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THE GEODEMOGRAPHICS OF RESPONSE TO A MAILED SURVEY

The Geodemographics of Response in a Mailed Survey

The use of a complex, census-based, zip code level categorization scheme for U.S. households seems to yield some worthwhile insights in examining response rate differentials for a mailed study of principal drivers of new cars.

Since the 1970 U.S. Census, it has been feasible to identify and group neighborhoods across the country that appear to have more in common with each other in their make-up and, it is hoped, marketing behavior than they do with geographically contiguous areas. This approach is not automotive-specific.

There are three such systems in use, PRIZM, Cluster-Plus and ACORN and J. D. Power and Associates, at the request of some of our first clients, has had each R. L. Polk personal-use new car registration name coded into one of the forty PRIZM Clusters. While PRIZM can be done on a Census "Block" basis (a Block averages about 200 households) ours was done on 5-digit zip code areas which average over 2,500 homes each. Claritas, who owns the PRIZM system, contends that the block level data are generally more meaningful. In any case, the battle cry is "you are where you live".

The PRIZM approach uses measurements of the following attributes to create and characterize their clusters:

- Urbanization -- Urban, Suburban, Town and Rural are used here. In the "Social Group" summaries these four are combined with measures of affluence to create the twelve Groups.
- Affluence -- Included is not only income, but number of wage earners, local industry and wealth.
- Education
- Ethnicity and Naturalization
- Age
- Marital and Family Status

For this examination, we had a sample of 32,000 plus addresses of those who registered new cars between May 1 and October 31 of 1989 sent directly from R. L. Polk to Claritas and then to us so that every record was assigned to one and only one PRIZM Cluster.

A make-specific 12 page questionnaire and a one dollar bill were sent to each registered owner during the third week of March of 1990 after a warning postcard had been sent three days prior. While there are 16 rotations of the 100 plus magazine titles and A/B versions of four broadcast/lifestyle questions, the run of versions is random and we have noticed no previous response problems by version.

We followed up, in April, with a second mailing of the questionnaire to a partially

"cleaned" list and then with up to three attempted phone calls to encourage response. We would have called more if response was to be below our promised 50% average rate (excluding undeliverables) but it was clear early on that extraordinary means would not be needed. This Wave I of the J. D. Power and Associates' 1990 Power Car Media StudySM finished with a 55.2% overall response on the above basis.

We divided the results into four exclusive classes:

<u>Class</u>	<u>#</u>	<u>% All</u>	<u>% Net</u>
1. In-tab usable	17,596	54.0	55.2
2. Unusable returns	1,306	4.0	4.1
3. Non-response	12,959	39.7	40.7
4. <u>Undeliverable</u>	<u>734</u>	<u>2.3</u>	<u>---</u>
Total Mailed	32,595	100.0	
Net Mailed	31,861		100.0

The detail is given in Exhibit I for all 40 of the clusters (and for the three categories that do not fall into the system). Note that while the attached names and descriptions of PRIZM Clusters always follow the same numeric order, this order is not hierarchical. The 12 Social Groups listed in Exhibit II are given in a rough approximation of desirability either for general marketing purposes or as places to live; while there is some arbitrariness in the ranking, S1 with Blue Blood Estates clearly beats U3 and Public Assistance in most dimensions. Within each alpha-class, the lower number indicates greater average affluence and desirability.

Below are the ten clusters with the worst response, including their descriptions.

<u>Worst Response</u>			
<u>% Response</u>	<u>Cluster #</u>	<u>Social Group</u>	<u>Cluster Name</u>
34.2	9	U3	Hispanic Mix
35.4	14	U2	Emergent Minorities
36.7	32	U3	Public Assistance
39.6	11	U3	Downtown Dixie-Style
42.6	31	U1	Black Enterprise
43.6	15	R2	Tobacco Roads
43.8	3	U2	New Melting Pot
46.4	21	U1	Urban Gold Coast
46.5	4	U3	Heavy Industry
49.3	13	T3	Norma Rae-Ville

In each case, there is a strong suspicion of English-language illiteracy or discomfort and an element of alienation to such establishment foolishness as survey research. The only one that strongly stands out is the Urban Gold Coast (#21) which heads up the U1 group and is characterized by having a low rate of car ownership generally and perhaps captures an upper-end bias to non-response; New York City is given as its prime example.

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High response, on the other hand, seems to go with the more bucolic ways of rural small town and exurban America. The best ten are:

<u>Best Response</u>			
% Response	Cluster #	Social Group	Cluster Name
74.2	35	R1	Grain Belt
66.9	19	R1	Shotguns & Pickups
64.2	29	T2	Coalburg & Corntown
59.7	1	T1	Gods' Country
59.5	34	R1	Agri-Business
59.4	40	T2	Blue Collar Nursery
59.4	39	S4	Gray Power
58.9	16	T2	Middle America
58.8	22	T3	Mines & Mills
58.7	12	T1	Towns & Gowns

Chart III lists the disposition by social group showing that PRIZM's hierarchy would not constitute a J. D. Power and Associates response ranking.

You must keep in mind that new car purchase while not a needle-in-a-haystack phenomenon is rare enough (6.8 million personal use new cars at the current annual rate is a gross 7% of our 93 million households) that the new car buyers in any non-automotive grouping will be a clear minority and may not share the overall characterizations of the geodemographic area, the locality, or any demographic category they happen to fall into. Indeed this is the fundamental logic of our annual J. D. Power and Associates' Car Media Study[™] and the separate Truck Media Study.

To further break new car principal drivers by the segments or competitive sets to which their vehicles belong further strains the credibility of all middle terms or correlates with the purchase act. It surprised us somewhat to see that with a rare phenomenon and using PRIZM's second-best approach, Zips vs. Blocks, the patterns make as much sense as they do. It suggests that an attitude in a collection of kindred Zips can be shared by a small, generally more affluent subgroup--those who have the means and the will to buy new cars. On the other hand, some of the factors are not necessarily unique to PRIZM and reflect known effects of income, education and urbanization on cooperation with research in general.

A motive for us to explore such approaches is that lacking the control of a U.S. automotive census, we can only weight to personal-use new car registrations. We suspect that doing this by each make and model of car and rolling this up to competitive segments and then to a car universe corrects for a good piece of the response differential but we do not know precisely. On a practical level, to attempt to cross-project our 200 plus models by 40 PRIZM Clusters is not a great idea even with

32,000 annual net sample. To further complicate the matter we project into five states for which R. L. Polk cannot give out names and addresses.

The exhibit below shows response rates by new car segments. While all cars are bought in all clusters, the concentrations of high response car types tend to be in high response PRIZM Clusters. The low response car lines tend to reflect a mixture of youth and affluence that tends to be urban:

<u>Response Rate</u>	<u>Segment</u>
62.6%	Basic Large
62.5%	Upper Middle Domestic
59.3%	Upper Middle Asian
58.7%	Luxury Domestic
58.2%	Middle Specialty
57.7%	Lower Middle Import
56.7%	Lower Middle Domestic
54.0%	Small Sporty Import
52.0%	Luxury Import
51.8%	Sports Car Asian
51.4%	Basic Small Domestic
51.0%	Small Sporty Domestic
50.0%	Basic Small Import
47.8%	Upper Middle European
43.5%	Sports Car Domestic
41.2%	Sports Car European
55.3%	ALL

The domestic buyer tends to be older, less urban and more poorly educated which seems to cause pure domestic segments (Basic Large and Middle Specialty) and domestic ends of some segments to respond at higher rates.

We do see an indication that a Spanish language questionnaire, for example, might be worthwhile but the response problem might be more than just language. In this matter, our data gives some insights we have not seen elsewhere; over 40% of our respondents who consider themselves Hispanic do not have identifiably Hispanic surnames raising some other questions.

The low response areas tend also to have low new car purchase so the overall importance to the market is not as dramatic as a listing would suggest.

We intend to work further with R. L. Polk and with PRIZM to have the R. L. Polk data coded beyond the zip level to allow us to look at the data on a block level. Cluster-plus, PRIZM's competitor from Dun & Bradstreet has approached us about looking at their data and we will see if their 47 cells provide more dramatic indications. In the meantime, our house statisticians will explore the relationship between our segments and the PRIZM approach in the area of response.

EXHIBIT I -- DISPOSITION OF MAILED QUESTIONNAIRES BY PRIZM CLUSTER

RESPONSE

PRIZM CLUSTER	SOCIAL GROUP	TOTAL SENT	IN-TAB	% IN-TAB		UNUSABLE	% UNUSABLE		NON-RESPONSE	% NON-RES.		UNDELIV-ERABLE	% UNDELIV.		TOTAL DELIVERABLE	RATE IN-TAB % DLVRABL	
1	T1	1598	939	58.8%		52	3.3%		582	36.4%		25	1.6%		1573	59.7%	
2	S4	380	201	52.9%		15	3.9%		159	41.8%		5	1.3%		375	53.6%	
3	U2	200	85	42.5%		4	2.0%		105	52.5%		6	3.0%		194	43.8%	
4	U3	388	171	44.1%		14	3.6%		183	47.2%		20	5.2%		368	46.5%	
5	S1	2811	1521	54.1%		99	3.5%		1151	40.9%		40	1.4%		2771	54.9%	
6	R2	178	91	51.1%		10	5.6%		69	38.8%		8	4.5%		170	53.5%	
7	S2	1601	892	55.7%		79	4.9%		606	37.9%		24	1.5%		1577	56.6%	
8	S1	612	330	53.9%		23	3.8%		253	41.3%		6	1.0%		606	54.5%	
9	U3	241	77	32.0%		7	2.9%		141	58.5%		16	6.6%		225	34.2%	
10	R2	760	426	56.1%		43	5.7%		272	35.8%		19	2.5%		741	57.5%	
11	U3	514	192	37.4%		20	3.9%		273	53.1%		29	5.6%		485	39.6%	
12	T1	449	250	55.7%		23	5.1%		153	34.1%		23	5.1%		426	58.7%	
13	T3	511	243	47.6%		23	4.5%		227	44.4%		18	3.5%		493	49.3%	
14	U2	402	140	34.8%		16	4.0%		239	59.5%		7	1.7%		395	35.4%	
15	R2	165	72	43.6%		11	6.7%		82	49.7%		0	0.0%		165	43.6%	
16	T2	887	512	57.7%		36	4.1%		322	36.3%		17	1.9%		870	58.9%	
17	T1	1521	845	55.6%		63	4.1%		558	36.7%		55	3.6%		1466	57.6%	
18	T3	348	183	52.6%		13	3.7%		140	40.2%		12	3.4%		336	54.5%	
19	R1	377	251	66.6%		12	3.2%		112	29.7%		2	0.5%		375	66.9%	
20	S2	1272	666	52.4%		35	2.8%		525	41.3%		46	3.6%		1226	54.3%	
21	U1	129	58	45.0%		4	3.1%		63	48.8%		4	3.1%		125	46.4%	
22	T3	603	344	57.0%		30	5.0%		211	35.0%		18	3.0%		585	58.8%	
23	U1	1213	617	50.9%		39	3.2%		507	41.8%		50	4.1%		1163	53.1%	
24	S3	2858	1625	56.9%		102	3.6%		1086	38.0%		45	1.6%		2813	57.8%	
25	S2	323	158	48.9%		15	4.6%		147	45.5%		3	0.9%		320	49.4%	
26	U2	636	304	47.8%		21	3.3%		274	43.1%		37	5.8%		599	50.8%	
27	S4	1063	606	57.0%		44	4.1%		397	37.3%		16	1.5%		1047	57.9%	
28	S1	1295	669	51.7%		43	3.3%		570	44.0%		13	1.0%		1282	52.2%	
29	T2	490	312	63.7%		21	4.3%		153	31.2%		4	0.8%		486	64.2%	
30	S3	2414	1305	54.1%		71	2.9%		992	41.1%		46	1.9%		2368	55.1%	
31	U1	323	135	41.8%		13	4.0%		169	52.3%		6	1.9%		317	42.6%	
32	U3	245	87	35.5%		4	1.6%		146	59.6%		8	3.3%		237	36.7%	
33	T3	1322	750	56.7%		74	5.6%		477	36.1%		21	1.6%		1301	57.6%	
34	R1	510	301	59.0%		31	6.1%		174	34.1%		4	0.8%		506	59.5%	
35	R1	281	207	73.7%		13	4.6%		59	21.0%		2	0.7%		279	74.2%	
36	U2	411	204	49.6%		19	4.6%		179	43.6%		9	2.2%		402	50.7%	
37	U1	224	115	51.3%		8	3.6%		91	40.6%		10	4.5%		214	53.7%	
38	R2	757	412	54.4%		46	6.1%		293	38.7%		6	0.8%		751	54.9%	
39	S4	1322	769	58.2%		67	5.1%		458	34.6%		28	2.1%		1294	59.4%	
40	T2	642	379	59.0%		30	4.7%		229	35.7%		4	0.6%		638	59.4%	
X	Non-Residential	132	66	50.0%		4	3.0%		56	42.4%		6	4.5%		126	52.4%	
Y	Unclassified	162	86	53.1%		6	3.7%		61	37.7%		9	5.6%		153	56.2%	
Z	Incorrect Zip	25	0	0.0%		3	12.0%		15	60.0%		7	28.0%		18	0.0%	
	Total	32595	17596	54.0%		1306	4.0%		12959	39.8%		734	2.3%		31861	55.1%	

THE TWELVE SOCIAL GROUPS		THE FORTY CLUSTERS	
Codes	Descriptive Titles	Numbers	Nicknames
S1	Educated, Affluent Executives and Professionals in Elite Metro Suburbs	28	Blue Blood Estates
		8	Money & Brains
		5	Furs & Station Wagons
S2	Pre- and Post-Child Families and Singles in Upscale, White-Collar Suburbs	7	Pools & Patios
		25	Two More Rungs
		20	Young Influentials
S3	Upper-Middle, Child-Raising Families in Outlying, Owner-Occupied Suburbs	24	Young Suburbia
		30	Blue-Chip Blues
U1	Educated, White-Collar Singles and Ethnic in Upscale, Urban Areas	21	Urban Gold Coast
		37	Bohemian Mix
		31	Black Enterprise
		23	New Beginnings
T1	Educated, Young, Mobile Families in Exurban Satellites and Boom Towns	1	God's Country
		17	New Homesteaders
		12	Towns & Gowns
S4	Middle-Class, Post-Child Families in Aging Suburbs and Retirement Areas	27	Levittown, U.S.A.
		39	Gray Power
		2	Rank & File
T2	Mid-Scale, Child-Raising Blue-Collar Families in Remote Suburbs and Towns	40	Blue-Collar Nursery
		16	Middle America
		29	Coalburg & Cornatown
U2	Mid-Scale Families, Singles and Elders in Dense, Urban Row and High-Rise Areas	3	New Melting Pot
		36	Old Yankee Rows
		14	Emergent Minorities
		26	Single City Blues
R1	Rural Towns and Villages Amidst Farms and Ranches Across Agrarian Mid-America	19	Shotguns & Pickups
		34	Agri-Business
		35	Grain Belt
T3	Mixed Genery and Blue-Collar Labor in Low-Mid Rustic, Mill, and Factory Towns	33	Golden Ponds
		22	Mines & Mills
		13	Norma Rae-Ville
		18	Smalltown Downtown
R2	Landowners, Migrants and Rustics in Poor Rural Towns, Farms, and Uplands	10	Back-Country Folks
		38	Share Croppers
		15	Tobacco Roads
		6	Hard Scrabble
U3	Mixed, Unskilled Service and Labor in Aging, Urban Rows and High-Rise Areas	4	Heavy Industry
		11	Downtown Dixie-Style
		9	Hispanic Mix
		32	Public Assistance

EXHIBIT III -- DISPOSITION OF MAILED QUESTIONNAIRES BY PRIZM'S SOCIAL GROUPS

												RESPONSE RATE	
PRIZM CLUSTER	SOCIAL GROUP	TOTAL SENT	IN-TAB	% IN-TAB	UNUSABLE	% UNUSABLE	NON- RESPONSE	% NON-RES.	UNDELIV- ERABLE	% UNDELIV.	TOTAL DELIVERABLE	IN-TAB % DLVRABL	
	Total S1	4718	2520	53.4%	165	3.5%	1974	41.8%	59	1.3%	4659	54.1%	
	Total S2	3196	1716	53.7%	129	4.0%	1278	40.0%	73	2.3%	3123	54.9%	
	Total S3	5272	2930	55.6%	173	3.3%	2078	39.4%	91	1.7%	5181	56.6%	
	Total U1	1889	925	49.0%	64	3.4%	830	43.9%	70	3.7%	1819	50.9%	
	Total T1	3568	2034	57.0%	138	3.9%	1293	36.2%	103	2.9%	3465	58.7%	
	Total S4	2765	1576	57.0%	126	4.6%	1014	36.7%	49	1.8%	2716	58.0%	
	Total T2	2019	1203	59.6%	87	4.3%	704	34.9%	25	1.2%	1994	60.3%	
	Total U2	1649	733	44.5%	60	3.6%	797	48.3%	59	3.6%	1590	46.1%	
	Total R1	1168	759	65.0%	56	4.8%	345	29.5%	8	0.7%	1160	65.4%	
	Total T3	2784	1520	54.6%	140	5.0%	1055	37.9%	69	2.5%	2715	56.0%	
	Total R2	1860	1001	53.8%	110	5.9%	716	38.5%	33	1.8%	1827	54.8%	
	Total U3	1388	527	38.0%	45	3.2%	743	53.5%	73	5.3%	1315	40.1%	