A Territorial Analysis of Residential Burglary in Salt Lake County [1]

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This study examines aspects of territoriality which are hypothesized to be important to burglars in selecting residential burglary targets. In this study the definition and analysis of territoriality is derived from Altman's general framework of privacy regulation (Altman, 1975) and Newman's defensible space notions (Newman, 1972). These ideas concerning territoriality are used to develop a model of burglary as a sequential decision making process in which the burglar attends to particular social and physical cues at each step in the process. Lastly, the empirical results are given for a study which compared these social and physical cues for burglarized and nonburglarized homes.

Altman (1975) views territoriality as fitting within the general framework of privacy regulation as a dialectic boundary control process. Instead of the traditional view of privacy as a "keep out" process, Altman defines privacy as a process of selectively closing or opening the self to social contact. The desired level of openness or closedness constantly shifts, and different types of behavioral mechanisms are used to achieve a desired level of privacy. These mechanisms include verbal and nonverbal behavior as well as territoriality and the use of the environment. Altman assumes that successful privacy regulation is necessary to maintain effective individual and group functioning.

Previous research (Altman & Haythorn, 1967; Altman, Taylor, and Wheeler, 1971; Sundstrom & Altman, 1974) has shown the effective use of territoriality to be an important contributer to effective privacy regulation. Altman's (1975) definition states that

> "territorial behavior is a self/other boundary regulation mechanism that involves personalization of or marking of a place or object and communication that it is 'owned' by a person or group.

> Personalization and ownership are designed to regulate social interaction and to help satisfy various social and physical motives. Defensive responses may sometimes occur when territorial boundaries are violated."

Although most territories exhibit certain of these qualities, there are important differences between types of territories. It is hypothesized that burglars distinguish between these three types of territories--the public, secondary, and primary territories, which were described by Altman (1975) and Brown and Altman (1978).

Primary territories, such as a bedroom or home, are quite central to the lives of the owners and are occupied for long periods of time. These territories are important symbols of personal identity, and physical markers are used to display this identity. The markers in primary territories may vary widely in type, size, and value. Owners are quite selective over who may gain access to a primary territory and what types of behavior are allowed there. If an invasion does occur, the owner may engage in a wide range of defensive responses, including strong defensive responses, such as recourse to legal sanctions.

Secondary territories, such as a bar or certain neighborhood sidewalks, are somewhat more accessible to a greater range of users, but regular occupants exert some control over who may enter the territory and what range of behaviors may take place there. Although there may be regular users such as bar "regulars" or members of a country club, the time spent within a secondary territory is usually somewhat more constrained than the time spent in a primary territory. Although markers often serve the function of personal identity, in secondary territories markers are often explicitly used to stake out territory as well. For example, graffiti on fences may be an explicit attempt by a gang to

communicate ownership. In secondary territories the ability of people to erect markers is often more restricted than in primary territories, and there is also more of a restriction on the range and type of markers used. Owners respond to invasion by abandoning the territory or by reasserting their claim with a more careful delineation of markers.

Public territories, such as a bus seat or a place in line, are usually not very central to the lives of occupants, and both control over the territory and time spent within the territory are limited. If the territory is marked at all, bodily marking (i.e. staking out the territory by mere bodily presence) is often used. Physical markers, such as books guarding a library table, are often limited in type and do not protect the territory for long periods of time. Potential invasions are avoided through nonverbal means (i.e. glaring at potential intruders or orienting the body away from potential intruders), and during an invasion there may be verbal retaliation or just an abandonment of the territory.

These dimensions of difference between public, secondary, and primary territories are summarized in Table 1.

The present treatment of territoriality fits well with architect Oscar Newman's (1972) examination of crime in public housing projects. His examination revealed a higher crime rate in apartments where the public territory began immediately outside the primary territory of the home. That is, anyone could stand outside the homes and engage in almost any behavior without fear of censure from the residents. The low crime areas had what Newman termed a semipublic area (or what Altman calls a secondary territory) immediately outside their front doors which served as a protective buffer zone between totally

public and totally private areas. The secondary territory was jointly owned by neighbors, and the owners knew each other and displayed territorial concern over the area. This concern was hypothesized to be reflected in the upkeep and personalization of the area, the informal social relations between neighbors, and the recognition and challenging of intruders as well as the censuring of those engaging in unacceptable behavior. In addition, Newman encouraged the use of designs which allow residents to survey their territory or designs which allow clear articulation of boundaries between public and private regions. By the use of such design guidelines, Newman believed the residents would develop a shared territorial concern which would consequently decrease the crime rate.

These different types of territoriality, as discussed by both Altman and Newman, are hypothesized to be important elements in our model of the burglary process. This model expands on Newman's and Altman's ideas and treats burglary as a sequential decision making process in which burglars are particularly sensitive to cues of territoriality, territorial occupancy, and territorial concern in an area. The model examines cues of territoriality at the level of the street, the site (or lot), and the house.

The hypothesis is that, implicitly or explicitly, a burglar makes successive decisions about the likelihood of successfully traversing various boundaries to enter a given residence, and then re-traversing those boundaries to insure successful exit. At each step a judgment of potential success increases the probability of attempting the burglary. The model assumes that once a potential burglar has chosen a particular neighborhood, he or she will make three sequential decisions. The burglar decides the probability of successfully crossing the first boundary represented by the block, then the boundary represented by

the home site or lot, then finally decides the probability of successfully crossing the boundary of the home itself.

The model does not assume that the burglar judges success potential by attending to only one area at a time. It is quite likely that "casing" a house involves simultaneous assessments of the block, the site, and the home. But for the sake of the model it is assumed that these judgments generally occur in a sequential fashion with most of the emphasis given to a particular boundary at a given time.

The second part of the model deals with the type of cues the burglar attends to in making these three boundary crossing decisions. It is hypothesized that the decisions of potential success for crossing each of these boundaries hinge on the burglar's answer to three main questions:

1. Are the owners home? Regardless of whether the territory appears to be public, secondary, or primary, it is assumed that most burglars want to make sure the home is vacant before attempting the burglary.
2. Can I get in to the home? Particularly for inexperienced burglars (Reppetto, 1974), it is important to know if he or she can physically get in to the house, or if the security system of locks and alarms would guard against this (According to Reppetto, most burglary entries usually require little skill).
3. Most importantly, will anyone care that I am here? The answer to this question depends on the territorial nature of the area. In agreement with Newman's ideas that burglars avoid working in areas where they feel conspicuous or likely to be challenged, it is hypothesized that a burglar will prefer a territory that appears to be public

and open to strangers compared with a territory that appears to be private and closed to strangers. For example, a burglar will feel more at ease on a street with a public territorial quality than a street which the neighbors treat as a secondary territory. Or, homes that appear to be secondary territories will be chosen over homes that appear to be primary territories.

The social and environmental cues which the burglar needs in order to answer these questions are conceptualized as belonging to five classes of cues:

1. Symbolic barriers. This term was borrowed from Newman to refer to those physical qualities which communicate the territorial concern and personal identity of the owners. In a residential setting, the landscaping, hedges, welcome mats, and the color of the house all serve as markings or personalizations indicating territoriality.
2. Actual barriers. This is another Newman term referring to the physical qualities constituting the security system--the locks, alarms, guards, etc.--which may impede access.
3. Detectability. Detectability is concerned with the burglar's desires to see and hear others but to simultaneously avoid being seen or heard. The positioning of houses, trees, shutters, and curtains, the existence of squeaky gates, barking dogs, or noisy terrain, are examples of detectability factors.
4. Traces. These are cues which inform the burglar of the probable presence or absence of residents or neighbors. The burglar may see the owners themselves or guess at their presence or absence by looking for cues such as lights, cars, TV noises, uncollected mail, etc.

5. Social Climate. This deals with the behavioral evidence of the territorial concern in the area and can be judged from the residents' reactions to the presence of an outsider or to unacceptable behavior by anyone. Residents may display no concern or they can notice and challenge strangers and sanction unacceptable behavior.

These five classes of conceptual cues are summarized in Table 2.

The purposes of this study are, first, to develop a coding instrument guided by Newman and Altman's concepts of territoriality, as well as the model of residential burglary described above. The instrument is designed to be an in-depth examination of the territorial nature of residential blocks, sites, and houses. Secondly, the instrument is used to see if it can distinguish between burglarized and nonburglarized homes.

Method

Study area. Instead of examining public housing projects as Newman did, a suburban middle-class neighborhood was chosen to increase the potential for variation in the design of individual homes.

The chosen area was located on the eastern edge of Salt Lake County, extending east of Wasatch Boulevard from 2950 South to 4780 South. Along this stretch, the Wasatch Boulevard boundary varies from 3165 East to 4210 East. The largest dimensions of this area extend 3.14 miles north to south and 1.33 miles east to west. This area, which is often described as the Olympus Cove area, is shown on Figure 1 as part of census tract 101.

A list of all reported burglaries in the research area was obtained from the Salt Lake County Sheriff's Office. In order to get a large sample size it was necessary to include all reports of residential burglary from the end

of August, 1975, to the middle of September, 1977, a total of 25 months. Burglaries which occurred in condominiums or commercial structures were not considered for this study. The resulting sample contained 102 residential burglaries.

Description of the burglaries. The area's experience with burglary encompasses a wide range of variation in terms of loss incurred through burglary. Although 21% of the burglaries resulted in no reported loss, reported losses ranged up to $8,400.00. The mean loss was $768.39 while the median loss was $293.00.

An examination of the burglary reports yielded 15 distinct categories of goods stolen. 24.5% of the reports mentioned a cash loss followed by valuable jewelry (21.6%), clothes (20.6%), televisions (17.6%), and small appliances (15.7%). Fifteen or fewer reports mentioned the loss of stereos, guns, or imitation jewelry (14.7% each), followed by cameras (11.8%), coin collections (9.8%), large appliances (4.9%), silver (3.9%) credit cards (2.9%), and food (2.0%). This breakdown indicates that 40.2% of the burglaries involved valuable items which require some skill or knowledge to convert to cash. 54.9% of the reports involve the stealing of cash or personal use items. Such a breakdown suggests that both professional (or experienced) and unprofessional (or inexperienced) burglars were working in the area.

Selection and location of the samples. It was necessary to develop samples of nonburglarized houses on nonburglarized blocks. In addition, their locations and the locations of the burglarized houses needed to be specified beforehand so that raters would neither rate the wrong house nor draw unnecessary attention to themselves by roaming the streets or asking for directions.

In order to provide information on spatial locations as well as addresses, Platt maps were purchased from the Salt Lake County Planner's Office and an aerial map of the whole area was purchased from a private company. Addresses of most of the residents in the study area were available from the 1977 Polk Directory. An inspection of the aerial map revealed that a few blocks in the study area were not listed in the Polk Directory. The Salt Lake phone directories were used to help determine the addresses of those residents who were not listed in the Polk Directory.

Locating burglarized houses. The 102 burglarized houses already had known addresses and just needed to be located on the map. The Platt maps contained property boundary lines as well as the original owner's name for each property. When the owner name from the Platt map matched the complainant's name on the police burglary report, the burglarized house was easily plotted onto the Platt map. The house was then plotted onto the large aerial map and an information card was developed for the raters. This card contained the address of the house, written directions to the house, and an aerial sketch of the house location relative to other houses on the block.

When the owner's name on the Platt map did not match the complainant's name, a procedure involving the Polk Directory was used. This directory provides listings arranged by blocks, with addresses and associated owners' names and telephone numbers listed sequentially (by address number) under the block name. The list of residents and addresses for the appropriate burglarized street was scanned to find matches to owners' names on the Platt maps. When matches were discovered, the correct address was written into the property square on the Platt map. By this process the numbering schema

for addresses on the burglarized block could be determined. Once the house was located, the location was marked on the aerial map and the information card was developed as before.

In a few instances the burglarized blocks were not included in the Polk Directory. Then the owner names for the relevant street were looked up in a current phone book. If the phone book listing included an address on the street of interest, then the address was marked on the Platt map. This procedure continued as before until the numbering schema for the street could be discovered. After finding the spatial location of the burglarized house on the Platt map, the location was marked on the aerial map and the information card was developed as before.

Sample selection of nonburglarized houses, nonburglarized blocks. Selection of the nonburglarized house sample proceeded from a consistent definition of the block unit. For any particular house, its block was defined by any interruption of that house's treet edge by other streets.

Using this definition, the burglarized blocks were identified and then the remaining nonburglarized blocks were identified. About one-half of this sample was selected by randomly selecting a block, then numbering all the

houses and randomly selecting a house. Both random selections were accomplished with the use of a random number table.

It was felt that this procedure might be over-representing the small blocks (since blocks with a large number of houses had the same chance of being chosen as blocks with a small number of houses) so a geographical random sampling was used to generate about one-half of this sample. In this procedure, all of the 37 Platt maps were numbered and a Platt map was randomly chosen. The nonburglarized blocks (those completely or partially contained on the map) were numbered and one was randomly chosen. Then all houses were numbered and one randomly selected as before.

If no nonburglarized blocks were on the chosen map, the next map in sequence was chosen, until a nonburglarized block appeared. Selection of the nonburglarized block and nonburglarized house proceeded as before.

Sample overlap. Initially the police burglary report forms which were supposedly from the sample area contained several forms which had been incorrectly coded and were not in fact located in the sample area. This deflated the sample size and made it necessary to request additional burglary reports which were dated after the beginning of the data collection. This resulted in four "nonburglarized blocks" with sample houses on them becoming "burglarized blocks." However, the four houses were still considered members of the sample of nonburglarized houses on nonburglarized blocks.

The rating instrument. A preliminary rating instrument was developed containing over 200 items. The author and three undergraduate assistants refined the rating instrument while we practiced collecting data in suburban areas outside of the target area. Questions occurring to the raters and

disagreements between raters were noted and the rating instrument was adjusted accordingly. This procedure continued for three extensive revisions.

The resulting rating instrument is found in Appendix A. Each piece of data is identified as to which of the five conceptual categories it belongs to by means of the initials in the parentheses. The first initials represent the conceptual categories as follows: SC = social climate, AB = actual barriers, V or A = detectibility (formerly visibility and auditory cues), Tr = traces, and SB = symbolic barriers. The last initial (either B, S, or H) describes whether the data were block, site, or house characteristics. Some redundancy was built into the instrument to serve as an additional check on rater reliability.

The first two pages of the 6-page rating instrument gathered data relevant to characteristics of the block. Since various types of activities were thought to be important block characteristics, much of these data were collected for a 15-minute time span. In that way, amounts of pedestrian and vehicular traffic or other activities are collected for a comparable time span. In order to overcome some problems of reliability posed by an overly fine category system on pages 1 and 2, Appendix 2 shows a revised form for collection of these data which does not impose an overly fine category system.

In addition to marking off the 15-minute time span, raters were instructed to walk the length of the entire block in order to get a complete account of block characteristics.

The last four pages of the rating scale contained mostly questions about the target site and house. The questions were arranged in a sequence, developed during pretesting, which made it easiest for raters to respond.

Rating schedule. It was felt that season and lighting conditions might introduce major differences into the social and physical environment which might impact on the appearance of territoriality. Therefore, a decision was made to rate the burglarized houses during similar season and lighting conditions under which the house was burglarized. The nonburglarized house group would be rated under the same conditions. Seasons were defined as "Summer" (May through October) and "Winter" (November through April).

A "Sunrise and sunset at Salt Lake City, Utah" guide was obtained from the U.S. Naval Observatory. This information sheet contained all sunrise and sunset times which were then adjusted for daylight savings time. If burglaries occurred after sunset and prior to sunrise they were defined as "burglaries during darkness"; otherwise, they were defined as "burglaries during daylight."

The time of burglary was obtained from the police report. If a span of time less than 24 hours was indicated, then the midpoint of that time was used as the time of burglary. The time of occurrence data were considered missing if the span of time reported was greater than 24 hours or if it was not reported at all. The data were available for 83 of 102 cases. These data show 41 burglaries during darkness and 42 burglaries during daylight. Therefore, of the 19 missing cases, 9 were randomly assigned to the darkness condition and 10 were randomly assigned to the daylight condition.

There was no detectible temporal pattern for burglaries by either month or day of the week. Therefore, no matching was attempted for either month or day of the week. An attempt was made to evenly distribute the house ratings over the days of the week. However, the actual house ratings were not distributed evenly over the months, as rater availability made this impossible.

Most summer ratings took place in August-October and most winter ratings took place in March. However, since ratings were not spread out over an extended period of time it was hoped this would alleviate the reliability problems of rater drift.

Procedure. Raters prepared themselves with a watch, the rating forms, and a flashlight, if necessary, to do the ratings. In addition they carried a letter of identification in case residents challenged them or asked them questions. The rating form had an information card attached which contained an identifying number, the address of the house, written directions to the house, and a sketch of the house location. The identifying number was a randomly picked number so that raters were blind concerning what type of house they were viewing. In addition, the card specified which day of the week and under what lighting and season conditions the house was to be rated.

A rater would locate the house, then gather all of the information about the block by walking the length of the block. Raters always remained on the public sidewalk or street while gathering the data. Certain information was gathered during a particular time span and raters were responsible for making the beginning and ending of the 15-minute period. Raters never found it impossible to complete a house rating once they started. These ratings took 15 to 35 minutes, depending on such factors as the traffic conditions, the length of the block, and the visibility of the target house.

Residents' spontaneous reactions to the presence of strangers collecting data on their block were important to the theory. Therefore, residents were not informed that raters would be present. Raters were instructed to avoid initiating contact with residents, but to present a letter of identification and answer questions if contacted by the residents.

Results

Tables 3 through 7 contain the means and standard deviations of each of the variables within the five conceptual divisions of social climate, actual barriers, traces, detectability, and symbolic barriers. These listings are broken down into block, site, and house variables for both burglarized and nonburglarized houses.

Since the rating scale had so many items, a principle factor analysis was performed on all of the houses for each of the five conceptual categories. The factor analysis and oblique rotations (via promax procedure) yielded between two and four factors each for a total of 14 factors. The number of factors used for each conceptual division was determined by the scree test. Variables with factor loadings of at least ± .4 were allowed to enter into the factors. The factor score was a simple sum of the scores of the variables allowed onto the factors.

In addition, there were several subscales in the traces and detectability divisions which would not necessarily be expected to result in high correlations but were theoretically interesting. For these variables simple sum scores were computed. Prior to computing both the sum scores and the factor scores, z transformations were performed on the raw data to standardize the units of analysis. These procedures yielded 21 computed subscales or factors, two from social climate, two from actual barriers, eight from traces (three factors and five subscales), five from detectability (three factors and two subscales), and four from symbolic barriers. For the factors, the number of variables entering onto each factor and the associated eigenvalues are given in Table 8.

Detailed descriptions of the variables entering onto the factors for all five conceptual divisions are given in Tables 9 through 13. These tables include the raw score means for the variables as well as the mean *z* score based on the *z* scores of the individual variables for both the burglarized and nonburglarized samples. In addition, the same information for the traces and detectability subscales is given in Tables 14 and 15, respectively. Finally, Table 16 contains a summary of the *z* scores for subscales and factors for the burglarized and nonburglarized samples.

The 21 computed subscales and factors were entered into a stepwise multiple regression analysis (SPSS version with default procedures) to reveal differences between burglarized and nonburglarized houses. The results listed in the order in which the variables entered the regression are given in Table 17. Of the 21 variables, 11 entered the regression analysis under the default procedures (which specify $F \geq 1$). This procedure led to a Multiple R = .41 (R^2 = .17 and adjusted R^2 = .12). The majority of the variance was explained by the first six variables to enter. After step six, Multiple R = .37, R^2 = .14, and adjusted R^2 = .11. However, for theoretical interest, the results of entering all 11 variables are discussed.

In Table 18 the same results are given, but they appear within the framework of the sequential decision-making process.

These results show that burglarized blocks were characterized by the symbolic markings of public street signs ("yield," "hill," "curve," "stop," etc.) which communicated that this block was open to public use and that the presence of strangers was expected. The nonburglarized streets appeared more private--more like a secondary territory--as they had fewer signs directed to the public at large.

At the level of the house, burglarized houses were distinguished by their lack of territorial identity. Often one could not find an identifying name or number for these houses. On the other hand, nonburglarized homes were more likely to have had a name in the yard or on the house symbolically communicating both territorial concern and ownership. Finally, nonburglarized homes tended to give off some ambigious cues concerning the presence or absence of the owner. Although it was noted before that cars were often parked in front of the nonburglarized homes, it is also true that nonburglarized homes were more likely to have garages, especially with closed garage doors. This meant the burglar could not easily determine the presence or absence of the owner's car.

In summary, this study demonstrated that social and environmental cues at the level of the block, site, and house collectively helped distinguish between burglarized and nonburglarized residences. Nonburglarized homes were more likely to appear both hard to enter and occupied. They also communicated a distinctively nonpublic territorial identity, as they were clearly separated from public areas and displayed evidence of the owners' identity and concern for territory.

One of the five conceptual classes of cues which did not enter into the regression equation concerned social climate. This cue was measured by just a few items concerning people's reactions to the presence of the data-gatherers on the block. Although raters were more often stared at or challenged while rating nonburglarized homes, this trend was not significant. Perhaps a likely explanation for this finding is that the clipboard-carrying raters all appeared too official and innocuous to be classified either as strangers worth investigating or as people engaging in unacceptable behavior.

This study was not intended to provide the type of evidence necessary to assess fully the hypothesized model. Specifically, the data do not provide any evidence on the hypothesized sequential process, since all data were gathered at just the first step (the block level) in the sequence. Additionally, this study provides only correlational, not experimental, evidence for the hypothesis that burglars attend to the social and physical cues thought to reveal aspects of territoriality. It is encouraging, however, that this correlational evidence is consistent with the ideas concerning the burglar's perception of territorial variations for the three environmental levels.

These results should prove useful to primary crime prevention efforts such as the Neighborhood Watch program. Although the results of this study cannot clarify the role of overt territorial behavior among residents (as measured by the social climate factor), the results do lend support to the role of physical variables in the reduction of burglary. Specifically, variables which make the burglar potentially visible (i. e. detectibility factors) correlate with nonburglarized houses. Traces of the presence of residents are more often evident for nonburglarized than burglarized homes. Additionally, the symbolic or actual delineation of the boundaries between totally public and totally private areas correlates with nonburglarized homes. Information on these primary prevention measures could serve as useful additions to the target hardening and social concern goals already fostered by the Neighborhood Watch program.

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Footnotes

[1] Paper prepared for the State of Utah Division of Corrections. I wish to thank Dr. Richard Oldroyd and the Division of Corrections for making funds available for the data analyses.

Table 1

Dimensional Variations Between Public, Secondary, and Primary Territories

Dimension	Public	Secondary	Primary
Duration	Short	Short, but regular usage common	Long
Centrality	Not Central	Somewhat central	Very central
Marking Intentions	Intentionally claiming territory	Often claiming territory	Usually personalizing or decorating
Marking Range	Few physical markers or barriers. Much bodily and verbal marking	Some reliance on physical markers. Bodily and verbal marking common	Heavy reliance on a wide range of markers and barriers. Bodily and verbal marking usually not necessary
Responses to Invasion	Can relocate or use immediate bodily and verbal markers	Can often relocate, use immediate bodily and verbal markers, as well as some re-emphasis of physical markers	Cannot relocate easily, can use legal recourse, re-establishment of physical markers and barriers, as well as bodily and verbal markers

Table 2

Definitions for the Conceptual Classification of Cues to Presence/Absence and Type of Territory

1. Symbolic Barriers: Physical territorial markings which communicate the nature of the territory -- the identity of the owners and their level of territorial concern.

2. Actual Barriers: Physical qualities which restrict access to the territory.

3. Detectibility: Design and geographical features concerning how visible or audible residents and intruders are to each other.

4. Traces: Physical evidence which communicates the implied or actual presence of territory owners.

5. Social Climate: Behavioral evidence of territorial concern and defensive responses to the presence of strangers.

Table 3

Social Climate Variables for Block, Site, and House: Means and Standard Deviations of Burglarized (B) and Nonburglarized (NB) Houses

			Means		Standard Deviations	
			B	NB	B	NB
Block	1.	Public building present	.05	.04	.22	.20
	2.	Type: 1=Store, 2=School, 3=Church	.14	.09	.61	.47
	3.	Activity: 1=Yes, 0=No	.00	.02	.00	.14
	4.	Litter: 1=Many...3=Few	2.67	2.68	.64	.63
Site	5.	Reactions on target site@	1.32	1.40	.58	.62
	6.	Reactions from other sites@	1.62	1.65	.73	.71
House	7.	Reactions from target house@	1.29	1.35	.64	.66

@ Scoring: 1=No one seen, 2=People seen, no reaction, 3=People seen, reaction

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Table 4

Actual Barrier Variables for Block, Site and House:
Means and Standard Deviations of Burglarized (B)
and Nonburglarized (NB) Houses

			Means		Standard Deviations	
			B	NB	B	NB
Block	1.	Traffic gullies	.39	.48	.49	.50
	2.	# traffic gullies	.48	.56	.69	.67
	3.	Paved road	1.01	1.03	.10	.17
Site	4.	AB between yard and road	.10	.08	.30	.27
	5.	AB between yard and house	.06	.10	.24	.30
	6.	AB between yard and right yard	.31	.37	.47	.49
	7.	AB between yard and left yard	.35	.37	.48	.49
	8.	Type AB: 1=Wood, 2=Stone, 3=Wire	.71	.85	.91	1.03
	9.	Gate locked	.39	.59	.66	.79
	10.	Gate openable	.34	.42	.58	.66
	11.	Alarm present	.01	.01	.10	.10
	12.	Back yard enclosed	.20	.33*	.40	.47
	13.	Front yard enclosed	.05	.02	.22	.14
	14.	Back and front enclosed	.09	.07	.29	.25
	15.	Side yard enclosed	.10	.08	.30	.27
House	16.	Garage present	.70	.84*	.46	.37
	17.	# garage doors	.85	.97	.72	.56
	18.	Type doors: 1=Metal, 2=Wood	1.10	1.42**	.88	.76
	19.	Doors open	1.22	1.56**	.90	.73
	20.	Door location: 1=Front, 2=Side	.89	.97	.70	.52
	21.	Door level: 1=Low...3=High	1.13	1.35*	.89	.71
	22.	# house doors: All glass	.28	.26	.75	.81
	23.	# house doors: Mostly glass	.03	.00	.17	.00
	24.	# house doors: Some glass	.26	.24	.54	.55
	25.	# house doors: No glass	1.00	1.03	.72	.71

* 2-tailed $\underline{t}$ test significance $\leq .05$
** 2-tailed $\underline{t}$ test significance $\leq .01$

Table 5

Traces Variables for Block, Site and House:
Means and Standard Deviations of Burglarized (B)
and Nonburglarized Houses

			Means		Standard Deviations	
			B	NB	B	NB
Block	1.	# commercial cars: 15 min.	.56	.38	2.38	1.03
	2.	# private cars: 15 min.	4.41	3.51	6.64	5.15
	3.	# motorcycles: 15 min.	.06	.13	.34	.58
	4.	# bicycles: 15 min.	.04	.24	.24	1.80
	5.	# pedestrians: 15 min.	.41	.65	.96	1.22
	6.	# at play: 15 min.	.26	.31	.84	1.07
	7.	# yardworkers: 15 min.	.09	.14	.32	.63
	8.	# others seen: 15 min.	.39	.59	.83	1.15
	9.	# adults seen: 15 min.	.76	.95	1.10	1.29
	10.	# children seen: 15 min.	.56	.77	1.23	1.68
	11.	# on street, sidewalk	.25	.28	.44	.45
	12.	# in yards, houses	.38	.38	.49	.49
	13.	# with variable location	.04	.05	.20	.22
	14.	Traffic noise present	.66	.65	.48	.48
	15.	Noise from voices	.30	.24	.46	.43
	16.	Quiet	.77	.74	.42	.44
	17.	Total # parked cars on street	2.42	2.16	2.76	2.22
	18.	Total # parked cars off street	8.62	7.99	9.19	7.51
	19.	Total # with trash cans out	.41	.49	1.74	1.33
Site	20.	# visible cars parked on street	1.71	1.56	1.95	1.77
	21.	# visible cars parked off street	3.33	3.42	2.98	3.04
	22.	# visible with trash cans out	.14	.32	.45	1.22
	23.	# cars parked at target house	.21	.27	.41	.45
	24.	Trash in yard	.08	.02*	.27	.14
	25.	Newspapers in yard	.02	.01	.14	.10
	26.	Unmoved or unshoveled	.04	.04	.20	.20
	27.	Signs of yard work in progress	.03	.06	.17	.24
	28.	Toys in yard	.06	.07	.24	.25
	29.	Sprinkler on	.04	.13*	.20	.34
	30.	Trash cans set out	.03	.02	.17	.14
	31.	Other indications of presence	.43	.54	.73	.80
	32.	No people seen	.77	.71	.42	.46
	33.	People seen on site	.12	.21	.32	.41
House	34.	Inappropriate lighting	.05	.03	.22	.17
	35.	People seen in house	.13	.22	.34	.41

* 2-tailed t test significance $\leq .05$

Table 6

Detectability Variables for Block, Site, and House: Means and Standard Deviations of Burglarized (B) and Nonburglarized (NB) Houses

			Means		Standard Deviations	
			B	NB	B	NB
Block	1.	Dog on block	.36	.37	.48	.49
	2.	Dog on block barking	.25	.26	.43	.44
	3.	# houses seen on right	1.39	1.52	1.33	1.23
	4.	# houses seen on left	1.43	1.55	1.46	1.32
	5.	# houses seen across	1.79	2.45*	1.75	2.42
	6.	# houses seen on right--off block	1.19	.67*	2.13	1.11
	7.	# houses seen on left--off block	1.10	.66	2.47	1.02
	8.	# houses seen across--off block	1.34	1.21	2.08	1.74
	9.	Type site to right@	2.83	2.89	.53	.44
	10.	Type site to left@	2.87	2.97*	.46	.22
	11.	Type site across@	2.84	2.92	.50	.36
	12.	Street light	.06	.04	.24	.20
Site	13.	Noisy approach	.03	.05	.17	.22
	14.	Dog on site	.07	.15	.25	.36
	15.	Dog on site barking	.05	.06	.22	.24
	16.	Porch light	1.02	1.10	.78	.78
	17.	Flood light	.06	.19	.37	.71
	18.	Other yard light	.53	.57	.77	1.02
	19.	No site light	.12	.13	.32	.34
	20.	Blockage--Shrubs	.69	.49**	.47	.50
	21.	Blockage--Evergreens	.56	.54	.50	.50
	22.	Blockage--Trees	.53	.58	.50	.50
	23.	Blockage--Hedges	.11	.10	.31	.30
	24.	Blockage--Fences	.17	.24	.38	.43
	25.	Blockage--Walls	.06	.08	.24	.27
	26.	Blockage--Position	.16	.22	.37	.41
	27.	Blockage--Other	.07	.05	.25	.22
	28.	Blockage--Altitude	.04	.04	.20	.20
House	29.	Total visible windows--right	1.25	1.29	1.49	1.58
	30.	Total visible windows--left	1.23	1.15	1.59	1.42
	31.	Total visible windows--front	5.06	5.36	3.37	3.33
	32.	Total visible doors--right	.19	.08	.46	.34
	33.	Total visible doors--left	.18	.14	.43	.47
	34.	Total visible doors--front	1.29	1.32	.73	.77
	35.	Right (Windows completely blocked by site)	.07	.11	.32	.51
	36.	Left (Windows completely blocked by site)	.07	.13	.43	.52
	37.	Front (Windows completely blocked by site)	.20	.26	.72	.96
	38.	Right (Doors completely blocked by site)	.00	.00	.00	.00
	39.	Left (Doors completely blocked by site)	.01	.00	.10	.00
	40.	Front (Doors completely blocked by site)	.02	.05	.14	.22

Table 6 (cont.)

		Means		Standard Deviations	
		B	NB	B	NB
41.	Right, Windows partially blocked by site	.62	.52	1.13	1.06
42.	Left, Windows partially blocked by site	.50	.32	.99	.69
43.	Front, Windows partially blocked by site	1.56	1.53	2.08	2.15
44.	Right, Doors partially blocked by site	.11	.02*	.37	.20
45.	Left, Doors partially blocked by site	.08	.01*	.32	.10
46.	Front, Doors partially blocked by site	.26	.25	.64	.61
47.	Right, Windows completely blocked by house	.57	.73	1.00	1.15
48.	Left, Windows completely blocked by house	.65	.51	1.06	1.12
49.	Front, Windows completely blocked by house	2.74	3.10	2.75	3.11
50.	Right, Doors completely blocked by house	.01	.02	.10	.14
51.	Left, Doors completely blocked by house	.03	.05	.17	.26
52.	Front, Doors completely blocked by house	.39	.35	.91	.80
53.	Right, Windows partially blocked by house	.27	.24	.90	.75
54.	Left, Windows partially blocked by house	.17	.21	.80	.64
55.	Front, Windows partially blocked by house	1.08	.88	2.46	1.43
56.	Right, Doors partially blocked by house	.04	.02	.24	.20
57.	Left, Doors partially blocked by house	.00	.01	.00	.10
58.	Front, Doors partially blocked by house	.05	.05	.26	.26
59.	Blockage--Curtains	.91	.91	.29	.29
60.	Blockage--Shutters	.15	.10	.36	.30
61.	Blockage--Opaque windows	.35	.40	.48	.49
62.	Blockage--Other	.00	.02	.00	.14
63.	# ground floor windows	4.39	3.79	3.11	2.97
64.	# basement windows	.47	.74	1.05	1.50
65.	# upper windows	2.65	3.46	3.43	3.54
66.	House visability--Right@@	2.39	2.36	1.10	1.12
67.	House visibility--Left@@	2.33	2.39	1.10	1.20
68.	House visibility--Front@@	3.21	3.29	.85	.79

* 2-tailed $\underline{t}$ test significant $\leq .05$
** 2-tailed $\underline{t}$ test significant $\leq .01$
@ Site types: 1=Woods, 2=Public Bldg., 3=Residence, 4=Other
@@ Visibility scoring: 1=Cannot see...4 = Easily seen

Table 7

Symbolic Barrier Variables for Block, Site, and House: Means and Standard Deviations of Burglarized (B) and Nonburglarized (NB) Houses

			Means		Standard Deviations	
			B	NB	B	NB
Block	1.	Street sign	.92	.91	.27	.29
	2.	Speed limit sign	.10	.08	.30	.27
	3.	Yield sign	.05	.04	.22	.20
	4.	Stop sign	.22	.20	.41	.40
	5.	Hill sign	.02	.00	.14	.00
	6.	Pedestrian sign	.12	.06	.32	.24
	7.	Slow, curve sign	.06	.03	.00	.00
	8.	# street signs	1.42	1.35	.72	.74
	9.	# speed limit signs	.13	.09	.41	.32
	10.	# yield signs	.05	.05	.22	.26
	11.	# stop signs	.21	.21	.43	.43
	12.	# hill signs	.02	.00	.14	.00
	13.	# pedestrian signs	.14	.09	.49	.40
	14.	# slow signs	.07	.03	.25	.17
	15.	# dead end signs	.08	.08	.27	.27
	16.	Value of speed limit	2.70	2.21	7.83	7.13
	17.	Lines: 1=2 solid...4=None	3.61	3.67	1.00	.88
Site	18.	No SB between road and yard	.11	.08	.31	.27
	19.	SB--Curbing	.68	.59	.47	.50
	20.	SB--Sidewalk	.01	.00	.10	.00
	21.	SB--Sidewalk and curbing	.21	.29	.41	.46
	22.	SB--Fence	.00	.02	.00	.14
	23.	SB--Trees	.04	.02	.20	.14
	24.	Highest SB of above 6	2.68	3.02	1.54	1.61
	25.	Lowest SB of above 6	2.53	2.96*	1.32	1.57
	26.	Signs: For sale	.14	.16	.35	.37
	27.	Owner name, address sign	.23	.28	.42	.45
	28.	Driveway to house	.96	.99	.20	.10
	29.	Sidewalk and stairs	.34	.40	.49	.48
	30.	Sidewalk only	.37	.37	.49	.49
	31.	Dirt path to house	.00	.01	.00	.10
	32.	SB--between yard and road	.48	.42	.50	.50
	33.	SB--between yard and house	.75	.69	.44	.47
	34.	SB--between yard and side yard	.79	.80	.41	.40
	35.	SB encloses front yard	.10	.17	.30	.38
	36.	SB encloses back yard	.19	.20	.39	.40
	37.	SB encloses front and back	.23	.18	.42	.38
	38.	Low hedges	.36	.29	.48	.46
	39.	Low bushes	.75	.74	.44	.44
	40.	High hedges	.18	.20	.38	.40

Table 7 (cont.)

		Means		Standard Deviations	
		B	NB	B	NB
41.	High bushes	.75	.58**	.43	.50
42.	Short thin trees	.37	.37	.49	.49
43.	Short fat trees	.38	.36	.49	.48
44.	Tall thin trees	.50	.53	.50	.50
45.	Tall fat trees	.69	.59	.47	.50
46.	House lower than road	.14	.04**	.35	.20
47.	House higher than road	.29	.34	.46	.48
48.	# of steps up or down	3.20	4.36	4.91	7.23
49.	Trees and shrubs	.94	.92	.24	.27
50.	Landscaping	.24	.23	.43	.42
51.	Flowers	.21	.32	.41	.47
52.	Vegetable garden	.01	.03	.10	.17
53.	Rock garden	.23	.15	.42	.36
54.	Toys	.05	.10	.22	.30
55.	Basketball court	.14	.15	.35	.36
56.	Borders in yard	.07	.05	.25	.22
57.	Furniture in yard	.03	.05	.17	.22
58.	ID # on curb	.15	.20	.36	.40
59.	Name on mailbox	.27	.40	.45	.49
60.	ID # in yard	.06	.10	.24	.30
61.	Name in yard	.02	.04	.14	.20
62.	Highest # of above IDs	1.90	2.15	1.09	1.08
63.	Shutters	.10	.08	.30	.27
64.	Awnings	.02	.02	.14	.14
65.	Porch	.31	.27	.47	.45
66.	Balcony	.21	.24	.41	.43
67.	Furniture	.11	.17	.31	.38
68.	Decorative items	.20	.17	.40	.38
69.	Carport	.16	.04**	.37	.20
70.	Ivy	.02	.02	.14	.14
71.	Number on house	.39	.39	.49	.49
72.	Number on mailbox	.03	.05	.17	.22
73.	Name on house	.00	.03	.00	.17
74.	Highest # of above 3 IDs	1.44	1.53	.57	.73
75.	No solicitors sign	.00	.02	.00	.14
76.	Neighborhood watch sign	.00	.00	.00	.00
77.	Alarm system	.03	.01	.17	.10
78.	Style of house@	3.25	3.23	1.00	1.08
79.	Color of house@	2.82	2.50	1.08	1.23
80.	Material of house@	2.00	1.89	1.18	1.14

* 2-tailed t test significance $\leq .05$
** 2-tailed t test significance $\leq .01$
@ Similarity measures: 1=Similar to 3 surrounding houses...4=Different

Table 8

Eigenvalues for Rotated Factor Scores

	n	Eigenvalues
Social Climate	7	
Factor 1 - Buildings	3	2.12
Factor 2 - Reactions	4	1.37
Actual Barriers	25	
Factor 1 - Garages	6	4.73
Factor 2 - Barriers	6	4.42
Traces	35	
Factor 1 - Street traces	9	3.92
Factor 2 - Yard traces	6	2.56
Factor 3 - Traces of presence - cars	3	2.19
Detectability	68	
Factor 1 - Front visibility	6	3.62
Factor 2 - General visibility	6	3.55
Factor 3 - Right visibility	6	3.22
Symbolic Barriers	80	
Factor 1 - Signs	10	4.11
Factor 2 - Territorial borders	4	4.03
Factor 3 - Altitude	6	3.75
Factor 4 - Territorial identification	6	3.35

Table 9

Social Climate Factors: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Social Climate Factor 1 (Buildings)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
1. Public building present	.05	.04
2. Type: 1=Store, 2=School, 3=Church	.14	.09
3. Activity: 1=Yes, 0=No	.00	.02
Factor z score*:	.003	.020

B. Social Climate Factor 2 (Reactions)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
4. Litter: 1=Many, 2=Some, 3=Few	2.67	2.68
5. Reaction to rater - target site	1.32	1.40
6. Reaction to rater - other sites	1.62	1.65
**7. Reaction to rater - target house	1.29	1.35
Factor z score*:	- .044	.018

* Factor z score is a mean computed from the individual variable means after they have been converted to z scores.

** This variable correlates negatively with other variables in the factor.

Table 10

Actual Barrier Factors: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Actual Barriers Factor 1 (Garages)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
16. Garage present	.70	.84
17. # garage doors	.85	.97
18. Door type: 1=Metal, 2=Wood	1.10	1.42
19. Doors open	1.22	1.56
20. Door location: 1=Frong, 2=Side	.89	.97
21. Door level: 1=Low...3=High	1.13	1.35
Factor z score*:	- .170	.120

B. Actual Barriers Factor 2 (Barriers)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
6. AB between yard and right yard	.31	.37
7. AB between yard and left yard	.35	.37
8. Type AB: 1=Wood, 2=Stone, 3=Wire	.71	.85
9. Gate locked	.39	.59
10. Gate openable	.34	.42
12. Back yard enclosed	.20	.33
Factor z score*:	-.062	.097

* Factor z score is a mean computed from the individual variable means after they have been converted to z scores.

Table 11

Traces Factors: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Traces Factor 1 (Street Traces)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
5. # pedestrians - 15 min.	.41	.65
6. # playing - 15 min.	.26	.31
9. # adults seen - 15 min.	.76	.95
10. # children seen - 15 min.	.56	.77
11. # people on street, sidewalk	.25	.28
12. # people in yards, houses	.38	.38
14. Traffic noise present	.66	.65
15. Noise from voices	.30	.24
**16. Quiet	.77	.74
Factor z score*:	-.037	.013

B. Traces Factor 2 (Yard Traces)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
8. # other people seen - 15 min.	.39	.59
9. # adults seen - 15 min.	.76	.95
12. # people in yards, houses	.38	.38
**32. No people seen	.77	.71
33. People seen on sites	.12	.21
35. People seen in houses	.13	.22
Factor z score:	-.074	.091

C. Traces Factor 3 (Traces of Presence - Cars)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
**20. # visible cars parked on street	3.33	3.42
23. # cars parked at target house	.21	.27
31. Other indications of presence	.43	.54
Factor z score*:	- .028	.104

* Factor z score is a mean computed from the individual variable means after they have been converted to z scores.
** This variable correlates negatively with other variables in the factor.

Table 12

Detectability Factors: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Detectability Factor 1 (Front Visibility)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
28. Blockage -altitude	.04	.04
30. Total visible windows - left	1.23	1.15
31. Total visible windows - front	5.06	5.36
34. Total visible doors - front	1.29	1.32
49. Front windows blocked by house	2.74	3.10
65. # upper windows	2.65	3.46
Factor z score*:	- .013	.063

B. Detectability Factor 2 (General Visibility)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
20. Blockage - shrubs	.69	.49
43. Front windows/part blocked/site	1.56	1.53
46. Front doors/part blocked/site	.26	.25
**66. House visibility - right@	2.39	2.36
**67. House visibility - left@	2.33	2.39
**68. House visibility - front@	3.21	3.29
Factor z score*:	.058	- .035

C. Detectability Factor 3 (Right Visibility)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
29. Total visible windows - right	1.25	1.29
32. Total visible doors - right	.19	.08
41. Right windows/part blocked/ site	.62	.52
47. Right windows/blocked/house	.57	.73
53. Right windows/part blocked/house	.27	.24
56. Right doors/part blocked/house	.04	.02
Factor z score*:	.040	- .015

* Factor z score is a mean computed from the individual variable means after they have been converted to z scores.

** This variable correlates negatively with other variables in the factor.

@ Scoring: 1=Can't see...4=Easily seen

Table 13

Symbolic Barriers Factors: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Symbolic Barriers Factor 1 (Signs)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
2. Speed limit sign	.10	.08
4. Stop sign	.22	.20
5. Hill sign	.02	.00
7. Slow, curve sign	.06	.03
9. # speed limit signs	.13	.09
11. # stop signs	.21	.21
12. # hill signs	.02	.00
13. # pedestrian signs	.14	.09
14. # slow signs	.07	.03
16. Value of speed limit	2.70	2.21
Factor z score*:	.048	- .075

B. Symbolic Barriers Factor 2 (Territorial Borders)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
**19. SB - curbing	.68	.59
21. SB - sidewalk and curbing	.21	.29
24. Highest border # @	2.68	3.02
25. Lowest border # @	2.52	2.96
Factor z score*:	- .064	.167

C. Symbolic Barriers Factor 3 (Altitude)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
29. Sidewalk and stairs	.34	.39
47. House higher than road	.29	.34
48. # steps higher or lower	3.20	4.36
50. Landscaping	.24	.23
53. Rock garden	.23	.15
66. Balcony	.21	.24
Factor z score*:	- .002	.039

Table 14

Traces Subscales: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Traces Subscale 1 (Traces of Presence)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
23. # cars parked at target house	.21	.27
27. Signs of yard work interrupted	.03	.06
28. Kids' toys in yard	.06	.07
29. Sprinkler on	.04	.13
30. Trash cans in front of target	.03	.02
31. Other indications of presence	.43	.54
Subscale z score*:	-.052	.070

B. Traces Subscale 2 (Traces of Absence)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
24. Trash in yard	.08	.02
25. Newspapers in yard	.02	.01
26. Unmowed, unshoveled	.04	.04
34. Inappropriate lighting	.05	.03
Subscale z score*:	.046	-.059

C. Traces Subscale 3 (Neighbors Seen)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
3. # motorcycles - 15 min.	.06	.13
4. # bicycles - 15 min.	.04	.24
7. # yardworkers - 15 min.	.09	.14
Subscale z score*:	-.072	.076

D. Traces Subscale 4 (Traces of Public Use)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
1. # commercial cars - 15 min.	.56	.38
2. # private cars - 15 min.	4.41	3.51
Subscale z score*:	.056	- .063

Table 14 (cont.)

E. Traces Subscale 5 (Traces of Neighbors)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
19. # houses with trash cans out	.41	.49
22. # visible houses with trash cans out	.14	.32
Subscale z score*:	-.082	.023

* Subscale z score is a mean computed from the individual variable means after they have been converted to z scores.

Table 15

Detectability Subscales: Individual Variable Raw Score Means and Factor z Scores for Burglarized and Nonburglarized Houses

A. Detectability Subscale 1 (Neighboring House Visibility)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
3. # houses seen on block - right	1.39	1.52
4. # houses seen on block - left	1.43	1.55
5. # houses seen on block - across	1.79	2.45
**6. # houses seen off block - right	1.19	.67
**7. # houses seen off block - left	1.10	.66
**8. # houses seen off block - across	1.34	1.21
Subscale z score*:	- .112	.076

B. Detectability Subscale 2 (Site Lighting)

Variable #	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
16. Porch light	1.02	1.10
17. Flood light	.06	.19
18. Other yard light	.53	.57
Subscale z score*:	- .074	.039

* Subscale z score is a mean computed from the individual variable means after they have been converted to z scores.

** This variable correlates negatively with other variables in the factor.

Table 16

Factor Scores and Subscale Scores* for the Five Conceptual Classes of Cues

	Burglarized $\bar{x}$	Nonburglarized $\bar{x}$
Social Climate		
Factor 1 - Buildings	.003	.020
Factor 2 - Reactions	-.044	.018
Actual Barriers		
Factor 1 - Garages	-.170	.120
Factor 2 - Barriers	-.062	.097
Traces		
Factor 1 - Street traces	-.037	.013
Factor 2 - Yard traces	-.074	.091
Factor 3 - Traces of presence - cars	-.028	.104
Subscale 1 - Physical traces of presence	-.052	.070
Subscale 2 - Physical traces of absence	.046	-.059
Subscale 3 - Neighbors seen	-.072	.076
Subscale 4 - Traces of public use	.056	-.063
Subscale 5 - Traces of neighbors	-.082	.023
Detectability		
Factor 1 - Front visibility	-.013	.063
Factor 2 - General visibility	.058	-.035
Factor 3 - Right visibility	.040	-.015
Subscale 1 - Neighboring house visibility	-.112	.076
Subscale 2 - Site lighting	-.074	.039
Symbolic Barriers		
Factor 1 - Signs	.048	-.075
Factor 2 - Territorial borders	-.064	.167
Factor 3 - Altitude	-.002	.039
Factor 4 - Territorial identification	-.053	.058

* Both factor scores and subscale scores are means computed from the individual variable means after they have been converted to z scores.

Table 17

Multiple Regression Results for Residential Territory & Occupancy Cues

$$R = .18a + .15b + .15c + .15d + .16e - .15f - .08g + .09h - .09i + .08j + .08k$$

r	
.19	a = Neighboring houses visible
.12	b = Ownership markings on house, site (i.e. names, addresses)
.17	c = Garage present and closed
.10	d = Actual barriers enclosing yard (i.e. fences)
.13	e = Traces of presence (i.e. cars, toys, tools, sprinklers, etc.)
-.10	f = Street signs present (i.e. "yield","curve", etc.)
-.08	g = Front of house blocked from view
.11	h = Neighbors seen outside
-.10	i = Traces of absence (i.e. litter in yard, house dark at night)
.07	j = Full garbage cans seen along street
.12	k = Clearly delineated boundary between street and lots

R=.41 (R^2 = .17, adjusted R^2 = .11)

Table 18

Hypothesized Sequence of Cues Used by Burglars to Determine the Attractiveness of Potential Residential Target Streets, Sites, and Houses

Cues: Public Territory ——— Primary Territory

Owners Absent ——— Owners Present

SEQUENCE OF BOUNDARY AREAS

Decision:	PROCEED WITH BURGLARY	ABORT BURGLARY
STREET	Street signs present PROCEED WITH BURGLARY	Neighbors seen outside Full trash cans seen on street Clearly delineated boundary between street and sites ABORT BURGLARY
SITE	Traces of absence Front of house partly blocked from view PROCEED WITH BURGLARY	Traces of presence Neighboring houses are visible from target Actual barriers enclosing the yard ABORT BURGLARY
HOUSE		Ownership markings on the house or site Garage present and doors closed

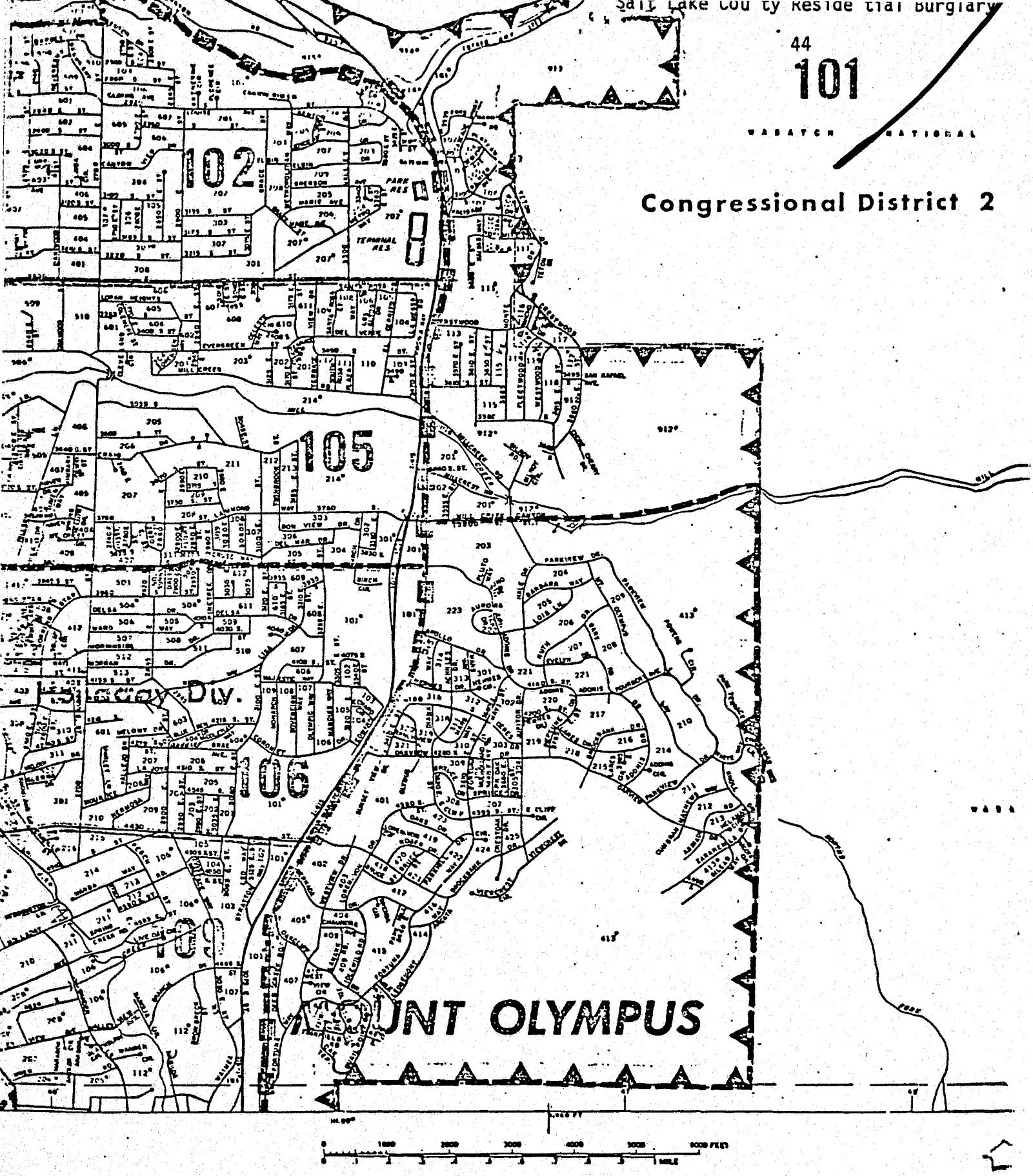

Figure 1. Residential burglary study area as part of census tract 101.

coded number- APPENDIX A: CODING SCHEMA FOR HOUSE DATA COLLECTION

Conditions while rating:

01 Time: 1=A.M. 2=P.M.

02-03 Hour: 01 02 03 04 05 06 07 08 09 10 11 12

04 season: 1=Fall (S-O-N) 2=Winter (D-J-F-M) 3=Spring (A-M) 4=Summer (J-J-A)

05-06 Month-_____

07-08 Day -_____

09-10 Year -_____

General Directions:

1. "Right" and "Left" sides of the house are determined with your back to the house.
2. When "Other" is checked, always explain what "Other" means.
3. When "If yes," questions are asked, always leave blank if it does not apply.
4. For other questions concerning the presence or absence of a certain characteristic, mark "1" if present, "0" if absent.

Traffic flow: 15 minutes (Tr-B) Beginning time:_____ Ending time:_____

	Totals:	Tallies:
11-12	_____	1. Commercial car, truck _____
13-14	_____	2. Private car, truck _____
15-16	_____	3. Motorcycles, _____
17-18	_____	4. Bikes _____
19-20	_____	5. Grand total of columns 11-18

People activities: 15 minutes (Tr-B) A-Alone, I-Mark "1" per interacting group

21-22	_____	1. Pedestrian, A _____
23-24	_____	2. Pedestrian, I _____
25-26	_____	3. Pedestrian, Total _____
27-28	_____	4. Playing, A _____
29-30	_____	5. Playing, I _____
31-32	_____	6. Playing, Total _____
33-34	_____	7. Yardwork, A _____
35-36	_____	8. Yardwork, I _____
37-38	_____	9. Yardwork, Total _____
39-40	_____	10. Other, A _____
41-42	_____	11. Other, I _____
43-44	_____	12. Other, total _____

People types:

45-46	_____	1. Total # of adults seen _____
47-48	_____	2. Total # of kids (teen or younger) seen _____
49-50	_____	3. Grand total

People locations: Yes=1 No=0

51	_____	1. In street
52	_____	2. On sidewalk, path
53	_____	3. In yards
54	_____	4. From houses
55	_____	5. Varies, all over

Noise level: 15 minutes (tr, A-B) C=Continuous I=Intermittent

	C	I	
56-57	___	___	1. Traffic, construction noises
58-59	___	___	2. Voices
60-61	___	___	3. Quiet

75	_____	Deck # 2
78-80	_____	Subject # (To be looked up and filled out after rating completed)

Reactions to raters presence: Please be explicit in recording all reactions.

01 _____ Reactions to rater's presence by people on target site. (SC-S)
1-No one on target site
2-People present, no reaction
3-People present, reaction:
Verbal: _____
Nonverbal: _____

02 _____ 2. Reactions by people in other sites or homes on block. (SC-B)
1-No one visible in other sites, houses
2-People present, no reaction
3-People present, reaction:
Verbal: _____
Nonverbal: _____

03 _____ 3. Reactions by people inside target house. (SC-H)
1-No one visible inside
2-People present, no reaction
3-People present, reaction:
Verbal: _____
Nonverbal: _____

Block Characteristics: Be sure to walk entire length of block for accuracy.

04 _____ Is a public building present on block? Y-1 N-0 (SB-B)
05 _____ If yes, type: 1-store 2-school 3-church
06 _____ Is any activity visible there? Y-1 N-0

07 _____ Is there a traffic gully or hump across the road at the end of the block? Y-1 N-0 (SB-B)
08 _____ If yes, how many? 1 2 3

---

25 _____ Cleanliness: # items man-made litter on street or sidewalk (SC-B)
1-Many (Greater than 30 items per 10 houses)
2-Some (11-20 items per 10 houses)
3-Few (0-10 items per 10 houses)

Type and number of street signs on block (SB-B)

	Type present: 1-Y 0-N	(COL)	Number present
26 _____	1. Street name sign	34 _____	1. Street name sign
27 _____	2. Speed limit	35 _____	2. Speed limit
28 _____	3. Yield	36 _____	3. Yield
29 _____	4. top	37 _____	4. Stop
30 _____	5. Hill	38 _____	5. Hill
31 _____	6. Children, pedestrian crossing	39 _____	6. Children, pedestrian crossing
32 _____	7. Other: _____	40 _____	7. Other: _____
33 _____	8. Total	41-42 _____	8. Total

43-44 _____ If speed limit signs present, list Miles Per Hour (if not, leave blank)

45 _____ Actual barriers keeping people off block (AB-B)
1-None 2-Fence, wall 3-Guard 4-Other: _____

75 _____ Deck # 3
78-80 _____ Subject #

01 _____ Street composition: 1=paved 2=loose gravel (A-B)

Street edge (SB-B)

02 _____ 1. No bounary
03 _____ 2. Curbing only
04 _____ 3. Path only
05 _____ 4. Sidewalk only
06 _____ 5. Sidewalk and curbing
07 _____ 6. Decorative fencing
08 _____ 7. Trees
09 _____ 8. Other: _____

10 _____ 9. Highest of above choices 1-7
11 _____ 10. Lowest number of above choices 1-7

12 _____ Accessibility: Street lines (SB-B)
1- 2 solid yellow lines 3-Broken lines
2- One solid, one broken line 4=No marking, paved

Are any signs visible on other sites?
Type present:

13 _____ 1. For sale, Open house
14 _____ 2. garage sale
15 _____ 3. Names, addresses of owners
16 _____ 4. Keep out, No trespassing
17 _____ 5. Other: _____

Facilities on block per total # houses on block: (Tr-B)

42-45 ___/___ 1. Parked cars on street
46-49 ___/___ 2. Parked cars off street
50-53 ___/___ 3. Houses with trash cans on street.
54-57 ___/___ 4. If dark, houses with lights on inside house

Repeat above questions for those things visible from target house per total # of houses visible from target house

58-61 ___/___ 1. Parked cars on street
62-65 ___/___ 2. Parked cars off street
66-69 ___/___ 3. Houses with trash cans on street
70-73 ___/___ 4. If dark, houses with lights on inside house

(75-D4 78-80-subject # _____)

SITE CHARACTERISTICS:

01 _____ Silent approach through site (grass, cement) (A-S)
02 _____ Noisy approach through site (gravel, rocks) (A-S)
03 _____ Dog present on the site? (A-S)
04 _____ If yes, barking?
05 _____ Dog present on the block? (A-B)
06 _____ If yes, barking?

(V-S)

Types of site lighting: Record # seen (V-S) If night, which are on? Record # on

13 _____ 1. Street light 19 _____
14 _____ 2. Porch light (light on house) 20 _____
15 _____ 3. Flood light 21 _____
16 _____ 4. other yard light 22 _____
17 _____ 5. None 23 _____
18 _____ 6. Total of items 1-4 24 _____

Indications of absence of people (Tr-S) 48

28 _____ 1. Trash, litter in yard
29 _____ 2. Newspapers, flyers in yard
30 _____ 3. Inappropriate lighting (on during day or off at night)
31 _____ 4. Unmowed lawn, unshoveled sidewalk
32 _____ 5. Other: _____
33 _____ 6. Total

Indications of presence of people or interrupted activities (Tr-S)

34 _____ 1. Lawn mower
35 _____ 2. Kids toys
36 _____ 3. Moveable sprinkler
37 _____ 4. Full trash cans
38 _____ 5. Other: _____
39 _____ 6. Total

Actual presence of people (actually visible) : (Tr-S,H)

40 _____ 1. No one visible
41 _____ 2. Visible in house
42 _____ 3. Visible on site

Is ther an actual barrier (functional fence, high wall) between: (AB-S)

43 _____ 1. Yard and road
44 _____ 2. Yard and house
45 _____ 3. Yard and right yard
6 _____ 4. Yard and left yard

If yes, type of actual barrier:

47 _____ 1-Wood 2-Stone 3-Wire 4-Other: _____

If yes, is gate locked?

48 _____ 1-Unlocked 2-Locked

If yes, can gate be opened by anyone?

49 _____ 1-Yes 2-NO
50 _____ Is there evidence of an alarm system? (Y-1 N-0)
51 _____ If there is an actual barrier, area covered: (Leave blank if no barrier)
1-Front yard 2-Back yard 3-Both front and back 4-Other: _____
52 _____ Is garage present? (AB-S)
53 _____ If yes, number of doors: 1 2 3
54 _____ If yes, type of doors: 1-Metal 2-Wood 3-Other: _____
55 _____ If yes, doors are: 1-Open 2- Fully closed
56 _____ If yes, location: 1-Front 2-Side 3-Other: _____
57 _____ If yes, level: 1-Below front door 2-Level with front door 3-Above

Types of connection between site and street: (SB-S)

58 _____ 1. Driveway
59 _____ 2. Sidewalk and stairs
60 _____ 3. Sidewalk only
61 _____ 4. Dirt path
62 _____ 5. Total

Is there a visible but symbolic boundary (trees, hedges, shrubs, decorative fence, wall) between: (SB-S)

63 _____ 1. Yard and road
64 _____ 2. Yard and house
65 _____ 3. Yard of target house and right yard
66 _____ 4. Yard of target house and left yard
67 _____ 5. If there is a symbolic barrier, area enclosed
1-Front yard 2-Back yard 3-Both front and back
4-Nothing enclosed 5-Other

Rate for maximum visibility on a 30 pace walk approaching the house from each side. i.e. "Right" and "Left" always determined with back to target house. (V-S,H)

	Tbtal visible # of:		Complete blockage by SITE:		Partial blockage by SITE:		Complete blockage by HOUSE:		Partial blockage by HOUSE:	
	WINDOWS	DOORS	WINDOWS	DOORS	WINDOWS	DOORS	WINDOWS	DOORS	WINDOWS	DOORS
RIGHT										
LEFT										
FRONT										
TOTAL										
COLUMNS	01-08	09-12	13-20	21-24	25-32	33-36	37-44	45-48	49-56	57-60

D=6

78-80=Subject # (V-H)

Number of houses visible (from spot in front of target house)

	ON BLOCK	OFFBLOCK	TOTAL
Right			
LEFT			
Across			
TOTAL			
COLUMNS	01-08	09-16	17-24

Type of blockage for SITE: (V-H)

25 _____ 1. Shrubs
26 _____ 2. Trees - Evergreen
27 _____ 3. Trees - Deciduous
28 _____ 4. Hedges
29 _____ 5. Fences
30 _____ 6. Cement, rock, other walls
31 _____ 7. Positioning of houses
32 _____ 8. Other: _____
33 _____ 9. None
34 _____ 10. Total of 1-8

Type of blockage for HOUSE:

35 _____ 1. Curtains, blinds
36 _____ 2. Shutters
37 _____ 3. Opaque windows
38 _____ 4. Other: _____
39 _____ 5. None
40 _____ 6. Total of 1-4

Number of windows located on:

41=42 _____ 1. ground level
43-44 _____ 2. basement level
45-46 _____ 3. upper levels

Ease of visibility of house openings (i.e. doors, windows)
1=Can't see 2=Much difficulty 3=Some difficulty 4=Easily seen

47-48 _____ 1. Right side of target house
49-50 _____ 2. Left side of house
51-52

Site occupation around target house: (V-S)
1=Woods 2=Public Bldg. 3=Residence 4=Other: _____

53-54 _____ 1. Right side of target house

END