ADVANCED TRAVELER INFORMATION SYSTEM STUDY



final report

Advanced Traveler Information System Study

prepared for

Mid-Ohio Regional Planning Commission

prepared by

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with

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B. Traveler Survey

B.1 Introduction and Methodology

The Schapiro Group, in partnership with Cambridge Systematics, conducted a study of traveler perceptions and preferences for the Mid-Ohio Regional Planning Commission (MORPC). The study consisted of two parts: a scientific survey of area travelers, and in-depth one-on-one interviews with local businesses. The parts of the study assessed driver and public transit rider perceptions of and preferences for various types of traveler information and services, including web sites, call-in services, radio, television, and others.

Scientific Survey

Most of the findings in this report come from the scientific survey of area travelers. The survey was conducted by telephone among a random selection of 600 drivers and public transit riders. Figure B.1 shows that the survey geography is mostly composed of Franklin County, but also includes the remainder of area code 615 and several surrounding municipalities. The resulting sample is demographically and geographically representative of the area, with a margin of sampling error of ±3.2 percent.

Survey topics were developed in close consultation with MORPC and Cambridge Systematics. The full survey instrument is contained in Appendix B.1, and touches on current and prospective traveler information sources. Full study results are contained in detailed tables in Appendix B.2. Several survey questions are omitted from the detailed tables and the report analysis because too few respondents (fewer than 50) qualified to answer the question.

In-Depth Business Interviews

The second part of the study involved conducting in-depth, one-on-one interviews with local representatives of 20 area businesses. Business and respondent names are withheld to ensure interviewee confidentiality. These interviews were conducted by The Schapiro Group's senior researchers, as the questions were semi-structured and entirely open-ended. Discussion topics mirrored those addressed in the scientific survey.

Businesses selected to participate in the study came form a list provided by MORPC. Additional interviewees were added to the list based on respondent referrals and strategic targeting. This was done to ensure that participating businesses were geographically representative of the study area, as well as to

ensure that a wide variety of relevant business sizes and types were included: freight/shipping, logistics, drivers/couriers, transportation, and services.

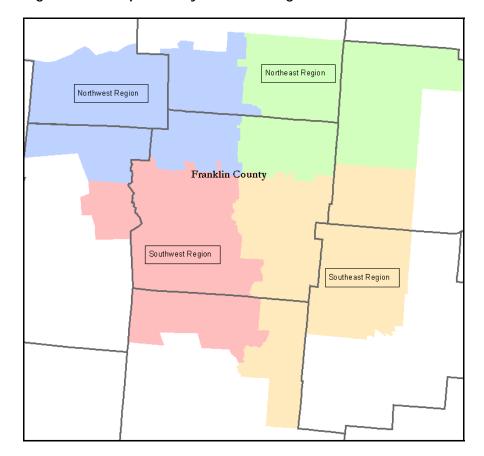


Figure B.1 Map of Study Area and Regional Breakdowns

B.2 RESULTS

Current Driving Patterns

Approximately 9 in 10 area travelers drive cars as their only form of transportation, and about half of public transit users also drive a car (Figure B.2).

Ninety-one percent of respondents commute to either work or school, most of whom (79 percent) commute by car. About half of commuters report their one-way commute is between 11 to 30 minutes (Figure B.3).

About two-thirds of area drivers report that they are on central Ohio roadways during morning and evening rush periods (62 percent morning rush, 68 percent evening rush).

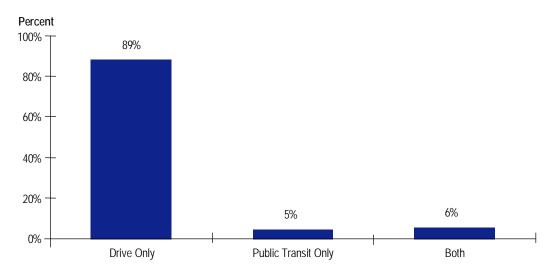
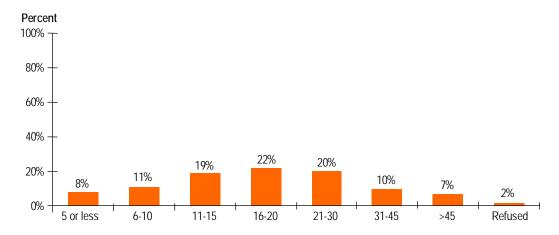


Figure B.2 Driving versus Public Transit Use

Figure B.3 Typical One-Way Commute Time, in Minutes

Among the 91 Percent Who Commute to Work or School



Current Sources: Radio and Television

Radio and television are, by far, the most commonly used sources for traffic information (Figure B.4).

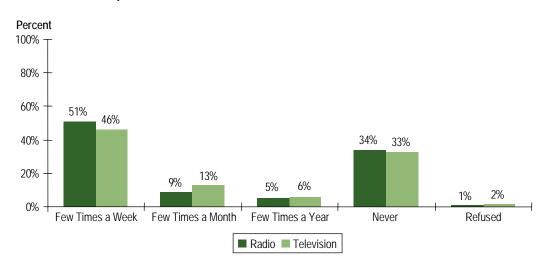


Figure B.4 How Often Do You Listen to/Watch Radio/Television Traffic Reports?

While radio and television are generally considered useful by drivers, other traffic information sources detailed later in the report are rated higher.

Rush period drivers rate radio traffic information as slightly less useful than do nonrush-period drivers (Figure B.5).

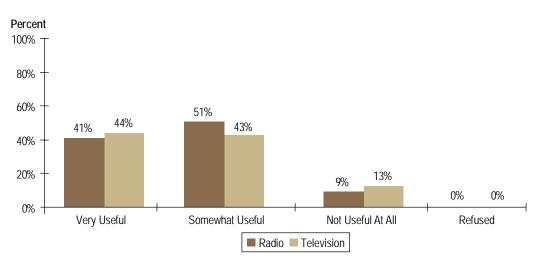


Figure B.5 How Useful Do You Find Radio/Television Traffic Reports? Among the 65 Percent/66 Percent Who Listen/Watch)

Current Sources: Dynamic Message Signs

Almost all drivers (94 percent) say that DMS are at least somewhat useful. Most say they are "very useful" (Figure B.6).

Of all the types of information displayed on DMS, drivers most remember seeing travel time estimates and amber alerts. Slightly fewer recall seeing crash and incident information (Figure B.7).

Figure B.6 How Useful Do You Find Dynamic Message Signs?

Among Those Who Have Seen Information

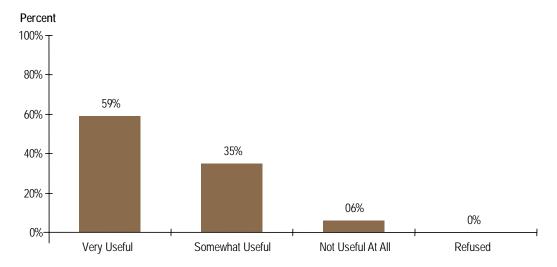
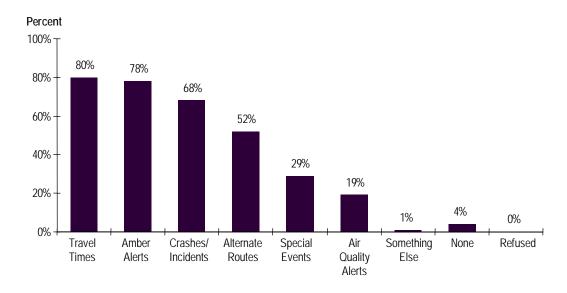


Figure B.7 Percent of Drivers Who Have Seen the Following Types of Information on DMS



Current Sources: Buckeyetraffic.org

Overall, 28 percent of area travelers know about buckeyetraffic.org. Awareness is significantly higher among 18- to 29-year-olds (40 percent). Over half of those who know about the site use it (Figures B.8, B.9).

Almost all web site users find the information at least somewhat useful; about one-third find it "very useful" (Figure B.10).

Figure B.8 How Much Do You Know About buckeyetraffic.org?

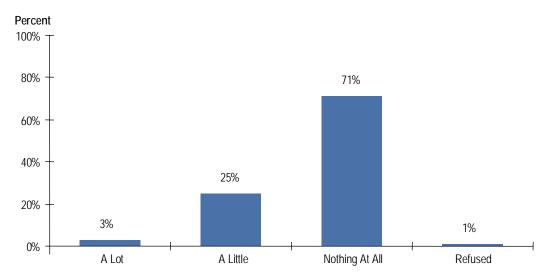
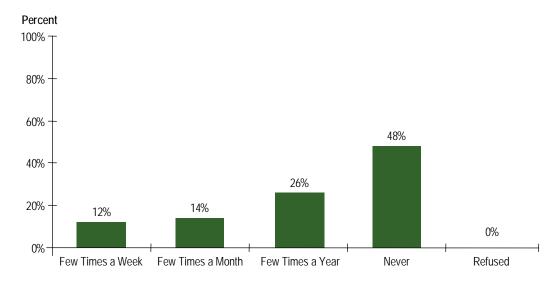


Figure B.9 How Often Do You Use buckeyetraffic.org?

Among the 28 Percent Who Know about the Site



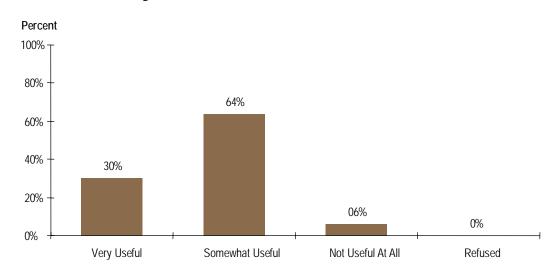


Figure B.10 How Useful Do You Find buckeyetraffic.org?

Among the 15 Percent Who Know about and Use the Site

Current Sources: Other Traffic Web Sites

Seventeen percent of drivers overall use traffic web sites other than buckeyetraffic.org, compared to 14 percent overall for ODOT's web site. For all of these web sites, usage rates are higher among younger drivers.

Among traffic web sites other than buckeyetraffic.org, Google Maps predominates (Figure B.11).

While usage rates are among younger drivers, older drivers who use the sites tend to find the information more useful (Figure B.12).

Figure B.11 Usage Rates among Other Traffic Web Sites

Among the 17 Percent Who Use Traffic Web Sites Other Than
buckeyetraffic.org

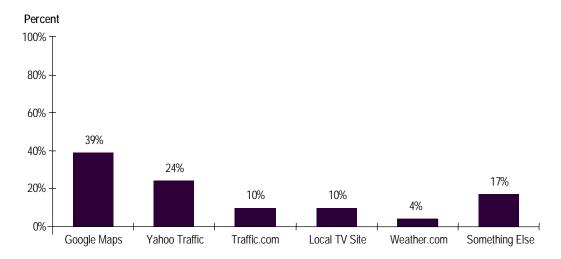
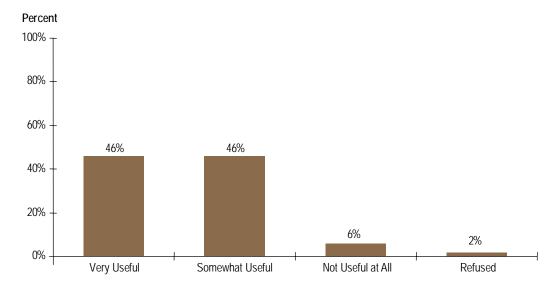


Figure B.12 How Useful Do You Find These Web Sites?

Among the 17 Percent Who Use Traffic Web Sites Other Than buckeyetraffic.org



Current Sources: Paving the Way

Nineteen percent of area travelers are aware of the Paving the Way program, including the web site and glove box guide. Of these, over half have used the web site (Figures B.13, B.14).

One in five drivers who use pavingtheway.org say the site is "very useful" (Figure B.15).

Figure B.13 How Much Do You Know about the Paving the Way Program, Including the Web Site and Glove Box Guide?

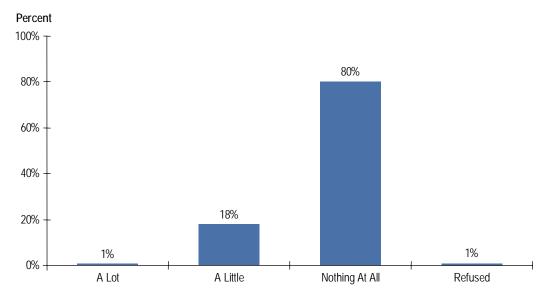
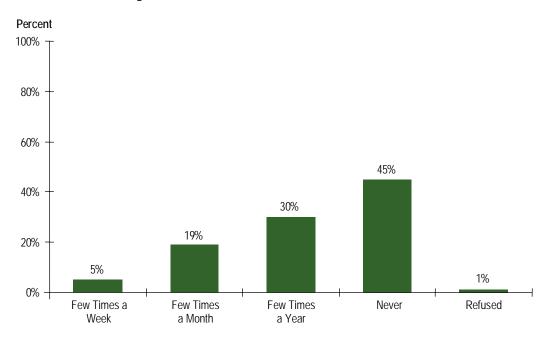


Figure B.14 How Often Do You Use pavingtheway.org?

Among the 19 Percent Who Know about the Site



Percent
100% —
80% —
76%

60% —
40% —
20%

0%

Figure B.15 How Useful Do You Find pavingtheway.org?

Among the 10 Percent Who Know about and Use the site

Current Sources: COTA.com

Very Useful

Awareness of COTA.com is high (40 percent) compared to other traveler information web sites, and nearly two-thirds of those who are aware of it use it (Figures B.16, B.17).

Not Useful at All

Somewhat Useful

COTA.com web site users say they most often visit the site for bus schedules, and half say the site is "very useful" (Figures B.18, B.19).

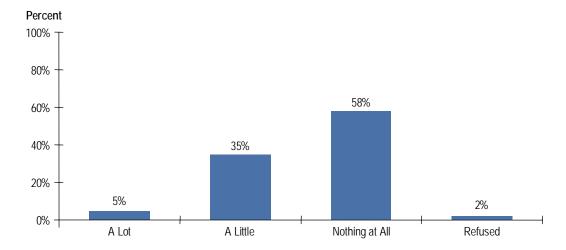


Figure B.16 How Much Do You Know about COTA.com?

Refused

Figure B.17 How Often Do You Use COTA.com?

Among the 40 Percent Who Know about the Site

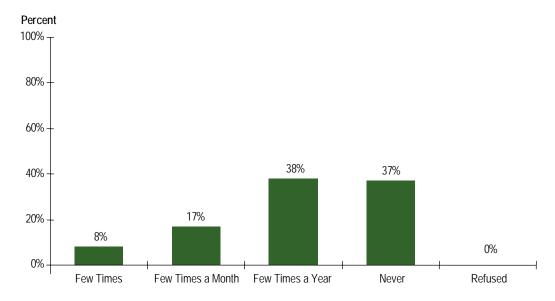


Figure B.18 Percent of COTA.com Users Who Use Various Web Site Features Often

Among the 25 Percent Who Know about and Use the Site

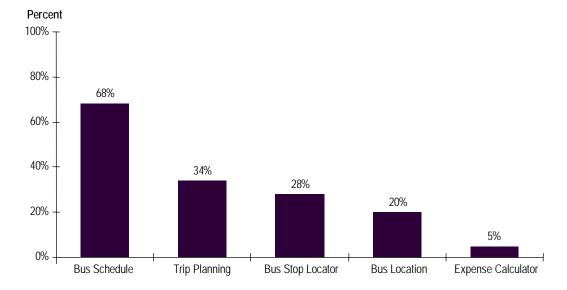


Figure B.19 How Useful Do You Find COTA.com?

Among the 25 Percent Who Know about and Use the Site

Current Sources: MORPC Ride Solutions Program

Among the 17 percent who know about the MORPC Ride Solutions program, 5 percent have taken advantage of it (1 percent of travelers overall) (Figure B.20).

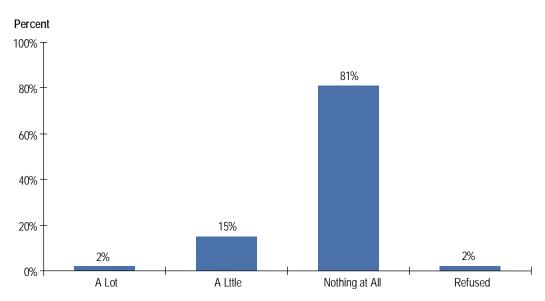


Figure B.20 How Much Do You Know about the MORPC Ride Solutions Program?

Current Sources: Web-Enabled Cell Phone

About one-third of drivers report that they have a web-enabled cell phone. Among 18- to 29-year-olds, the rate is significantly higher (55 percent).

Although only 30 percent of those with a web-enabled phone use it to find traffic information on the web, a very large percentage of those who do say the information is "very useful" (Figures B.21, B.22).

Figure B.21 How Often Do You Use Your Web-Enabled Cell Phone to Find Traffic Information on the Web?

Among the 35 Percent with Web-Enabled Cell Phones

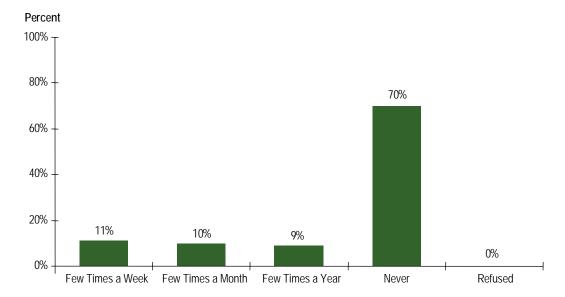
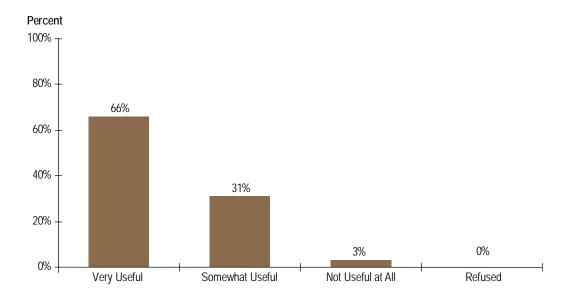


Figure B.22 How Useful Do You Find This Information?

Among the 11 Percent with Web-Enabled Cell Phones, and Who Use
Them to Find Traffic Information



Current Sources: In-Car or Stand-Alone GPS Devices

Fewer than half of drivers who own GPS devices report that their device can receive traffic information, and only about half of these drivers say they use the traffic information feature at least a few times a month (Figures B.23, B.24).

Figure B.23 Do You Own an In-Car or Stand-Alone GPS Device?

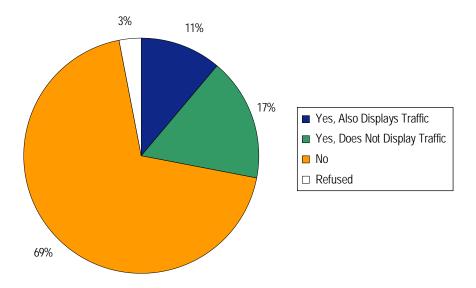
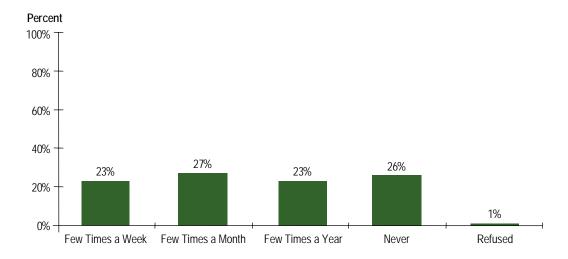


Figure B.24 How Often Do You Use the Traffic Information Provided by These Devices?

Among the 11 Percent Who Own GPS Devices That Display Traffic Information

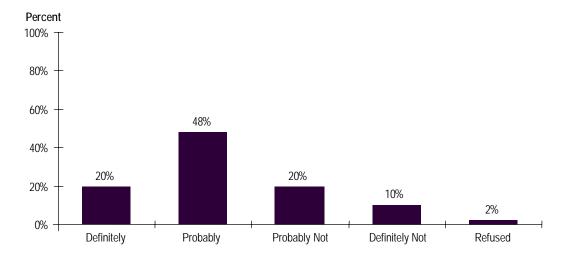


Prospective Source: 511

Just over two-thirds of drivers say they would "definitely" or "probably" try using 511 if it were available to them. The service is especially appealing to drivers age 50 to 59 (Figure B.25).

Among drivers who would at least consider trying 511 if it were available, over half anticipate they would call it at least a few times a month (Figure B.26).

Figure B.25 Would You Consider Trying a Free Traffic Information Call-In Service If It Were Available?



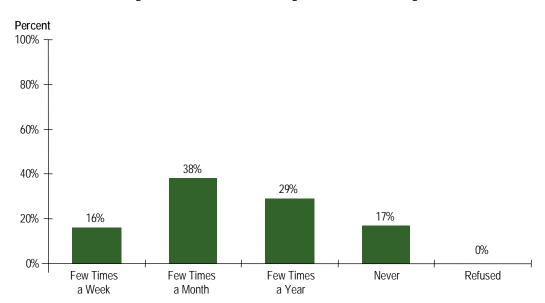


Figure B.26 How Often Do You Think You Would Use the 511 Service?

Among the 88 Percent Who Might Consider Calling 511

Trust in Traffic Information

One of the best ways to measure how trusting drivers are of traffic information is to ask how likely they are to change their travel plans based on the information they receive. Based on this measure, about one-third of area travelers a highly trusting of traffic information (Figure B.27).

Young travelers and less wealthy travelers are least likely to trust the traffic information they receive.

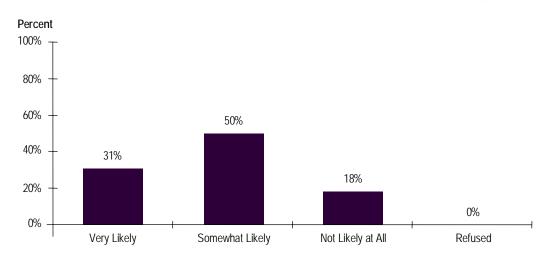


Figure B.27 Overall, How Likely Are You to Change Your Travel Plans Based on the Traffic Information Sources We Have Been Talking about?

Traffic Information Preferences

When asked what type of traffic information would be most helpful to travelers, respondents clearly indicate that roadway construction and crash delay information would be most useful (Figure B.28).

There appears to be no clear preference among travelers for information by shortest route versus quickest travel time (Figure B.28).

While radio and television are still the preferred media for disseminating traffic information, 511 is the third most favored. Also, drivers would prefer to receive traffic information by text message than by e-mail (Figure B.29).

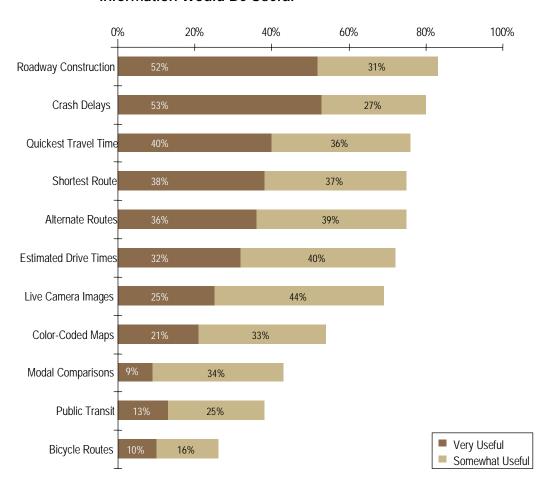


Figure B.28 Percent of Travelers Who Say Various Types of Traffic Information Would Be Useful

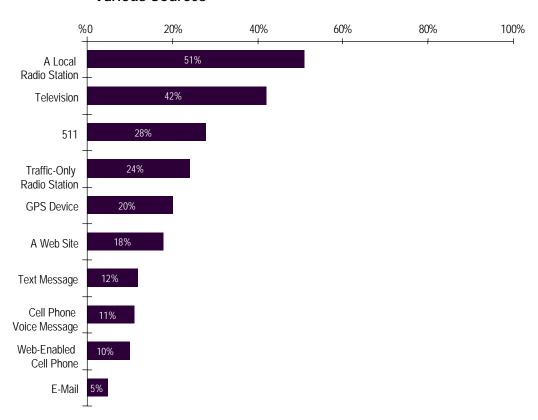


Figure B.29 Percent of Travelers Who Prefer to Get Traffic Information from Various Sources

Business Interviews

Traffic does not seem to be a major concern for the majority of businesses participating in this study. Most do not think traffic is bad in the area, though some say it is bad during rush periods.

Most of the businesses are not aware of, and do not use available traveler information sources other than DMS. Those who are aware of these information sources, such as buckeyetraffic.org and pavingtheway.org, are generally satisfied with the information and have no major suggestions for improvement.

Most of the businesses participating in this study say that roadway infrastructure improvements – not traveler information – are what's needed to help their businesses be more successful. They are skeptical of the traveler information ROI.

Cell phones tend to be how businesses communicate traffic information with their employees, regardless of business type or size.

Businesses that equip their driving employees with GPS find it to be a valuable tool because it allows drivers to find their own alternate routes around construction, crashes, and other incidents. Businesses report that GPS devices make their drivers more efficient.

Overall, DMS are perceived to be a valuable source for traffic information. Interviewees said the signs are a "big bang for your buck."

Since most businesses rely on cell phone communication with drivers already, the prospect of 511 is very appealing. About one-quarter of interviewees said their drivers would use it on a regular basis to get traffic information in as quick a timeframe as possible.

When asked to make recommendations or improvements to traveler information services in the area, many suggested "reliable, affordable web sites with real-time information." Most were not aware of existing traffic information web sites, and were surprised to learn that the sites are free.

Businesses note that reliable traffic information saves time and money by enabling them to find the quickest and most efficient routing.

Summary of Findings

The Schapiro Group, in partnership with Cambridge Systematics, conducted a study of traveler perceptions and preferences for the Mid-Ohio Regional Planning Commission (MORPC). The study consisted of two parts: a scientific survey of 600 area travelers, and 20 in-depth one-on-one interviews with local businesses.

Radio and television are, by far, the most commonly used sources for traffic information. While radio and television are generally considered useful by drivers, other traffic information sources detailed later in the report are rated higher.

Almost all drivers (94 percent) say that DMS are at least somewhat useful. Most say they are "very useful." Of all the types of information displayed on DMS, drivers most remember seeing travel time estimates and amber alerts. Slightly fewer recall seeing crash and incident information.

Overall, 28 percent of area travelers know about buckeyetraffic.org. Awareness is significantly higher among 18- 29-year-olds (40 percent). Over half of those who know about the site use it.

Seventeen percent of drivers overall use traffic web sites other than buckeyetraffic.org, compared to 14 percent overall for ODOT's web site. For all of these web sites, usage rates are higher among younger drivers. Among traffic web sites other than buckeyetraffic.org, Google Maps predominates.

Nineteen percent of area travelers are aware of the Paving the Way program, including the web site and glove box guide. Of these, over half have used the web site. One in 5 drivers who use pavingtheway.org say the site is "very useful."

Awareness of COTA.com is high (40 percent) compared to other traveler information web sites, and nearly two-thirds of those who are aware of it use it. COTA.com web site users say they most often visit the site for bus schedules, and half say the site is "very useful."

Among the 17 percent who know about the MORPC Ride Solutions program, 5 percent have taken advantage of it (1 percent of travelers overall).

Although only 30 percent of those with a web-enabled phone use it to find traffic information on the web, a very large percentage of those who do say the information is "very useful."

Fewer than half of drivers who own GPS devices report that their device can receive traffic information, and only about half of these drivers say they use the traffic information feature at least a few times a month.

Just over two-thirds of drivers say they would "definitely" or "probably" try using 511 if it were available to them. The service is especially appealing to drivers age 50 to 59.

While radio and television are still the preferred media for disseminating traffic information, 511 is the third most favored. Also, drivers would prefer to receive traffic information by text message than by e-mail.

Most of the businesses are not aware of, and do not use available traveler information sources other than DMS. Those who are aware of these information sources, such as buckeyetraffic.org and pavingtheway.org, are generally satisfied with the information and have no major suggestions for improvement.

Most of the businesses participating in this study say that roadway infrastructure improvements – not traveler information – are what's needed to help their businesses be more successful. They are skeptical of the traveler information ROI.

Businesses that equip their driving employees with GPS find it to be a valuable tool because it allows drivers to find their own alternate routes around construction, crashes, and other incidents. Businesses report that GPS devices make their drivers more efficient.

Since most businesses rely on cell phone communication with drivers already, the prospect of 511 is very appealing. About one-quarter of interviewees said their drivers would use it on a regular basis to get traffic information in as quick a timeframe as possible.

When asked to make recommendations or improvements to traveler information services in the area, many suggested "reliable, affordable web sites with real-time information." Most were not aware of existing traffic information web sites, and were surprised to learn that the sites are free.

B.3 SURVEY INSTRUMENT

	llo, my name is from TSG, a research firm. We're conducting a survey of centra
	nio residents to get your opinions on traffic and other transportation issues. This phone numb
	s selected at random. We are not selling anything, and I will not ask for a contribution or
do	nation. For this study I need to speak to the person in your household age 18 or over who had
	most recent birthday who is home at this time.
	•
1.	First, do you either drive on central Ohio roads or use public transit?
	Yes, drive only1
	Yes, public transit only2
	Yes, both
	NoTerminate
	Don't know/RefusedTerminate
2.	How do you usually commute to work or school? If you do not commute to work or school
	just say so.
	Travel alone in car
	Carpool
	Vanpool3
	Public transit4
	Bike5
	Walk6
	Telework (skip to q4)7
	Does not commute (skip to q4)8
	Don't know/Refused (skip to q4)9
	2001 t allow / restricted (stelp to 41)
3.	What is your typical commute time, in minutes? [Interviewer note: One way only]
	5 minutes or less
	6-10 minutes
	11-15 minutes
	16-20 minutes4
	21-30 minutes
	31-45 minutes
	More than 45 minutes7
	Don't know/Refused8
	APOIL CREATE AND A PROPERTY OF THE PROPERTY OF

For each of the following time periods, please tell me whether or not you are typically on central Ohio roads during that time. (Yes 1, No 2, Don't know/Refused 3)

- 4. The morning rush, 5:30 a.m. to 9 a.m.
- During the day between 9 a.m. and 3:30 p.m.
- 6. The evening rush, 3:30 p.m. to 6:30 p.m.
- 7. During the evening after 6:30 p.m.

I'm going to read you a list of several different sources that people typically turn to for traffic information in the area, and I'd like you to tell me how much you know about each one.

Radio Traffic Reports (Drivers only)

8.	The first one is radio traffic reports. How often do you listen to these traffic reports?
	A few times a week or more1
	A few times a month
	A few times a year
	Never (skip to q10)4
	Don't know/Refused (skip to q10)5
9.	How useful do you find radio traffic reports?
	Very useful1
	Somewhat useful
	Not useful at all3
	Don't know/Refused4
Te	levision Traffic Reports (All Respondents)
10.	How often do you watch television traffic reports?
-	A few times a week or more1
	A few times a month
	A few times a year
	Never (skip to q12)4
	Don't know/Refused (skip to q12)
	Don't know/ Refused (skip to q12)
11.	. How useful do you find television traffic reports?
	Very useful1
	Somewhat useful
	Not useful at all3
	Don't know / Refused 4

Now I'm going to read you several different types of travel information, and I'd like you to tell me how useful each one would be to you. The first/next one is... (Very useful 1, Somewhat useful 2, Not useful at all 3, Don't know/Refused)

- Color-coded maps on a web site showing traffic conditions
- 13. Estimated driving times based on current conditions
- 14. Information on the shortest route to a destination
- 15. Information on the quickest travel time to a destination
- Information on delays caused by crashes
- Roadway construction information
- Information on alternate routes
- 19. Public transit information, such as transit routes, transfer options, schedules, and system delays
- Comparisons of different modes of transportation, like travel time by car versus by public transportation
- 21. Live images of traffic conditions
- 22. Bicycle routes

I'm going to read you another list of different sources that people typically turn to for traffic information in the area, and I'd like you to tell me how much you know about each one.

Buckeye Traffic (Drivers only)

23.		do you know about ODOT's Buckeye Traffic web site, buckeyetraffi er note: ODOT (OH-dot) stands for Ohio Department of Transports	
	Interviewe	A lot	
		A little	
		Nothing at all (skip to q26)	
		Don't know/Refused (skip to q26)	4
24.	How often	do you use the Buckeye Traffic website?	
		A few times a week or more	1
		A few times a month	2
		A few times a year	
		Never (skip to q26)	
		Don't know/Refused (skip to q26)	
25.	How useful	l do you find it?	
		Very useful	1
		Somewhat useful	
		Not useful at all	
		Don't know/Refused	

Paving the Way (Drivers only)

	h do you know about the Paving the Way program, which includes the	
Paving The	eWay.org web site and the glove box guide?	
	A lot1	
	A little	
	Nothing at all (skip to q29)	
	Don't know/Refused (skip to q29)4	
27 6	do one on the Benjar The West on the benjar	
2/. How ofter	n do you use the PavingTheWay.org website?	
	A few times a week or more	
	A few times a month	
	A few times a year3	
	Never (skip to q29) 4	
	Don't know/Refused (skip to q29)5	
28. How usefu	ul do you find this website?	
	Very useful1	
	Somewhat useful	
	Not useful at all3	
	Don't know/Refused4	
Central Ohio	Transit Authority (All respondents)	
29. How much	h do you know about the Central Ohio Transit Authority website, cota.com	n
	A lot1	
	A little	
	Nothing at all (skip to q33)3	
	Don't know/Refused (skip to q33)4	
30. How ofter	n do you use it?	
	A few times a week or more	
	A few times a month	
	A few times a year	
	Never (skip to q33)4	
	Don't know/Refused (skip to q33)	
21 397 6		
51. What feat	ures of the COTA website do you use most often? Allow multiple responses	
	The trip planner	
	Real-time bus location	
	Bus schedules	
	The Transportation Expense Calculator4	
	The bus stop locator5	
	Don't know/Refused6	
32. How usefu	ul do you find the COTA website?	
	Very useful	
	Somewhat useful	
	Not useful at all3	
	Don't know/Refused4	

Ride Solutions (All respondents)

33.	How much do you know about the Mid-Ohio Regional Planning Commission, or MORPC (MOREP-see) Ride Solutions program?
	A lot1
	A little
	Nothing at all (skip to q36)3
	Don't know/Refused (skip to q36)4
34.	Have you ever used the Ride Solutions program?
	Yes1
	No (skip to q36)
	Don't know/Refused (skip to q36)
35.	How did you get in contact with the program?
	Internet1
	Phone
	Both internet and phone3
	At an event4
	Don't know/Refused5
Oth	ner Traffic Information Sites (All Respondents)
36	Do you use any other websites to find traffic information?
<i>J</i> 0.	Yes1
	No (skip to q39)
	Don't know/Refused (skip to q39)
27	
5/.	Which sites do you use? Allow multiple responses
	Traffic.com
	Google maps2
	Yahoo traffic3
	Local television station websites4
	Weather.com
	Something else (specify)3
	Don't know/Refused4
38.	How useful do you find the sites?
	Very useful1
	Somewhat useful
	Not useful at all
	Don't know/Refused4
Tra	ffic Information via Web-Enabled Celiphone (All Respondents)
39.	Do you own a web-enabled cellphone?
	Yes1
	No (skip to q422
	Don't know/Refused (skip to q42)

40. How often do you use this cellphone to find traffic inform	
A few times a week or more	
A few times a month	
A few times a year	
Never (skip to q42)	
Don't know/Refused (skip to q42)	5
41. How useful do you find this information?	
Very useful	1
Somewhat useful	2
Not useful at all	3
Don't know/Refused	4
Overhead Message Signs (Drivers only)	
42. Now let's turn to the overhead electronic message signs the	nat post traffic information along the
highway. Please tell me whether or not you've ever seen the	
posted on these signs:	ne ronowing types or information
Allow multiple responses	
Travel time information	1
Information about crashes and other traffic in	
Information on alternate routes	
Missing child alerts, also known as amber alert	
Information on special events in the area	
Air quality alerts	
Something else (specify)	
None (skip to q44)	
Don't know/Refused (skip to q44)	
43. How useful do you find these signs?	
Very useful	1
Somewhat useful	
Not useful at all	
Don't know/Refused	
GPS Devices (Drivers only)	
44. Do you own an in car or stand alone GPS device? [If "yes information?]	": Can that device also display traffic
Yes, also displays traffic information	1
Yes, but does not display traffic information (s	skip to q47)2
No (skip to q47)	3
Don't know/Refused (skip to q47)	4

45. How often	do you use the traffic information provided by these devices?
	A few times a week or more1
	A few times a month
	A few times a year3
	Never (skip to q47)4
	Don't know/Refused (skip to q47)5
46. How usefu	al do you find the traffic information?
	Very useful1
	Somewhat useful
	Not useful at all
	Don't know/Refused4
511 /All D	-1
511 (All Respo	ndentsj
My next few o	uestions are about future services the Ohio Department of Transportation is
considering.	
constacting.	
"511 is a free s	service the Ohio Department of Transportation is considering making available in the
	Then you dial 511 from any phone in Ohio, including cellphones, you will be
	an automated system that gives you current traffic information on major roadways
	e state, as well as other traveler information."
unoughout un	i sanc, as well as other tarreter information.
47. Would you	definitely, probably, probably not, or definitely not consider trying this free call-in
	t were available?
	Definitely1
	Probably2
	Probably not3
	Definitely not (skip to q50)4
	Don't know/Refused (skip to q50)
	Don't know/ Refused (skip to q50)
48. How often do you think you would use the 511 service?	
	A few times a week or more1
	A few times a month
	A few times a year
	Never4
	Don't know/Refused5
49. How likely	are you to change your travel plans based on the traffic information you get from any
of the various sources we've been talking about?	
	Very likely1
	Somewhat likely2
	Not likely at all
	Don't know/Refused4

50. How would you prefer to get your travel information? Allow multiple responses	
[Rotate]	
Television	
My last few questions are for statistical purposes only.	
51. Please stop me when I reach the category that best describes your age.	
18-29	
52. How do you prefer to describe your main racial or ethnic identity?	
White	
53. Finally, please stop me when I reach the category that best describes the total annual household income of your household before taxes.	
Less than \$20,000	
[Record gender]	

Thank and terminate