

At the door of the Centre, they had an argument about getting the cat in with them. This surprised Mrs. M. because when they did get inside, it was like Noah's Ark with animals and children running all around.

Two days later, her husband was feeling sick. It was cold in the Centre because the delivery doors were often open. When someone came and offered them private accommodation, they accepted gratefully.

It was to be their fifth, and final, evacuation shelter in three days. They returned home on Thursday. By sheer chance, they heard a commentator on the radio observe how strange it was to see business as usual on one side of Highway 10 and everything deserted on the other. They realised that they could go home. Mr. and Mrs. M. returned to an almost deserted apartment block.

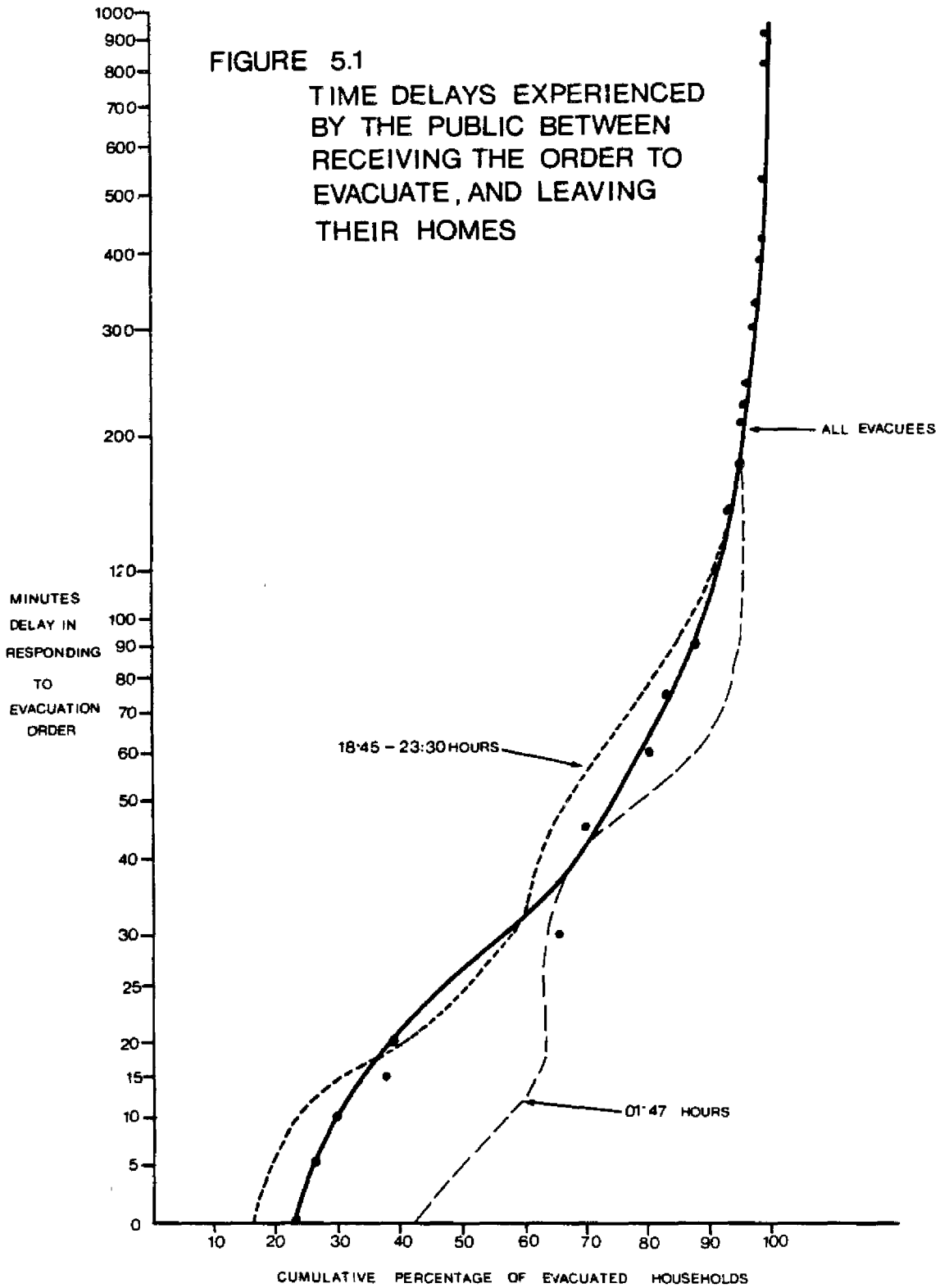
For a while after the emergency, Mrs. M. was very nervous about things, especially whenever she heard a siren. Today, she is not afraid for her health or safety as much as the idea of having to go through it all again. In the long term, she thinks the experience has made them all appreciate the cat more. He was very well behaved even though he had never been outside the apartment before.

Perhaps they are more fatalistic - having been through the war - but you just have to learn to accept things. It may happen again.

Table 5.4. Times at which zones were officially evacuated and populations involved

<u>Zone</u>	<u>Time ordered to evacuate Sunday, November 11</u>	<u>Population Estimates</u>
1	01:47	3,500
2	04:15	350
3	06:20	575
4	06:30	900
5	06:30	
6	06:30	4,400
7	07:29	6,200
8	08:30	19,315
9	09:40	7,618
10	11:10	28,672
11	13:10	
12	17:00	17,430
13	17:10	58,280
14	18:45	38,390
15	20:16	26,210
16	23:30	1,500
Total		213,000 ¹

¹ These population estimates (from Peel Regional Police) add up to 213,000 whereas this report uses a figure of 226,000 for the population of the evacuated area, based on data from the Mississauga Municipal Planning Department. The exact population is difficult to determine because of the number of new housing developments and the length of time elapsed since the last Census in 1971.



first zone were evacuated; many people having left before they were asked to.

People in the last zones to be cleared, between 18:45 and 20:16 hours, also seemed to divide themselves into early leavers (15-30 minutes' delay) and late leavers (60-90 minutes' delay). Even here, 50% of the homes were empty within 30 minutes of the warning for their zones (Figure 5.1).

These time delays are highly relevant to evacuation planning. If the public perceives itself at risk and has almost universal access to mass media news reports and to a car, 90% of private homes can be evacuated within two hours. This also assumes that families are together and that traffic is kept flowing. Evidence from Mississauga and elsewhere shows that families will make individual searches for absent members, particularly if they are children, in spite of any orders to evacuate.

5.3. EVACUATION JOURNEY

5.3.1. Transportation

Almost all households in Mississauga left their homes by car. About 85% of the households used their own cars and another 10% went in neighbours' or friends' cars. Less than 3% of the population used public transit or taxis. Most families (79%) left together in one car and at the same time. Thus on Sunday, November 11, some 95,000 private cars left Mississauga (Table 5.5).

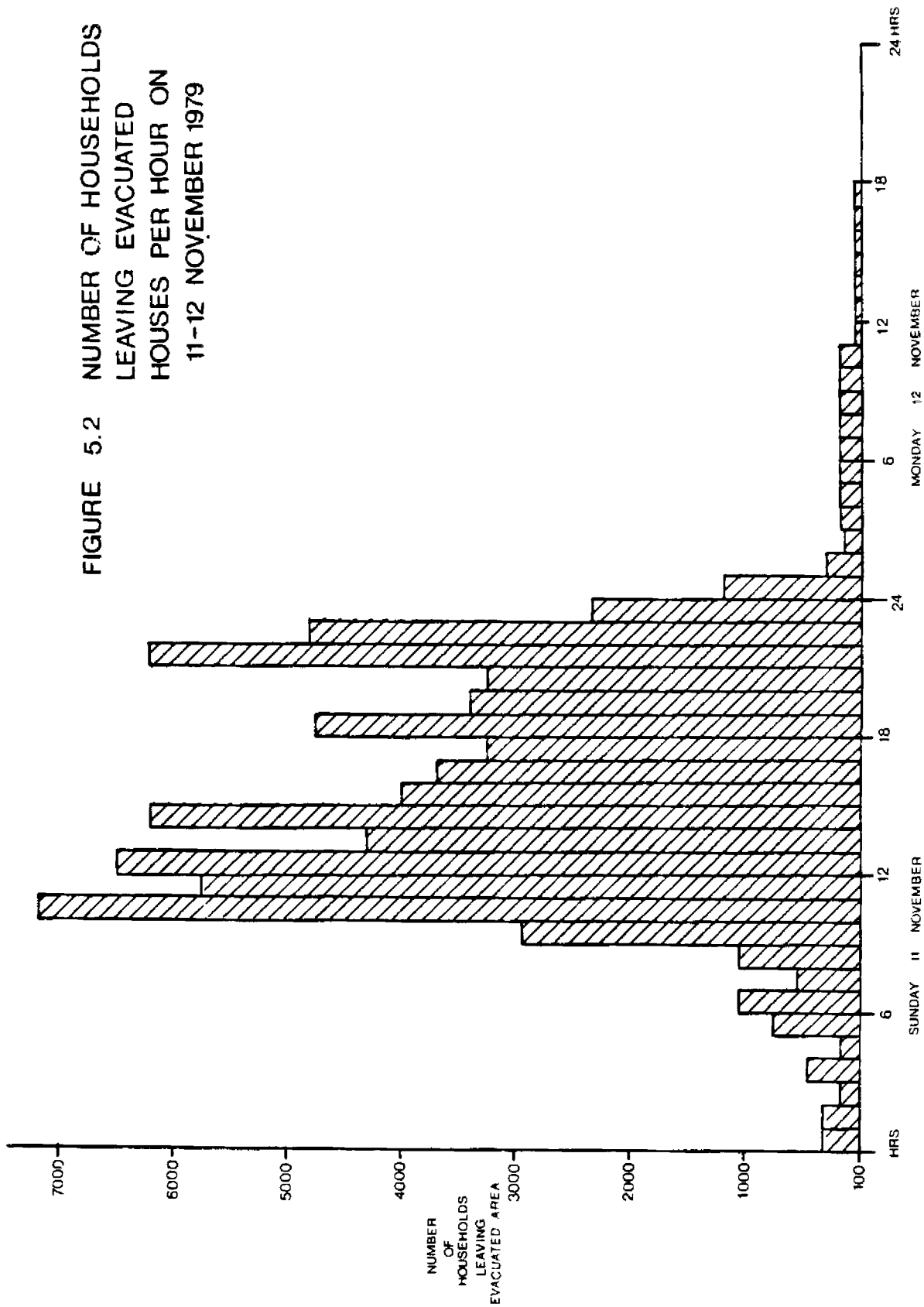
The time taken by evacuees to leave their homes after they had been asked to indicates that, had the whole evacuation zone been declared at once, some 76,000 vehicles would have been on the roads within the first hour. Instead, the

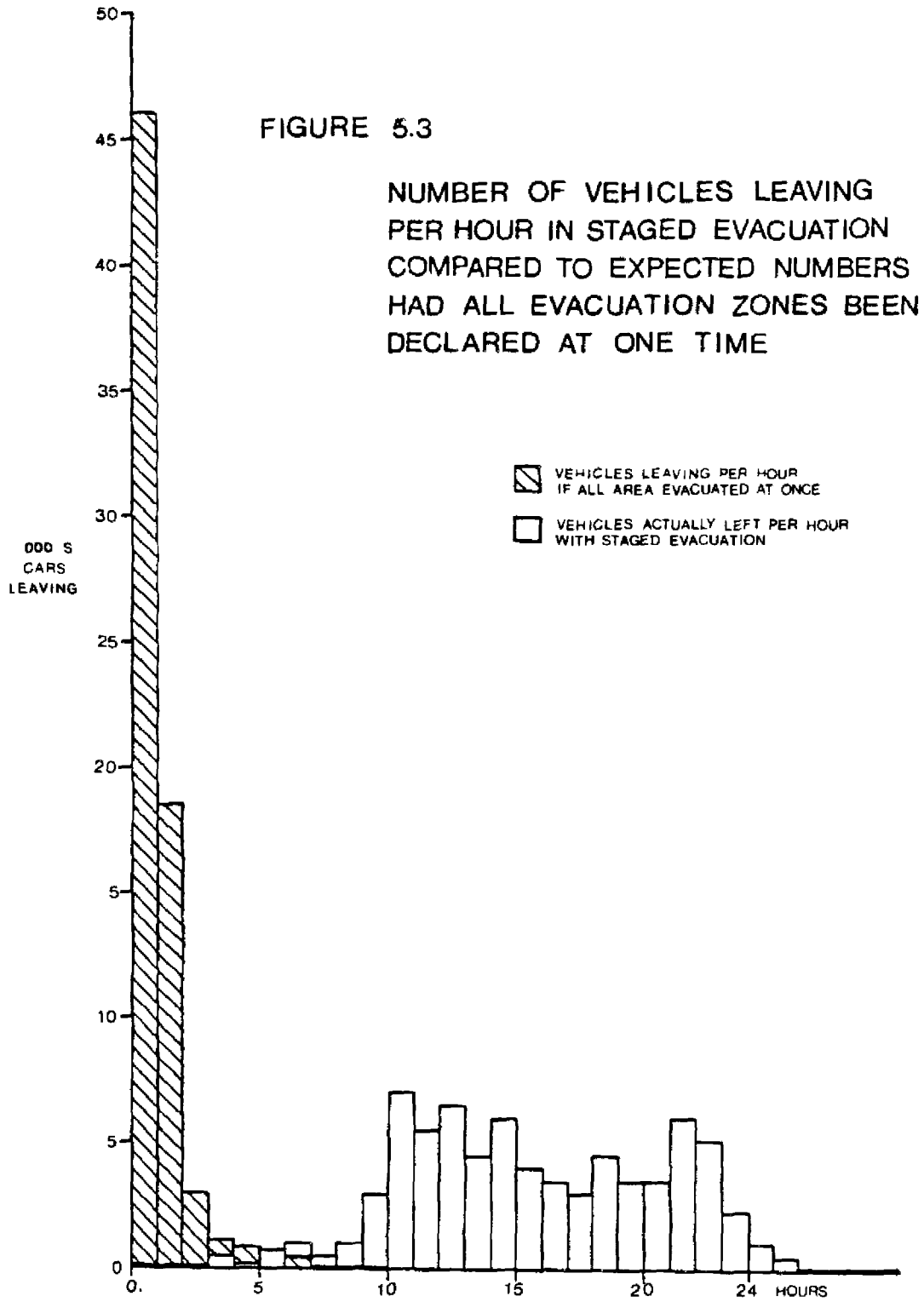
Table 5.5. Vehicles used to leave home

(a) <u>type of vehicle</u>	<u>total number of households</u>	<u>percent</u>	
Own car	66,400	88	
Other car	6,600	9	
Public transit	1,000	1	
Taxi	1,000	1	
On foot	<u>500</u>	<u>0.5</u>	
	75,500	99.5%	
(b) <u>number of vehicles used</u>			<u>total number of vehicles</u>
1	59,600	79	59,600
2	13,600	18	27,200
3	<u>2,300</u>	<u>3</u>	<u>6,900</u>
	75,500	100%	93,400

staged approach, involving evacuation of people by 16 smaller stages, produced a maximum flow of just over 7,000 households or 9,000 vehicles per hour. This peak flow leaving homes occurred between 10:00 and 11:00 on Sunday morning (Figure 5.2). Other peak hours for traffic flow were 12:00 - 13:00, 14:00 - 15:00, 18:00 - 19:00 and 21:00 - 22:00 on Sunday, November 11. By whatever judicious mixture of design and circumstance, the timing of the evacuation effectively spread the peak flows over most of the day instead of creating huge traffic jams in the first hour (Figure 5.3).

FIGURE 5.2 NUMBER OF HOUSEHOLDS LEAVING EVACUATED HOUSES PER HOUR ON 11-12 NOVEMBER 1979





5.3.2. Directions and distances travelled to first destinations

The distances and directions travelled by evacuees were influenced by:

- (a) the evacuees' expectation that they would return within 12-24 hours;
- (b) the locations of major urban centres like Toronto and Hamilton;
- (c) the geographic pattern of the evacuees' social networks;
- (d) whether they decided to go to a private home, a hotel, or to an Evacuation Centre.

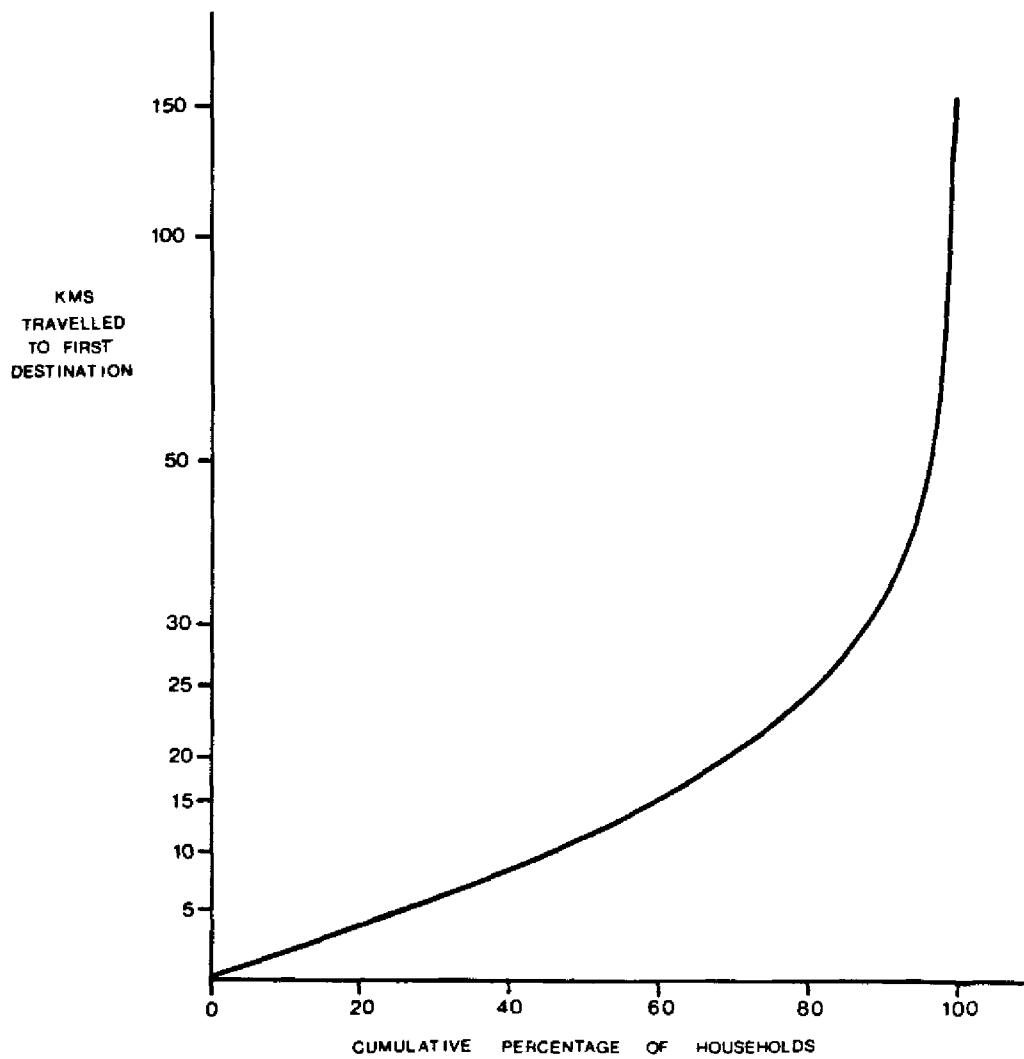
They do not appear to have been influenced by:

- (a) the times at which they were evacuated;
- (b) the phasing of the evacuation zones in relation to desired travel directions;
- (c) the socio-economic characteristics of the household;
- (d) the size of the evacuating household.

Most evacuees (84%) were heading for specific, pre-arranged destinations at the homes of friends or relatives. Among the choices open to them, they selected homes that were nearby. Twenty-five percent of evacuees stayed within 5 kilometers, and 60% within 10 kilometers of their homes. Almost all households (95%) remained within 100 kilometers of their homes (Figure 5.4).

The directions they travelled in were influenced by the locations of major reception areas such as Metro Toronto and Hamilton. Figure 5.5 shows the specific evacuation locations of evacuees who were questioned in the survey and Figure 5.6 illustrates the directions and distances they travelled. About half the evacuating families travelled in a north-east or easterly direction towards Toronto. Another 13% went south-west towards Oakville, Burlington and Hamilton.

FIGURE 5.4 KILOMETRES TRAVELLED BY EVACUEES TO FIRST DESTINATIONS



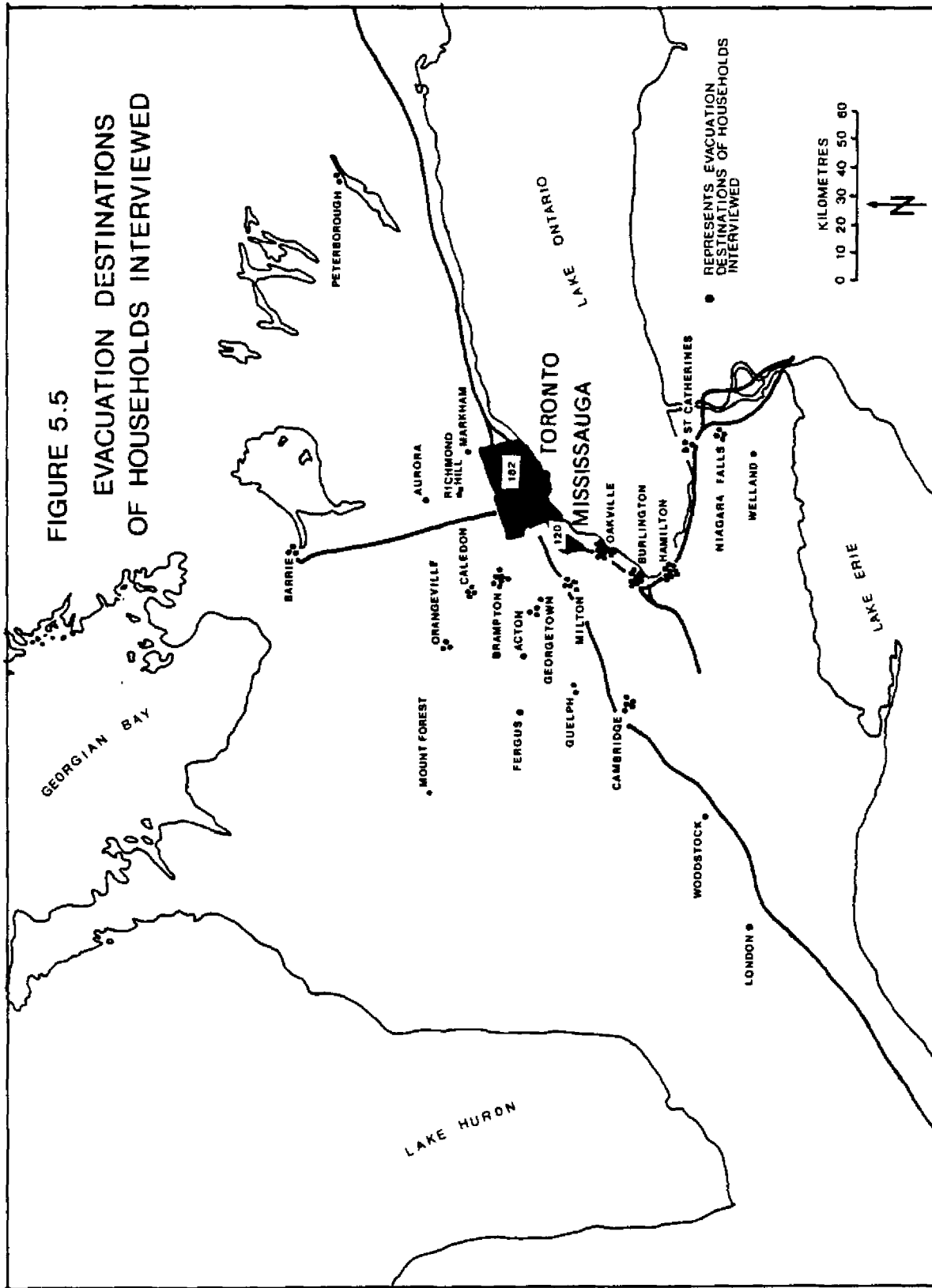


FIGURE 5.6 WHERE EVACUEES WENT:
NUMBER OF HOUSEHOLDS BY DISTANCE AND DIRECTION
OF FIRST DESTINATION POINT

