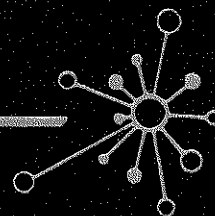


Market
Facts OF CANADA LIMITED



**QUEBEC/ONTARIO
HIGH SPEED RAIL PROJECT
DATA GATHERING:
STATED PREFERENCE SURVEYS
- TECHNICAL REPORT -**

Prepared for:
***THE STEERING COMMITTEE, QUEBEC/ONTARIO
HIGH SPEED RAIL PROJECT
and
TRANSURB-IBI GROUP-MONENCO CONSORTIUM,
PROJECT MANAGER***

By:
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TORONTO MONTREAL VANCOUVER**

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TABLE OF CONTENTS

PAGE NUMBER

1. INTRODUCTION	
1.1 Study objectives	1
1.2 Study methodology	1
1.3 Study sample	3
1.4 Schedule of key events	3
2. SURVEY AMONG TRAIN USERS	
2.1 Interviewer selection	7
2.2 Carrier surveyed and involvement	7
2.3 Intercept method	7
2.4 Fieldwork schedule	10
2.5 Possible bias	11
3. SURVEY AMONG BUS USERS	
3.1 Interviewer selection	12
3.2 Carriers surveyed and involvement	12
3.3 Intercept method	12
3.4 Fieldwork schedule	15
3.5 Possible bias	17
4. SURVEY AMONG PLANE USERS	
4.1 Interviewer selection	18
4.2 Carriers surveyed and involvement	18
4.3 Intercept method	18
4.4 Fieldwork schedule	21
4.5 Possible bias	22
5. SURVEY AMONG ONTARIO AUTO USERS	
5.1 Sampling method	23
5.2 Data collection method	24
5.3 Possible bias	25

TABLE OF CONTENTS (cont'd)

PAGE NUMBER

6. SURVEY AMONG QUEBEC AUTO USERS

6.1 Interviewer selection	26
6.2 Highway rest areas surveyed and involvement	26
6.3 Intercept method	26
6.4 Fieldwork schedule	28
6.5 Possible bias	29

7. DATA SET-UP

7.1 Editing and coding procedures	30
7.2 Data entry	32
7.3 Data processing	33

APPENDICES

Appendix A: Sampling tolerance intervals

Appendix B: Questionnaire versions

1. INTRODUCTION

1.1 Study objectives

All of the work herein described is part of a much larger enterprise which has as its ultimate purpose recommending whether or not Federal, Ontario and Quebec Governments should initiate and/or support the development of High Speed Rail (HSR) passenger services in the Quebec-Windsor Corridor.

Notwithstanding the interconnectedness of the various parts of the overall study, what concerns us here are the **intercept surveys** needed to supply the client and the client's forecasting consultants with pertinent stated preference travel data.

In short, the **intercept surveys** were designed to give authoritative and timely information on those using any one of three public modes of travel in the Quebec-Windsor Corridor - air, rail or bus - as well as private automobile. The results provide insight to the attitudes of current travellers in the Corridor and thereby promote a better understanding of their future travel behaviour.

The data collected in this study were supplied to the forecasting companies - Charles River Associates (CRA) and Transportation Economics & Management Systems (TEMS) - in order for them to project future usage of various travel modes and the corresponding revenue associated with each mode, including HSR.

1.2 Study methodology

CRA and TEMS, the two forecasting firms responsible for using the data, developed their own first draft questionnaires which were revised and formatted by Solumar/Market Facts. Final questionnaires were approved by the client before fieldwork began.

The main fieldwork was preceded by a pre-test among train and air travellers. This pre-test was used to polish the questionnaire and to refine the intercept methodology. Pre-test results were discussed with the client and necessary changes approved. Notably, it was decided to have colour-coded questionnaires in order to speed the interviewers' identification of the three trip lengths involved:

Short trips	- blue
Medium trips	- white
Long trips	- pink

Also, pre-testing confirmed the need to have bilingual questionnaires as opposed to a French and an English version under separate cover.

The general study methodology was decided by the client. Solumar/Market Facts was responsible for assuring the integrity of the data collection and optimizing the comparability of results between one mode of travel and another.

Generally, the methodology consisted of intercepts during their travel for bus and train travellers and in airports for plane travellers. Car travellers were reached by mail in Ontario and intercepted at highway rest areas in Quebec.

All questionnaires were self-administered and the interviewer acted as a resource person for clarifications to the respondent. The interviewer was instructed to scan the filled-out questionnaire and see that all questions were answered. This was possible on the bus and the train while for plane travellers, it was possible 90% of the time. At other times, it was impossible because respondents chose to fill out their questionnaires in flight rather than prior to boarding.

All interviewers and supervisors working on the project received a 3-hour briefing. At this briefing the questionnaire was reviewed in detail stressing the importance of the questions and the way to administer them. Intercept instructions were reviewed, and interviewers' and supervisors' questions were answered. A written script to be followed during interviewing was practiced at this briefing. Also, quota sheets and editing instructions were discussed.

As fieldwork was interrupted for the Christmas period, all field personnel had a refresher session to brief them before re-starting data collection in January.

1.3 Study sample

The sample size for this study was pre-determined by the forecasting consultants. It consisted of a total of 1,500 completed returns for CRA and 3,006 for TEMS.

The individual quotas for each forecaster as well as the respective number of questionnaires distributed, returned and tabbed are shown in Exhibits A and B. Sampling tolerance intervals that may be used to estimate the reliability or precision of the samples drawn for this study are shown in Appendix A.

Within each quota for TEMS, different versions of the questionnaire were distributed in approximately equal numbers. CRA questionnaires were distributed as they fell according to trip length and within trip length, they were distributed in approximately equal numbers for each version. Appendix B contains a listing of the differences that make each version unique.

1.4 Schedule of key events

The fieldwork for each of the public modes had to be interrupted for the Christmas period in order to minimize any bias that this peak travel period might have introduced.

The project schedule followed the sequence of key events laid out in Exhibit C.

EXHIBIT A
CRA SAMPLE

<u>Mode</u>	<u>Type or length of trip</u>	<u>Quota</u>	<u>Number of question- naires distributed</u>	<u>Number of completed returns</u>	<u>Final in-tab sample</u>
Train	Business	150	210	156	138
	Non-business	150	380	345	179
Bus	Business	150	200	150	136
	Non-business	150	360	317	184
Plane	Direct Flight				
	Business	150	360	296	153
	Non-business	150	210	162	124
	Connecting flight				
	Business	150	180	162	127
	Non-business	150	180	160	149
Auto	Ontario				
	Business	110	300	221	114
	Non-business	110	300	226	104
	Quebec				
	Business	40	80	71	36
	Non-business	40	80	68	46
					1490

Note: Not all returns are usable. Hence, the in-tab sample is lower than the number of returns either because some were not usable or because more than the quota were returned.

EXHIBIT B
TEMS SAMPLE

<u>Mode</u>	<u>Type or length of trip</u>	<u>Quota</u>	<u>Number of question- naires distributed</u>	<u>Number of completed returns</u>	<u>Final in-tab sample</u>
Train	Long	270	490	360	286
	Medium	360	760	619	373
	Short	160	290	225	164
Bus	Long	200	270	243	222
	Medium	330	440	381	332
	Short	100	150	123	99
Plane	Long				
	Business	250	360	313	255
	Non-business	200	270	222	206
	Medium				
	Business	140	220	162	137
	Non-business	100	140	116	105
Auto	Ontario				
	Long	202	504	312	202
	Medium	211	528	327	211
	Short	108	270	149	108
	Quebec				
	Long	60	90	75	60
	Medium	217	300	240	219
	Short	108	160	133	111

Note: Not all returns are usable. Hence, the in-tab sample is lower than the number of returns either because some were not usable or because more than the quota were returned.

EXHIBIT C
PROJECT SCHEDULE

	<u>Dates</u>
Notice to proceed from client	Nov. 9, 1992
Draft questionnaire formatting and translation (public modes)	Nov. 10 - Dec. 1, 1992
Pre-test (train and plane)	Dec. 2, 1992
Questionnaire finalization and Pre-Christmas printing (public modes)	Dec. 3 - 8, 1992
Post-Christmas printing (public modes)	Jan. 4 - 6, 1993
Fieldwork (public modes)	
Pre-Christmas	Dec. 9 - 18, 1992
Post-Christmas	Jan. 7 - Feb. 10, 1993
Questionnaire finalization and printing (auto mode)	Jan. 4 - 18, 1993
Fieldwork (auto mode)	
CRA Ontario mail-out	Jan. 6, 1993
TEMS Ontario mail-out	Jan. 19, 1993
Mail return cut-off	Feb. 24, 1993
Quebec auto	Jan. 10 - Feb. 6, 1993
Data set-up (all modes)	Dec. 14, 1992 - Mar. 9, 1993
Technical report available	April 29, 1993

2. SURVEY AMONG TRAIN USERS

2.1 Interviewer selection

Interviewers were selected in cooperation with VIA Rail. All interviewers were retired VIA personnel experienced in doing bilingual, on-train survey intercepts. They received a briefing and written instructions about the task to be performed.

2.2 Carrier surveyed and involvement

VIA Rail was the only carrier surveyed. VIA was responsible for designing the survey schedule according to Solumar/Market Facts' specifications, recruiting interviewers, booking tickets, reserving interviewers' rooms for sleepovers, and controlling time sheets. Solumar/Market Facts was responsible for the provision of questionnaires and instructions to interviewers, as well as the editing, coding and processing of returns.

2.3 Intercept method

For each route assignment the interviewer had a fixed quota of short, medium and long questionnaires based on trip length. In order to minimize the possible confusion between the CRA and TEMS questionnaires, interviewers had to work with only one of the two versions on each one-way journey.

During each one-way journey, interviewers had up to 70 questionnaires to distribute. Upon departure, they would look at the conductor's manifest to evaluate the passenger load and its configuration between first class and coach. Based on this information, interviewers would split their assignment between first class and coach passengers proportionally to the load.

The manifest would also inform them of the on-off pattern of embarking and disembarking passengers, which helped interviewers to plan their work accordingly.

The following instructions were given to each interviewer.

1. You have two questionnaire versions.
2. For each departure, which version to distribute will be indicated for you. Either CRA or TEMS.
3. You have three colours for each questionnaire:
 - For those taking Short Trips, 50-149 km or 35-99 miles (Blue).
 - For those taking Medium Trips, 150-360 km or 100-225 miles (Pink).
 - For those taking Long Trips, over 360 km or 225 miles (White).
4. When you are distributing questionnaires you will have to ask each passenger the approximate distance, in total, of his or her journey by train:
 - If less than 150 km or 100 miles (but more than 50 km or 35 miles), you will hand out the Short version (Blue).
 - If 150 to 360 km or 100 to 225 miles, you will hand out the Medium version (Pink).
 - If more than 360 km or 225 miles, you will hand out the Long version (White).
5. You will hand out questionnaires to all of the passengers in first class and to all of the passengers in coach as long as you have questionnaires to hand out - provided you hand out only one per travelling party and screen passholders.
6. You may begin distributing questionnaires while passengers are boarding or when you judge that it is possible to do so without causing a disturbance. Each time there is a stop, you will continue to distribute questionnaires to any new passengers who are boarding.
7. Tell passengers that you will come around to collect their completed questionnaires in about 30 minutes.
8. When you take back the questionnaire, check to see whether Questions 2 and 4 are properly completed. If there is no postal code written in, we need to have an address or street corner, the name of a hotel or building, etc.
9. Put completed questionnaires in a large envelope, and print the date and train number on it.
10. Forward your returns to us as you usually do, including expense forms and time sheets.

Interviewers also had the following script for when they attempted to approach a potential respondent.

Good _____. My name is (FULL NAME) of Le Bureau de Recherche Solumar, a division of Market Facts of Canada. We are conducting a survey with the cooperation of the Travel Industry in order to better understand the needs of travellers in Ontario and Quebec.

A. Are you travelling alone today, or with a group of people? (PLACE ONLY 1 QUESTIONNAIRE PER TRAVELLING PARTY)

B. Are you a passholder? (IF YES TERMINATE)

C. Approximately how far is the one-way trip you are now making counting all of your connections? (READ LIST)

Less than 50 km or 35 miles (1/2 hour) - TERMINATE

50 to 149 km or 35 to 99 miles (Over 1/2 to 1 1/2 hours) - SHORT QUESTIONNAIRE (BLUE)

150 to 360 km or 100 to 225 miles (over 1 1/2 to 4 hours) - MEDIUM QUESTIONNAIRE (PINK)

More than 360 km or 225 miles (Over 4 hours) - LONG QUESTIONNAIRE (WHITE)

Would you please fill out this questionnaire for the one-way rail trip you are taking. I will return to collect it.

Thank you.

2.4 Fieldwork schedule

The following trains were surveyed:

<u>Train number</u>	<u>Date</u>
#63, 64	December 2, 1992
#32, 33, 36, 41, 42, 44, 60, 63, 76, 81	December 15
#31, 45, 64, 75, 78, 80, 87	December 16
#35, 36, 43, 44, 60, 67	December 17
#33, 34, 37, 40, 49, 61, 68, 130	December 18
#31, 47, 68	January 7, 1993
#33, 49, 68	January 10
#25, 26	January 12
#23, 26	January 13
#37, 130	January 15
#27, 76, 81, 620	January 16
#23, 26, 36, 42, 63, 77, 78	January 17
#21, 22	January 18
#63, 68	February 7
#75, 78	February 10

The route travelled by each train is listed below:

#21-27, 620	Montreal to/from Quebec City
#31-37, 130	Montreal to/from Ottawa
#40-49	Toronto to/from Ottawa
#60-68	Toronto to/from Montreal
#75-78	Toronto to/from Windsor
#80-87	London to/from Sarnia

2.5 Possible bias

- The fact that first class passengers are served a meal and refreshments has probably increased the refusal rate among this class of passengers on short trips where time is limited, as compared with coach.
- VIA's non-respect of the schedule on certain trains might have modified respondents' time sensitivity.
- That some passengers were paying a premium to travel first class and that others paid a discount fare might have caused respondents to answer differently to the pricing options that were the same for everyone who took the same length of trip.
- The December wave, although terminated on December 18th, might have reached an abnormally high proportion of students or leisure travellers.
- The January wave might have reached an abnormal proportion of frequent travellers.
- The length and complexity of the TEMS questionnaire might have adversely affected the response rate.

All these sources of bias were minimized as much as possible where feasible.

3. SURVEY AMONG BUS USERS

3.1 Interviewer selection

Interviewers were selected from Solumar/Market Facts' pool of trained interviewers. All were bilingual and experienced in doing survey intercepts. They received a briefing and written instructions about the task to be performed.

3.2 Carriers surveyed and involvement

Grey Coach, Greyhound, Orleans Express and Voyageur-Colonial were the four carriers surveyed. Each bus line was responsible for providing letters of permission to the interviewers and booking tickets, which were paid for by Solumar/Market Facts who was responsible for everything else.

3.3 Intercept method

For each route assignment the interviewer had a fixed quota of short, medium and long questionnaires based on trip length. In order to minimize the possible confusion between the CRA and TEMS questionnaires, interviewers had to work with only one of the two versions on each one-way journey.

During each one-way journey, interviewers had up to 40 questionnaires to distribute. Prior to departure, they would introduce themselves to the bus driver and explain their role as interviewers.

To cut down on travel time while ensuring that all passengers had an equal chance of being interviewed, interviewers on long distance routes (e.g. Toronto - Windsor) usually rode half way in each direction (e.g. Toronto to London and return). Sometimes the interviewer rode all the way so as to interview passengers going through on a non-stop express bus. Sometimes, too, the interviewer slept overnight before returning in order to catch a late departure going out and an early departure coming back.

The following instructions were given to each interviewer.

1. You have two questionnaire versions.
2. For each departure, which version to distribute will be indicated for you. Either CRA or TEMS.
3. You have three colours for each questionnaire:
 - For those taking Short Trips, 50-149 km or 35-99 miles (Blue).
 - For those taking Medium Trips, 150-360 km or 100-225 miles (Pink).
 - For those taking Long Trips, over 360 km or 225 miles (White).
4. When you are distributing questionnaires you will have to ask each passenger the approximate distance, in total, of his or her journey by bus:
 - If less than 150 km or 100 miles (but more than 50 km or 35 miles), you will hand out the Short version (Blue).
 - If 150 to 360 km or 100 to 225 miles, you will hand out the Medium version (Pink).
 - If more than 360 km or 225 miles, you will hand out the Long version (White).
5. You will hand out questionnaires to all of the passengers as long as you have questionnaires to hand out - provided you hand out only one per travelling party.
6. You may begin distributing questionnaires while passengers are boarding or when you judge that it is possible to do so without causing a disturbance. Each time there is a stop, you will continue to distribute questionnaires to any new passengers who are boarding.
7. Tell passengers that you will come around to collect their completed questionnaires in about 30 minutes.
8. When you take back the questionnaire, check to see whether Questions 2 and 4 are properly completed. If there is no postal code written in, we need to have an address or street corner, the name of a hotel or building, etc.
9. Put completed questionnaires in a large envelope, and print the date and bus number on it.
10. Forward your returns to us as you usually do, including expense forms and time sheets.

Interviewers also had the following script for when they attempted to approach a potential respondent.

Good _____. My name is (FULL NAME) of Le Bureau de Recherche Solumar, a division of Market Facts of Canada. We are conducting a survey with the cooperation of the Travel Industry in order to better understand the needs of travellers in Ontario and Quebec.

A. Are you travelling alone today, or with a group of people? (PLACE ONLY 1 QUESTIONNAIRE PER TRAVELLING PARTY)

B. Where are you going on this bus today? (REFER TO LIST - HAND OUT APPROPRIATE QUESTIONNAIRE)

TORONTO - GUELPH - SHORT QUESTIONNAIRE (BLUE)
TORONTO - KITCHENER - SHORT QUESTIONNAIRE (BLUE)
TORONTO - KINGSTON - MEDIUM QUESTIONNAIRE (PINK)
TORONTO - LONDON - MEDIUM QUESTIONNAIRE (PINK)
TORONTO - WINDSOR - LONG QUESTIONNAIRE (WHITE)
TORONTO - MONTREAL - LONG QUESTIONNAIRE (WHITE)

MONTREAL - CORNWALL - SHORT QUESTIONNAIRE (BLUE)
MONTREAL - KINGSTON - MEDIUM QUESTIONNAIRE (PINK)
MONTREAL - QUEBEC - MEDIUM QUESTIONNAIRE (PINK)
MONTREAL - OTTAWA - MEDIUM QUESTIONNAIRE (PINK)
MONTREAL - TORONTO - LONG QUESTIONNAIRE (WHITE)

OTTAWA - PETERBOROUGH - MEDIUM QUESTIONNAIRE (PINK)
OTTAWA - TORONTO - LONG QUESTIONNAIRE (WHITE)

C. What is the main purpose of your trip? (ASK ONLY FOR CRA - WATCH QUOTAS)

Business
Non business

Would you please fill out this questionnaire for the one-way bus trip you are taking. I will return to collect it.

Thank you.

3.4 Fieldwork schedule

The following buses were surveyed:

Montreal to/from Quebec City

#127, 138, 159	December 10, 1992
#106	December 11
#131, 150	December 14
#127, 138, 169	December 16
#103, 118, 131, 150	January 18, 1993
#123	January 19

Montreal to/from Ottawa

#102, 215, 222, 233	December 16, 1992
#204, 221	December 17
#33, 202, 207, 214, 219	December 18
#221	January 17, 1993
#202, 207, 214, 219	January 18
#29, 215	January 21
#214, 219	January 22
#202, 215	January 28

Toronto to/from Ottawa

#209, 216	December 9, 1992
#201, 210	December 10
#205, 212	December 12
#201, 210	December 14
#209, 216	December 16
#203, 209, 216, 505	December 17
#216	January 17, 1993
#201, 210	January 18
#209, 216	January 20
#201, 203, 210, 505	January 21
#205, 212	January 23

Toronto to/from Montreal

#179, 242	December 9, 1992
#234, 239, 250, 251	December 10
#245, 250, 257	December 11
#179, 234, 242, 253	December 12
#172, 242, 245, 250, 253	December 13
#234, 239, 250, 251	December 14
#239, 242	December 16
#179, 234, 242, 245	December 17
#176, 245, 250, 251	December 18
#234, 239	January 18, 1993
#172, 234, 245, 250	January 19
#176, 234, 239, 251	January 20
#179, 242, 250, 251	January 21
#234, 245, 253	January 22
#228, 245	January 23
#256	January 24
#170, 239, 250, 251	January 26
#179, 242	January 27

Toronto to/from Windsor

#367, 2120	December 10, 1992
#93, 2112	December 11
#366, 2111	December 13
#91, 2126	January 19, 1993
#678, 866	January 20
#367, 2120	January 21
#786, 880	January 22
#366, 2111	January 24

Toronto to/from Kitchener

#5269, 5418	December 10, 1992
#5258, 5439	December 14
#5249, 5837, 5848, 5858	January 18, 1993
#5242, 5813	January 19
#5226, 5803	January 22

Ottawa to/from Kingston

#2450, 2499	January 19, 1993
#2477, 2481	January 20
#1952, 2262	January 21
#1850, 5857	January 22
#1962	January 23
#2175, 5859	January 24

Ottawa to/from Peterborough

#108, 121	December 11, 1992
#107, 114	December 13
#108, 121	December 15
#114	December 16
#108, 121	January 19, 1993
#108, 121	January 22
#114	January 23
#107, 114	January 24

3.5 Possible bias

- Non-respect of the schedule on certain buses might have modified respondents' time sensitivity.
- The December wave, although terminated on December 18th, might have reached an abnormally high proportion of students or leisure travellers.
- The January wave might have reached an abnormal proportion of frequent travellers.
- The length and complexity of the TEMS questionnaire might have adversely affected the response rate.

All these sources of bias were minimized as much as possible where feasible.

4. SURVEY AMONG PLANE USERS

4.1 Interviewer selection

Interviewers were selected from Solumar/Market Facts' pool of trained interviewers. All were bilingual and experienced in doing survey intercepts. They received a briefing and written instructions about the task to be performed.

4.2 Carriers surveyed and involvement

Air Canada and Canadian Airlines were the two principal carriers surveyed. Each airline was responsible for providing letters of permission to the interviewers to gain access to their departure lounges. Solumar/Market Facts was responsible for everything else.

The regional partners of Air Canada and Canadian Airlines were also involved in so far as they flew scheduled flights within the Corridor and their passengers used the same boarding areas where our interviewers were working.

4.3 Intercept method

In order to minimize the possible confusion between the CRA and TEMS questionnaires, interviewers had to work with only one of the two versions on each interviewing day.

During each day, interviewers had up to 100 questionnaires to distribute. With a fixed quota of either medium and long questionnaires for TEMS, or direct and connecting flights for CRA.

The following instructions were given to each interviewer.

1. There are two types of questionnaire - TEMS and CRA.
2. The questionnaire type to be distributed will be rotated from day to day.
3. Within each questionnaire type there are several versions:
 - TEMS**
 - Long Business** - to be placed with respondents travelling for business reasons, on a one-way trip more than 360 km or 225 miles (**WHITE**).
 - Medium Business** - to be placed with respondents travelling for business reasons, on a one-way trip 150-360 km or 100-225 miles (**PINK**).
 - Long Non-Business** - to be placed with respondents taking a one-way trip more than 360 km or 225 miles, for non-business reasons (**WHITE**).
 - Medium Non-Business** - to be placed with respondents taking a one-way trip 150-360 km or 100-225 miles, for non-business reasons (**PINK**).
 - CRA**
 - Connecting** - to be placed with respondents making a connection either to or from another flight (**PINK**).
 - Direct** - to be placed with respondents not making a connection either to or from another flight, e.g. travelling directly from Ottawa to Toronto (**WHITE**).

As indicated in the general instructions, you must record every contact on your recording sheet. Indicate what you have placed and count the questionnaires returned.

Any questionnaire that you don't get back, we hope will be returned in the self-addressed envelope. The questionnaire version to be placed is dependent on the answers to the screening questions.

Questionnaires will be distributed in the departure lounge with passengers waiting to board flights to destinations in the Quebec City to Windsor Corridor.

A schedule has been included to give you flight numbers and times of departure. Your greatest success will come by approaching passengers whose flight does not board for 10 or 15 minutes. That will give the respondent time to fill out the questionnaire and for you to collect it. This is the preferred placement.

If, however, the respondent qualified but may not have time to complete the questionnaire, give a return envelope to the respondent who can take it on board and mail it back. Do try to get the questionnaire filled out at the time and returned to you - "a bird in the hand is definitely worth two in the bush".

Interviewers also had the following script for when they attempted to approach a potential respondent.

Good _____. My name is (FULL NAME) of Le Bureau de Recherche Solumar, a division of Market Facts of Canada. We are conducting a survey with the cooperation of the Travel Industry in order to better understand the needs of travellers in Ontario and Quebec.

- A. Where are you going on this flight today? (TERMINATE IF OUTSIDE Q CITY TO WINDSOR CORRIDOR)
- B. Have you or will you be making a connection either to or from another flight? (ASK ONLY FOR CRA - WATCH QUOTAS)

No air connections made
Yes, connected to this flight from a previous flight
Yes, will connect to a subsequent flight

ASK Qu. C & D ONLY FOR TEMS

- C. Approximately how far is the one-way trip you are now making counting all of your connections?

Less than 150 km or 100 miles - TERMINATE
150 to 360 km or 100 to 225 miles - MEDIUM QUESTIONNAIRE (PINK)
More than 360 km or 225 miles - LONG QUESTIONNAIRE (WHITE)

- D. What is the main purpose of your trip? (WATCH QUOTAS)

Business
Non-business

Would you please fill out this questionnaire for the one-way plane trip you are taking. I will return to collect it.

Thank you.

During January the list below was provided to interviewers for reference purposes.

TORONTO - LONDON - MEDIUM QUESTIONNAIRE (PINK)
TORONTO - WINDSOR - LONG QUESTIONNAIRE (WHITE)
TORONTO - MONTREAL - LONG QUESTIONNAIRE (WHITE)

MONTREAL - QUEBEC - MEDIUM QUESTIONNAIRE (PINK)
MONTREAL - OTTAWA - MEDIUM QUESTIONNAIRE (PINK)

OTTAWA - TORONTO - LONG QUESTIONNAIRE (WHITE)
OTTAWA - QUEBEC - LONG QUESTIONNAIRE (WHITE)

4.4 Fieldwork schedule

The following airport locations were surveyed:

Toronto (Pearson)

Air Canada

06:30 - 18:00	Dec. 16, 1992
12:00 - 20:00	Dec. 17
06:30 - 18:00	Dec. 18
06:30 - 14:00	Jan. 18, 1993
14:00 - 18:00	Jan. 20
14:00 - 20:30	Jan. 22

Pas de FS

Mercredi
Jeudi
Vendredi
Vendredi
Mardi
Vendredi

Canadian Airlines

15:00 - 22:30	Dec. 14, 1992	<i>Lundi</i>
06:30 - 13:30	Dec. 15	<i>Mardi</i>
15:00 - 22:30	Dec. 15	
12:00 - 20:00	Jan. 19, 1993	<i>Samedi</i>
07:00 - 12:00	Jan. 20	<i>Mardi</i>
12:00 - 18:00	Jan. 23	<i>Samedi</i>

Montreal (Dorval)

Air Canada

08:00 - 11:00	Dec. 17, 1992	<i>Jeudi</i>
17:00 - 20:00	Dec. 18	<i>Vendredi</i>
12:00 - 14:30	Jan. 18, 1993	<i>Lundi</i>
06:00 - 12:00	Jan. 20	<i>Mardi</i>
14:00 - 19:00	Jan. 21	<i>Jeudi</i>
06:30 - 13:30	Jan. 22	<i>Vendredi</i>
09:00 - 19:00	Jan. 23	<i>Samedi</i>

Canadian Airlines

15:00 - 22:00	Dec. 2, 1992
15:00 - 22:00	Dec. 11
15:00 - 22:00	Dec. 12
15:00 - 22:00	Dec. 13
06:00 - 13:00	Dec. 14
15:00 - 22:00	Dec. 15
08:00 - 11:00	Dec. 16
08:00 - 11:00	Dec. 17
17:00 - 20:00	Dec. 18
16:00 - 18:30	Jan. 18, 1993
14:00 - 19:00	Jan. 21
06:30 - 13:30	Jan. 22
09:00 - 19:00	Jan. 23
08:00 - 19:00	Jan. 24
10:00 - 19:30	Jan. 25
06:30 - 14:30	Jan. 26
06:30 - 14:30	Jan. 27
07:00 - 14:00	Jan. 28
12:00 - 14:30	Jan. 29
08:00 - 13:30	Jan. 30
11:00 - 18:30	Jan. 31

Ottawa (Uplands)

Air Canada

06:30 - 14:00	Dec. 11, 1992
14:00 - 21:00	Dec. 13
11:00 - 21:00	Dec. 15
10:00 - 18:00	Dec. 17
06:30 - 14:00	Jan. 18, 1993
06:30 - 14:00	Jan. 20
14:00 - 21:00	Jan. 21
14:00 - 21:00	Jan. 22

Canadian Airlines

06:30 - 14:00	Dec. 12, 1992
14:00 - 21:00	Dec. 14
11:00 - 21:00	Dec. 16
10:00 - 18:00	Dec. 18
06:30 - 14:00	Jan. 19, 1993
11:00 - 21:00	Jan. 23
10:00 - 18:00	Jan. 24

4.5 Possible bias

- Non-respect of the schedule on certain flights might have modified respondents' time sensitivity.
- The December wave, although terminated on December 18th, might have reached an abnormally high proportion of students or leisure travellers.
- The January wave might have reached an abnormal proportion of frequent travellers.
- The length and complexity of the TEMS questionnaire might have adversely affected the response rate.

All these sources of bias were minimized as much as possible where feasible.

5. SURVEY AMONG ONTARIO AUTO USERS

5.1 Sampling method

The sample was derived from photocopies of questionnaires received by Consumer Contact and forwarded to Solumar/Market Facts. Due to unforeseen and uncontrollable circumstances, the original plan to use returns from Ontario and Quebec could not be implemented except for the Ontario segment of the sample.

In order to make up for the unavailability of Quebec sample for the planned mail survey, a substitute sample of Quebec drivers was obtained using an alternative method. This is described in the next part of this report.

To try to meet the needs of CRA and TEMS simultaneously, we suggested splitting the sample into a random portion of 2,000 for CRA and the balance - also random - for TEMS.

All records were screened by Consumer Contact and by Solumar/Market Facts to include only those whose trips were made totally between points within the Corridor.

Assuming a 40% response rate, CRA's minimum quotas of 110 business and 110 non-business Ontario motorists were accomplished by taking every business traveller and every fifth non-business traveller to a total of 300 for each group.

TEMS required a sample that was specifically geared to the list of OD pairs considered relevant by their model. In this case, all relevant cells of the available database were used up to the limits of the available data or until each quota was reached, whichever came first.

Any cell or OD pair that lacked sufficient sample size for the mail out in TEMS' view was filled by pulling additional sample for that cell from the unused CRA pool. When that ran out and data were still needed to meet TEMS specific requirements, TEMS advised us which records they would consider using in order to achieve their quotas.

Of the 1,302 TEMS questionnaires mailed in Ontario, only 50 (all medium length trips) had to be used because of insufficient sample size among the OD pairs that TEMS originally preferred.

5.2 Data collection method

Thanks to Consumer Contact, records were available for each respondent in this survey and these records were used to address our questionnaires appropriately to the intended travellers - all of whom had indicated their willingness to receive a mail survey when they responded to the one sent earlier by Consumer Contact.

By using an identification number for each respondent supplied by Consumer Contact, returns from our survey could be linked to theirs. This meant that redundant questions were not asked on our questionnaire.

The questionnaire, whether CRA or TEMS, was totally self-administered and returned to Solumar/Market Facts using a stamped return envelope with the Ontario Ministry of Transportation's address on it. The cover letter that accompanied each questionnaire and all identification on the questionnaire was entirely OMT's.

All questionnaires were in English only.

5.3 Possible bias

- Being self-administered these questionnaires were not exactly comparable to the intercept surveys conducted for the other modes.
- Because each questionnaire referred to a trip that the respondent had taken previously, there was a possibility that some confusion existed regarding which trip it was that the respondent had taken before.
- There was no absolute guarantee that the same person responded to both the Consumer Contact questionnaire and our own.
- A different person than the one intended might have answered in the case of businesses where no name was available for us to address the questionnaire to an individual driver.

6. SURVEY AMONG QUEBEC AUTO USERS

6.1 Interviewer selection

All interviewers were selected on the basis of their previous experience from Solumar/Market Facts' pool of trained interviewers. They each received a briefing and written instructions.

6.2 Highway rest areas surveyed and involvement

Arrangements were made to interview at the restaurant/gas station locations listed below:

<u>Highway number</u>	<u>Type of establishment</u>	<u>Conditions</u>
20	Marie-Antoinette	Nil
40	Benny's	Nil
401	Scott's Chicken (two locations)	Customer profile

Each establishment permitted interviewers access to their premises on condition that no disturbance would be caused, which it was not, and in the case of Scott's Chicken, that a profile of their customers would be given to them based on the results of this survey, which it was.

6.3 Intercept method

Interviewers were instructed to intercept travellers as they entered or exited the chosen establishment. Respondents were encouraged to fill out the questionnaire on-site, but they also had return envelopes for those wishing to fill it out at some other time.

All interviewing was done in French.

The following instructions were given to each interviewer.

1. You have two questionnaire versions.
2. Which version to distribute will be indicated for you. Either CRA or TEMS.
3. You have three colours for each questionnaire:
 - For those taking Short Trips, 50-149 km or 35-99 miles (Blue).
 - For those taking Medium Trips, 150-360 km or 100-225 miles (Pink).
 - For those taking Long Trips, over 360 km or 225 miles (White).
4. When you are distributing questionnaires you will have to ask each traveller the approximate distance, in total, of his or her journey by road:
 - If less than 150 km or 100 miles (but more than 50 km or 35 miles), you will hand out the Short version (Blue).
 - If 150 to 360 km or 100 to 225 miles, you will hand out the Medium version (Pink).
 - If more than 360 km or 225 miles, you will hand out the Long version (White).

Hand out questionnaires to all travellers during the time available, provided you hand out only one per travelling party.

You may begin distributing questionnaires when you judge that it is possible to do so without causing a disturbance. Continue to distribute questionnaires to any travellers who are arriving or leaving.

Any questionnaire that you don't get back, we hope will be returned in the self-addressed envelope. Give a return envelope to any traveller who doesn't have time to complete it on-site. Do try to get the questionnaire filled out at the time and returned to you - "a bird in the hand is definitely worth two in the bush".

Interviewers also had the following script for when they attempted to approach a potential respondent.

Good _____. My name is (FULL NAME) of Le Bureau de Recherche Solumar, a division of Market Facts of Canada. We are conducting a survey with the cooperation of the Travel Industry in order to better understand the needs of travellers in Ontario and Quebec.

- A. Are you travelling alone today, or with a group of people? (PLACE ONLY 1 QUESTIONNAIRE PER TRAVELLING PARTY)
- B. Approximately how far is the one-way trip you are now making? (READ LIST)
 - Less than 50 km or 35 miles (1/2 hour) - TERMINATE
 - 50 to 149 km or 35 to 99 miles (Over 1/2 to 1 1/2 hours) - SHORT QUESTIONNAIRE (BLUE)
 - 150 to 360 km or 100 to 225 miles (over 1 1/2 to 4 hours) - MEDIUM QUESTIONNAIRE (PINK)
 - More than 360 km or 225 miles (Over 4 hours) - LONG QUESTIONNAIRE (WHITE)

Would you please fill out this questionnaire for the one-way road trip you are taking. I will return to collect it.

Thank you.

6.4 Fieldwork schedule

Interviewing hours were from 06:00 to 14:30 and 14:30 to 23:00 on alternate days for each location.

Interviewing dates (all in 1993) were as follows:

Highway #20	Jan. 10-15, 26-27; Feb. 2-3, 5-6
Highway #40	Jan. 15-20
Highway #401	Jan. 20-24, 28-30; Feb. 4-6

6.5 Possible bias

- Interviewing took place in January and February which is not favourable to car travel.
- We only interviewed travellers that stopped along the highway for food or gas.
- Very time sensitive travellers had a lower chance of being selected in this survey.
- Road conditions might have modified respondents' time sensitivity.

All these sources of bias were minimized as much as possible where feasible.

7. DATA SET-UP

7.1 *Editing and coding procedures*

To confirm that minimum requirements for returned questionnaires were met, the following sequence of editing and coding instructions was carried out by the Coding Department.

First, make sure that points 1 to 8 below are answered:

1. Origin and Destination (Qu.C & E)
2. Trip Length (Qu.1)
3. Purpose (Qu.3)
4. Income (Qu.10)
5. Each segment of TEMS questions should have not less than four responses.
6. Questionnaires containing Value of Interchange (VOI) should have the question on connection (Qu. 2) answered.
7. Questionnaires containing Value of Access/Egress (VOA) should have the questions on Access/Egress (Qu. D & F) answered. This is true for CRA versions, too.
8. Code origin and destination using the codes provided for that purpose.

Then check distance against Qu. 1:

- (BLUE) Short - 50-149 km or 35-99 miles (Code 2)
- (PINK) Medium - 150-360 km or 100-225 miles (Code 3)
- (WHITE) Long - more than 360 km or 225 miles (Code 4)

Note that all but CRA-AIR questionnaires are based on length. Check upper left-hand side of the front page to make sure that the correct length of questionnaire was given. If not, recode Qu. 1 to correspond with questionnaire only if the origin and destination do in fact correspond to the actual questionnaire given. For example, Montreal to Brockville is a medium trip; if the respondent filled out a Pink (Medium) questionnaire but ticked "short", recode Qu. 1 to "medium".

For CRA-AIR, check precodes on questionnaire (upper left side of front page) against Qu. 2 - Direct (no connections, White) versus Connections (Pink). Most "long" questionnaires should be for connecting flights.

If the respondent only gives an unspecified destination, e.g. Ottawa, put the questionnaire aside for a determination by the client whether to open a new code or not.

Regarding Qu. D & F, if the amount of time seems totally unreasonable, this will have to be changed to "not stated". But, watch; we may not be able to use the questionnaire in this case if it is an access/egress version.

Coders brought coding problems to the attention of the Coding Department Head, who supervised their work. All of the coders and the Department Head who worked on this project were experienced, full-time employees of Solumar/Market Facts.

The Coding Department Head in turn brought problems to the attention of the Project Manager, who notified the client in order to reach a determination as to what action was to be taken. Always the solution was provided by the forecasting company whose questionnaire had the problem.

The types of problems resolved in this manner are listed below:

1. More than one reason/main purpose for trip given
2. Access or egress time not given
3. Access or egress time longer than the trip itself
4. Trip begins or ends at terminal, hence no access or egress time, on access/egress questionnaire
5. Income not stated or refused

6. Only 1 or 2 preference questions ranked on CRA questionnaire - 2 or 3 blank
7. 1 or 2 preference pages blank on TEMS questionnaire
8. Length of trip taken does not match questionnaire filled out, i.e. wrong trip length within the Corridor
9. Took a trip outside the Corridor, no connections indicated
10. Connecting flight taken into or out of the Corridor, with direct flight within the Corridor
11. Both connected to and from another flight - for example, OD is Nova Scotia to Alberta with multiple connections within the Corridor
12. Whether current flight connects to or from another flight is inconsistent with OD - for example, bound for Florida on an Ottawa-Toronto flight respondents indicate no connection or that they connected not that they will connect; those flying from Toronto to Ottawa answer "will connect" when their destination is Ottawa; etc.
13. Whether current flight is direct or not is inconsistent with OD - for example, bound for Toronto on an Ottawa-Toronto flight respondents indicate that they will connect; those flying from Montreal to Ottawa answer "connected" although their origin is in or near Montreal; etc.

7.2 Data entry

After coding and editing, each valid questionnaire was keyed using Market Facts' custom-written data entry program on a Novell networking system. Our software has extensive error-checking features such as codes out-of-range, no multi-response answers to single-response questions, and all non-used fields blank.

Networking allows data to be sent to a main file server, thereby eliminating the possibility of any lost data because of bad magnetic media or misplaced diskettes.

At least 10% of all keyed data is routinely re-keyed for verification purposes by a different operator, and errors caught are rectified immediately. Any new operator's work was 100% verified by the Data Entry Supervisor.

7.3 Data processing

With 35 years of experience between them, our two Cleaning Specialists are expert at detecting errors or discrepancies between the keyed data and the codesheet file. Questionnaires for records with errors were pulled out and checked to investigate the cause of each error, after which correcting entries were made against the data set.

Once correcting entries had been made, additional cleaning passes were carried out to be sure that each record was thoroughly clean.

Programmers in the job control area were responsible for developing the codesheet file - basically a picture of the questionnaire to the computer program with all edit checks built in. Study data were regularly backed up to protect against a system failure, and all information related to this study was fully documented.

Quality controls in this area include meetings between the programmers and the Job Control Supervisor to discuss how the data will be set-up. Each programmer's codesheet was then checked and approved by the Job Control Supervisor before data went out to the client.

Each forecasting company received a set of diskettes containing the data for that forecaster. The forecaster also received a printed listing of the codesheet used to set up each file. This document summarized in schematic form the data layout and location of all coded information on the file.