

Mn/DOT 511 User Study

**Prepared for:
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Mn/DOT 511 User Study

Executive Summary

Background and Objectives

The Minnesota Department of Transportation (Mn/DOT) has recently implemented a 511 telephone service to provide information about roads and traffic conditions to the Minnesota traveling public. This is the 511 which the FCC has designated as the national traveler information number.

Mn/DOT was interested in getting the public's feedback on this new traveler information tool, and set out to measure all aspects of the service. Specific objectives of this study were to:

- ◆ assess people's opinion of the voice recognition feature and other characteristics of the service
- ◆ identify interest in potential new services that could be added to the system
- ◆ identify interest in potential new services that could be added for a user fee through partnerships with companies in the private sector

The results of this study will help Mn/DOT:

- ◆ make adjustments/refinements to current service features i.e. menu options
- ◆ make adjustments/refinements to characteristics of the service
- ◆ establish priorities for future enhancements
- ◆ better understand the requirements of future enhancements

Methodology

A three step research program was designed to gain users' thoughts and opinions about the service. The steps were:

- Step 1 recruit people who are aware of the traveler information tool but have not called it (desire is to gain reactions to the service based on actual experience – not perceptions)
- Step 2 have these people actually call the service and navigate through the information provided
- Step 3 conduct a follow-up telephone interview to gain reactions to the system's features and characteristics

To be cost efficient, it was decided to recruit people who participated in Mn/DOT's "Statewide Traveler Information Study – Post Wave Evaluation". This was the second phase of a two step research effort conducted to evaluate a publicity campaign Mn/DOT implemented to co-brand, announce and promote the use of its traveler information services. Data was gathered in September of 2002 for the Post Wave and in the following month for the 511 users.

People in the Post study who were aware of the 511 service but had not used it were asked a specific "likelihood to use" question. People who selected *Very likely, Somewhat likely or I don't know if I'd call it or not* were called back and invited to participate in this 511 User study. There were a total of 104 potential participants. Of these, 58 agreed to participate. The follow-up interview was scheduled no more than 3 to 4 days after the person said that they would call the service to try it. Participants were asked to have in mind some city in Minnesota and route that they would want to get information about.

NOTE: It is not possible to compare scores in this survey with scores in the Traveler Information Post Wave survey for similar questions. The samples and methodologies are very different. Results from the Traveler Information study are based on a random sample of 24 people who called 511 at some time in the previous year, whereas, respondents in this user survey were recruited because they indicated that they were "likely" to use the service and then asked to "test" the service. The mindset of the respondents is different, the purposes of the studies are different.

In addition, in the 'likelihood-to-use' question in the Traveler Information study, respondents were read a '*Don't know*' response option (making it a 5-point scale). This response option was not read in the 511 User Study, making the latter a 4-point scale.

511 Service User Survey

Key Findings

- Overall, a strong majority of the respondents are satisfied with the 511 telephone service in spite of dissatisfaction with the voice recognition system voiced by more than half of them.
- Of the people who had a problem with the voice recognition feature, half ended up using the key pad to navigate through the service. Most recognized that this is new technology and were patient with the system, but to some it was a frustrating experience. When asked to explain the voice recognition problem, typical responses included:
 - “When I told it my destination I had to say it three times. It didn't understand what I was saying.”
 - “I would ask it and then they would just say you said and what I was doing was arguing with a machine.”
 - “At the end it kept prompting me for a reply to answer yes or no and I kept saying it and it didn't respond it just kept repeating it so I finally just hung up.”
- The only other feature of the 511 service that people questioned was the accuracy of the information. Almost one fourth said that they didn't know if it was accurate or not (none were dissatisfied). Some of this doubt may be attributed to the fact that this was a hypothetical trip and respondents didn't actually travel and confirm the information. More than 9 in ten people said that they were satisfied with how other features of the service operated.
- Even though voice recognition was a problem, a vast majority of these respondents (*over 90%*) think that they are likely to use the service in the future. Almost all indicated that they are comfortable with using the voice recognition feature. Typical comments about the service included:
 - “I think it has great potential. If the voice recognition system could be tweaked a little bit I think it would be a great service.”
 - “I was surprised how fast the response was on each question it kind of amazed me and the voice recognition thing is new to me. I think it has potential it's just getting used to it.”
 - “It was a good experience and easy to use and I think in the months to come it could prove to be very useful.”
 - “I just thought it was very positive and friendly and easy to use and I would definitely use it again.”
- Additional services of interest to the most number of people included:
 - Weather forecasts
 - Similar travel information in neighboring states
 - Place to report non-emergency problems on the road
- Other potential new services had strong appeal to a limited number of people. These included:
 - Information about special events
 - Parking information
 - Information for local businesses
- One third or more of the respondents indicated that they were *Not at all interested* in services that would be provided through partnerships with private companies and available for a fee (*rate “1” on 10-point scale for each of the five services evaluated*).

Interest was expressed by at least one fourth of the people for only two of these potential services that could be provided for a user fee – “Driving directions to specified locations” and “Personalized travel reports for problems on the usual route you travel.”

Points to Consider

Even though the sample size is relatively small, the results of this study indicate that there is strong interest in the 511 telephone service. People perceive that it is easy to use and that it provides travel benefits for them. Mn/DOT should consider the following:

- Provide access to these new Mn/DOT-sponsored services
 - weather forecasts
 - similar travel information in neighboring states
 - centralized location to report non-emergency problems on the road

- Investigate interest and business potential within the private business sector to establish partnerships to provide selected information to the traveling public for a user fee.

It should be a safe assumption that the voice recognition feature will improve as new versions of the technology are released. For the future, Mn/DOT should consider operating features that combine the best of voice mail systems and Internet links. For example, provide the opportunity to move right away to information you are seeking once you access the system. And, provide the ability to move from one topic to another without having to listen to all the different options or go back to a central source.

About one-third of the total respondents did not know they could use the keypad to access the system. Therefore, it is recommended that the system announce availability of the keypad and access to the menu of information, early on in the call. (For example, "At anytime you may *Press 1*" to use the keypad or *Press 2*" (or, *say go to menu*) to go directly to the menu" for selected types of information). This will assist the group of users in certain situations who may continue having problems with the voice recognition.

It is also important that Mn/DOT identify opportunities to generate awareness of the 511 service. This need is summarized very well by one of the respondents:

"We're up here in northern Minnesota on the lake. The girl down the road was gonna head home and she had never heard of 511. You need to get more advertising out and that it's available by regular phone and that you don't just need to have a cell phone. I think it's really important that people know about your service."

511 Service User Survey
Summary of Detailed Findings

C. In order to complete the call, did you end up having to dial the number more than once?

1. Which of the following statements best describes how the final call ended?

	%
I was disconnected by the 511 service	2%
I discontinued the call because it was not going well, or	14%
The call ended when it should have, that is, when I got all of the information I wanted	84%

Only 4 people (7%) said that they had to dial the number more than once.

n = 58

2. Overall, how satisfied are you with the 511 service?

	Mean	%
Mean	3.31	
Very/Somewhat satisfied		93%
Not very/Not at all satisfied		7%

Detailed information:	
Very satisfied	41%
Somewhat satisfied	52%
Not very satisfied	3%
Not at all satisfied	3%

4-point scale: 4 = Very satisfied, 3 = Somewhat satisfied, 2 = Not very satisfied, 1 = Not at all satisfied
n = 58

Question 3 was moved to later in the interview.

4. After you were first connected to the 511 service and gave a city destination, you were provided with a brief regional traffic summary announcing whether or not there were travel problems in the area you specified. Did you find this summary to be helpful at the beginning of the call, or would you have preferred to go right to the menu and be able to choose this summary as a menu option?

	%
Found helpful having it in beginning	62%
Prefer going directly to a menu and choose it later	38%

n = 58

5. I'm going to read several characteristics of the 511 service. For each, please tell me how satisfied you are with how it operated when you called in.

	Mean Score	% Rate 3 or 4
The system's voice was clear and easy to understand	3.78	98%
Information was accurate	3.78	79% ¹
Information was current, or up to the minute	3.75	93%
When you chose from the menu, you heard the type of information you expected to hear about	3.64	90%
The system overall, was easy-to-use	3.62	95%
The information provided was detailed enough	3.54	91%
The amount of time it took to access the information desired	3.47	91%
The voice recognition worked adequately	3.10	72% ²

¹ 21% of respondents said "Don't know" for the characteristic *Information was accurate*.

² Over one fourth of the people (28%) were not satisfied with the how the voice recognition system worked.

4-point scale: 4 = Very satisfied, 3 = Somewhat satisfied, 2 = Not very satisfied, 1 = Not at all satisfied
n = 58

Q6 asked only of those who rated a characteristic 1 or 2 in Q5.

6. People who said that they were "dissatisfied" with a characteristic were asked to explain why they were dissatisfied. *Voice recognition* was rated lower for satisfaction than any of the other characteristics of the system. The reasons given are presented in the Appendix "Verbatim Responses" Question 6b., page 13.

3. We'd like to understand whether people are comfortable using the voice recognition feature, or if they are bothered by it? (question asked after question 5)

	Mean	%
Mean	3.60	
Very/Somewhat comfortable		93%
Somewhat/Very bothered		7%
Detailed information:		
Very comfortable	69%	
Somewhat comfortable	24%	
Somewhat bothered	5%	
Very bothered	2%	

4-point scale: 4 = Very comfortable using the voice recognition feature, 3 = Somewhat comfortable, 2 = Somewhat bothered, 1 = Very bothered by using the voice recognition feature
n = 58

7. Did you have any problems with the voice recognition?

	%
Yes	55%

n = 58

8. If had problems with the voice recognition system, please explain.

<i>Voice Recognition Problem</i>	<i>% of Respondents</i>
Net – Recognition Of Name Of Town	47%
- did not recognize/understand name of town	31
- came back with wrong town/unrelated town	22
- need to repeat name several times before recognized	16
- need to type in first 3 letters	6
Net – Recognition Of Name Of Route	38%
- did not recognize route/repeated back wrong route	28
- need to repeat route several times before recognized	25
- slow picking up	9
- misinterpreted my voice	9
<i>Base</i>	32
<i>Includes only responses of 5% or more.</i>	

n = 32

9. Did you use the telephone keypad during the call?

	%
Yes	50%

n = 58

Asked only if “NO” in Q9

9a. Were you aware that you could use the phone keypad to move around in the 511 system?

	%
Yes	34%

n = 29

Asked only if “YES” in Q9

10. Was it clear from the instructions that you could use the keypad, or did you use it because you knew from other experiences that the keypad is an alternate way to get around?

	%
Clear from instructions	79%
Already knew about it	21%

n = 29

11. How likely do you think you will be to use the 511 service in the future?

	Mean	%
Mean	3.59	
Very/Somewhat likely		93%
Not very/Not at all likely		7%
Detailed information:		
Very likely	67%	
Somewhat likely	26%	
Not very likely	5%	
Not at all likely	2%	

5-point scale: 4 = Very likely, 3 = Somewhat likely, 2 = Not very likely, 1 = Not at all likely
n = 58

Q12 and Q13 asked only of those who said Not likely or Not at all likely in Q11. (n = 4)

12. What one thing do you least like about the system and makes you not want to use it again?

13. If Mn/DOT could add other service features to the system, what could they add that might convince you to try it again? We are referring to any service or information that you think would be helpful to you when planning a trip or traveling on Minnesota roadways.

Only 4 people said that they were unlikely to use the system in the future. Each had a different reason – loudness of the voice; not helpful with alternate routes; not recognize name of town; and information not direct enough.

Additional services that people thought would be helpful included “input from start to destination”; “detour information with time delay”; and “upcoming weather conditions”.

[Question as asked in “Perception Tracking Study, 2000”]

14. How interested would you be in getting traffic information that offered TRAVEL TIME INFORMATION? That is, it gave the number of minutes it would take to travel on a freeway from one point to another point and is based on current traffic levels.

	Mean Score	% Rate 4 or 5	Mean Score Perception Tracking, Year 2000
Interest in travel time information	4.32	81%	3.23 (n = 600)*
Detailed information:			
5 = Very interested	57%		
4 =	24%		
3 =	12%		
2 =	2%		
1 = Not at all interested	3%		

5-point scale: 5 = Very interested down to 1 = Not at all interested
n = 58

* It is important to recognize when comparing these mean scores that the study in which the score was lower, was among a random sample of 600, making it a much more reliable number than the 4.32, which is from a smaller sample of recruited participants.

15. Next, I would like to learn how interested you might be in some other potential new services that could be added to the 511 service.

	Mean Score	% Rate 7 - 10	% Rate 5, 6	% Rate 1 - 4
Weather forecasts	8.74	83%	13%	4%
Travel information in other states such as construction and road conditions	8.57	85%	9%	6%
A place to report non-emergency problems on the road such as stalls or debris	8.06	72%	22%	6%
Information about special events, such as times and locations	6.80	59%	26%	15%
Parking information in general such as availability and location	6.48	56%	22%	22%
Local business information like restaurants, gas stations, taxis	6.07	50%	24%	26%
Information about car pool, van pool programs or other types of transportation services	4.00	20%	24%	56%

10-point scale: 10 = Very interested down to 1 = Not at all interested
n = 54

16. Finally, there is the potential to add services that would be provided by private companies and would mean paying a user fee to access the service. Using the same 10-point scale tell me how interested you are in the following service features, if you knew you would need to pay for the service. Please assume that the user fee is a standard, by-the-minute charge and is calculated to be a competitive rate.

	Mean Score	% Rate 7 – 10	% Rate 5, 6	% Rate 1 - 4
Driving directions to specified locations	4.56	37%	17%	46%
Information about local tourist attractions, tourist centers, or visitors' bureaus	3.98	18%	32%	50%
Personalized travel reports for problems on the usual route you travel	3.83	26%	17%	57%
Trip routing that includes using more than one type of transportation, such as plane to bus, or car to train	3.70	18%	22%	20%
Concierge services that include 'live' help with all types of travel information, as well as the ability to make reservations and purchases.	3.59	15%	26%	59%

10-point scale: 10 = Very interested down to 1 = Not at all interested
n = 54

Appendix

Verbatim Responses Questionnaire

511 Service User Study – Verbatim Responses

Q6a. For what reasons did you give that a |DISSATISFIED|

[When you chose from the menu, you heard the type of information you expected to hear about]

1030 - I was very confused at first. It was confusing. When I asked for Faribault weather conditions he was giving me stuff further west in the state and then further north I never did get the weather for Faribault but I don't think the computer understood because every time I used the name we went somewhere else. Lino Lakes or something but it seemed like south west and one time up by Duluth.

1076 - I wanted to get Northfield and they said I said something else so I couldn't get the information that I was asking for.

1116 - I didn't have any input, it kept coming back to Winona always.

1143 - I guess I was under the impression that there was more to it than just traffic and that's basically what I got out of it - traffic and road construction. maybe that was my mistake or it could've been the marketing.

Q6b. For what reasons did you give that a |DISSATISFIED|

[The voice recognition worked adequately]

1038 - I had to say my destination and the fourth time they understood what I said. they kept thinking I said a different town - I was saying LaCrescent they thought I said Madison Lake.

1043 - It never recognized what I said, I said Red Wing then Winona and then another city and each time the voice said something totally different like Monagua. So I kept saying no. then I ended up at some menu that asked me to say a highway but I didn't know a highway and maybe if I was actually using it for a place I was going to I'd know but I didn't this time. It might help if you start with a menu that says the region you're interested in like northern MN or southwest then it might be easier for the voice recognitions system

1045 - it like I say is so time consuming because you have to give a statement it repeats it then you have to say yes or no that's why I say that entering the information on the touch pad it'd be much faster and accurate. I think it'd be nice to have the option to do it both ways.

1067 - it didn't work for me at all. I am German and it didn't recognize me with my accent. I said Duluth and then Edina and it didn't pick them up. I thought it would pick up Edina because it's easy but it said Apple Valley something totally different and longer. so then it told me to enter the first three letters and then it worked okay but I was disappointed that it didn't even pick up Edina.

1076 - I would ask it and then they would just say you said and what I was doing was arguing with a machine.

1094 - Because I wanted 194 and he kept saying 294, it went about 10 different times and then I just stopped asking for it.

1098 - voice recognition by the woman's voice was muddy and I couldn't understand what she said. lower in pitch not articulate.

1100 - well I kept trying to get the roads in my area and I kept saying Dakota county road 32 or Pilot Knob 31 on and on where I live, I really couldn't get anything it did not provide recognition, for county road 42 it said you said highway 14 and I had to repeat myself 4 times, and it still didn't get it so I had to use the punch in the number option. Sometimes it couldn't understand yes, it understood no alright, but it had a hard time understanding yes, it seemed the local roads around here it had a hard time recognizing, since it is all over the state of Minnesota when I punched in 32 for Cliff Road in Dakota county they said route 32 had no problems, I'm sure there is a route 32 somewhere in the state, but I couldn't be sure they were talking about Cliff Road in Eagan.

1102 - it didn't understand what I was telling it.

1108 - a couple of times it asked me to repeat. Twice, 3 times at least it didn't recognize what I said, maybe three times. there needs to be some work on that. I was giving route numbers and it wasn't picking it up. I don't know if your supposed to say highway or freeway or route, like is it route 212 or highway 212. I think that might need to be tweaked a little bit. it wasn't recognizing which route I was saying.

1113 - It didn't understand what I was saying .I said highway 15 and it came up with highway 52 and something else and something and on the fourth time it finally got it. my only question was at the beginning they said there was travel problems on highway 169 when you did the statewide then when I asked for it specifically they said there were no travel problems which didn't make any sense to me.

511 Service User Study – Verbatim Responses continued

1116 - it just seemed just like a recording, I couldn't talk it just kept going on and on and it wouldn't let me ask question.

1118 - when I told it my destination I had to say it three times. it didn't understand what I was saying

1123 - at the end it kept prompting me for a reply to answer yes or no and I kept saying it and it didn't respond it just kept repeating it so I finally just hung up.

1124 - it didn't recognize several times when I said a city name and then it would get it or on one of them it never did take it then it said lets try it a different way and key it in and it still didn't get it. I said Chippewa Falls it said it couldn't recognize it so I tried it again and again then I keyed it in and the first time it still didn't and the second time it came up with a list of cities that started with B. I said Grand Marais and it couldn't recognize that, twice and then I keyed it in and it came up with a list of cities starting with Gra and it was there.

1128 - it didn't understand what I was saying. If I would say a city it would say a different one that sounded like it I tried 5 different cities and it worked for one of them. Golden Valley, St. Paul, Edina I had problems with.

**Q6c. For what reasons did you give that a [DISSATISFIED]
The system's voice was clear and easy to understand**

1143 - it was way too loud and too fast. it was all loud and all fast

**Q6d. For what reasons did you give that a [DISSATISFIED]
The information provided was detailed enough**

1045 - especially on weather conditions all it said was something was going on in a certain list of counties but it didn't say what it just listed them but gave no more information. I believe I was asking about route 210 and it said there was weather problems in Crow Wing but it didn't say what that problem was it just listed a county and it did list a group of counties in that area and as far as I can tell from checking the weather maps there were no problems I could tell in the area.

1057 - they didn't provide me with an alternate route or give me a time delay

1108 - it didn't go into as much detail as I wanted distances. or suggested routes. like when you call AAA, they will tell you the suggested route. the bottom line is I would rather talk to a live person than a machine any day of the week. I understand it but that 's the way I like it.

1124 - it wasn't detailed enough. there was no information there at all. just no problems within 60 miles of this area. I suppose if that's all there is then that's all there is but I'm sure somewhere in the state we've got construction by one of these cities so I didn't feel I was getting correct information

**Q6e. For what reasons did you give that a [DISSATISFIED]
The system overall, was easy-to-use**

1102 - it didn't pick my voice recognition very good

1124 - with the problems with the voice recognition and if there's more to the program than that none of that came up as well. it just kept asking me to say a city I'd say one it'd say no problems name another city. I kept doing that but no other options ever came up so that's all I ended up getting.

1143 - I think because the speaker went so fast it was hard to figure out what was said and where to go and I don't recall if there was an option for repeat.

**Q6f. For what reasons did you give that a [DISSATISFIED]
Information was current, or up to the minute**

1113 - I'm not sure if it was or not. if they tell me one thing and then another time they tell me it's okay how do I know if it's accurate.

**Q6g. For what reasons did you give that a [DISSATISFIED]
Information was accurate**

**Q6h. For what reasons did you give that a [DISSATISFIED]
The amount of time it took to access the information desired**

1045 - it seems the voice prompts take so much time it would be much easier entering the information via the touch pad

1076 - I called up and I said Northfield and they said something else and then it took a while I'd say Albert Lea and then they'd say oh you said Albert Lea but with other ones I had a little trouble

1102 - it didn't pick up my voice recognition very good. I had to keep repeating myself

1116 - they just gave me Winona. I live in Winona no one asked me where I wanted to go.

1124 - I didn't get any of the information I desired - it never gave me an option other than to say a city.

Q7a. Please explain.

[Did you have any problems with the voice recognition?]

1030 - I did when I tried to get information on Faribault. he gave me route 13 I don't know where that is I wanted the weather conditions for Faribault. if I were to ask for Duluth would he give me a road or would he give me a city?

1038 - just that it didn't understand the town that I was saying. I was saying LaCrescent and it kept thinking I said Madison Lake 3 times the fourth time it got it right.

1043 - it didn't recognize the cities I said I said three and each time it came back with nothing like I said

1045 - misunderstanding the names of towns and thing. I guess it's just in how clear you are in how you speak so I think the system works if everyone uses the same voice quality. it does work but it takes more time.

1064 - when I was told to state a route number it got it wrong twice. I was saying I35 and the first time he said I said 535 and the second time it came back that I said 235 and the third time it was okay.

1067 - I am German and it didn't understand my accent so I ended up having to type in the first three letters to get it to work.

1071 - her misunderstanding the town I was saying I think Moorhead was the one I had the most trouble with. she came up with three different answers until she finally came up with Moorhead. Rochester took a couple tries too.

1076 - They didn't recognize Northfield but they did Albert Lea. they kept saying I said something else. I don't know I was having a heck of a time. I don't understand why it got it sometimes like Albert Lea but not Northfield or others. I'm not going to sit and fight with it.

1088 - the biggest thing was certain roads I wasn't sure like I94 is I94 and I wanted to get information about Crosstown 62 and so I said highway 62 and it never picked it up I tried it as I62 and as Crosstown and it responded with highway 52 and highway 63 and highway 61 and never responded to Crosstown it said it was confused so I never did get the information about it. it didn't always pick up right away I would always have to repeat myself but then I'd say it again and then it'd pick it up but it didn't right away especially with the yes's and no's.

1090 - when I asked from the city of Ely it didn't understand or recognize the name of the town.

1091 - I had to repeat Duluth 3 times. it couldn't pick it up until the third time.

1093 - I tried to ask it about Winona, then it gave me for Magnolia, but I tried other cities after that and it got all of those.

1094 - Just that I was asking for I94 and it kept saying 294.

1095 - um, I had to repeat my question or destination several different times in several places.

511 Service User Study – Verbatim Responses continued

1098 - I said 18 and they said 15. I then repeated it again and it then went to 18.

1099 - um, pronunciation, me saying something and then they, it's misinterpreted. I think that was just it, recognition of what I said and of what they said back to me.

1100 - there was plenty of voice and plenty of recognition, it had a hard time understanding yes and it also had a hard time recognizing cliff road as route 32.

1102 - whenever I gave my answer, it would say something like "pound" or say a different city, not even close to the one I said.

1108 - it didn't pick up the routes I was saying. I don't know if I'm supposed to say highway or route or what but it happened at least 2-3 times

1109 - I said Vergus and he said Fergus Falls the first time and Odessa or something the second and the third time he got it.

1113 - it didn't recognize my voice very well. like when I asked for highway 15 I'm thinking it didn't recognize me.

1116 - it just wasn't saying where I wanted to go.

1117 - I asked for Brooklyn Park and it kept giving you Brooklyn Center.

1118 - when I said the city it took a couple of tries to understand the city I was saying, I was asking for Austin and it didn't give me anything it kept asking for a city.

1120 - first of all when I first said the city it recognized a different one but then I repeated it and it recognized it and the other thing is I had another person in the room and when I made a comment to them while the system was reporting to me and it stopped the report and then started it over again, it wasn't a big deal it was just interesting that it was sensitive to my voice when I wasn't asking it to talk.

1123 - just that it didn't respond at the end. I kept saying yes and it kept asking me to answer yes or no but didn't pick up my answer.

1124 - it didn't [pick up the city I said like Chippewa Falls - ever even with entering the first three letters- and it only got Grand Marais when I keyed it in.

1128 - it didn't recognize what I said, I tried 5 cities and it only recognized one.

1133 - they weren't recognizing what I was saying. I was saying "Minneapolis" and it was choosing other cities. I think I just wasn't talking slow enough.

1136 - only one, just one problem out of 30, it just miss recognized what I said, but 1 out of 30 isn't bad, its really good for voice recognition software.

1141 - 1. I said stop and it didn't stop, one time out of two. 2. On the second dialing, I put it on speaker phone and it acted like I didn't say anything, I don't know if it could hear me that far away. 3. Another time I said route 7 and it thought I said route 11, but it recovered nicely.

1143 - it didn't recognize probably two times what I said. I don't remember. I think it was part of the menu that I was supposed to say.

Q12. What one thing do you least like about the system and makes you NOT want to use it again?

1057 - I guess what I mentioned about alternate routes. I didn't find it helpful.

1076 - I don't know. if I use it again I want to be able to get Northfield but since I used cities in Minnesota I don't see why the cities I want information on I only got 1/4. I got Albert Lea but not Northfield or Cloquet.

1102 - as far as the voice recognition, I didn't think it was direct and detailed enough for what I wanted to do. I like to just get directly to the information, and it wasted time explaining things that I don't care about. I want to just get information about what I want.

1143 - the voice and I don't hear very well so if it's loud to me then it's gotta be loud and maybe it was my phone.

Q13. If Mn/DOT could add other service features to the system, what could they add that might convince you to try it again? We are referring to any information that you think would be helpful to you when planning a trip or traveling on Minnesota roadways.

1057 - it would be the detour information and time delay

1076 - weather conditions for the next couple days and how to get to places in Minnesota.

1102 - give more immediate information for my starting point to my destination. it only gave me immediate information for the destination I was going to arrive at, and nothing in between.

1143 - that was the thing that was missing for me was planning the trip everything that goes along with it. available restaurants, food, lodging, gas stops, rest stops - that'd be a biggie. The only thing I got out of it was traffic and road conditions I didn't get out of it or hear any other pieces.

Q17b. Comments about the 5-1-1 service

1030 - There were no choices to disconnect I would like to have an option that says to do this to disconnect. I think that with experience using it I would be more satisfied so I'd know how it worked and the rules to using it.

1031 - I think on something like I35 they could divide it up so if you wanted just the north stuff then you wouldn't get just the south. I would probably divide it at the Twin Cities - north and south of the Twin Cities. it's too detailed. I was trying to get the information between Owatonna and Minneapolis and I got a lot of information between Duluth and Minneapolis.

1043 - I think it has great potential. if the voice recognition system could be tweaked a little bit I think it would be a great service.

1045 - I asked for highway 23 which goes through Richmond where I live I asked for a road report and they said there was construction and they mentioned construction between Paynesville and St Joseph's and 23 just does not go through St Josephs to the best of my knowledge so I question the accuracy a bit. Another thing, this morning when I called I asked about highway 169 and what was confusing about it is it said highways 169 and then there's an option for a route 169. highway 169 gave reports on the road but then it gave another option of route 169 and I was confused because I don't know what that is and they said there was no problems so that was a little confusing by what they were referring to route 169 compared to highway 169. it seemed whoever did the announcing is not too familiar with the pronunciation of some of the towns, like Osakis - they pronounced it wrong. Also it'd be nice to have the keypad available as an option when you first start the call. The main voice is clear but then once in awhile you get a lady's voice that comes in which isn't as clear - it really confuses the rest of the info your getting -it's just one word that she says usually but the volume levels are different so it's hard to understand sometimes.

1065 - I was surprised how fast the response was on each question it kind of amazed me and the voice recognition thing is new to me. I think it has potential it's just getting used to it.

1067 - I really like it but I think if there would be a by the minute fee then it would be bad for me because it takes longer since it wasn't understanding me.

1069 - It was a good experience and easy to use and I think in the months to come it could prove to be very useful.

1071 - I just don't call as much because I use the internet all the time and have good luck with that and it's never more than 5-10 minutes off.

1072 - I thought it was fun. It was a good deal.

1088 - Overall I was impressed and satisfied with it

1091 - I thought it was very interesting and issues will be using it. I like the detour information.

1095 - I somehow managed to crash the system when I was in it and I got a very lengthy error message at the end with a lot of codes that maybe they don't care to have being vocalized across the line.

1096 - it just kept going over and over and returning to menu, it kept asking me to give another name of a destination, I went through it and went back to the menu so I just hang up, I think it would be good if they could say this was the end and you could just call 511 again, because you really didn't know when you were done with that call. I was satisfied and I will use it again especially in the winter, it will be nice to know especially in the Duluth area.

1097 - When they listed the menu, there was background noise or music and it was a little too loud and they went a little too fast because I was trying to write them down so I had to listen to it more than once, I had to have it repeated.

1098 - great for attempting this. at first I thought the voice was going too fast and so I listened to it again I am more visual and not as much oral and it may have been just me.

1100 - well, just reiterate once again that the voice recognition for the highways in question really needs some work, I've worked a lot with voice recognition and I know it can work better than that, it may not have detailed instructions of a Dakota county road vs. a Hennepin county route.

511 Service User Study – Verbatim Responses continued

1101 - I was fascinated with the voice recognition thing, I got, where, try it a second time, you know when I'm more familiar with it I might act different I was just so fascinated the first time it was like "hey this is cool" I was satisfied with it, it was easy to use and easy to understand.

1108 - I think it's great to have it and I like the fact that it's only three digits to put in there versus a 1-800 number and I think it's going to be very helpful especially in the winter I just think it would be more helpful if they'd branch out a little bit into the Dakotas and Iowa. I would want it to be a pretty specific service and not with all those other things like talking in person to talk to someone I think it'd be so much better if they'd just focus on travel conditions, the road conditions, construction and travel time.

1109 - just make people aware of it and don't do the money thing - make you have to pay for it. Just try to make more people aware of it.

1110 - It was very nice and I like it. I think it's very good the way they've got that.

1116 - some clear directions when you first dial, I thought there wasn't any introduction, started out right away with Winona, maybe something simple like where do you want to go.

1117 - it seems it would helpful but I only used it once.

1118 - overall it's a pretty good service and I will pass the number and service onto others who are looking for service like this. it might be a little difficult for some people to understand especially the elderly with all the instructions at the beginning.

1119 - I like the voice recognition and not having to use the keypad.

1121 - It was very smooth I had no problems with it whatsoever.

1122 - the only thing I didn't really care for was the voice was talking a little too fast it's been a little hard to keep up with him if I were trying to keep notes. other than that I thought it was real interesting

1123 - I just was really impressed with the bus information they give you the phone number and offer to transport you. I just thought it was convenient for them to transfer it so if you didn't have enough change to make another call they'll transfer you.

1131 - it was different I've never had a chance to call something like that before. so it's kind of nice especially when you have call numbers all over - like the weather number the MTC number it's kind of nice having it all in one place.

1132 - I liked it. I would use it personally for weather conditions, I want to know if it's snowing, raining or sleeting..

1133 - I was very pleased, and it's a very good improvement over what we had, and I hope we move forward with it.

1134 - just getting people to use it. it is free to everyone and I can access it through my cell phone.

1135 - I think I have, we're up here in northern Minnesota on the lake the girl down the road was gonna head home, and she never heard of 511 you need to get more advertising out and that it's available by regular phone and that you don't just need to have a cell phone, I think its really important that people know about your service.

1136 - its a good idea, yeah keep the information current because what I'm basically looking for is road closures and traffic delays do to construction in areas I cant see it, I do lots of traveling up north and I'd like to know these things in advance, I don't want to hear about a delay and have to route around it and then find out that that delay was out 2 weeks ago.

1137 - it was very detailed, more than I expected.

1140 - I was not familiar with it at all and I thought it was great. I got all the information for road conditions, weather and all that it was great.

1141 - The weather by county is not well organized. You are following four voices around all the counties, I would have liked to tell them what county I am interested perhaps. The voices kept shifting so it was confusing, the volume would go up and down and the speed of the speech would change and if you're not a native speakers it might get confusing. Also, at the menu it goes by to quickly at least the first time you listen to it.

1143 - other than the marketing aspect of it - what's the main objective of having 511 I guess that wasn't clear to me and I guess that was the disappointment to me I was expecting something other than what I got. and then the other thing is I hated talking to a computer voice - I don't mind the automation but it'd be nice to hear a human voice - or different voices.

1144 - I just thought it was very positive and friendly and easy to use and I would definitely use it again.

**5-1-1 Service User Survey
Final**

When reading 5-1-1, read as five one one. DO NOT read as 5 dash one dash one or as 5 eleven.

ASK FOR NAME ON CALLING SAMPLE

IF MAKE CONTACT WITH HOUSEHOLD AND RESPONDENT NOT AVAILABLE, IDENTIFY PURPOSE OF CALL

IF NO ANSWER BY 4TH ATTEMPT, LEAVE MESSAGE

Hello, my name is [YOUR NAME] with MarketLine Research. We are the research firm that talked with you about the 5-1-1 Traveler Information Service.

- A. Have you had the opportunity to call 5-1-1 service since we last talked?
 Yes
 No IF "NO" ASK: We are very interested in learning about your experience with the traveler service. When do you think you will have tried the 5-1-1 service? I can set a time to call you back after you've had a chance to call the travel service number.
- B. When did you use the 5-1-1 service? Was it...? [READ LIST]
 within the past 24 hours [CONTINUE]
 1 to 2 days ago [CONTINUE]
 3 to 4 days ago [CONTINUE]
 5 or more days ago [THANK AND TERMINATE]
- C. In order to complete the call, did you end up having to dial the number more than once?
 Yes
 No
1. Which of the following statements best describes how the final call ended? [READ LIST]
 I was disconnected by the 5-1-1 service
 I discontinued the call because it was not going well, or
 The call ended when it should have, that is, when I got all of the information I wanted
 [DO NOT READ] Other *Specify*
2. Overall, how satisfied are you with the 5-1-1 service? Are you...? [READ LIST]
 Very satisfied
 Somewhat satisfied
 Not very satisfied, or
 Not at all satisfied
4. After you were first connected to the 5-1-1 service and gave a city destination, you were provided with a brief regional traffic summary announcing whether or not there were travel problems in the area you specified. Did you find this summary to be helpful at the beginning of the call, or would you have preferred to go right to the menu and be able to choose this summary as a menu option?
 Found helpful having it in beginning
 Would prefer going directly to a menu and being able to choose it later

5. I'm going to read several characteristics of the 5-1-1 service. For each, please tell me how satisfied you are with how it operated when you called in. Tell me if you are Very satisfied, Somewhat satisfied, Not very satisfied or Not at all satisfied. How satisfied were you that [READ FIRST CHARACTERISTIC]?

ROTATE CHARACTERISTICS

a. When you chose from the menu, you heard the type of information you expected to hear about	1	2	3	4
b. The voice recognition worked adequately	1	2	3	4
c. The system's voice was clear and easy to understand	1	2	3	4
d. The information provided was detailed enough	1	2	3	4
e. The system overall, was easy-to-use	1	2	3	4
f. Information was current, or up to the minute	1	2	3	4
g. Information was accurate	1	2	3	4
h. The amount of time it took to access the information desired	1	2	3	4

6. IF RATE A CHARACTERISTIC IN Q6. A 1 OR 2, IMMEDIATELY ASK: For what reasons did you give that a [RATING FROM Q5.]? [DO NOT PROBE, CLARIFY FULLY]

3. We'd like to understand whether people are comfortable using the voice recognition feature, or if they are bothered by it? Would you say you were...? [READ LIST]

- Very comfortable using the voice recognition feature
- Somewhat comfortable
- Somewhat bothered, or
- Very bothered by using the voice recognition feature
- DO NOT READ [Chose not to use it]

7. Did you have any problems with the voice recognition?

- Yes 8. IF "YES", SAY: Please explain. [RECORD COMMENTS]
- No

9. Did you use the telephone keypad during the call?

- Yes
- No IF "NO", ASK: Were you aware that you could use the phone keypad to move around in the 5-1-1 system?
 - Yes SKIP TO Q11.
 - No SKIP TO Q11.

IF "YES" KEYPAD USED IN Q9., ASK Q10.

10. Was it clear from the instructions that you could use the keypad, or did you use it because you knew from other experiences that the keypad is an alternate way to get around?

- Clear from instructions
- Already knew about it
- [DO NOT READ] Both

11. How likely do you think you will be to use the 5-1-1 service in the future? Would you say...?

- Very likely
- Somewhat likely
- Not very likely, or
- Not at all likely
- [DO NOT READ] Don't know

IF "NOT VERY LIKELY" OR "NOT AT ALL LIKELY" IN Q11. ASK Q12. AND Q13.

12. What one thing do you least like about the system and makes you **not** want to use it again?

[RECORD VERBATIM AND CLARIFY, DO NOT PROBE]

[IF RESPONSE IS "NOTHING ABOUT THE SYSTEM" CLARIFY WITH: What is the reason?

13. If Mn/DOT could add other service features to the system, what could they add that might convince you to try it again? We are referring to any service or information that you think would be helpful to you when planning a trip or traveling on Minnesota roadways. [RECORD VERBATIM, DO NOT PROBE]

[Question as asked in "Perception Tracking Study, 2000"]

14. How interested would you be in getting traffic information that offered TRAVEL TIME INFORMATION? That is, it gave the number of minutes it would take to travel on a freeway from one point to another point and is based on current traffic levels. Use a 5-point scale with "5" being Very interested and "1" being Not at all interested, how interested would you be in this travel time information?
- 5 = Very interested
 - 4
 - 3
 - 2
 - 1 = Not at all interested
 - 12 = Don't know

IF "NOT VERY LIKELY" OR "NOT AT ALL LIKELY" IN Q11. SKIP TO Q17a.

IF "VERY LIKELY" OR "SOMEWHAT LIKELY" IN Q11. ASK Q15.

15. Next, I would like to learn how interested you might be in some other **potential** new services that could be added to the 5-1-1 service. Please respond with any number 1 to 10 with 1 being Not at all interested, and 10 being Very interested. How interested are you in being able to access thru 5-1-1? [ROTATE]

- a. Information about special events, such as times, and locations
- b. Parking information in general such as availability and location
- c. Local business information like restaurants, gas stations, taxis
- d. Travel information in other states such as construction and road conditions
- e. A place to report non-emergency problems on the road such as stalls or debris.
- f. Information about carpool, vanpool programs or other types of transportation services
- g. Weather forecasts

16. Finally, there is the potential to add services that would be provided by private companies and would mean paying a user fee to access the service. Using the same 10-point scale tell me how interested you are in the following service features, **if you knew you would need to pay for the service**. Please assume that the user fee is a standard, by-the-minute charge and is calculated to be a competitive rate. How interested are you in [READ FIRST FEATURE]? ROTATE FEATURES

- a. Information about local tourist attractions, tourist centers, or visitors' bureaus
- b. Driving directions to specified locations
- c. Trip routing that includes using more than one type of transportation, such as plane to bus, or car to train
- d. Personalized travel reports for problems on the usual route you travel
- e. Concierge services that include 'live' help with all types of travel information, as well as the ability to make reservations and purchases.

- 17a. That is all the questions I have. Thank you very much. Are there any other comments about your experience with the 5-1-1 service that you would like to communicate to Mn/DOT?

- Yes
- No

NAME AND MAILING INFORMATION (Q18.), THEN
THANK AND TERMINATE

- 17b. Comments about the 5-1-1 service [RECORD VERBATIM AND CLARIFY ONLY]

18. I need to get your name and address to mail you Mn/DOT's official Minnesota Highway map.
[PLEASE VERIFY SPELLING OF NAME]

Name _____
Address _____
City _____
State _____ Zip _____

Thank you for your time and thank you for agreeing to evaluate this new traveler information service.

Attach respondent's information from Mdt2001. Attach all responses.