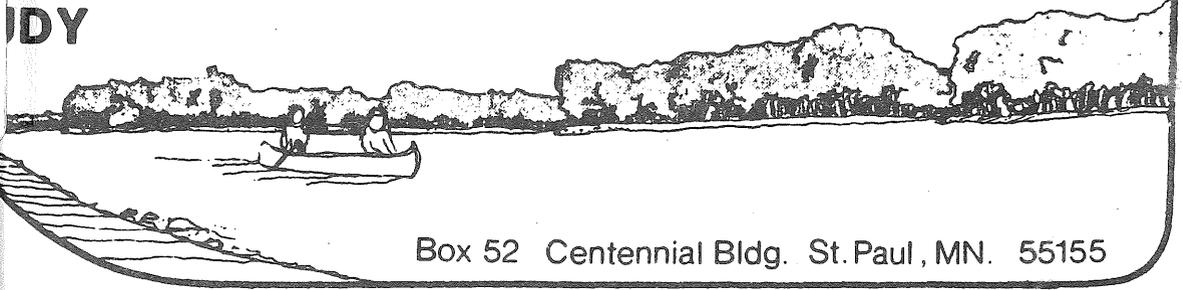


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The Use of Three-wheeled ATVs on Snowmobile Trails in Minnesota: A Landowner Survey

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THE USE OF THREE-WHEEL VEHICLES ON
SNOWMOBILE TRAILS IN MINNESOTA:
RESULTS OF A SURVEY OF LANDOWNERS
ON GRANTS-IN-AID SNOWMOBILE TRAILS

Research Prepared for:

Minnesota Department of Natural Resources
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and the:

International Snowmobile Industry Association
7535 Little River Turnpike--Suite 330
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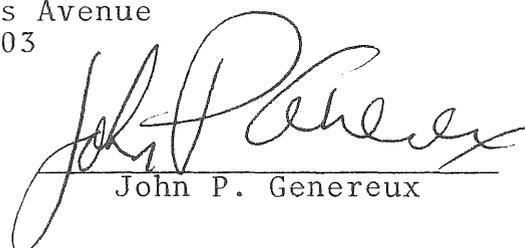
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By:

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June 23, 1983



John P. Genereux



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RESEARCH DESIGN AND INTENT

The Minnesota Department of Natural Resources is engaged in a policy review regarding the status of three-wheel recreational vehicles and the use of these vehicles on trail systems in Minnesota --state designated trail corridors and the Grants-in-Aid system of trails on private lands which was developed for designated use by snowmobilers. The Grants-in-Aid trail system was the focus of the study reported on here. This system of trails includes some 6,000 miles of groomed snowmobile trails in Minnesota. The land granted for these trails is owned by private and semi-private individuals and is granted through easement (negotiated with the local level of government, the county) or annually renewable permits as a trail for recreational use in the winter months. Route selection for these trails is commonly made by local snowmobile clubs who are responsible for the marking, grooming, maintenance, and use of the trails. The system includes thousands of landowners without whose good will the system would not continue.

It has recently become apparent that the sales of all-terrain, all-year, three-wheel recreational vehicles have reached a market penetration which has called attention to their use for recreation in Minnesota. Under Minnesota statute (85.018) three-wheel vehicles may not be driven on state designated corridor trails, or on Grants-in-Aid snowmobile trails. The presence of these facts -- increased sales and legal restrictions on the use of three-wheel vehicles--has created a policy dilemma which the Department of Natural Resources, the motorcycle industry, snowmobilers, and landowners wish to see resolved.

In late 1982, the Department of Natural Resources initiated an internal inquiry into the status of three-wheel vehicle use in Minnesota. In early 1983, the Department, together with the Motorcycle Industry Council and the International Snowmobile Industry Association agreed to sponsor a joint study to investigate one aspect of the question: The potential for expanding the designated use of Grants-in-Aid snowmobile trails to include winter use by three-wheel operators.

In March, 1983, the study sponsors retained John and Michele Genereux, Consulting & Research in the Social Sciences, St. Paul, to: Design a questionnaire for use in telephone interviews with a sample of landowners who participate in the Grants-in-Aid trail system; to review this instrument with study sponsors and interested parties; and to conduct the survey and analyze the findings.

The sample of landowners was selected by the Department of Natural

Resources with the assistance of snowmobile clubs in Minnesota and Regional DNR Trail and Waterways Co-ordinators. Questions in the survey instrument were intended to explore the question of trail use and to generate the opinions of landowners on the use of three-wheel vehicles on these trails. These views were then intended to be included in the body of information and criteria which would then be considered by the Department as relevant to a discussion on the future of the use of three-wheel vehicles for recreation in the state.

RESEARCH METHOD

John and Michele Genereux met with Supervisor of the DNR Trails Planning Section and the designated DNR Project Manager during the week of March 21, 1983 to discuss topics to be addressed in the landowner survey, and criteria for selection of a survey sample. Based upon these discussions, the DNR initiated a selection process and the consultants drafted a preliminary set of questionnaire items. It was desired that a sample of 600 names be drawn for the survey and that a questionnaire be designed for a five-minute telephone interview. April 18, 1983 was designated as a final start date for the survey so as to minimize delays that might be caused in the field due to the demands of spring planting on respondents' time.

The draft instrument was reviewed with DNR staff, co-sponsors of the study and locally interested parties: Representatives of the snowmobile associations; representatives of the three-wheel industry; snowmobile club officers; landowners; and DNR regional staff. (An example of the survey instrument is included as Appendix A.)

Letters were sent by DNR management staff to regional snowmobile club officers and regional staff to solicit current listings of landowners who participate in Grants-in-Aid trail arrangements in areas where previous research suggested that:

- a) The trail system was of sufficient, integrated size within a single county to include a statistically sound number of individual private landowners;
- b) There was a likelihood that three-wheel vehicles were owned by a representative group of local residents;
- c) There was a likelihood that owners of three-wheel vehicles would wish to operate these machines in these recreational regions.

The likelihood that local residents or snowmobile clubs would be unwilling to co-operate in the study was considered but was not used as a criteria for initial selection of trails for the study. This reluctance did eventually result in the elimination of possible trails from the study. A small number of trails were also eliminated, for which there was local co-operation, because the cell size was too small for inclusion without jeopardizing the confidentiality of responses.

A final sample of 518 names was drawn from 22 trails in 11 counties. Combined, the county samples represent four regions of the state: North; North Central; South Central and Metro.

Landowners in the drawn sample were notified by mail that a study was being conducted and that it was likely that they would be telephoned as part of the survey. The letter was dated April 15, 1983 over the signature of the Special Assistant to the Commissioner, Trails and Waterways Unit, Department of Natural Resources, and was sent to landowners in several mailings between April 15 and May 3, 1983 (See Appendix B).

Telephone interviews were begun with an initial sample of notified landowners on April 20, 1983. Telephoning was done principally in the evening between the hours of 4 p.m. and 9 p.m.. The level of activity was staggered to coincide with mailing dates designated by the Department. Telephone interviewing was terminated on May 11, 1983 when 400 landowners had completed questionnaires.

Data was processed using computer facilities at the University of Minnesota. Analysis was limited to a single run in order to maintain control of a limited budget. Data was analyzed according to region.

The staggered schedule of interviewing created a problem for interviewers and resulted in less than a total sample in completed surveys. The re-adjusted target of 400 interviews were completed, but another 51 respondents were never contacted despite call-backs of up to a dozen attempts in many cases. It is suspected that rural landowners were engaged in field work during the period, and that urban residents were taking advantage of an initial period of warm weather which occurred during the early days of May.

RESEARCH FINDINGS

Survey Sample

A sample of 518 names were drawn for this study. Telephone contact was made with 467 of these potential respondents.

- 401 interviews were completed; 2 by mail.
- 17 persons in this group claim they do not have GIA snowmobile trails on their lands.
- 14 contacted landowners refused to complete interviews.
- 9 interviews were terminated by the interviewer.
- 25 contacts were not successfully made due to improper identification of the landowner; disconnected phone service; or improper telephone listings.
- 51 were not contacted at all after numerous attempts.

A regional listing of these results is shown in Table 1.

The subject of three-wheel vehicles and their use on snowmobile trails is one of some volatility in certain regions or sub-regions of the state. This was made clear to researchers by reviewers of the survey instrument and became evident in the interviews with landowners. Given the sensitivity of the issue, it is notable that the refusal rate was low--14 individuals, or (3.5%) of the sample.

Based on a sample of 518, 401 completed questionnaires indicates a response rate of 77%. The response rate increases to 85% if one eliminates the cases for which there was no trail on the land or for which the name or telephone listing was in error, or for which there was duplicated identification of the landowner (518-45=N 476).

For purposes of this study, and to assist future planning efforts, survey data is presented here for geographic regions rather than for individual trails. Data results have been summed for 22 trails in four regional groupings:

- NORTH MINNESOTA---N=23
Beltrami County---North County Snowmobile Trail (SMT)
Itasca County-----Itasca County #1 SMT
- NORTH CENTRAL MINNESOTA -- N=131
Crow Wing County--Merrifield Marathons
Baxter #1

TABLE 1

DISTRIBUTION OF SURVEY POPULATION

REGION	No. Trails	(N=)	No. Complete	(No Trail)	(Refused)	(Tel. Prob.)	(Not Reached)	(*)
NORTH.....	2	31	23	5	0	1	1	1
(Beltrami)	(1)	(21)	(15)	(5)		(1)	(0)	(0)
(Itasca)	(1)	(10)	(8)	(0)			(1)	(1)
CENTRAL.....	10	168	131	3	3	4	20	4
(Crow Wing)	(4)	(46)	(37)	(1)	(3)	(0)	(6)	(1)
(Aitkin)	(3)	(41)	(28)	(2)	(0)	(1)	(6)	(3)
(Morrison)	(3)	(81)	(67)	(0)	(1)	(3)	(8)	(0)
SOUTH CENTRAL.....	4	144	114	2	3	9	12	0
(Sherburne)	(1)	(28)	(25)	(0)	(0)	(1)	(2)	(0)
(Isanti)	(2)	(50)	(46)	(0)	(0)	(1)	(1)	
(Wright)	(1)	(66)	(43)	(2)	(3)	(7)	(7)	
METRO.....	6	175	130	7	8	11	18	4
(Hennepin)	(1)	(16)	(14)	(0)	(2)	(0)		(0)
(Dakota)	(2)	(103)	(77)	(3)	(4)	(7)	(12)	(1)
(Washington)	(3)	(56)	(39)	(4)	(2)	(4)	(6)	(3)
TOTAL.....	22	518	399	17	14	25	51	9
Mailed.....		(3)	2					
			401					

PER CENT COMPLETION.....401 out of 518 = 77% of possible sample
401 out of 473 = 85% of actual "good" sample (i.e. less col. 4, 6, 8)

(*) These interviews were terminated by the interviewer for various reasons.
In (3) cases, the individual had already been interviewed under another category.

Brainerd River Trails (Brainerd Snodeos)
Gull Lake Drifters

Aitkin County-----Hay Point SMT
Palisade Supersleders
Tamarack Sno-Flyers

Morrison County---Wonderland SMT (14)
Midland SMT (36)
Three Fingers SMT (17)

- SOUTH CENTRAL MINNESOTA---N=114
Sherburne County--Sherburne County SMT (25)
Isanti County-----Northern Lites (28)
Cambridge North Branch (18)
Wright County-----Wright County SMT (43)
- METRO MINNESOTA----N=130
Hennepin County---Eden Prairie Snow Drifters (14)
Dakota County-----Dakota County Circle Trail (57)
Dakota County SMT (20)
Washington Cty----Woodbury Winter Wanders (14)
Washington County SMT (13)
Star County SMT (12)

In the following sections, data are presented firstly for the entire sample, and then for regions. Regional data are discussed only if trends deviate from those apparent for the total sample. Computer print-outs for all data items are appended, under separate cover.

Demographics

Respondents in this telephone survey were principally male (60%) and report living at their present addresses a median of 20 years. Years in residency ranged from less than one year to 79 years. Roughly one-third of the study population report they have lived at the same address for more than 31 years (33%); 13% of the respondents have lived in their current homes for fewer than six years.

Eight per cent of the respondents report they were contacted by a snowmobile club regarding this survey; one per cent received a survey in the mail which was prepared by a snowmobile club on the subject of three-wheel vehicles.

About 20% of the sample belong to a snowmobile club. Nearly two-thirds (60%) of the responding landowners own snowmobiles today. Another seven per cent have owned snowmobiles at some time. Today, 20% of the respondents own three-wheel vehicles; another two per cent used to.

Looking forward two years, it would appear that fewer respondents plan to own a snowmobile in 1985 (57% v. 60%) and that more respondents will own three-wheelers (27% v. 20%).

Some respondents are not sure about future recreation plans as the following responses show:

Present and Future Ownership
of Snowmobile and Three-wheel Vehicles

(Q.15-16)

N=377

	<u>Own Today</u>		<u>Will Own By 1985</u>	
	<u>SM</u>	<u>3-W</u>	<u>SM</u>	<u>3-W</u>
Yes	60%	20%	57%	27%
No	38%	78%	38%	60%
Used To	7%	2%	--	--
Maybe	--	--	3%	11%
Don't Know	--	--	2%	2%

The fact that one owns a three-wheel vehicle does not appear to influence opinions about the need to develop trails for their use. Responses to question (26,j) do not reflect responses to questions (15, b and 16, b).

Trail Activity

Respondents report having trails on their lands since 1952. In three per cent of the cases, snowmobile trail easements were assumed in land acquisitions. In 61% of the cases, easements/permits were initially agreed to by the present owners between 1977 and 1980. In eight per cent of the cases, snowmobile trails were first developed on respondents' lands after 1981.

Five per cent of the respondents (20 individuals) report there is no snowmobile trail on their lands--12 saying there is no longer a trail on their land; eight saying there never was.

The median trail segment on any one parcel of land in the sample is one-half mile long. The length of individual trail easements varies from one-tenth mile to ten miles. In 30% of the cases, the trail easement follows boundary lines on respondents' properties. In 49% of the cases, no part of the easement runs parallel to boundary lines. In the remaining cases, the median stretch of trail runs along boundary lines for roughly half the length.

Homesteads are located from less than one-tenth of a mile (41%) to one mile from trail boundaries, with most (56%) estimated

to be at a distance of less than one mile from any trail. The respondents themselves live at a greater distance away from the trails on their lands--anywhere from less than one-tenth of a mile (30%) to ten miles or more (5%). Most (46%) live one-tenth to one-half mile from the trail.

Land that trails cross is idle in 15% of the reported cases (386). Productive easements are primarily dedicated to grain crops during the growing seasons (53%); pasture (11%) and hay crops (5%). Other "first uses" are reported as woods, swamp or marsh (8%); roads (3%) and "other" uses, such as parking lots or speculative property (6%).

Secondary land uses were reported by 72 respondents: Pasture (26%); woods, swamp or marsh (26%) and hay crops (21%).

Respondents were asked (in question 13) to estimate the number of snowmobilers using the trail on their lands during an average weekday and average day on the weekends this past winter (1982-83). The majority of respondents had difficulty doing this. Sixty-one per cent of the landowners did not know about use during the week; 49% did not know about weekend use.

Those who did respond to the question estimate that weekday users numbered (0-150) and that (0-400) snowmobilers were on any given trail on any weekend day. The median number of users was reported as 10 and 45 for the respective days.

About two-thirds of the landowners claim they have never seen anyone driving a three-wheel vehicle on trails on their lands. Another 12% say they have rarely seen one; 11% have sometimes seen one; 2% have "only seen the tracks" and 3% don't know.

Problems Related to Trail Use

In question (18), landowners were presented with a list of 18 situations which might be considered as problems resulting from trail use. Landowners were asked to indicate whether each situation had "never", "sometimes", or "frequently" developed into a problem for them.

"Snowmobilers riding off the trail" have posed "frequent" or "sometime" problems for 37% of the respondents. "Unauthorized trail use in the spring and fall" is considered a problem by 26% of the respondents--(9% citing this use as a "frequently" noted problem). Nine to 15 per cent of the landowners have had problems with:

- f) Littering (15%)
- i) Feeling insecure about their properties (14%)

- k) Unauthorized, winter trail-use by non-snowmobilers (14%)
- l) Damage to their land (10%)
- b) Noise at night (9%)
- m) Damaged fences (9%)
- n) Trails left open in the spring (9%)

These percentages are small. Generally, it would appear that landowners have had few trail-related problems. Fifty-eight (58) per cent of landowners report they have a "very good" relationship with local snowmobile clubs; another 37% say the relationship is "good". Respondents whose relationship has been "fair" to "poor"--five per cent--do not tend to live in any particular region of the state.

When landowners have felt the need to complain about a trail-related problem, they reportedly take their complaints directly to the trail user (12%) or the local snowmobile club (18%). Law enforcement agents have been contacted by six per cent of the respondents. Landowners in the North and South Central regions are somewhat more likely to have formally complained about trail-use problems.

Eight of the 18 problem situations used in this survey were similar to items included in a survey of landowners living near three developed, general-use, recreation trails in Minnesota and Wisconsin in 1979 (DNR, "Milwaukee Road Corridor Study: Technical Appendix A," 1979). Comparative responses are shown in Table 2. Noise and uneasiness about personal safety were more of a problem for landowners near general-use trails. Users damaging crop land and property are more likely to be problems cited by landowners living near snowmobile trails.

In the general-use trail study, it was found that the number of reported problems increased as the trail traffic became more congested. Traffic does not appear to influence the perceptions about user-related problems on snowmobile trails.

Future Use of Three-wheel Vehicles on GIA

Snowmobile Trails

Opinions about any future legalization of three-wheel vehicles, or their use on snowmobile trails are split among landowners living on G-I-A trails. If three-wheel vehicles are legalized for use on snowmobile trails, landowners would seem more favorable towards drivers who belong to existing snowmobile clubs and who are driving licensed vehicles--although licensing, per se is not a determining criterion.

Landowners are generally opposed to the idea of developing separate trails for exclusive use by three-wheelers. Many cite cost as

TABLE 2

PROBLEMS ASSOCIATED WITH USE OF
SNOWMOBILE AND GENERAL RECREATION TRAILS*

<u>Situation</u> (Q. 18)	Cited as a Problem by Landowners Near		
	<u>Snowmobile Trails</u> (N=376)		<u>General Use Trails</u> (N=115)
	<u>"Sometimes"</u> (%)	<u>"Frequently"</u> (%)	<u>"Yes"</u> (%)
a) Noise	--	--	16
night	7	2	--
daytime	3	1	--
b) People coming to door for favors	4	0	--
Annoy me with requests for help	--	--	6
c) Littering	12	3	23
d) Feeling insecure about your family's safety	3	1	17
e) Feeling insecure about your property	12	2	25
f) Damage to your land	7	3	--
Crop damage from trespassing	--	--	11
g) Damage to your fences	8	1	8
h) Theft	2	0	2

*Source: a) This study (Q. 18)
b) "Milwaukee Road Corridor Study: Technical Appendix A," (Minnesota Department of Natural Resources, 1979).

a factor. Respondents seem willing to allow the DNR or a local authority to manage experiments on their lands to test the use of three-wheelers on trails. About three per cent of responding landowners are opposed to any use of three-wheel vehicles on designated trails. (See Table 3 for distributions of responses on this issue.)

Opinions on these issues vary between regions of the state as explained in a later section of this report.

Opinions About Trail-Related Issues

In question (26), respondents were asked to indicate strength of agreement with each in a series of statements on the subject of trails. Responses are shown in Table 4.

Median responses to this set of items indicate that landowners: "Agree" with two statements (a,j), "disagree" with two other statements (d,l) and are divided in their opinions about the remaining 10 statements. At least 20% of the population responded "don't know" to items (26 b, e, f, h, m, and n).

Response data indicate that positions landowners take on item (26,1) "If the state opened private trails to three-wheelers, I'd cancel my contract for a trail on my land." -- correlate highly with responses to other items in the series. For example, if the response to item (26,1) is positive, the responses to items (b, f, g, h, and j) tend to be negative and those to items (c, i, k and n) tend to be positive. Responses to item (26,1) tend to be independent of responses to items (a, d, e and m). Correlations with responses to this key Likert scale item are presented in Table 5.

Of the 383 landowners who responded to item (1), 24 (6%) "strongly agreed"; 77(20%) "agreed" and 52 (14%) said they were not sure. These positions, then, represent the views of 40% of the responding landowners. One should not infer that landowners wish to bail out of their G-I-A agreements simply because of the emphasis placed on this item in this report. We wish here to emphasize only that responses to other items are strongly associated with views on this question of continued contracts.

TABLE 3

LANDOWNERS' VIEWS ON LEGALIZING THE
USE OF THREE-WHEEL VEHICLES
ON GRANTS-IN-AID SNOWMOBILE TRAILS

Question (22-25)	Per Cent Responding			
	Yes	No	Don't Know	Not At All
a) Do you feel that 3-wheel vehicles should be legalized for <u>winter use</u> on snowmobile trails in Minnesota? (Q. 22A, N=375)	50	39	11	--
b) If 3-wheelers were legalized, for use in the <u>winter only</u> , would you permit them to use the snowmobile trail on your land? (Q. 22B, N=374)	64	29	6	--
c) If 3-wheelers were legalized, for use in the <u>winter only</u> , would you grant a permit for them to have a separate trail on your land? (Q. 22C, N=375)	32	60	8	--
d) Do you think 3-wheelers should: 1) Use existing snowmobile trails 2) Develop trails of their own? (Q. 22D, N=358)	50 33		13	3
e) Would you agree to letting the DNR or your local government manage a 3-wheel trail on your land for an experiment one winter? (Q. 23, N=375)	57	29	14	--
f) Would you permit 3-wheel vehicles on your trail in the winter if they were licensed? (Q. 24, N=375)	62	27	11	--
g) Would you permit 3-wheel vehicles on your trail if they were part of an existing snowmobile club? (Q. 25, N=376)	69	24	8	--

TABLE 4

LANDOWNERS' OPINIONS ON TRAIL ISSUES

(N=380-384)

Questionnaire Item

(26.) Now, I'd like to go through a series of statements. Please tell me if you: Strongly Agree (5)--Agree (4)--Don't Know (3)--Disagree (2)--or, Strongly Disagree (1) with each statement.

Per Cent							
Response:	a)	27	66	4	2	1	
		5	④	3	2	1	Snowmobile clubs in this area do a good job of controlling their members' use of trails.
	b)	1	33	27	33	7	
		5	4	③	2	1	Snowmobilers and 3-wheelers on the same trail would <u>not</u> be dangerous to one another.
	c)	4	21	16	39	0	
		5	4	③	2	1	Three-wheel vehicles damage farm land. *
	d)	0	11	4	64	2	
		5	4	3	②	1	Snowmobiles damage farm land.
	e)	1	30	26	43	1	
		5	4	③	2	1	Snowmobiles make more noise than 3-wheel vehicles.
	f)	2	33	28	29	3	
		5	4	③	2	1	Three-wheelers would honor a " <u>winter-only</u> " trail rule.
	g)	2	45	16	31	6	
		5	4	③	2	1	It makes sense to have 3-wheelers and snowmobiles on the same trail.
	h)	1	36	22	38	2	
		5	4	③	2	1	Opening trails to 3-wheelers would bring more tourist dollars to this area.
	i)	4	43	9	43	1	
		5	4	③	2	1	Trail users don't seem to understand that these trails are on private land.
	j)	2	53	19	25	2	
		5	④	3	2	1	The time has come to develop trails for 3-wheelers in Minnesota.
	k)	1	30	18	49	1	
		5	4	③	2	1	Opening trails to 3-wheelers would not be fair to snowmobilers.
	l)	6	20	14	59	1	
		5	4	3	②	1	If the state opened private trails to 3-wheelers, I'd cancel my contract for a trail on my land.
	m)	0	13	64	20	2	
		5	4	③	2	1	Dealers are honest in telling three-wheel buyers where they can and can't ride them.
	n)	1	19	40	39	1	
		5	4	③	2	1	Snowmobilers and three-wheelers will never get together in the same club.

Note: * 19% of respondents qualified this statement saying "yes, in the spring and fall."

○ = Median Response

The landowner who indicates he would probably cancel his easement permit if three-wheelers were permitted to use the trail on his land would be likely to:

- Doubt the time has come to develop trails for these users.
- Disagree that it makes sense to have three-wheelers and snowmobilers on the same trail.
- Doubt that three-wheel operators would honor a "winter-only" use rule.
- Doubt that expanded trail use would improve the tourist economy.
- Believe that multi-use trails would be dangerous.
- Think that opening trails to three-wheelers would be unfair to snowmobilers.
- Think that three-wheel vehicles damage farm land.
- Have had problems with snowmobilers.

Landowners who have had problems with snowmobile trail users are wary about permitting additional user-groups on trails that cross their land--in this case, three-wheelers.

Contrary to what one might imagine, it is the problems created by the use of snowmobile trails rather than the number of trail users which influences landowners' responses to item (26,1).

Ninety-seven per cent (97%) of the respondents to question (18) said that "too much traffic on the trail" has "never" caused them a problem. Forty per cent (40%), however, would cancel their contracts for trail use on their lands if they were opened to three-wheel vehicles (Q. 26,1).

The Pearson correlation between responses to (Q. 26,1) and the sum of problems reported in (Q.18, a-r) is (.31) which indicates that 10% of the variance is accounted for in this one item (see Table 5 for a definition of the scoring procedure used in this analysis).*

The Pearson correlation between the number of observed trail users (Q.13, a, b) and Q.26, 1) is only (.0214)--essentially, there is no relationship between the two. Again, the correlation between the number of trail users (Q. 13, a, b) and Q. 26, i-- "Trail users don't seem to understand that these trails are on private land") is also negligible--(.0437).

*Pearson Correlations measure the relationship between two variables. Correlations are expressed as the square of the variance explained. A perfect correlation is (± 1.00). In the social sciences correlations less or greater than ($\pm .4$) are rare. The square root of (.31) is (.096) indicating that 10% of the variance in responses to (Q.26,1) is explained by the variance in summed responses to (Q.18).

TABLE 5

CORRELATIONS TO QUESTION 26,1 (IF THE STATE
OPENED PRIVATE TRAILS TO 3-WHEELERS, I'D CANCEL
MY CONTRACT FOR A TRAIL ON MY LAND.)

<u>Item</u>	<u>Pearson Correlation *</u>
26a Snowmobile clubs in this area do a good job of controlling their members' use of trails	-.09
26b Snowmobilers and 3-wheelers on the same trail would <u>not</u> be dangerous to one another	-.47
26c Three-wheel vehicles damage farm land	.25
26d Snowmobiles damage farm land	.08
<hr/>	
26e Snowmobiles make more noise than 3-wheel vehicles	-.10
26f Three-wheelers would honor a " <u>winter-only</u> " trail rule	-.34
26g It makes sense to have 3-wheelers and snowmobiles on the same trail	-.50
26h Opening trails to 3-wheelers would bring more tourist dollars to this area	-.30
<hr/>	
26i Trail users don't seem to understand that these trails are on private land	.26
26j The time has come to develop trails for 3-wheelers in Minnesota	-.40
26k Opening trails to 3-wheelers would not be fair to snowmobilers	.42
26m Dealers are honest in telling three-wheel buyers where they can and can't ride them	-.10
26n Snowmobilers and three-wheelers will never get together in the same club	.35
All problems combined** (Q. 18)	.31
Number of weekend snowmobiles observed	.02
Length of the trail on land	.01

TABLE 5 (continued)

<u>Item</u>	<u>Pearson Correlation</u>
Length of time respondent has lived at location	.07
Distance from respondent's home	-.01

NOTES: * Correlations less than $\pm .10$ are not usually important.
 ** Each problem rated "frequently" was given a score of 5; each one rated "sometimes" was given a score of 2. The score was the summed for each respondent.

Regional Differences in Survey Responses

Survey responses indicate homogeneity in the study population on most items. Regional variations are generally between populations in the northern and southern regions with minor differences only, within these sub samples. Notable regional differences are listed below:

1. One significant variation in the survey data is reflected in responses to Question (8)--descriptions of land use on properties crossed by snowmobile trails. Trail easements in the North and North Central regions are generally on idle, wooded or pasture land. In the South Central and especially in the Metro regions, trails cross land normally dedicated to annual, grain crops.
2. Residences tend to be situated somewhat closer to trails in the South Central Region where 90% of the respondents report that the nearest residence is within three-tenths of a mile from a trail. The respondents themselves live furthest from trails in the Metro Region where 52% of the sample report living further than three-tenths of a mile from the trail on their lands.
3. Landowners in the North Central Region tend to have lived at their present address for a shorter time than others in the sample--19% for fewer than five years. The median number of years in residence for each region is:

● North Central	14 years
● South Central	21 years
● Metro	28 years
● North	10 years
● Total Sample	20 years
4. The survey population in the North Region is comparatively small (N=22). Just less than two-thirds of this group, however, report they "frequently" or "sometimes" saw three-wheel vehicles being driven on the snowmobile trail across their lands last winter, compared with 19% in each of the other regions.

Many respondents in the North Region remarked to interviewers that there was little snow cover during the winter, 1982 in that area. Disproportionate use of three-wheel vehicles there, may indicate that three-wheelers were substituted for snowmobiles when snow conditions were adverse.

5. Sixty per cent of the survey population own snowmobiles. Landowners in the North Central and South Central regions are more likely to own snowmobiles than respondents in the

Metro Region at a ratio of 4:3.

Twenty per cent of the population own three-wheel vehicles with ownership spread about evenly across regions. Intentions to purchase three-wheel vehicles are more evident in the North Central Region where 34% of the population intend to own one in two years (an increase of 12% over present ownership). Increases of 2% and 6% are projected by landowners in the Metro and South Central Regions where 18% and 21% of the sample own three-wheel vehicles today, respectively.

Landowners in the North and North Central Regions are more likely to belong to snowmobile clubs. Membership is distributed regionally as:

- North/North Central 29% where N=149
- South Central/Metro 12% where N=228
- Total Sample 19% where N=377

6. Landowners, overall, report few problems associated with the use of snowmobile trails on their properties. Three of the problems reported by more than 10% of the survey population are regionally distinct:

- Landowners in the South Central and Metro regions are more likely to find littering a "frequent" or "sometime" problem, although they tend to live further from trails than respondents in other regions (18% v. 12%).
- Landowners in the North and North Central regions tend to be more troubled by unauthorized use of trails in the spring and fall than respondents in the southern regions (36% v. 20%).
- Likewise, respondents in northern regions have more frequent problems with unauthorized use of snowmobile trails by drivers of other motorized vehicles in the winter months (19% v. 10% in the south).

7. Respondents in the North and North Central regions are more likely to say that "many" of their friends own snowmobiles and three-wheel vehicles (59% v. 42%) and (19% v. 7%).

8. The survey population is split in their opinions about whether three-wheel vehicles should be legalized for winter use on snowmobile trails: 50% say yes; 39% say no; 11% have not decided.

Respondents in the North and North Central regions are slightly more in favour of the proposition (54% v. 47% in the southern regions).

If three-wheel vehicles were legalized for winter recreation on snowmobile trails, landowners in the northern regions would be more likely to permit them on their lands (69% v. 60%).

Most landowners oppose the idea of separate trails for three-wheel vehicles (60% of the sample). If this concept were adopted, however, landowners in the northern regions would be more tolerant about accepting it (40% v. 27% in the south) on their lands.

Opinions differ between respondents in the two southern regions on (Q. 22, d--Whether three-wheel vehicles should be confined to snowmobile trails or whether separate trails should be developed for their use): landowners in the Metro region are more strongly in favour of the first option--using existing trails--52% v. 38% in the South Central region and 58% in the northern regions.

9. The likelihood that a landowner would allow monitored, experimental trail use by three-wheelers on his land increases as one goes north in the state: 48% in the Metro Region; 57% in the South Central; 63% in the northern regions.
10. Three-wheel vehicles would be more acceptable to landowners in the survey if their owners belonged to local snowmobile clubs. Again, this perception is more prevalent in the northern part of the state: 74% North/North Central v. 65% South Central/Metro.
11. Landowners throughout the study areas share opinions on most of the items in Question 26. There is no significant regional difference in responses to items (26a through f). Differences appear for items (26g, i, l, and j).

Respondents in the South Central region are more likely to:

- Say that it does not make sense to have three-wheelers and snowmobilers on the same trail (Q. 26g) (44% v. 34% in the other regions).
- Agree that, trail users don't seem to understand that these trails are on private land (Q. 26i) (55% v. 43% in other regions).
- Cancel their trail-use contracts if trails were opened to three-wheel vehicles (Q. 26l) (32% v. 21% North Central and 26% in the Metro region).

On item (26, j: "The time has come to develop trails for three-wheelers in Minnesota), opinions vary from regions in the north where 66% of the respondents agree/strongly agree with the statement, to the south where agreement is less strong--55% in the South Central and 40% in the Metro region.

12. Landowners who report that they were contacted by a snowmobile club regarding this survey project were more likely to live in the northern regions. Fifteen per cent of the respondents in those regions reported they were contacted v. 3% of respondents in the South Central region and 8% of those in the Metro region.

RECOMMENDATIONS

It is understood that the trails which were selected for this study conformed to certain criteria established by the DNR which would make them: Suitable for three-wheel vehicles; and likely to be attractive to owners of three-wheel vehicles both for topography and proximity to market centers.

Ideally, the results of this survey would have provided decision-makers with either a mandate to legalize the use of three-wheel vehicles on Grants-in-Aid snowmobile trails or a clear indication that any such proposal should be tabled for consideration at a much later time.

Unfortunately, the data are more ambiguous. While landowners tend towards the first proposition, this tendency is not strong enough to support action in that direction. Many remain doubtful. A strong 39% of the study group oppose legalizing three-wheelers on snowmobile trails.

If one concentrates on the positive points brought out through this segment of the three-wheel study, some "next step" possibilities become apparent.

The data suggest that:

1. 55% of the study population agree/strongly agree that "The time has come to develop trails for three-wheelers in Minnesota."

Regionally, there is more agreement with this proposition in the North and North Central regions (66%) than in the South Central (55%) or Metro regions (40%).

2. If the state were to open private trails to three-wheelers, 60% of the study population say they would not cancel the contracts they now have which permit trails on their lands.

Landowners who would be most likely to close their lands to trails live in the South Central region where 32% of the respondents say they would take that action. In the Metro region, 26% say they would cancel their agreements and 22% are not certain what their response would be.

3. Many respondents do not know if "snowmobilers and three-wheelers could ever get together in the same club" (40%).

Those who think they could tend to live in the northern regions of the state where 54% believe it is possible (v. 30% of respondents in the South Central and Metro regions).

4. Twenty per cent of the study population own three-wheel vehicles. Another seven per cent plan to own them within the next two years. More of these owners live in the northern regions than in the southern regions.
5. One half of the landowners who own snowmobiles in the North and North Central regions belong to snowmobile clubs (30% of the respondents) v. 20% of the landowners who own snowmobiles in the South Central and Metro regions (12% of the respondents in those regions).
6. Sixty-nine per cent of the study population would permit three-wheel vehicles on their trails if the owners belonged to an existing snowmobile club.

Three-fourths of the respondents in the Northern regions share this view (v. 63% in South Central region and 68% in the Metro region).

7. More than half of the respondents (57%) would permit the DNR to manage an experimental winter trail for three-wheel vehicles on their lands.

Regionally, more respondents would accept this plan in the North Central area (62%) than in the South Central region (57%) or the Metro region (48%).

8. Complaints about snowmobile trail users are few: Snowmobilers riding off the designated trail beds; and unauthorized use of snowmobile trails on and off-season. Respondents however, are skeptical about the idea that three-wheel operators would abide by a winter-only use rule or that they would stay out of crop land.

Using the information generated in this single study element, it would seem appropriate for the DNR to:

1. Investigate more closely, the views on three-wheel trail use held by owners/operators of the semi-private land holdings which form segments of G-I-A snowmobile trails--especially in the northern regions of Minnesota.
2. Initiate discussions with existing snowmobile clubs and landowners on G-I-A trails in the northern counties in order to:
 - a. Identify snowmobile clubs which maybe interested in a joint trail with three-wheelers.

- b. Make tentative selection of appropriate areas for experimental trails in the North and North Central regions.
 - c. Repeat the survey at intervals of one year to gauge differences in landowners opinions.
 - d. Develop procedures for patrolling trail use on any experimental trails.
3. Invite snowmobile and three-wheel owners and organizations in areas under consideration to joint meetings to approve and/or modify plans for further research and experimentation.
4. Identify appropriate control areas for comparison purposes.

APPENDIX A

Survey Instrument used in Interviews
with Landowners on G-I-A Snowmobile
Trails in Minnesota, Spring, 1983.

THREE-WHEEL TRAIL USE STUDY
A SURVEY OF LANDOWNERS ON GIA SNOWMOBILE TRAILS
Spring, 1983

1. Card Number: _____ (1) 1

(1) (2) (3)
2. Respondent Number: _____ (2-4) _____
(4) (5) (6)
3. Respondent's land is part of the _____ Trail. (5-6)

HELLO, MR. _____. THIS IS _____. I WORK WITH JOHN AND MICHELE GENEREUX, CONSULTANTS IN ST. PAUL. WE HAVE BEEN HIRED BY THE DEPARTMENT OF NATURAL RESOURCES (DNR) TO INTERVIEW MINNESOTANS WHO HAVE SNOWMOBILE TRAILS ON THEIR LANDS. DID YOU GET THE LETTER THAT THE DNR SENT YOU ABOUT THIS SURVEY?

- _____
(7) YES (1) _____ NO (2) _____ DOES NOT REMEMBER (3) _____
(7)

(SUMMARIZE THE LETTER)

AS YOU PROBABLY KNOW, THREE-WHEEL VEHICLES ARE ILLEGAL ON SNOWMOBILE TRAILS TODAY. AS THE LETTER TOLD YOU, THE DNR IS NOT MAKING ANY POLICIES ABOUT THREE-WHEEL VEHICLES THIS YEAR. THEY WOULD LIKE TO HAVE YOUR OPINIONS ABOUT TRAIL USE THOUGH. DO YOU HAVE SOME TIME NOW TO ANSWER SOME QUESTIONS ABOUT THIS? YOUR ANSWERS WILL BE CONFIDENTIAL.

CALL BACK AT: _____

4. _____ REFUSED (1) _____
(10)
5. Sex of Respondent: _____ MALE (1) _____ FEMALE (2) _____
(11)
- *** 6. To start with, is there a snowmobile trail on your land?

(12) YES (1) _____ NO (2) _____ USED TO BE (3) _____
(12)
- END INTERVIEW
7. In what year did you first allow snowmobilers to use your land for a trail?
19 _____ I inherited an easement from another owner.
(13-14) (13-14) (code 99) _____
(13) (14)
8. How long is the snowmobile trail on your land: (tenths of miles _____)
(15-16) _____
(15) (16)
- a) _____ YARDS b) _____ FEET c) _____ MILES d) _____ ACRES
8. The land you have granted for a snowmobile trail...what do you use it for during the rest of the year:

(17-18) _____
(19-20) _____
(17) (18)
- _____
(19) (20)
9. What per cent of the trail on your land follows boundary lines: _____%
(21-22) _____
(21) (22)
10. How far is the trail on your land from the nearest residence: (tenths of miles _____)
(23-24)
- a) _____ FEET b) _____ YARDS c) _____ MILES _____
(23) (24)
11. How far is the trail on your land from your own home: (tenths of miles _____)
(25-26)
- a) _____ FEET b) _____ YARDS c) _____ MILES _____
(25) (26)

12. Could you please tell me how long you have lived at your present address:
 _____ YEARS (less than 1=99) (27) (28)
 (27-28)
13. I'd like you to think about trail use on your land this past winter.
 About how many snowmobilers would you say used the trail
 _____ ON AN AVERAGE WEEK DAY _____ DOES NOT KNOW (999) (29) (30)
 (29-31) (29-31)
 _____ ON AN AVERAGE DAY ON THE WEEKEND? _____ DOES NOT KNOW (999)
 (32-34) (32-34) (31) (32)
14. How often have you noticed 3-wheelers on the trail this past winter: (33) (34)
 a) _____ Frequently b) _____ Sometimes c) _____ Rarely d) _____ Never
 (35) (1) (35) (2) (35) (3) (35) (4) (35) (36)
 (35) (36)
15. Do you, or does anyone in your home:
 a) Own a snowmobile: _____ YES (1) _____ NO (2) _____ Used To (3)
 (36) (36) (36) (39) (40)
 b) Own a 3-wheeler: _____ YES (1) _____ NO (2) _____ Used To (3)
 (37) (37) (37)
16. Do you, or does anyone in your home expect to own a snowmobile or a 3-wheeler in
 the next couple of years? (41) (42)
 a) SNOWMOBILE: _____ YES (1) _____ NO (2) _____ MAYBE (3) _____ DOESN'T KNOW (4) (43) (44)
 (38) (38) (38) (38)
 b) 3-WHEELER: _____ YES (1) _____ NO (2) _____ MAYBE (3) _____ DOESN'T KNOW (4) (45) (46)
 (39) (39) (39) (39)
17. Do you, or does anyone in your household belong to a snowmobile club: (47) (48)
 _____ YES (1) _____ NO (2) _____ USED TO (3) _____ PLANS TO (4)
 (40) (40) (40) (40) (49) (50)
18. The DNR would like to know how the trail use has affected your family and the use of
 your land. Have each of the following situations: NEVER, SOMETIMES, or FREQUENTLY
 been a problem for you? (1) (2) (3) (51) (52)
- a) 1 2 3 Noise during the daytime (41) (53) (54)
 b) 1 2 3 Noise at night (42) (55) (56)
 c) 1 2 3 Too much traffic on the trail (43) (57) (58)
 d) 1 2 3 People coming to your door for favors (44)
 e) 1 2 3 Snowmobilers riding off the trail (45)
 f) 1 2 3 Littering (46)
 g) 1 2 3 Poor trail markings (47)
 h) 1 2 3 Feeling insecure about your family's safety (48)
 i) 1 2 3 Feeling insecure about your property (49)
 j) 1 2 3 Unauthorized use of the trail in the fall or spring (50)
 k) 1 2 3 Unauthorized use by non-snowmobilers in the winter (51)
 l) 1 2 3 Damage to your land (52)
 m) 1 2 3 Damage to your fences (53)
 n) 1 2 3 Trails left open in the spring (54)
 o) 1 2 3 Theft (55)
 p) 1 2 3 Not being able to get in touch with snowmobile clubs (56)
 q) 1 2 3 Not being able to reach law enforcement people (57)
 r) 1 2 3 Spooked livestock (58)

26. Now, I'd like to go through a series of statements. Please tell me if you:
Strongly Agree (5)--Agree (4)--Don't Know (3)--Disagree (2)--or, Strongly Disagree (1)
 with each statement.

- | | | | | | | | | |
|----|---|---|---|---|---|--|------------------------|-------------|
| a) | 5 | 4 | 3 | 2 | 1 | Snowmobile clubs in this area do a good job of controlling their members' use of trails (74) | | <u>(74)</u> |
| b) | 5 | 4 | 3 | 2 | 1 | Snowmobilers and 3-wheelers on the same trail would <u>not</u> be dangerous to one another (75) | <u>(75)</u> | <u>(76)</u> |
| c) | 5 | 4 | 3 | 2 | 1 | Three-wheel vehicles damage farm land (76) | <u>(77)</u> | <u>(78)</u> |
| d) | 5 | 4 | 3 | 2 | 1 | Snowmobiles damage farm land (77) | | |
| e) | 5 | 4 | 3 | 2 | 1 | Snowmobiles make more noise than 3-wheel vehicles (78) | <u>(79)</u> | <u>(80)</u> |
| f) | 5 | 4 | 3 | 2 | 1 | Three-wheelers would honor a " <u>winter-only</u> trail rule (79) | | |
| g) | 5 | 4 | 3 | 2 | 1 | It makes sense to have 3-wheelers and snowmobiles on the same trail (80) | | |
| h) | 5 | 4 | 3 | 2 | 1 | Opening trails to 3-wheelers would bring more tourist dollars to this area (09) | | |
| i) | 5 | 4 | 3 | 2 | 1 | Trail users don't seem to understand that these trails are on private land (10) | <u>2</u>
<u>(1)</u> | <u>(2)</u> |
| j) | 5 | 4 | 3 | 2 | 1 | The time has come to develop trails for 3-wheelers in Minnesota (11) | <u>(3)</u> | <u>(4)</u> |
| k) | 5 | 4 | 3 | 2 | 1 | Opening trails to 3-wheelers would not be fair to snowmobilers (12) | | |
| l) | 5 | 4 | 3 | 2 | 1 | If the state opened private trails to 3-wheelers, I'd cancel my contract for a trail on my land (13) | <u>(5)</u> | <u>(6)</u> |
| m) | 5 | 4 | 3 | 2 | 1 | Dealers are honest in telling three-wheel buyers where they can and can't ride them. (14) | <u>(7)</u> | <u>(8)</u> |
| n) | 5 | 4 | 3 | 2 | 1 | Snowmobilers and three-wheelers will never get together in the same club. (15) | <u>(9)</u> | <u>(10)</u> |
| | | | | | | | <u>(11)</u> | <u>(12)</u> |

26. Finally, did anyone from a snowmobile club talk to you about this survey before I called you today?

- | | | | | | | | | | | |
|-------------|-------------|---------|----|-------------|--------|----|-------------|-------------------|-------------|-------------|
| a) | <u>(17)</u> | YES (1) | b) | <u>(17)</u> | NO (2) | c) | <u>(17)</u> | WOULD NOT SAY (3) | <u>(15)</u> | <u>(16)</u> |
| <u>(17)</u> | | | | | | | | | | |

ADDITIONAL COMMENTS

(DNR Study Manager: Paul Nordell (612-296-6048)
 (John, Michele Genereux: 612-222-0206)



APPENDIX B

Letter of Notification sent to
Survey Population by DNR, Spring,
1983.



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

File No. _____

April 15, 1983

Mr. Happy Landowner
RFD 20
Snowtown, MN 00001

Dear Mr. Landowner:

Outdoor recreation is particularly prized by the citizens of Minnesota. The Department of Natural Resources (DNR), has responsibility for providing this opportunity for residents in all parts of the state. In doing so, it is necessary that the DNR keep pace with changing demands for recreation and to anticipate the changes in the ways that Minnesotans enjoy themselves in outdoor sports. At the same time, the DNR is responsible for safeguarding the quality of the lands it manages for the people of Minnesota.

As a landowner, you have shown your public-spirited interest by your participation in the DNR Grants-in-Aid trails program. We, therefore, believe your views to be unique and important in the discussion of changing recreation habits.

Our recreation habits do change. Today, three-wheel recreation vehicles are fast becoming popular for year-round recreation in Minnesota. We have every reason to believe that sales of three-wheel, off-the-road vehicles will increase.

At the present time, the use of three-wheel vehicles in Minnesota is restricted by law. As an example, three-wheelers are prohibited on snowmobile Grants-in-Aid trails and on designated state, year-round, corridor trails.

In fulfilling the DNR's responsibilities to the people of Minnesota, the DNR has approved a landowner survey on the winter use of three-wheel vehicles. By the end of May, 1983, an independent consultant shall contact as many as 500 landowners in selected areas of the state who have allowed public trails across their property. This is because of the interest people like yourselves have displayed with another motorized trail use. The DNR believes that your views will be very important when the legislature asks for DNR direction concerning use of three-wheel vehicles.

We recognize that the use of three-wheel vehicles may be a sensitive issue. In light of this, please be assured that you are still and always will be in total control of your land. No trail uses will be promoted on your land without your blessing.

AN EQUAL OPPORTUNITY EMPLOYER

April 15, 1983
Mr. Happy Landowner
Page 2

You may be called for this survey. We are hopeful that you will assist us by answering the questions the interviewer will put to you. The survey will be confidential. Your name and your personal answers will not be revealed to anyone. Only the consultant will know who was called. The consultant selected for the survey is John and Michele Genereux, Consulting and Research in the Social Sciences, located in St. Paul, Minnesota.

We encourage you to participate in this survey. Landowners are an integral and essential part of the winter recreation trail system in Minnesota. We appreciate the role you play in providing outdoor recreation for your fellow state residents. We are hopeful that you will support us now in our efforts to develop a fair policy for managing recreational enjoyment for all Minnesotans in the future.

Sincerely yours,

DONALD M. CARLSON
Special Assistant to the Commissioner
Trails and Waterways Unit

By: DAN COLLINS, Supervisor
Trails Planning Section
Trails and Waterways Unit
Box 52 - Centennial Building
St. Paul, Minnesota 55155-1679
(612) 296-6048

DMC/DC/lr

Enclosure

