



Minnesota Department of Transportation

Knife River Safety Rest Area 1993 User Survey

*Prepared by Office of Technical Support,
Site Development Unit*



March 23, 1994

State of Minnesota
Department of Transportation
Office of Technical Support
Transportation Building, Room 616
395 John Ireland Boulevard
Saint Paul, Minnesota 55155

The Minnesota Department of Transportation (Mn/DOT), Office of Technical Support - Site Development Unit, conducted a Safety Rest Area User Survey at the Knife River Safety Rest Area, located approximately 15 miles northeast of Duluth, on Minnesota Trunk Highway 61, August 5 through 9, 1993.

The objective of user surveys is to accumulate user data to verify or modify safety rest area design criteria developed for highway planning, location, and design. Pertinent information collected includes percent of vehicles stopping, traffic classification, persons per vehicle, and use of facilities.

Each vehicle was stopped before reaching the parking stalls and building. The driver of each vehicle was handed one 8 1/2" X 14" paper user survey. The boxed information at the top of each user survey, (day of week, licensing state, vehicle type, and time-in), was recorded by the on-site staff as the vehicle approached. All survey participants were asked to fill out the thirteen question survey during their stay at the facility. As the motorists exited the facility, the surveys were collected by the on-site staff who then recorded the time-out.

From 9:00a to 6:00p during the five day survey, 264 vehicles and 631 people used the facility. Of all the Trunk Highway 61 traffic passing, 1% stopped and used the facility. This percentage is lower than the average stopping percentage Mn/DOT uses for design calculations for Trunk Highway rest areas. The Mn/DOT-Duluth District Office estimates that 50% to 60% of the average daily traffic passing the site consists of commuters traveling the 20 miles between Duluth and Two Harbors. The average length of stay for all vehicles was 20.81 minutes.

When asked what additional facilities they would like to see in safety rest areas, 50% of the motorists responded they would like improved toilet facilities. Phones and play structures were also popular responses.

Safety rest areas remain to be very popular with travelers. In preference of use, 84% of motorists prefer to use safety rest areas compared to 6% who prefer private commercial facilities.

The user survey revealed that the public has an evenly split opinion of additional safety rest area development in this highway corridor. When asked, "Do you feel additional safety rest areas are need along the Lake Superior North Shore?", 41% responded yes, 41% no, and 17% had no response to the question.

The Knife River Safety Rest Area building, built in 1972, is deficient in several areas. The facility is under study for reconstruction and rehabilitation. The information collected in the 1993 survey will aid in the evaluation of the present facility, and offer insights into the public's perception of this facility.

The results of this user survey are stored as a computer data file which allows comparison of a wide range of information and permits further opportunity for sorting data and analyzing specific user information.

For more information about this survey, please call the Mn/DOT Site Development Unit.

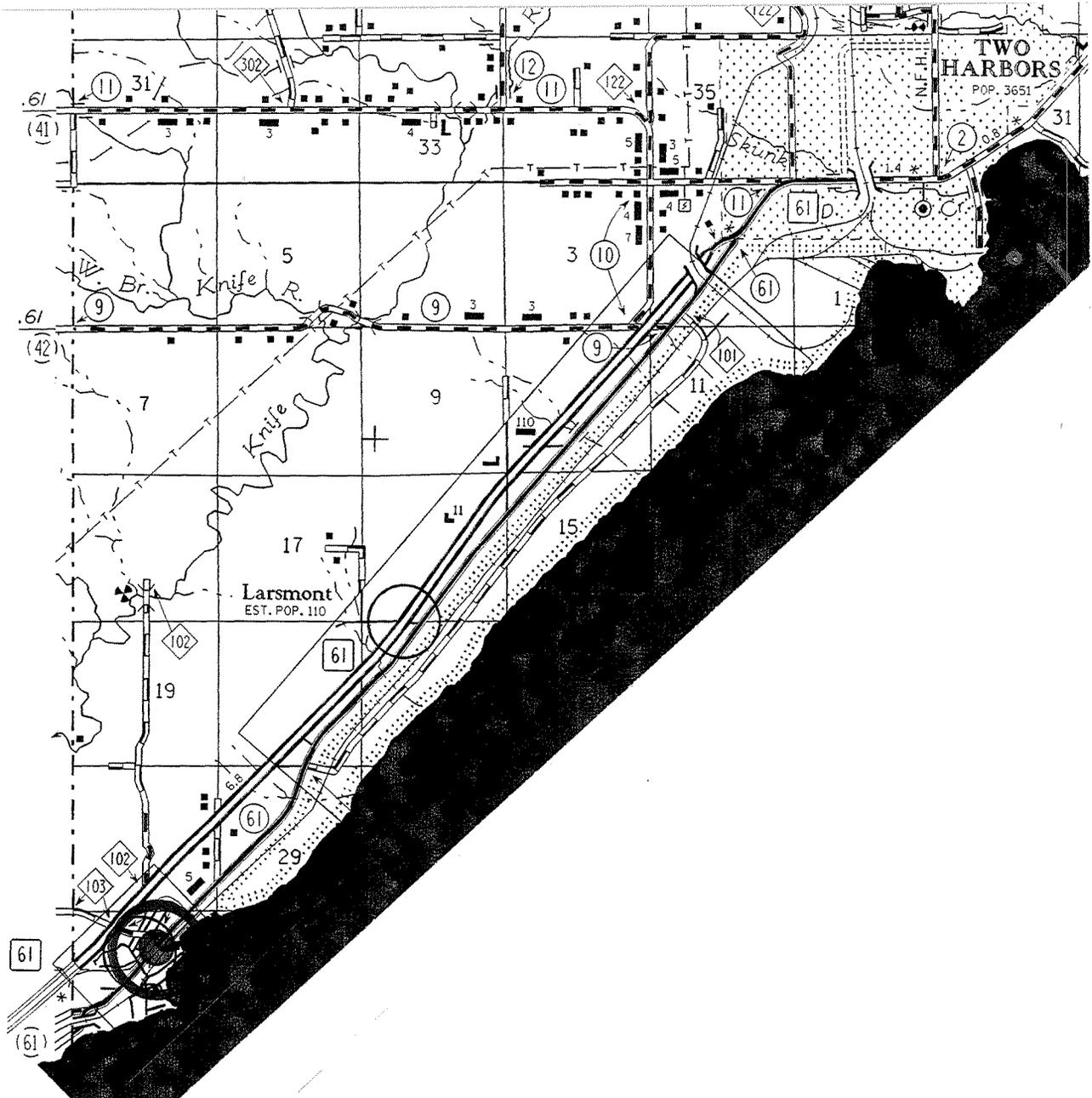


Carol R. Braun
Carol R. Braun
Senior Landscape Architect
(612) 296-1648



Karl E. Weissenborn
Karl E. Weissenborn
Graduate Landscape Architect
(612) 296-0295

Location of the Knife River Safety Rest Area.



The Knife River Safety Rest Area is located in Lake County, approximately 15 miles northeast of Duluth, on Trunk Highway 61. The surrounding environment is dominated by rolling glacial terrain with mixed aspen/birch and pine/spruce woodlands.

The driver of each vehicle was given one copy of the following survey. (The 8 1/2" X 14" survey has been reduced to fit this page.)



**KNIFE RIVER SAFETY REST AREA
USER SURVEY, August 5-9, 1993**

Day of week: Thurs. Fri. Sat. Sun. Mon.	Vehicle Type: 1 2 3 10 11 12 13 20 30 31 40
Licensing State: MN _____ (specify other)	Time In: _____ Time Out: _____

Dear Motorist:

The Minnesota Department of Transportation is attempting to determine how Safety Rest Areas along state highways are utilized and what facilities should be provided to satisfy your needs. Only you can supply the information we need to plan future Safety Rest Area facilities. Please answer the following questions:

- Number of people in your vehicle? senior adults (over 60) _____ adults (16-59) _____ children (under 16) _____
- Reason for your travel? business: _____ vacation: _____ personal: _____
- How far do you generally travel between stops? miles _____ time: _____
- Please check your main reason for stopping. (pick one, write letter here) _____

A. rest room	D. rest/relax	G. switch driver	J. other _____ (please specify)
B. eat/picnic	E. water	H. travel information	
C. sleep	F. check load/equipment	I. fishing	
- How many people in your party used the following?
rest room facilities: _____ drinking water supply: _____
- Which of the following facilities were used by your party?

<input type="checkbox"/> picnic table	<input type="checkbox"/> rest rooms	<input type="checkbox"/> picnic shelter	<input type="checkbox"/> historical marker
<input type="checkbox"/> trash receptacle	<input type="checkbox"/> state map display	<input type="checkbox"/> recycle receptacle	
<input type="checkbox"/> pet exercise area	<input type="checkbox"/> other _____ (please specify)		
- What additional facilities would you like to see at this site?

<input type="checkbox"/> improved toilet facilities	<input type="checkbox"/> trails	<input type="checkbox"/> lake access
<input type="checkbox"/> improved access to river	<input type="checkbox"/> phones	<input type="checkbox"/> other _____ (please specify)
<input type="checkbox"/> play structure	<input type="checkbox"/> additional traveler/tourist info.	
- When traveling, which facility do you prefer to use? (pick one, write letter here) _____

A. safety rest areas
B. private commercial facilities
- If private and commercial development were permitted at safety rest areas, which of the following business types would you prefer? (pick one, write letter here) _____

A. vending machines	C. restaurant (fast food/take out)	E. no private/commercial development
B. restaurant (sit down)	D. gas and vehicle services	
- If this facility were not available, where would you have stopped? (pick one, write letter here) _____

A. continue driving	C. highway shoulder	E. local park
B. commercial facility	D. next town	F. other _____ (please specify)
- What types of travel information would you like available at safety rest areas?
(pick one, write letter here) _____

A. parks	C. campgrounds	E. historic sites
B. trails	D. water access/boats launches	F. other _____ (please specify)
- If vacationing, is the Lake Superior North Shore your vacation destination?
 yes no does not apply
- Do you feel additional safety rest areas are needed along Lake Superiors North Shore?
 yes no

COMMENTS: _____

PLEASE RETURN SURVEY TO THE PEOPLE AT REST AREA EXIT. THANK YOU

SUMMARY OF DATA COLLECTED DATA

Date/time of survey: August 5 though 9, 1993, 9:00a to 6:00p

Weather on-site: mostly sunny to partly cloudy

Total TH 61 mainline vehicles: 27,642 (two-way)

TH 61 mainline vehicles passing safety rest area without entering: 27,378

Vehicles entering safety rest area: 264

Percent of TH 61 mainline vehicles stopping at safety rest area: 0.96%

Percent of out-of-state vehicles stopping at safety rest area: 28.90%

Percent in-state vehicles stopping at safety rest area: 71.10%

Age distribution of people
using the safety rest area:

16.64%	105	Senior adults (over 60)
59.11%	373	Adults (16 to 59)
<u>24.24%</u>	<u>153</u>	<u>Children (under 16)</u>
100.00%	631	Total

Average number of people per vehicle: 2.39

Average length of stay in safety rest area: 20.81 minutes

Number of vehicles 9:00a to 6:00p

<u>Date</u>	<u>Day</u>	<u>Vehicles Entering Rest Area</u>	<u>Vehicles Not Entering Rest Area</u>	<u>Daily Traffic Totals</u>	<u>Ave. Pct. Stopping at Rest Area</u>
August 5	Thursday	49	5,392	5,441	0.9%
August 6	Friday	55	6,063	6,118	0.9%
August 7	Saturday	53	5,439	5,492	1.0%
August 8	Sunday	53	5,581	5,634	0.9%
<u>August 9</u>	<u>Monday</u>	<u>54</u>	<u>4,903</u>	<u>4,957</u>	<u>1.1%</u>
Totals (surveys returned)		264	27,378	27,642	0.96%

Time of vehicles entering Safety Rest Area

<u>Time</u>	<u>Thursday</u>	<u>Friday</u>	<u>Saturday</u>	<u>Sunday</u>	<u>Monday</u>
9:00 - 10:00	1	4	6	3	5
10:00 - 11:00	6	8	7	7	4
11:00 - 12:00	4	1	5	4	15
12:00 - 1:00	12	9	5	4	4
1:00 - 2:00	5	9	12	14	9
2:00 - 3:00	6	5	4	11	10
3:00 - 4:00	5	4	6	7	4
4:00 - 5:00	7	7	7	3	3
<u>5:00 - 6:00</u>	<u>3</u>	<u>8</u>	<u>0</u>	<u>0</u>	<u>0</u>
Totals	49	55	52	53	54

Note: Total is not equivalent to the 264 "Vehicles Entering Rest Area", as shown on the previous page, due to human error in recording the "Time-in" entries.

Type of vehicle entering Safety Rest Area

	<u>Vehicle Total</u>	<u>Average Length of Stay*</u>	<u>Number of People</u>	<u>(A)</u>	<u>(B)</u>
Non-Commercial Vehicles					
Cars	137	19.61	301	52.69%	0.93%
Car w/ recreation trailer	3	10.00	8	1.15%	1.50%
Car w/ other trailer	2	11.50	9	0.77%	2.11%
Pick-up or van	76	24.42	193	29.23%	0.84%
Pick-up - van w/ rec. trailer	20	16.50	65	7.69%	1.78%
Pick-up - van w/ other trailer	7	9.00	22	2.69%	2.44%
Recreational vehicles	6	24.00	13	2.31%	1.32%
Other	7	21.14	10	2.69%	2.68%
Commercial Vehicles					
Commercial trucks	2	8.00	2	0.77%	0.43%
Semi-tractor trailer trucks	0	0.00	0	0.00%	0.00%
Buses	0	0.00	0	0.00%	0.00%
Not recorded (see <u>note</u> this page)	4	23.25	8	1.54%	

* Minutes

(A) Percentage of total number of vehicles using safety rest area.

(B) Percentage of vehicles that stopped in the safety rest area, out of the total number of TH 61 mainline vehicles of the same type both entering and passing the safety rest area.

SURVEY QUESTIONS

Question 1: Number of people in your vehicle?

	All People Entering Safety <u>Rest Area</u>	<u>Percent</u>
Senior Adults (over 60)	105	16.64
Adults (16 - 59)	373	59.11
<u>Children (under 16)</u>	<u>153</u>	<u>24.24</u>
Total	631	99.99

Question 2: Reason for your travel?

	<u>All Vehicles</u>	<u>Percent</u>
Vacation	163	61.74
Personal	75	28.41
Business	16	6.06
<u>No response</u>	<u>10</u>	<u>3.79</u>
Total	264	100.00

Question 3: How far do you generally travel between stops?

	<u>All Vehicles</u>	Average Length of Stay <u>Minutes</u>
Less than 1 hour	2	21.63
1 to 2 hours	34	17.91
Over 2 hours	85	19.61
<u>No response</u>	<u>143</u>	
Total	264	

Question 4: Please check your main reason for stopping. (check only one)

	<u>All Vehicles</u>	<u>Percent</u>
Rest rooms	158	59.85
Rest/relax	25	9.47
Eat/picnic	13	4.92
Fishing	9	3.41
Check load/equipment	6	2.27
Water	5	1.89
Travel information	5	1.89
Sleep	4	1.51
Switch drivers	0	0.00
Other	27	10.23
<u>No response</u>	<u>12</u>	<u>4.54</u>
Total	264	99.98

Question 5: How many people in your party used the following?

	<u>All Vehicles</u>
Rest room facilities	413
Drinking water	4

Question 6: Which of the following facilities were used by you party?

	<u>Number of Responses</u>	<u>Percent</u>
Rest room only	197	74.62
Trash receptacles	54	20.45
Historic Marker	37	14.02
Picnic tables	32	12.12
Pet exercise area	24	9.09
State map displays	22	8.33
Picnic shelter	11	4.17
Recycle receptacles	5	1.89
Other	22	8.33

Question 7: What additional facilities would you like to see in the Safety Rest Area?

	<u>All Vehicles</u>
Improved toilet facilities	132
Phones	61
Play structure	25
Improved access to river	18
Trails	11
Additional traveler tourist information	10
Lake access	7
Other	36

Question 8: When traveling, which facility do you prefer to use?

	<u>All Vehicles</u>	<u>Percent</u>
Safety rest area	223	84.47
Private commercial facility	15	5.68
<u>No response</u>	<u>26</u>	<u>9.84</u>
Total	264	99.99

Question 9: If private and commercial development were permitted at Safety Rest Areas, which of the following business types would you prefer? (check only one)

	<u>All Vehicles</u>	<u>Percent</u>
No private/commercial development	97	36.74
Vending machines	64	24.24
Restaurant, fast food	29	10.98
Gas and service	25	9.47
Restaurant, sit down	18	6.82
<u>No response</u>	<u>31</u>	<u>11.74</u>
Total	264	99.99

Question 10: If this facility were not available, where would you have stopped? (Check only one)

	<u>All Vehicles</u>	<u>Percent</u>
Next town	97	36.74
Continue driving	67	25.38
Highway shoulder	27	10.23
Commercial facility	25	9.47
Local park	11	4.17
Other	12	4.54
<u>No response</u>	<u>25</u>	<u>9.47</u>
Total	264	100.00

Question 11: What types of travel information would you like available at Safety Rest Areas?

	<u>All Vehicles</u>	<u>Percent</u>
Campgrounds	66	25.00
Parks	54	20.45
Historic sites	31	11.74
Trails	26	9.85
Water access/boat launches	13	4.92
Other	20	7.57
<u>No response</u>	<u>54</u>	<u>20.45</u>
Total	264	99.99

Question 12: If vacationing, is the Lake Superior North Shore your vacation destination?

	<u>All Vehicles</u>	<u>Percent</u>
Yes	104	39.39
No	56	21.21
Doesn't apply	79	29.92
<u>No response</u>	<u>25</u>	<u>9.47</u>
Total	264	99.99

Question 13: Do you feel additional safety rest areas are needed along Lake Superior North Shore?

	<u>All Vehicles</u>	<u>Percent</u>
Yes	110	41.66
No	109	41.29
<u>No response</u>	<u>45</u>	<u>17.05</u>
Total	264	100.00

For more information about this user survey, please call the Mn/DOT Site Development Unit, 612-296-1648 or 612-296-0295.



KNIFE RIVER SAFETY REST AREA USER SURVEY, August 5-9, 1993

Day of week: Thurs. Fri. Sat. Sun. Mon. Vehicle Type: 1 2 3 10 11 12 13 20 30 31 40
 Licensing State: MN _____ Time In: _____
 (specify other) Time Out: _____

Dear Motorist:

The Minnesota Department of Transportation is attempting to determine how Safety Rest Areas along state highways are utilized and what facilities should be provided to satisfy your needs. Only you can supply the information we need to plan future Safety Rest Area facilities. Please answer the following questions:

- Number of people in your vehicle? senior adults (over 60) _____ adults (16-59) _____ children (under 16) _____
- Reason for your travel? business: _____ vacation: _____ personal: _____
- How far do you generally travel between stops? miles _____ time: _____
- Please check your main reason for stopping. (pick one, write letter here) _____
 A. rest room D. rest/relax G. switch driver J. other _____
 B. eat/picnic E. water H. travel information (please specify)
 C. sleep F. check load/equipment I. fishing
- How many people in your party used the following?
 rest room facilities: _____ drinking water supply: _____
- Which of the following facilities were used by your party?
 picnic table rest rooms picnic shelter historical marker
 trash receptacle state map display recycle receptacle
 pet exercise area other _____
 (please specify)
- What additional facilities would you like to see at this site?
 improved toilet facilities trails lake access
 improved access to river phones other _____
 play structure additional traveler/tourist info. (please specify)
- When traveling, which facility do you prefer to use? (pick one, write letter here) _____
 A. safety rest areas
 B. private commercial facilities
- If private and commercial development were permitted at safety rest areas, which of the following business types would you prefer? (pick one, write letter here) _____
 A. vending machines C. restaurant (fast food/take out) E. no private/commercial development
 B. restaurant (sit down) D. gas and vehicle services
- If this facility were not available, where would you have stopped? (pick one, write letter here) _____
 A. continue driving C. highway shoulder E. local park
 B. commercial facility D. next town F. other _____
 (please specify)
- What types of travel information would you like available at safety rest areas?
 (pick one, write letter here) _____
 A. parks C. campgrounds E. historic sites
 B. trails D. water access/boats launches F. other _____
 (please specify)
- If vacationing, is the Lake Superior North Shore your vacation destination?
 yes no does not apply
- Do you feel additional safety rest areas are needed along Lake Superiors North Shore?
 yes no

COMMENTS: _____

PLEASE RETURN SURVEY TO THE PEOPLE AT REST AREA EXIT. THANK YOU

KNIFE RIVER REST AREA USAGE SURVEY - THURSDAY, AUGUST 5, 1993

HOUR	CARS			PICK-UPS, VANS			Commer. TRUCKS	SEMI'S tractor trailers	RV'S	BUS	OTHER (motorcycles)	TOTAL
	car only	w/rec. trailer	w/other trailer	p-up/van only	w/rec. trailer	w/other trailer						
	1	2	3	10	11	12	13	20	30	31	40	
9 - 10	204	5	0	138	11	1	17	23	8	0	3	410
10 - 11	281	4	0	179	16	4	32	35	9	2	1	363
11 - 12	283	4	3	169	23	4	17	27	7	2	4	538 543
12 - 1	346	4	1	194	26	1	35	21	9	1	3	641
1 - 2	274	6	2	193	17	5	24	35	5	1	0	362
2 - 3	334	3	1	238	14	2	33	26	8	1	2	662
3 - 4	320	4	3	207	13	1	20	18	7	1	5	599
4 - 5	440	1	1	243	20	3	15	33	9	0	1	766
5 - 6	373	7	0	211	12	2	13	23	1	1	3	640
TOTAL	2855	38	11	1772	152	23	206	241	63	9	22	5392

VEHICLES ENTERING R.A.

1
6
2

KNIFE RIVER REST AREA USAGE SURVEY - FRIDAY, AUGUST 6, 1993

HOUR	CARS			PICK-UPS, VANS			Commer. TRUCKS	SEMI'S	RV'S	BUS	OTHER	TOTAL
	car only	w/rec. trailer	w/other trailer	p-up/van only	w/rec. trailer	w/other trailer		tractor trailers			(motorcycles)	
	1	2	3	10	11	12	13	20	30	31	40	
9 - 10	213	3	2	129	31	5	15	26	3	0	4	431
10 - 11	226	3	5	176	25	8	17	15	10	0	1	486
11 - 12	321	2	0	169	30	6	17	18	12	2	1	578
12 - 1	350	4	1	230	20	5	10	25	17	1	5	668 668
1 - 2	353	4	4	221	34	6	16	29	8	1	1	677
2 - 3	358	3	0	233	38	6	15	26	20	2	3	704
3 - 4	403	7	3	307	37	4	14	25	9	2	6	817
4 - 5	²¹⁷ 453	3	0	287	34	10	12	28	9	0	4	840
5 - 6	454	7	1	293	40	6	11	14	9	0	27	862
TOTAL	3131	36	16	2045	289	56	127	206	97	8	52	6063

KNIFE RIVER REST AREA USAGE SURVEY - SATURDAY, AUGUST 7, 1993

HOUR	CARS			PICK-UPS, VANS			Commer. TRUCKS	SEMI'S tractor trailers	RV'S	BUS	OTHER (motorcycles)	TOTAL
	car only	w/rec. trailer	w/other trailer	p-up/van only	w/rec. trailer	w/other trailer						
	1	2	3	10	11	12	13	20	30	31	40	
9 - 10	263	11	0	179	⁵³ 41	3	4	10	9	0	3	523
10 - 11	295	7	1	210	45	2	4	5 5	12 12	0	41 41	622 612
11 - 12	361	8	0	229	48	3	9	4	9	5	12	688
12 - 1	344	6	0	243	44	3	4	16	10	1	13	684
1 - 2	382 382	10	2	234	58	5	8	9	11	3	1	723 728
2 - 3	304	4	3	208	45	4	1	6	12	5	7	599
3 - 4	386	3	0	192	32	5	6	10	7	1	8	650
4 - 5	365	6	2	197	32	6	4	8	5	0	8	633
^{5:30} 5-8	202	1	2	95	6	2	0	3	4	0	2	317
TOTAL	2902	50	10	1781	351	33	40	71	79	15	95	5439

KNIFE RIVER REST AREA USAGE SURVEY - SUNDAY, AUGUST 8, 1993

HOUR	CARS			PICK-UPS, VANS			Commer. TRUCKS	SEMI'S	RV'S	BUS	OTHER	TOTAL
	car only	w/rec. trailer	w/other trailer	p-up/van only	w/rec. trailer	w/other trailer		tractor trailers			(motorcycles)	
	1	2	3	10	11	12	13	20	30	31	40	
9-10	221	2	2	131	29	4	1	5	9	0	1	405
10-11	246	2	4	154	19	6	1	4	14	0	2	452
11-12	329	5	4	186	28	2	4	4	18	2	8	590
12-1	430	1	9	210	14	20	2	4	19	1	8	717
1-2	464	3	4	265	39	0	1	5	11	1	7	800
2-3	650	12	3	256	24	14	0	4	33	0	3	899
3-4	470	8	3	266	50	6	1	5	17	1	5	832
4-5	500	3	13	259	18	26	0	5	26	0	35	885
5-6												
TOTAL	3210	30	42	1727	221	78	10	36	147	5	69	5581

AM
70°
OVERCAST
NO RAIN

KNIFE RIVER REST AREA USAGE SURVEY - MONDAY, AUGUST 9, 1993

HOUR	CARS			PICK-UPS, VANS			Commer. TRUCKS	SEMI'S	RV'S	BUS	OTHER	TOTAL
	car only	w/rec. trailer	w/other trailer	p-up/van only	w/rec. trailer	w/other trailer		tractor trailers			(motorcycles)	
	1	2	3	10	11	12	13	20	30	31	40	
9-10	206	2	1	157	14	7	15	24	4	0	0	430
10-11	257	5	4	187	7	16	7	19	7	4	3	516
11-12	342	2	1	196	24	7	12	28	6	4	2	624
12-1	322	3	2	196	9	10	6	16	9	0	3	576
1-2	355	7	0	192	23	10	11	26	5	0	2	631 731
2-3	340 273	2 11	1 25	273	11	25	12	28	17	0	5	714
3-4	357	7	1	244	14	8	9	23	7	0	6	676
4-5	407	6	6	241	7	14	9	28	12	4	2	736
5-6												
TOTAL	2586	34	16	1686	109	97	81	192	67	12	23	4903