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Providing Affordable Access to Information

2008 Highway Customer Satisfaction Survey

OVERALL HIGHLIGHTS REPORT

April 28, 2009

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2008 Customer Satisfaction Survey – Provincial Highway System

1 Introduction

TMC The Marketing Clinic was retained by the Nova Scotia Department of Transportation and Infrastructure Renewal to complete the 2008 Highway Satisfaction Study. The study has been conducted since 1997, and is dedicated to identifying areas for improvement of Nova Scotia's highways, measuring client satisfaction with highways and related services, as well as determining citizens' views about the importance and quality of various services.

A random sample of 2,080 respondents was drawn using a stratified design based upon the population of four regions across the province. The sample was designed to allow for proportionate representation within each region for men and women over the age of 16, based upon Canadian Census data. The final sample had a margin of error of plus/minus 2.15%, 19 out of 20 times. The sampling result by region is provided in Table1. The margin of error at the regional level was plus/minus 4.3%, 19 out of 20 times. The regions were grouped in the following manner:

- Central: Halifax and Hants counties
- Eastern: Antigonish, Guysborough, Inverness, Victoria, Cape Breton and Richmond counties
- Northern: Pictou, Cumberland and Colchester counties
- Western: Kings, Annapolis, Digby, Yarmouth, Shelburne, Lunenburg and Queens counties

The regional breakdown allowed for comparisons and analyses at the regional and overall provincial levels. The sample breakdown by region is shown in Table 1. Calls were made using Computer Assisted Telephone Interviewing (CATI).

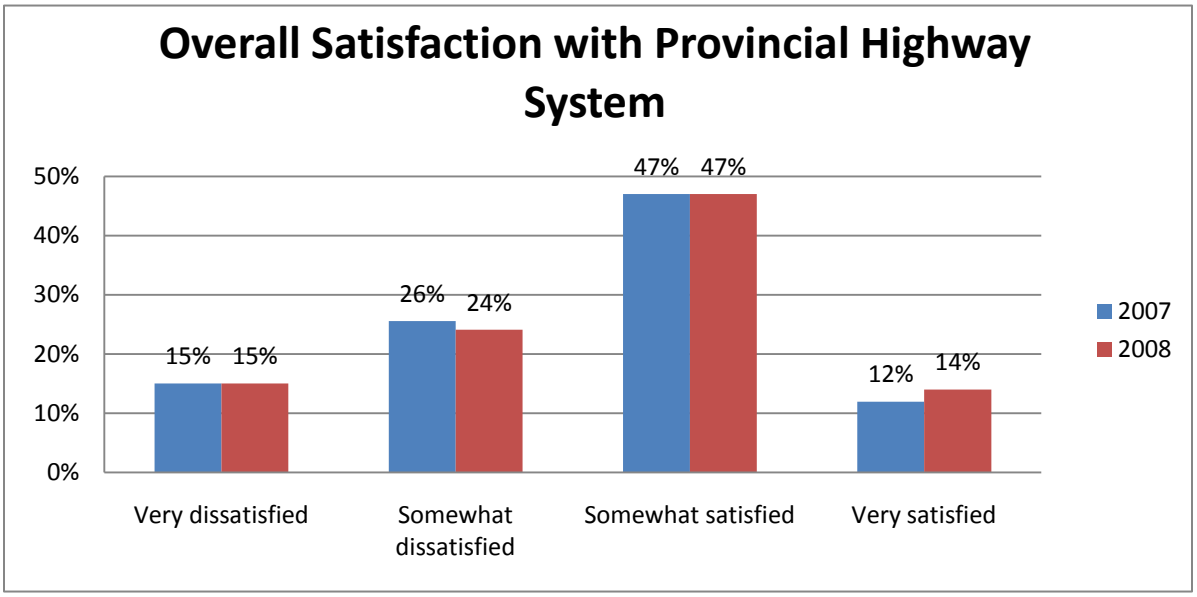
Table 1 Sample Breakdown

Region	Age	Male	Female	Total
Central	16 to 30	54	44	98
	31 to 45	86	82	168
	46 to 60	59	79	138
	61 and over	51	64	115
	Total	*250*	*269*	*519*
Eastern	16 to 30	35	41	76
	31 to 45	74	79	153
	46 to 60	72	81	153
	61 and over	66	71	137
	Total	*247*	*272*	*519*
Northern	16 to 30	41	52	93
	31 to 45	78	70	148
	46 to 60	62	82	144
	61 and over	71	65	136
	Total	*252*	*269*	*521*
Western	16 to 30	35	53	88
	31 to 45	83	63	146
	46 to 60	57	88	145
	61 and over	69	73	142
	Total	*244*	*277*	*521*
	Overall Total	**993**	**1,087**	**2,080**
	Age Breakout	**Male**	**Female**	**Total**
	16 to 30	165	190	355
	31 to 45	321	294	615
	46 to 60	250	330	580
	61 and over	257	273	530
	Overall Total	**993**	**1,087**	**2,080**

2 Overall Satisfaction

Figure 1 illustrates overall level of satisfaction with the provincial highway system from 2007 through 2008 studies. The results reveal that 39% of respondents said they were very dissatisfied, or somewhat dissatisfied, with the highway system in 2008 compared to 41% in 2007.

Figure 1 Overall Satisfaction with the Provincial Highway System



The average rating in 2008 was 2.61 out of a possible scale rating of 4, compared to a rating of 2.56 in the 2007 survey.

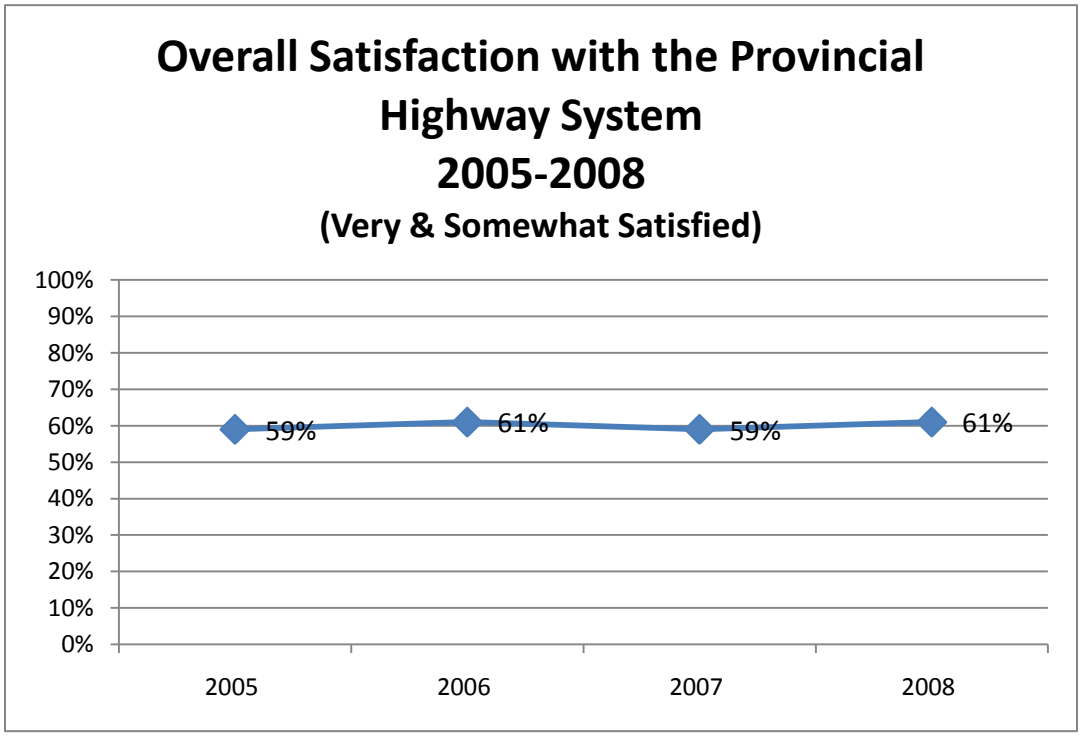
The breakdown for overall satisfaction with the provincial highway system by district appears in Table 2. Results revealed that those in the Central region were the most satisfied, with 69.6% rating their satisfaction with the provincial highway system as somewhat satisfied or very satisfied. The Northern region was second, with 61.6% indicating their overall satisfaction with the highways, followed by Eastern (52.3%) and the Western region (52.3%).

Table 2 2008 Overall Satisfaction

Response	2008 Overall %	Central %	Eastern %	Northern %	Western %
Very Dissatisfied	14.5	9.0	21.0	15.4	19.6
Somewhat Dissatisfied	24.1	21.4	26.6	22.9	28.1
Somewhat Satisfied	47.4	52.0	40.4	47.9	43.6
Very Satisfied	14.0	17.6	12.0	13.7	8.7

Figure 2 shows the overall level of satisfaction (somewhat satisfied and very satisfied) for all respondents over the past seven years. Results reveal that satisfaction levels have increased overall since 2002. The highest level of overall satisfaction was reached in 2004, with a measure of 63%. The lowest ratings were for 2002 with 50%, and for 2003, 2005 and 2007, with 59% each.

Figure 2 Overall Satisfaction with Provincial Highway System 2005 through 2008



A variety of reasons were provided by respondents for their lack of satisfaction with the provincial highway system. The results are summarized in Table 3. The top three reasons for dissatisfaction in the 2008 sample included:

- Roads poorly paved or maintained (29.8%)
- Potholes on the roads (27.1%)
- Poor repair or condition of roads (23.6 %)

These results were consistent with those in the 2007 survey, and were common across all regions. Compared to the 2007 survey, 2008 percentages were statistically significantly lower for the potholes in the roads, but higher for "other" reasons. Most measures showed no statistically significant change from 2007 to 2008.

Table 3 Reasons for Dissatisfaction with Provincial Highway System

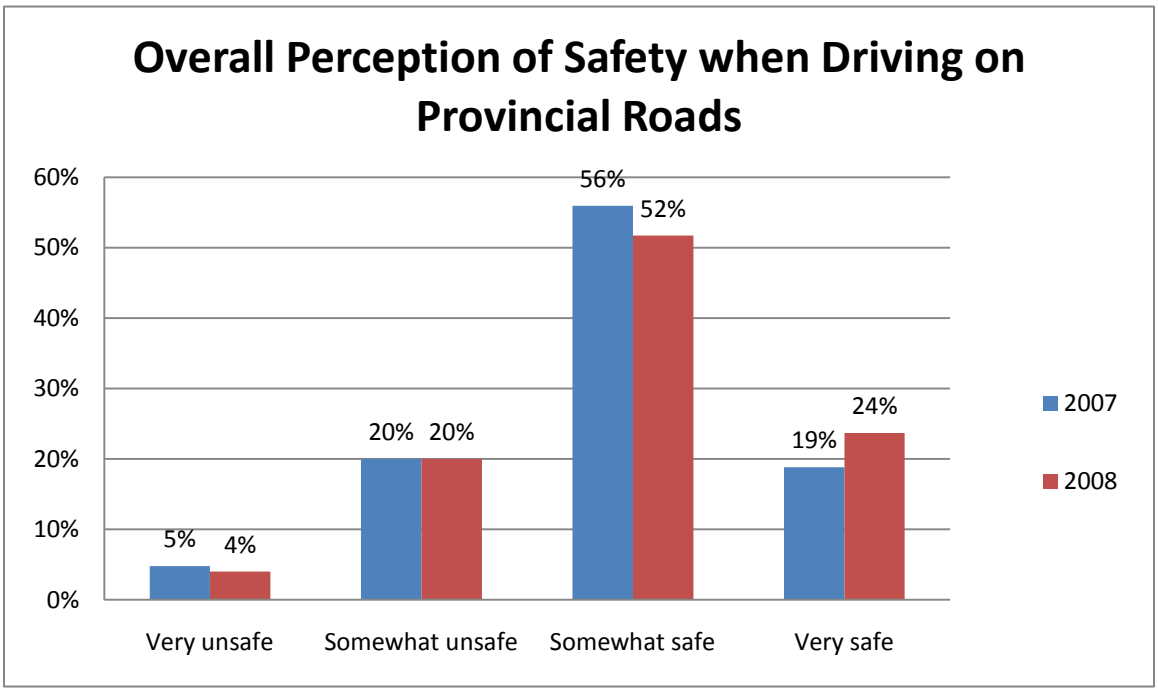
	2007 Overall*	2008 Overall*	Central	Eastern	Northern	Western
Poor Repair/condition	25%	24%	14%	35%	28%	31%
Roads poorly paved/maintained	32%	30%	24%	41%	27%	34%
Potholes	**30%**	**27%**	20%	38%	29%	32%
Shouldn't allow toll highways	0.2%	0.4%	0.2%	0%	0%	0%
Not enough divided highways	3%	3%	3.8%	3%	0%	2.6%
Snow removal is poor	5%	5%	1%	3%	10%	10%
Too few passing lanes	0.7%	1%	1%	0.5%	0%	0%
Debris/garbage on the roads	**0%**	**0.2%**	0.2%	0.3%	0.3%	0%
Tax/gas tax not properly spent	0.6%	1%	2%	1%	2%	0.7%
Signs are poor	**0.3%**	**1%**	0.7%	1%	0.7%	0.2%
Poor Lighting	0.2%	0.4%	0.5%	0.5%	0%	0.4%
Other	**11%**	**19%**	10%	25%	26%	25%

*Bolded percentages are statistically significantly different.

3 Driving Safety

Figure 3 reflects perceived safety when driving in Nova Scotia.

Figure 3 How safe do you feel when driving in Nova Scotia?



Most respondents felt very safe on Nova Scotia's roads. The rating averaged 2.95 out of 4 points, which is statistically significantly higher than the rating of 2.89 in the 2007 study. However, seventy-six percent felt either very safe or somewhat safe, and the remaining 24% felt very unsafe or somewhat unsafe. These results are close to the 2007 survey results, which measured 75% and 25% respectively.

Breakouts of safety perception by region are shown in Table 4 for years 2004 through 2008. Results shown are for respondents who rated their safety as somewhat safe or very safe.

Table 4 Percentage who feel safe when driving in Nova Scotia

	2004	2005	2006	2007	2008
Central	81%	78%	74%	76%	80%
Eastern	74%	70%	75%	75%	73%
Northern	81%	75%	77%	79%	78%
Western	79%	71%	72%	70%	66%

The average scale ratings by region for both 2007 and 2008 surveys were statistically significant different between the two surveys for Central Region measures. The averages are shown in Table 5.

Table 5 Average Scale Ratings for Perceived Driving Safety for 2006, 2007 and 2008

	2006*	2007*	2008*
Central	2.89	2.90	**3.04**
Eastern	2.91	2.89	2.94
Northern	2.90	2.99	2.96
Western	2.82	2.77	2.74
Overall	2.88	2.89	**2.95**

*Scale: 1) Very unsafe, 2) Somewhat unsafe, 3) Somewhat safe, 4) Very safe

Respondents provided over 100 different reasons for feeling unsafe when driving on provincial highways. The top five reasons are shown in Table 6.

Table 6 Reasons for Not Feeling Safe on Nova Scotia Highways

Reasons Given for Feeling Unsafe Driving on NS Roads	Percent
Poor road conditions/patchwork/maintenance	58%
Potholes/ruts/bumps/cracks	57%
Speeding	12%
Bad driving habits	13%
Need twinned highways	14%
Other	56%

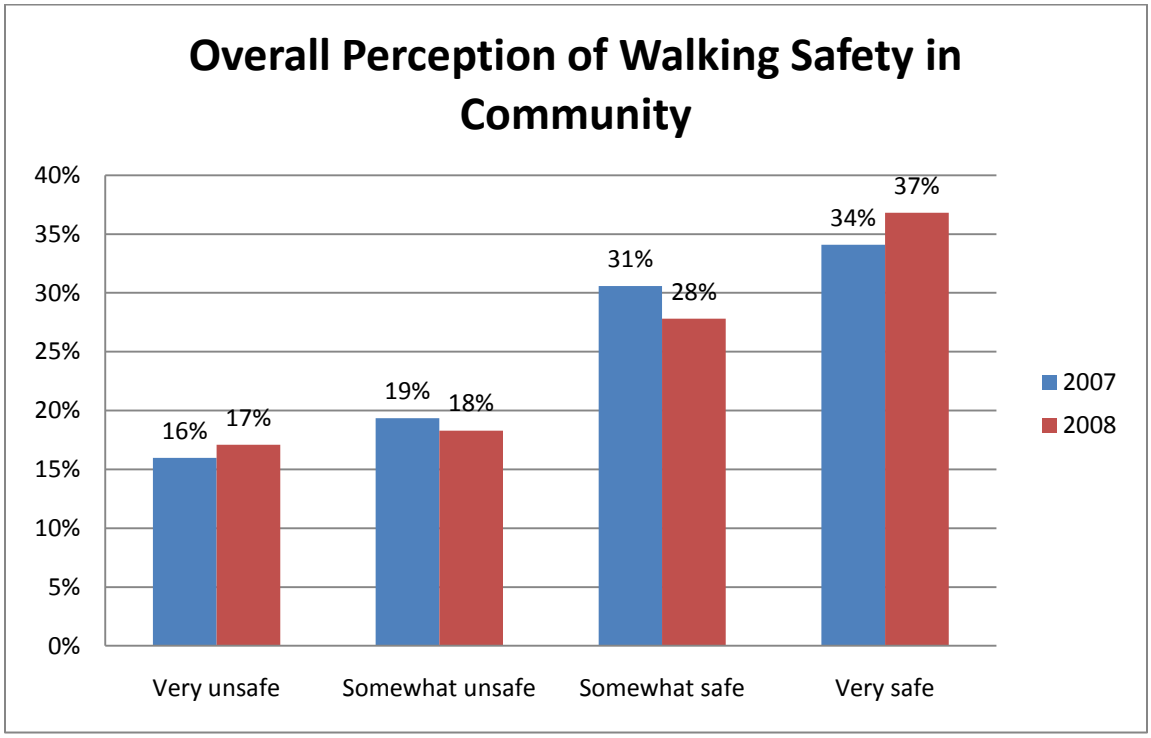
Results reveal that most concerns were linked to perceived poor maintenance of the roads (poor road conditions and potholes). Bad driving habits and speeding in particular, also made drivers feel unsafe. Some felt that twinned highways would make them feel safer.

Results were consistent across regions with few minor differences. The most critical issue in Central and Eastern regions was poor road conditions. However, the most frequently listed reason for feeling unsafe on Nova Scotia roads for respondents from the Northern and Western regions was potholes/ruts/bumps/cracks. The results were consistent in that poor road conditions and potholes/ruts/bumps/cracks were the top two issues in all regions. Bad driving habits, speeding and the need for twinned highways were in the top five concerns for all regions.

4. Walking Safety

Figure 4 reflects perceived safety when walking in Nova Scotia.

Figure 4 **How safe do you feel as a pedestrian walking in your community?**



Most respondents felt safe as pedestrians on Nova Scotia's roads. The safety rating averaged 2.84 out of 4 points, which was not significantly different than the rating for 2007 of 2.83. The results revealed that 65% of respondents felt that they were somewhat safe, or very safe, while walking in their communities. The remaining 35% felt either very unsafe or somewhat unsafe walking in their communities.

Breakouts of safety by region are shown in Table 7 for years 2007 and 2008. Results shown are for respondents who rated their safety as somewhat safe or very safe.

Table 7 **Percentage who feel safe when walking in their community**

	2007	2008
Central	61%	65%
Eastern	66%	64%
Northern	70%	67%
Western	67%	64%

Breakouts of safety perception by region are shown in Table 8 for 2007 and 2008. There were no statistically significant differences between the ratings in 2007 and 2008.

Table 8 Average Scale Ratings for Perceived Pedestrian Safety for 2007 and 2008

	2007*	2008*
Central	2.77	2.84
Eastern	2.83	2.89
Northern	2.95	2.87
Western	2.83	2.80
Overall	2.83	2.84

*Scale: 1) Very unsafe, 2) Somewhat unsafe, 3) Somewhat safe, 4) Very safe
Bolded averages are significantly different.

Respondents provided 81 reasons for not feeling safe when walking in their communities. The top five reasons are shown in Table 9.

Table 9 Reasons for Not Feeling Safe Walking in Community

Reasons for Not Feeling Safe Walking in Community	Percent
No/not enough sidewalks	46%
Drivers don't stop/look at crosswalks/ pedestrians	35%
Other	35%
Speeding drivers	30%
Narrow/no shoulders	27%

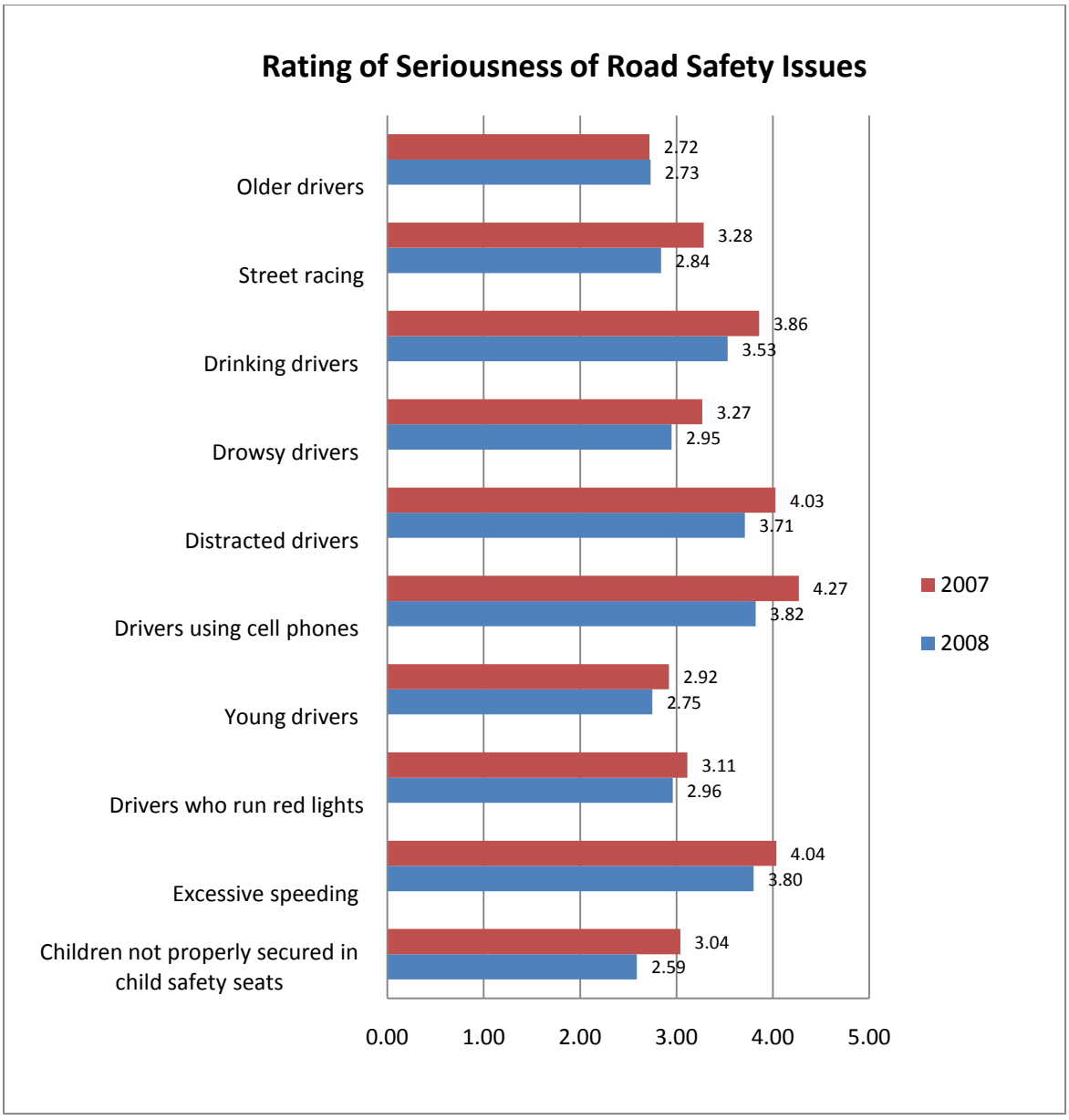
Results revealed that most concerns were linked to a lack of sidewalks, poor road shoulders, and speeding. Also, respondents felt that drivers seem to be oblivious to pedestrians, even when they are on a marked crosswalk.

Results were consistent across regions with few minor differences. The greatest concerns in the all regions were no sidewalks or not enough sidewalks. The second-most critical issue for the Central and Northern regions was drivers who do not stop at crosswalks. Speeding drivers was the third-most important issue in the Central, Northern and Western regions and the least important issue in the Eastern. Narrow or no shoulders was the least important issue in Central and Northern regions

5. Road Safety Measures

Respondents were asked to rate several traffic safety issues in terms of their perception of how serious the problem was today in Nova Scotia. Respondents rated several potential problem issues on a 5-point scale, ranging from "not a problem at all" to "extremely serious problem". The average overall rating for each issue is shown in Figure 5.

Figure 5 Overall Rating of Seriousness of Road Safety Issues*



Scale: 1) Not a problem at all, 2) Somewhat of a problem, 3) Not sure – neutral, 4) Serious problem, 5) Extremely serious problem

The ratings reveal that excessive speeding and cell phone use were considered to be major problems by the majority of respondents. Compared to 2007 results, all ratings for 2008 were significantly lower in seriousness, with the exception of older drivers. The percentage of respondents who felt that the issues were problems, or not, is shown in Table 10.

Table 10 Percent of Respondents Considering Each Issue as Not Posing a Problem vs. Posing a Problem

	Somewhat/serious/ extremely serious problem	Not at all a problem	Not sure/neutral
Children not properly secured in child safety seats	50%	38%	12%
Excessive speeding	81%	6%	13%
Drivers who run red lights	63%	25%	12%
Young drivers	57%	19%	24%
Drivers using cell phones - either hand held or hands free	82%	8%	10%
Distracted drivers	79%	7%	14%
Drowsy drivers	58%	21%	21%
Drinking drivers	76%	13%	11%
Street racing	58%	33%	9%
Older drivers	58%	20%	22%

Table 11 contains the average ratings for each safety issue by region. Results show that cell phone use was considered the most critical road safety issue in the Eastern region, while excessive speed was considered the most critical safety issue in the Central, Northern and Western regions.

Table 11 Rating of Safety Issues across Regions

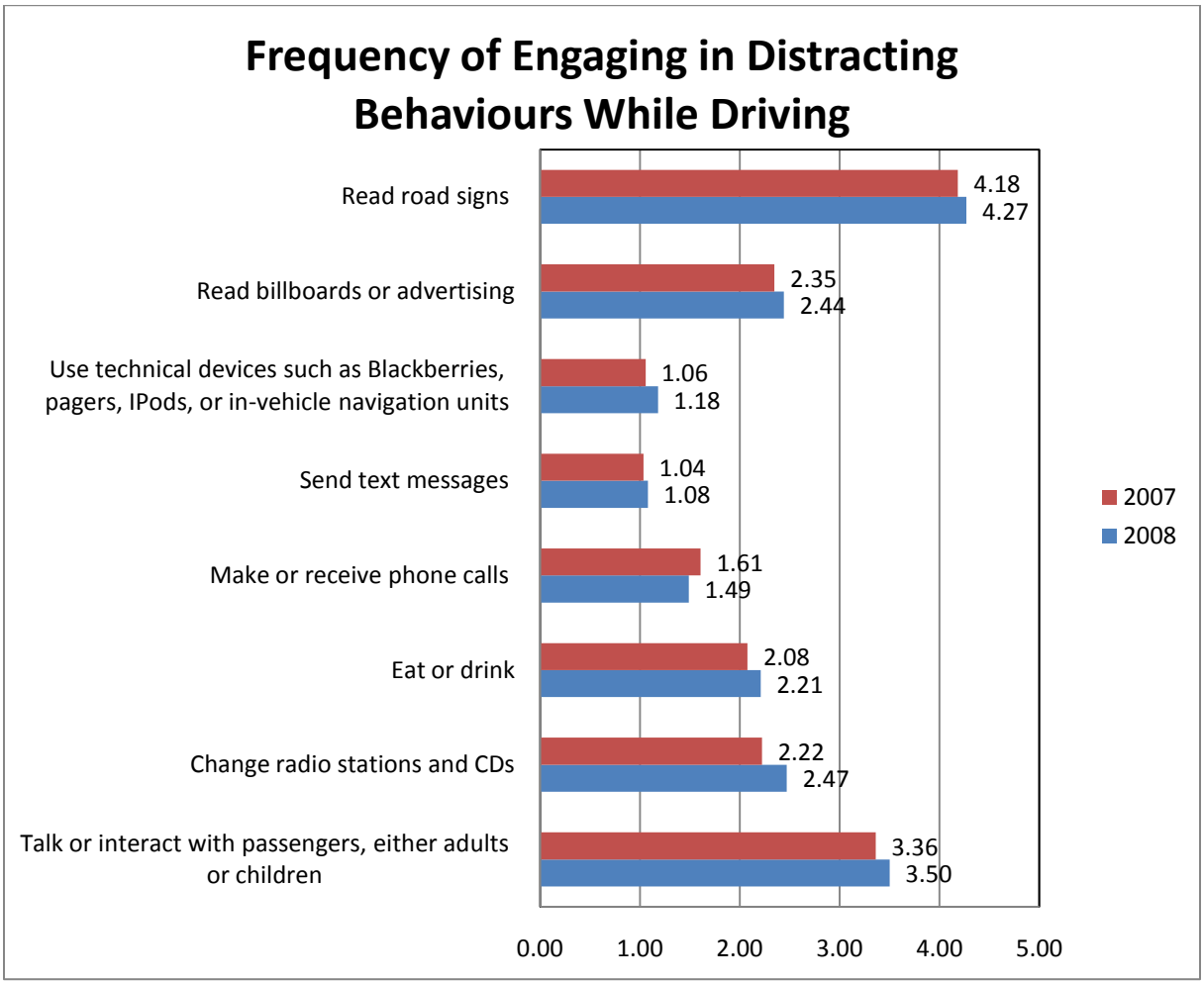
	Central*	Eastern*	Northern*	Western*
Drivers using cell phones - either hand held or hands free	3.79	3.96	***3.79***	3.77
Excessive speeding	***3.80***	**3.71**	3.92	3.79
Distracted drivers	***3.73***	***3.63***	***3.71***	3.73
Drinking drivers	***3.46***	3.50	3.69	3.58
Street racing	2.96	2.71	2.79	2.87
Young drivers	2.78	2.79	***2.74***	2.68
Drowsy drivers	***2.91***	***2.88***	3.12	3.01
Drivers who run red lights	3.05	2.84	**3.08**	2.78
Older drivers	2.65	2.71	**2.78**	**2.85**
Children not properly secured in child safety seats	***2.46***	***2.69***	2.79	2.63

*Scale: 1) Not a problem at all, 2) Somewhat of a problem, 3) Not sure – neutral, 4) Serious problem, 5) Extremely serious problem. Bolded measures are statistically higher 2007 measures. Bolded italicized measures are significantly lower than 2007 measures.

6 Driving Behaviours

Respondents were asked to report their own behaviour when driving by indicating how frequently they engaged in various behaviours that could distract them on the road. Figure 6 shows the average frequency for each of the behaviours among respondents. The results show that the most frequent activity while driving is reading road signs followed by interacting with passengers. Respondents reported that they rarely use technology that can be distracting, including cell phones, Blackberries, pagers, Ipods or in-vehicle navigation units. Table 12 shows the percentage of respondents reporting the frequency of engaging in such behaviours while driving. These results are consistent with those in the 2007 study.

Figure 6 Frequency Rating of Distracting Behaviours for Drivers



Scale: 1) Never, 2) Rarely, 3) Sometimes, 4) Often, 5) Every time I drive

Table 12 Frequency of Respondents' Engaging in Distracting Behaviour while Driving

	Sometimes/ Often/ Every time (%)	Rarely (%)	Never (%)
Read road signs	92%	5%	3%
Talk or interact with passengers (adults or children)	76%	16%	8%
Read billboards or advertising	46%	28%	26%
Change radio stations or CDs	42%	23%	35%
Eat or drink	37%	24%	39%
Make or receive cell phone calls	13%	12%	75%
Send text messages	2%	2%	96%
Use technical devices such as blackberries, pagers, Ipods or in-vehicle navigation units	4%	5%	91%

7 Highway Services

7.1 Highway Service Importance Measures

Respondents were asked to indicate how important various highway services were to them. The results are summarized in Table 13, which also provides a comparison to the results of the 2007 study. The results reveal that the most important services included:

- Filling cracks and potholes (3.86)
- Bridges (3.78)
- Snow and ice removal during a storm (3.76)
- Timeliness of clean-up after a storm (3.74)
- Pavement markings (yellow and white lines) (3.73)
- Helpfulness of non-commercial highway signs (speed limit, road exit signs, etc.) (3.68)

All of the average importance ratings were significantly lower in 2008 than in 2007.

Table 13 A Comparison of Average Ratings for Importance of Highway Services: 2007 – 2008*

	2007*	2008*	Change
The amount of four-lane divided highways	3.63	3.52	-0.11
Filling cracks and potholes	3.89	3.86	-0.03
Resurfacing sections of the highway	3.78	3.65	-0.13
Snow and ice removal during a storm	3.84	3.76	-0.08
Timeliness of the clean up after a storm	3.80	3.74	-0.06
Number of passing lanes (importance of services)	3.37	3.25	-0.12
The length of passing lanes	3.48	3.31	-0.17
All pavement markings including yellow and white lines	3.85	3.73	-0.12
Roadside brush and tree clearing	3.47	3.23	-0.24
The helpfulness of non-commercial highway signs	3.80	3.68	-0.12
The amount of non-commercial highway signs	3.61	3.50	-0.11
The maintenance of non-commercial highway signs	3.67	3.53	-0.14
The width of highway shoulders	3.68	3.57	-0.11
The surface condition of highway shoulders	3.70	3.58	-0.12
Grading and dust control of gravel roads	3.44	3.30	-0.14
Ditches and culverts	3.48	3.27	-0.21
Bridges	3.84	3.78	-0.06

*Scale: 1) Very unimportant, 2) Somewhat unimportant, 3) Somewhat important, 4) Very unimportant. Scale value 5 (don't know/not applicable) was not included in the analysis. All of the averages were significantly different between the two surveys.

Table 14 shows the percentage of respondents who considered each service somewhat or very important for both 2008 and 2007 studies. The results reveal that the most important services included:

- Filling cracks and potholes (98%)
- Snow and ice removal during a storm (96%)
- Timeliness of the clean up after a storm (96%)
- Bridges (96%)
- The helpfulness of non-commercial highway signs (95%)
- Resurfacing sections of the highway (95%)
- All pavement markings including yellow and white lines (94%)
- The width of highway shoulders (91%)
- The surface condition of highway shoulders (91%)

- The maintenance of non-commercial highway signs (89%)

Table 14 Percent of Respondents Rating Various Highway Services as Somewhat or Very Important*

	Somewhat or Very Important 2007 (%)*	Somewhat or Very Important 2008 (%)*	Change (percentage points)
The amount of four-lane divided highways	**91%**	**86%**	-5%
Filling cracks and potholes	**99%**	**98%**	-1%
Resurfacing sections of the highway	**97%**	**95%**	-2%
Snow and ice removal during a storm	**97%**	**96%**	-1%
Timeliness of the clean up after a storm	**97%**	**96%**	-1%
Number of passing lanes	**86%**	**81%**	-5%
The length of passing lanes	**88%**	**81%**	-7%
All pavement markings including yellow and white lines	**98%**	**94%**	-4%
Roadside brush and tree clearing	**88%**	**76%**	-12%
The helpfulness of non-commercial highway signs	**98%**	**95%**	-3%
The amount of non-commercial highway signs	**94%**	**89%**	-5%
The maintenance of non-commercial highway signs	**94%**	**89%**	-5%
The width of highway shoulders	**94%**	**91%**	-3%
The surface condition of highway shoulders	**95%**	**91%**	-4%
Grading and dust control of gravel roads	**86%**	**81%**	-5%
Ditches and culverts	**88%**	**81%**	-7%
Bridges	**98%**	**96%**	-2%

*All of the changes between the two surveys are significantly different.

All of the services were rated important by respondents, with the percent of rating each service as somewhat or very important ranging from 76% to 98%. All of the percentage changes from the 2007 to the 2008 survey are statistically significant and show decreases in the percent of respondents who considered the highway services important. However, most highway services continue to be important to Nova Scotians, but there has been a shift since 2007. The biggest change was for roadside brush and tree clearing where the percent of respondents rating the service as somewhat or very important fell from 88% to 76%, a difference of 12 percentage points.

A comparison of importance measures by region demonstrates that all services were generally important in all regions. A comparison from 2007 results revealed that in most cases, 2008 ratings were significantly lower than 2007 ratings. This indicates that across the regions, most services are considered less important in 2008 than in 2007. The results are summarized in Table 15.

Table 15 Importance Ratings of Various Highway Services*

	Central Region	Eastern Region	Northern Region	Western Region
The amount of four-lane divided highways	**3.55**	3.57	3.57	**3.38**
Filling cracks and potholes	3.84	**3.91**	**3.90**	3.86
Resurfacing sections of the highway	**3.55**	**3.81**	**3.74**	**3.68**
Snow and ice removal during a storm	**3.70**	**3.81**	3.82	**3.78**
Timeliness of the clean up after a storm - snow and ice removal	3.68	3.76	3.80	3.78
Number of passing lanes	3.15	**3.35**	**3.23**	**3.38**
The length of passing lanes	**3.23**	**3.43**	**3.31**	**3.37**
All pavement markings including yellow and white lines	**3.69**	**3.80**	**3.78**	**3.72**
Roadside brush and tree clearing	**3.03**	**3.44**	**3.32**	**3.39**
The helpfulness of non-commercial highway signs - speed limit, road exit signs, etc.	**3.66**	**3.72**	**3.72**	**3.68**
The amount of non-commercial highway signs - speed limit, road exit signs, etc.	3.45	**3.50**	**3.59**	**3.52**
The maintenance of non-commercial highway signs such as speed limit signs, road exit signs, and so forth	**3.46**	**3.54**	**3.61**	**3.60**
The width of highway shoulders	**3.49**	**3.66**	**3.58**	**3.65**
The surface condition of highway shoulders	**3.48**	**3.72**	**3.58**	**3.68**
Grading and dust control of gravel roads	***3.12***	**3.48**	**3.37**	**3.44**
Ditches and culverts	**3.08**	**3.46**	**3.42**	**3.42**
Bridges	**3.76**	**3.83**	**3.79**	**3.78**

*Scale: 1) Very unimportant, 2) Somewhat unimportant, 3) Somewhat important, 4) Very unimportant. Scale value 5 (don't know/not applicable) was not included in the analysis. Bolded averages are statistically significantly different between the two studies. Bolding demonstrates higher importance ratings for the 2007 study.

7.2 Quality of Highway Services

Respondents were asked to rate the quality of the highway services. The results are summarized in Tables 15 and 16, which also provide comparisons to the results of the 2007 survey results. The results revealed that the services with the highest quality ratings included:

- The helpfulness of non-commercial highway signs (83%)[1]
- The maintenance of non-commercial highway signs (79%)
- The amount of non-commercial highway signs (72%)
- All pavement markings including yellow and white lines (71%)
- Roadside brush and tree clearing (66%)
- Bridges (64%)
- Timeliness of the clean up after a storm (63%)
- Snow and ice removal during a storm (61%)
- Ditches and culverts (60%)

The service with the lowest quality rating was filling cracks and potholes (23%).

Some of the average quality ratings were significantly different in 2008 than in 2007. All but one of the ratings showed statistically significant increased quality. The rating that showed a significant decrease in quality was for the amount of four-lane divided highways.

Table 16 shows the percentage of respondents who rated the quality of each service good or excellent for both 2007 and 2008 surveys. Most of the services had been rated lower than in 2007 by respondents.

Services that received good or excellent quality ratings of less than 60% of respondents included:

- The amount of four-lane divided highways
- Filling cracks and potholes
- Resurfacing sections of the highway
- The width of highway shoulders
- The surface condition of highway shoulders
- Grading and dust control of gravel roads
- The length of passing lanes
- Number of passing lanes

There were significant differences between the percentage of respondents that rated various services good or excellent in the 2008 and 2007 surveys. Six services were rated significantly different by respondents in 2008 than in 2007. Of the services that were statistically significantly different, seven had increased in ratings and four had decreased in ratings. The services with statistically significant increased ratings included:

[1] Percentages show the percent of respondents that rated the service good or excellent in the 2008 survey.

- Resurfacing sections of the highway (4 percentage point increase)
- Timeliness of cleanup after a storm (3 percentage point increase)
- The width of highway shoulders (3 percentage point increase)
- Grading and dust control of gravel roads (4 percentage point increase)

Services with statistically significant decreased ratings included:

- The amount of four-lane divided highways (10 percentage point decrease)
- Snow and ice removal during a storm (4 percentage point decrease)

The results are summarized in Table 16.

Table 17 summarizes the average quality rating for each service. The services with the increased quality ratings in 2008 are listed below, followed by the improvement in their average quality rating compared to the 2007 survey:

- Resurfacing sections of the highway (.10 increase)
- Number of passing lanes (.06 increase)
- The length of passing lanes (.09 increase)
- Roadside brush and tree clearing (.11 increase)
- All pavement markings including yellow and white lines (.10 increase)
- The helpfulness of non-commercial highway signs (.13 increase)
- The amount of non-commercial highway signs (.07 increase)
- The maintenance of non-commercial highway signs (.09 increase)
- The width of highway shoulders (.09 increase)
- The surface condition of highway shoulders (.07 increase)
- Ditches and culverts (.04 increase)
- Bridges (.05 increase)

The services with the greatest change in average quality ratings since 2007 were:

- Resurfacing sections of the highway (.10 increase)
- Roadside brush and tree clearing (.11 increase)
- The helpfulness of non-commercial highway signs (.13 increase)
- Amount of four lane divided highways (.13 decrease)

Table 16 Percent of Respondents Rating the Quality of Various Highway Services as Good or Excellent: 2007 and 2008*

	Good or Excellent 2007 (%)*	Good or Excellent 2008 (%)*	Change (percentage points)
The amount of four-lane divided highways	**55%**	**45%**	-10%
Filling cracks and potholes	25%	24%	-1%
Resurfacing sections of the highway	**41%**	**45%**	4%
Snow and ice removal during a storm	**65%**	**61%**	-4%
Timeliness of the clean up after a storm	**66%**	**63%**	3%
Number of passing lanes	51%	52%	1%
The length of passing lanes	50%	52%	2%
All pavement markings including yellow and white lines	71%	71%	0%
Roadside brush and tree clearing	64%	66%	2%
The helpfulness of non-commercial highway signs	83%	83%	0%
The amount of non-commercial highway signs	74%	72%	-2%
The maintenance of non-commercial highway signs	81%	79%	-2%
The width of highway shoulders	**46%**	**49%**	3%
The surface condition of highway shoulders	45%	47%	2%
Grading and dust control of gravel roads	**49%**	**45%**	4%
Ditches and culverts	60%	60%	0%
Bridges	64%	64%	0%

*Scale: 1) Poor, 2) Only fair 3) Good, 4) Excellent, 5) Don't know/not applicable. Scale value 5 (don't know/not applicable) was not included in the analysis. Bolded averages are statistically significantly different between the two studies.

Table 17 A Comparison of Average Ratings for the Quality of Highway Services: 2007 – 2008*

	2007*	2008*	Change
The amount of four-lane divided highways	**2.50**	**2.37**	-0.13
Filling cracks and potholes	1.92	1.91	-0.01
Resurfacing sections of the highway	**2.22**	**2.32**	0.10
Snow and ice removal during a storm	2.65	2.63	-0.02
Timeliness of the clean up after a storm	2.68	2.66	-0.02
Number of passing lanes	**2.43**	**2.49**	0.06
The length of passing lanes	**2.40**	**2.49**	0.09
All pavement markings including yellow and white lines	**2.73**	**2.83**	0.10
Roadside brush and tree clearing	**2.61**	**2.72**	0.11
The helpfulness of non-commercial highway signs	**2.95**	**3.08**	0.13
The amount of non-commercial highway signs	**2.80**	**2.87**	0.07
The maintenance of non-commercial highway signs	**2.90**	**2.99**	0.09
The width of highway shoulders	**2.32**	**2.41**	0.09
The surface condition of highway shoulders	**2.29**	**2.36**	0.07
Grading and dust control of gravel roads	2.36	2.33	-0.03
Ditches and culverts	**2.53**	**2.57**	0.04
Bridges	**2.63**	**2.68**	0.05

* Scale: 1) Poor, 2) Only fair 3) Good, 4) Excellent, 5) Don't know/not applicable. Scale value 5 (don't know/not applicable) was not included in the analysis. Bolded percentages are statistically significantly different between the two studies.

While overall quality ratings for services were not high in 2008, many of the ratings at the regional level were significantly higher than they were in 2007. In the Central region, ratings were lower for the amount of four-lane divided highways, and higher for roadside brush and tree clearing. There were significantly higher ratings for nine services in the Eastern region, with one significantly lower rating for filling cracks and potholes. The Northern region had significantly lower ratings for snow and ice removal during a storm and timeliness of cleanup after a storm. The remaining services with significant differences compared to last year's survey were all increased quality ratings. In the Western region, all seven quality ratings with significant differences from 2007 had improved. The results are shown in Table 18.

Table 18 A Comparison of Average Ratings for the Quality of Highway Services by Region*

	Central*	Eastern*	Northern*	Western*
The amount of four-lane divided highways	***2.42***	2.26	2.59	2.20
Filling cracks and potholes	1.97	***1.90***	1.87	1.82
Resurfacing sections of the highway	2.41	**2.30**	**2.29**	2.19
Snow and ice removal during a storm	2.72	**2.76**	***2.40***	2.47
Timeliness of the clean up after a storm	2.76	**2.73**	***2.45***	2.53
Number of passing lanes	2.50	**2.48**	**2.68**	**2.33**
The length of passing lanes	2.51	2.42	**2.59**	**2.45**
All pavement markings including yellow and white lines	2.85	**2.75**	**2.81**	**2.86**
Roadside brush and tree clearing	**2.83**	**2.71**	**2.66**	2.54
The helpfulness of non-commercial highway signs	3.07	**3.06**	**3.12**	3.08
The amount of non-commercial highway signs	2.84	2.84	**2.92**	2.94
The maintenance of non-commercial highway signs	3.02	**2.92**	**2.97**	**2.98**
The width of highway shoulders	2.45	2.29	**2.47**	**2.39**
The surface condition of highway shoulders	2.42	2.26	2.36	**2.33**
Grading and dust control of gravel roads	2.39	2.31	2.30	2.26
Ditches and culverts	2.63	2.48	2.49	**2.58**
Bridges	2.78	**2.63**	2.57	2.59

*Scale: 1) Poor, 2) Only fair, 3) Good, 4) Excellent. Scale value 5 (don't know/not applicable) was not included in the analysis. Bolded means are statistically significantly higher, and bold italicized means significantly lower, than in the 2007 survey.

Many of the ratings themselves were not strong quality measures. The highest ratings for the Central district for highway service quality, based on a cutoff for average quality rating of 2.7 out of 4.0[2], were:

- The helpfulness of non-commercial highway signs (3.1)
- The maintenance of non-commercial highway signs (3.0)
- All pavement markings including yellow and white lines (2.9)
- Timeliness of cleanup after a storm (2.8)
- Roadside brush and tree clearing (2.8)
- The amount of non-commercial highway signs (2.8)
- Bridges (2.8)
- Snow and ice removal during a storm (2.7)

[2] A cutoff point of 2.7/4.0 as an average scale rating was the criterion used for comparison in 2005 through 2007 surveys.

The highest rating in the Central region was 3.1 out of 4.0 for helpfulness of non-commercial highway signs, which was a good quality rating.

The lowest ratings for the Central region, using the same cutoff average of 2.7, included:

- Ditches and culverts (2.6)
- Number of passing lanes (2.5)
- The length of passing lanes (2.5)
- The width of highway shoulders (2.5)
- The surface condition of highway shoulders (2.4)
- Grading and dust control of gravel roads (2.4)
- Resurfacing sections of the highway (2.4)
- The amount of four-lane divided highways (2.4)
- Filling cracks and holes (2.0)

The lowest quality rating for the Central region was 2.0 out of 4.0, which was a fair quality rating, for filling cracks and holes. Therefore, there were no extreme ratings (excellent or poor) in the Central region.

Based on the same criteria, the highest quality ratings for highway services in the Eastern region included:

- The helpfulness of non-commercial highway signs (3.1)
- The maintenance of non-commercial highway signs (2.9)
- Snow and ice removal during a storm (2.8)
- The amount of non-commercial highway signs (2.8)
- All pavement markings including yellow and white lines (2.8)
- Timeliness of cleanup after a storm (2.7)
- Roadside brush and tree clearing (2.7)

The highest rating in the Eastern region was 3.1 out of 4.0 for the helpfulness of non-commercial highway signs, which was a good quality rating.

The lowest ratings for the Eastern region included:

- Bridges (2.6)
- Ditches and culverts (2.5)
- Number of passing lanes (2.5)
- The length of passing lanes (2.4)
- The amount of four-lane divided highways (2.3)
- Resurfacing sections of the highway (2.3)
- The width of highway shoulders (2.3)
- The surface condition of highway shoulders (2.3)

- Grading and dust control of gravel roads (2.3)
- Filling cracks and holes (1.9)

The lowest quality rating for the Eastern region was 1.9, which was a fair quality rating, for filling cracks and holes. Therefore, there were no extreme ratings (excellent or poor) in the Eastern region.

The highest road service quality ratings for the Northern region included:

- The helpfulness of non-commercial highway signs (3.1)
- The maintenance of non-commercial highway signs (3.0)
- The amount of non-commercial highway signs (2.9)
- All pavement markings including yellow and white lines (2.8)
- Number of passing lanes (2.7)
- Roadside brush and tree clearing (2.7)

The highest rating in the Northern region was 3.1 out of 4.0 for the helpfulness of non-commercial highway signs, which was a good quality rating.

Service quality ratings in the Northern region that were lower than 2.7 included:

- The amount of four-lane divided highways (2.6)
- Bridges (2.6)
- The length of passing lanes (2.6)
- Timeliness of the cleanup after a storm (2.5)
- The width of passing lanes (2.5)
- Ditches and culverts (2.5)
- Snow and ice removal during a storm (2.4)
- The surface condition of passing lanes (2.4)
- Resurfacing sections of the highway (2.3)
- Grading and dust control of gravel roads (2.3)
- Filling cracks and holes (1.9)

The lowest quality rating for the Northern region was 1.9, which was a fair quality rating, for filling cracks and holes. Therefore, there were extreme ratings (excellent or poor) in the Northern region.

The highest road service quality ratings for the Western region included:

- The helpfulness of non-commercial road signs (3.1)
- The maintenance of non-commercial highway signs (3.0)
- All pavement markings include yellow and white lines (2.9)
- The amount of non-commercial highway signs (2.9)

The highest rating in the Western region was 3.1 out of 4.0 for the helpfulness of non-commercial highway signs, which was a good quality rating.

The lowest highway service quality ratings for the Western region were:

- Ditches and culverts (2.6)
- Bridges (2.6)
- Timeliness of cleanup after a storm (2.5)
- Snow and ice removal during a storm (2.5)
- The length of passing lanes (2.5)
- Roadside brush and tree clearing (2.5)
- The width of highway shoulders (2.4)
- Number of passing lanes (2.3)
- The surface condition of highway shoulders (2.3)
- Grading and dust control of gravel roads (2.3)
- The amount of four-lane divided highways (2.2)
- Resurfacing sections of the highway (2.2)
- Filling cracks and holes (1.8)

The lowest quality rating for the Western region was 1.8, which was a fair quality rating, for filling cracks and holes. Therefore, there were no extreme ratings (excellent or poor) in the Western region.

8 Gap Analysis

A gap analysis was performed to determine where there were the greatest differences between respondents' service expectations, and their service quality evaluations. To conduct the analysis, the numbers of respondents who rated a service as "Very important", and those who did not, were tabulated with those who rated the quality of the service as "Excellent," and those who did not. The goal of the gap analysis is to determine how many rated the service as "Very important," but did not rate the quality as "Excellent." The larger the gap score, the greater the deficit between the public's expectations for performance, and actual service performance. This percentage shows which of the services the Nova Scotia Department of Transportation and Infrastructure Renewal can focus on to improve the highway system in Nova Scotia.

The gap analysis revealed that all gaps had decreased since the 2007 survey. The 2008 survey showed improvement in both quality and importance ratings. However, many of the quality ratings were linked to increases in those who ranked a quality as good, but not as excellent. The gap scores consider only ratings of excellent. The net impact of changes in importance and quality ratings was to decrease gap scores in the 2008 survey when compared to 2007 results. All of the decreases were statistically significant. The results are summarized in Table 19. The gaps are shown for years 2002 through 2008. The 2008 gaps are compared to 2007 gaps for purposes of significance testing.

Overall, the 2008 gap scores ranged from 45% to 87%. The decreases in overall gap scores ranged from 4 to 20 percentage points. The services with the top five gap scores for 2008 included:

- Filling cracks and potholes (87%)
- Bridges (72%)
- Snow and ice removal during a storm (71%)
- Resurfacing sections of the highway (71%)
- Timeliness of cleanup after a storm (68%)

The measures with the lowest gap scores were:

- Number of passing lanes (45%)
- Roadside brush and tree clearing (47%)
- The length of passing lanes (49%)
- The amount of non-commercial highway signs (49%)
- Ditches and culverts (50%)

There may be external factors that impacted gap scores in the 2008 study. The study was conducted during one of the most severe winters on record in recent years. Nova Scotia's drivers were facing difficult driving conditions due to snow and ice.

Table 19 Gap Analysis: 2002 through 2008*

	2002	2003	2004	2005	2006	2007	2008*
The amount of four-lane divided highways	64%	61%	56%	59%	54%	70%	**65%**
Filling cracks and potholes	88%	85%	86%	86%	82%	91%	**87%**
Resurfacing sections of the highway	78%	68%	71%	69%	70%	81%	**71%**
Snow and ice removal during a storm	82%	75%	78%	73%	70%	80%	**71%**
Timeliness of the clean up after a storm	-	-	75%	71%	71%	75%	**68%**
Number of passing lanes	63%	55%	57%	47%	42%	54%	**45%**
The length of passing lanes	67%	58%	57%	51%	45%	62%	**49%**
All pavement markings including yellow and white lines	79%	74%	68%	73%	69%	81%	**64%**
Roadside brush and tree clearing	55%	51%	48%	51%	52%	61%	**47%**
The helpfulness of non-commercial highway signs	71%	66%	60%	42%	50%	73%	**53%**
The amount of non-commercial highway signs	66%	56%	57%	52%	47%	64%	**49%**
The maintenance of non-commercial highway signs	70%	59%	60%	54%	50%	69%	**51%**
The width of highway shoulders	71%	65%	67%	59%	62%	75%	**64%**
The surface condition of highway shoulders	72%	67%	68%	63%	64%	77%	**66%**
Grading and dust control of gravel roads	53%	45%	45%	41%	38%	66%	**56%**
Ditches and culverts	62%	51%	50%	48%	43%	65%	**50%**
Bridges	74%	72%	59%	64%	54%	84%	**72%**

*Bolded percentages show statistically significant increases in gap scores since 2006.

A review of the regional gap scores revealed that the Central region had the lowest number of gap scores over 50%, indicating that those in the Central region were more satisfied than those in other regions. These results are consistent with the 2007 survey. The 2008 survey revealed 10 gap scores in the Central region greater than or equal to 50%, compared to 17 in the Eastern region, 14 in the Northern region and 16 in the Western region. The results of the regional gap analysis are shown in Table 19.[3]

The Central region's scores were lowest for all measures except for the amount of four-lane divided highways. The Eastern region did not have the lowest gap scores for any of the measures, while it did have the highest gap scores for the following services:

[3] To be consistent with the 2006 and 2007 surveys the regional gap analysis was conducted using data unweighted by regional population.

- Roadside brush and tree clearing
- Ditches and culverts
- The length of passing lanes
- The helpfulness of non-commercial highway signs
- The width of highway shoulders
- The surface condition of highway shoulders
- Resurfacing sections of the highway
- All pavement markings including yellow and white lines
- The amount of four-lane divided highways
- Bridges
- Filling cracks and holes

The Northern region had the highest gap ratings for the following services:

- The amount of non-commercial highway signs
- The maintenance of non-commercial highway signs
- Snow and ice removal during a storm
- Filling cracks and potholes

The Western region had the lowest gap score for the amount of four lane divided highways. The Western region also had the highest gap scores for the following services:

- Roadside brush and tree clearing
- Number of passing lanes
- Grading and dust control of gravel roads
- Timeliness of cleanup after a storm
- Bridges

The gap score for the amount of four-lane divided highways was lowest for the Western region.

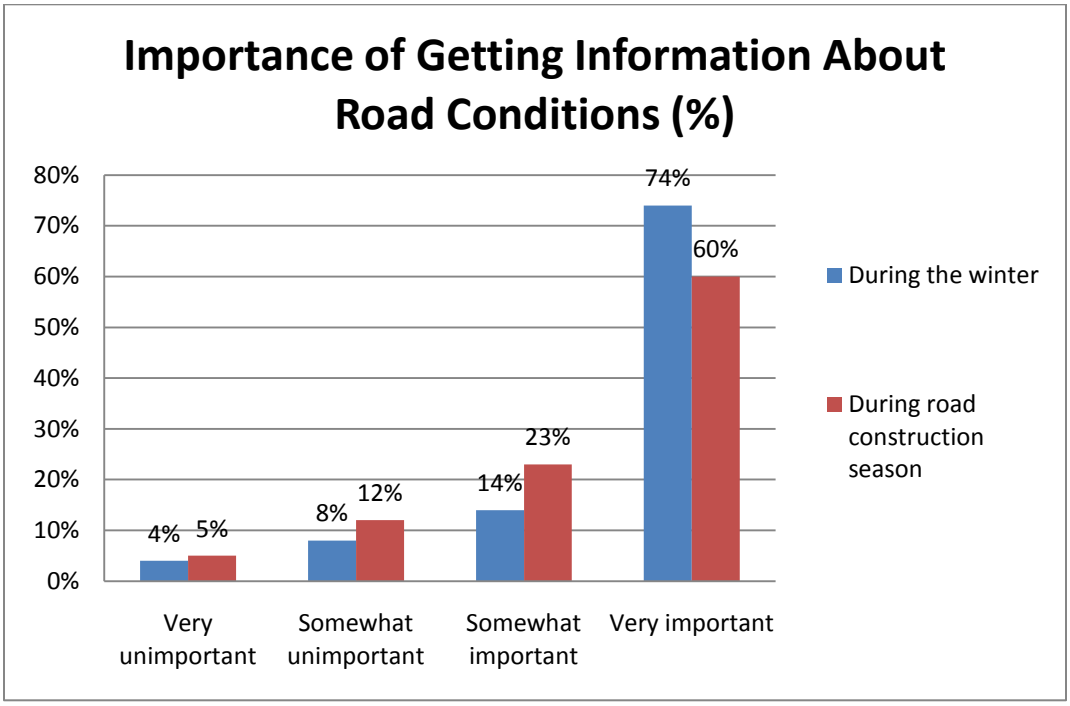
Table 20 Regional Gap Analysis*

	Central	Eastern	Northern	Western
The amount of four-lane divided highways	65%	71%	63%	61%
Filling cracks and potholes	84%	89%	89%	87%
Resurfacing sections of the highway	60%	79%	75%	71%
Snow and ice removal during a storm	65%	69%	78%	74%
Timeliness of the clean up after a storm	62%	65%	71%	72%
Number of passing lanes	39%	50%	40%	52%
The length of passing lanes	44%	54%	46%	51%
All pavement markings including yellow and white lines	61%	67%	66%	63%
Roadside brush and tree clearing	34%	52%	48%	52%
The helpfulness of non-commercial highway signs	51%	54%	53%	52%
The amount of non-commercial highway signs	45%	50%	52%	49%
The maintenance of non-commercial highway signs	45%	53%	55%	51%
The width of highway shoulders	59%	69%	62%	65%
The surface condition of highway shoulders	59%	72%	63%	69%
Grading and dust control of gravel roads	46%	60%	55%	61%
Ditches and culverts	36%	56%	54%	55%
Bridges	68%	74%	73%	74%

9 Highway Conditions Information

Respondents were asked how important it was for them to receive highway information during the winter, and during construction season. The results are shown in Figure 8.

Figure 8 **Importance of Getting Information about Road Conditions During the Winter, and During Road Construction Season**



The responses averaged 3.58 for winter, and 3.37 during construction season. The results were statistically significantly different, revealing that obtaining road information is more important in the winter than during construction season. They were also significantly lower in importance than in the 2007 survey. However, 83% of respondents believed it was somewhat or very important to receive road condition information during the construction season.

Respondents were asked if they had ever obtained information about road conditions from the Nova Scotia Department of Transportation and Infrastructure Renewal. A total of 57% percent had received information, and 43% had not. The sources of information they used are summarized in Figure 9.

The department website was the most commonly used information source, followed by 511 (telephone road report) and web cameras. The radio was the least used information source.

The preferred information source was 511 (telephone road report), followed by the radio, the department website, and then web cameras. There seemed to be a contradiction between the information sources used, and reported client preferences. This was also the case in the 2007 survey.

Figure 9 **Sources of Information Obtained from the Nova Scotia Department of Transportation and Infrastructure Renewal**

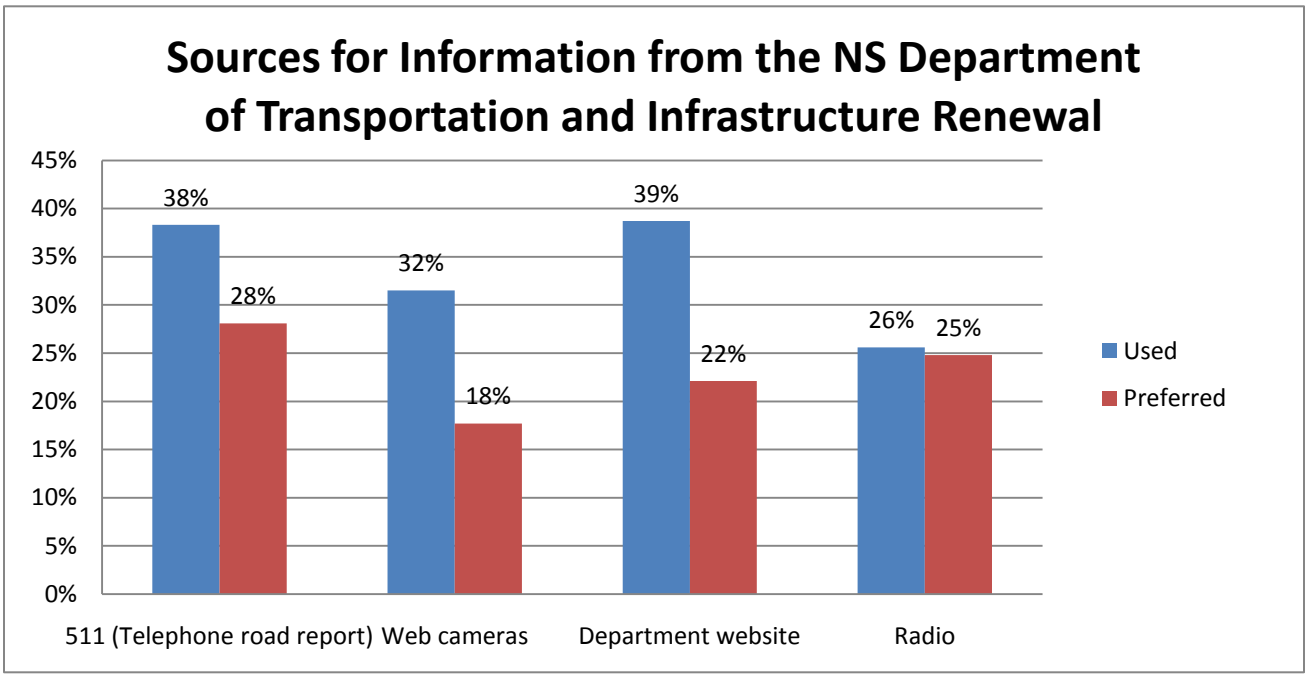


Table 21 **Other Sources of Road Conditions Information Used**

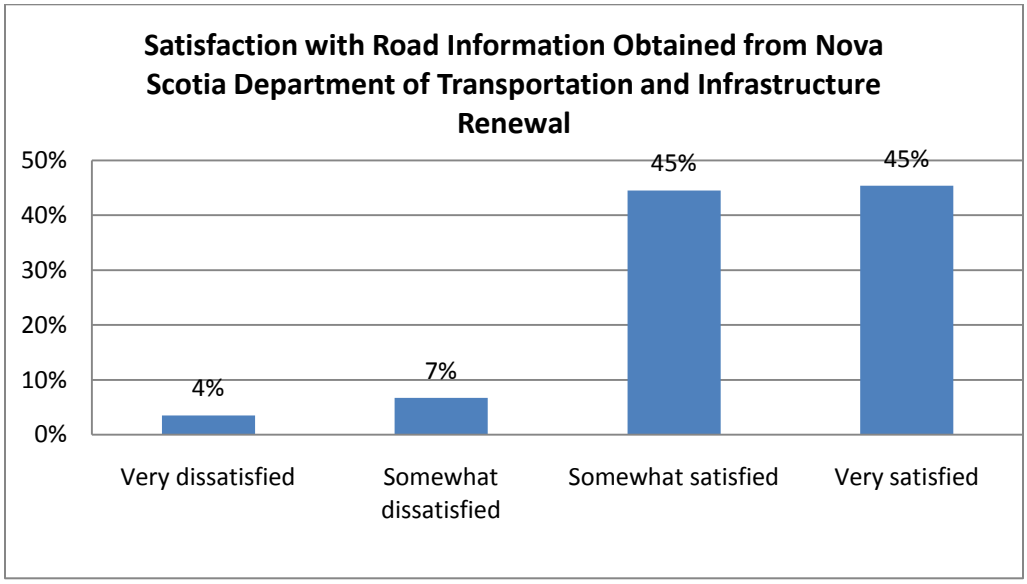
Information Source	%
Television, weather network/channel, news broadcasts	18
Call local Dept. of Transportation	2
Newspapers	2
Email/email newsletter	1
1-800 phone/phone	2
Friend or relative	6
Weather Network website	1
Various other sources	3

The department website was the most commonly used information source, followed by the 511(telephone road report) and web cameras. The radio was the least used information source.

Preferred information sources were the 511(telephone road report), followed by the radio, the website and then web cameras. There seemed to be a contradiction between the information sources used, and reported client preferences.

Nearly 6% (134) also used other information sources. A list of the sources appears in Table 21. The results showed that the most frequent other information source used to obtain information on road conditions is the television combined with news broadcasts and the Weather Channel/Network, which was listed by 18% of respondents who sought information. This source was also the most preferred other source listed by 8% of respondents, followed by friends and family (6%), calling the local Department of Transportation and 1-800 number (2% each), and the following with 1% of responses: newspaper, email, Weather Network website, and the Internet.

Figure 10 Satisfaction with Road Conditions Information Obtained from the Nova Scotia Department of Transportation and Infrastructure Renewal



Of respondents who were not satisfied with the information they received. The key reasons for dissatisfaction included insufficient, inaccurate or poor information provided regarding road conditions (51%) and complaints that the information was out of date (41%). Other top issues included hard to get through on the 511 (telephone road report) (5%), do not usually receive an answer back (1%), did not fix the problem (2%), information too general (6%), no information provided on secondary roads (5%). A summary of other reasons for dissatisfaction are included in Table 22 and a complete listing of other reasons is provided in the Appendix.

Table 22 Reasons for Being Dissatisfied with the Road Conditions Information Received from the Department of Transportation and Infrastructure Renewal

Reasons for Dissatisfaction*	%
Insufficient/inaccurate/poor information re: road conditions	51%
Recording/website outdated/need to update more often	41%
Hard to get through on the phone	5%
Get a recording/do not like automated phone	0%
Do not usually receive an answer back	1%
1-800 number/info more for Halifax than other areas of NS	1%
1-800 number/info sources not user-friendly	1%
Did not fix the problem	2%
Information too general	6%
No information on secondary roads	5%

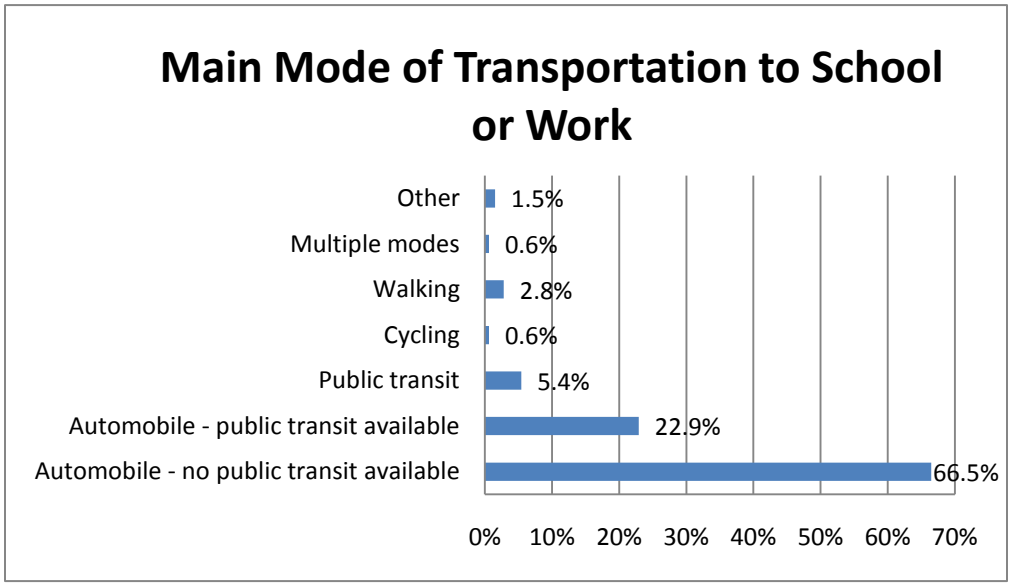
*Sample size = 129 individuals who both requested information, and were dissatisfied with the information they received.

10 Sustainable Transportation

Respondents were asked what method of transportation was their main mode of getting to school or work outside the home. They were also asked how far they travelled one way, between their work and their school, as applicable. Nearly 37% percent reported not traveling to school or working outside of the home. Of those who did so, the majority drove an automobile. In most cases, the automobile was driven when there were no public transportation options (66.5%). In addition, 23% drove an automobile when there were other public transportation options available. Approximately 3% of respondents walked to their destinations, and 5% took public transit. The results are shown in Figure 11.

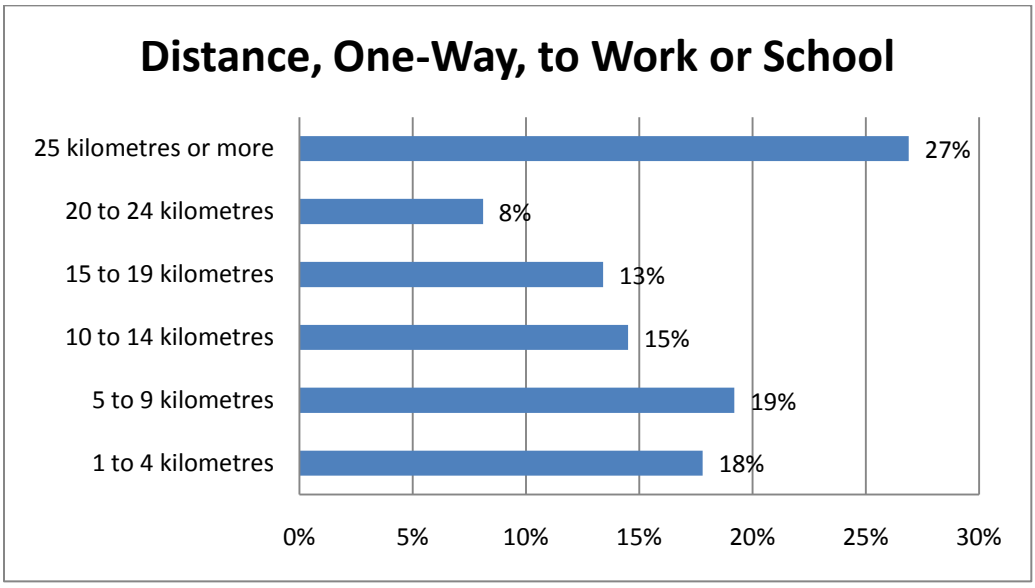
The distance to work or school ranged from four kilometers or less one way, to 25 kilometers or more. Most respondents travelled 25 kilometers or more, one way, to their destination. The complete distribution of travel distances is shown in Figure 12.

Figure 11 Main Mode of Transportation to Work or School



*Note: 37% did not work outside the home or attend school.

Figure 12 Distance, One Way, to Work or School



11 Priorities for Various Highways and Features

Respondents were asked to indicate what they thought should be the number one priority for the Department of Transportation and Infrastructure Renewal. Most respondents listed either highway-related issues and/or specific problem areas around the province, resulting in 132 unique listings. The top listings are shown in Table 23. An organized listing of responses is provided in the Appendix, as well as other responses provided by those surveyed.

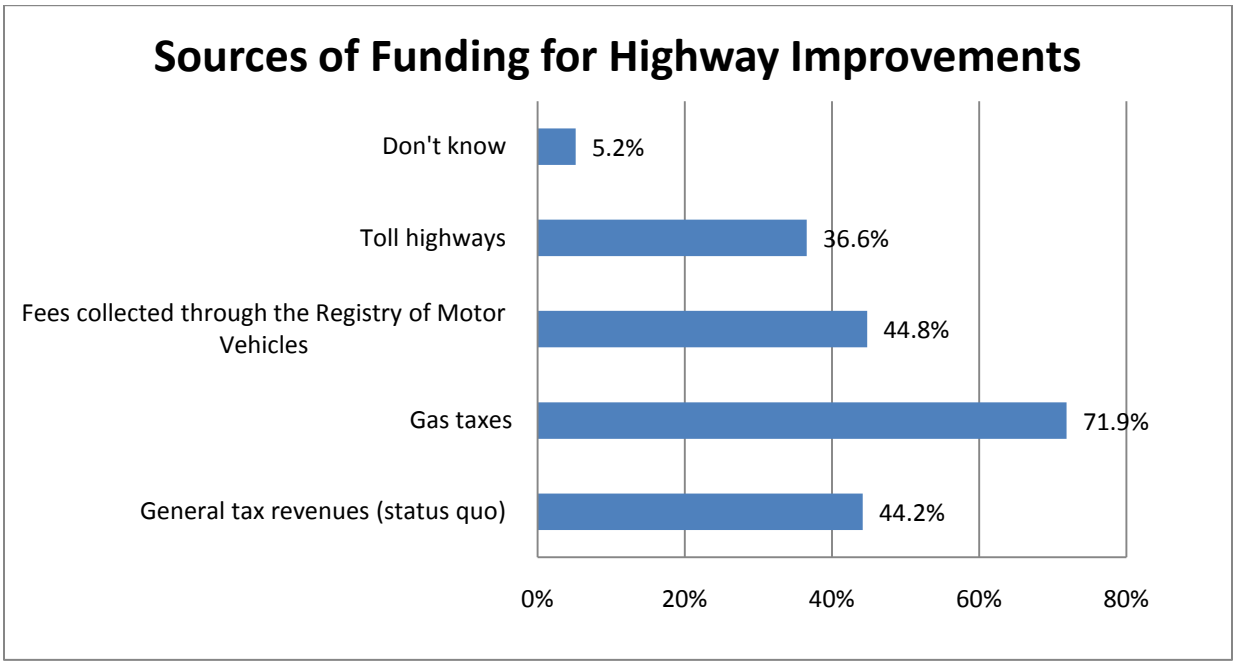
Table 23 Priorities Listed by Respondents

Priorities	Number	Percentage (n=2,079)
Better road maintenance (potholes)	891	42.8%
4 lane divided highways	412	19.8%
Pave/do not patch road	148	7.1%
Back/gravel/secondary roads	79	3.8%
Wider roads	26	1.2%
Better snow clearing	108	5.2%
Bridges	26	1.2%
101 highway	17	0.8%
Cape Breton Island	11	0.6%
Other	338	16.2%

The 2008 respondents indicated a preference for both better road maintenance, and twinned highways. This was relatively unchanged from the 2007 survey results. Based on this comparison it appears that the key themes are consistent for priorities across the two surveys.

Respondents were also asked which sources of funding should be used for highway and road improvements. Most felt that gas taxes should fund road improvements, followed by fees collected through the Registry of Motor Vehicles and general tax revenues. The breakout of responses is shown in Figure 13.

Figure 13 Sources of Funding Used for Highway Improvements



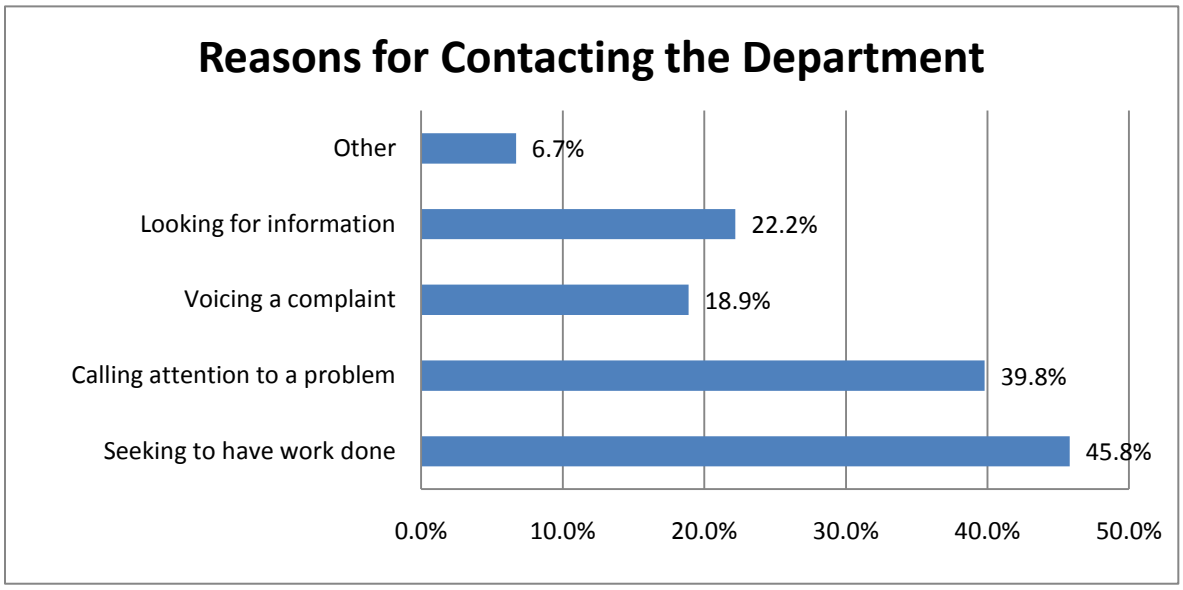
12 Communication with Department Staff

A total of 22.4% percent of respondents had contacted the department in the past year. The reasons for making contact are shown in Figure 14. The results reveal that most were seeking to have work done in their area. Six percent also indicated that if they knew it was available, they would request information in French.

The respondents were asked if they were satisfied with the responses that they received from the Department of Transportation and Infrastructure Renewal. The average rating was 2.75 on a 4-point scale, ranging from 1) Very dissatisfied to 4) Very satisfied. There was a statistically significant difference between the 2007 average rating of 3.44, and the 2008 rating. Over half of the respondents were either very satisfied, or somewhat satisfied, with the response they received. The results are shown in Figure 15.

Comparison of average ratings for regional satisfaction levels showed that there were no significant differences between regions in the 2008 survey. However, more in the Central or Eastern region were either somewhat satisfied or very satisfied (92.2% and 91.5% respectively) than were respondents from the Northern (82.7%), or Western regions (88.7%).

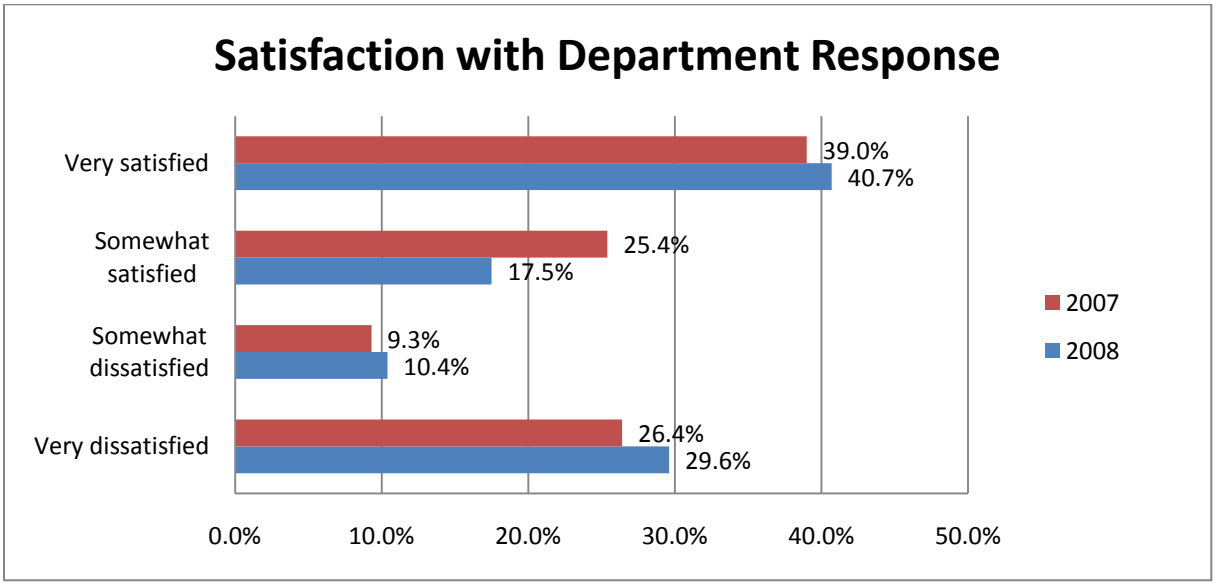
Figure 14 Reasons for Contacting the Department in the Last Year*



*The sample size is equal to those who contacted the department in the last year, totaling 465 individuals, or 22.4%.

Nearly 200 individuals gave reasons for their dissatisfaction with the response they received. The most frequently reason given for being dissatisfied was that the work was not done, or that the work that was done did not solve the problem. The reasons given are shown in Table 24.

Figure 15 Satisfaction with Department's Response



*The sample size is equal to those who contacted the department in the last year, and who also evaluated the service they received, totaling 463 individuals, or 22.2%.

Table 24 Reasons for Being Dissatisfied with Department Contact

Reasons	Number	Percent (n=185)
Work not done	95	51%
Department did not solve problem/work poor	38	21%
Bad snow removal	22	12%
Poor cleanup after construction	1	1%
Not enough staff to do work	3	2%
Response/work too slow	35	19%
Department not responsible for damage	16	9%
No answer at Department	14	8%
Other	57	31%