CONSUMER MARKET RESEARCH APPLIED TO INDIGENOUS DESIGN SINGLE FAMILY DEVELOPMENT

by

WILLIAM EDWARD NOLL

Bachelor of Urban Planning and Design
University of Cincinnati
(1984)

Submitted to the Department of Urban Studies and Planning and the Center for Real Estate Development in Partial Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development at the Massachusetts Institute of Technology September 1987

Copyright © William E. Noll 1987

The author hereby grants to MIT permission to reproduce and to distribute copies of this thesis document in whole or in part.

Signature of Author William E. Noll
Department of Urban Studies and Planning
July 31, 1987

Certified by James McKellar
Visiting Professor
Departments of Architecture and Urban Studies and Planning
Thesis Supervisor

Accepted by Michael Wheeler
Chairman
Interdepartmental Program in Real Estate Development
DISCLAIMER OF QUALITY

Due to the condition of the original material, there are unavoidable flaws in this reproduction. We have made every effort possible to provide you with the best copy available. If you are dissatisfied with this product and find it unusable, please contact Document Services as soon as possible.

Thank you.

The images contained in this document are of the best quality available.
CONSUMER MARKET RESEARCH APPLIED TO
INDIGENOUS DESIGN SINGLE FAMILY DEVELOPMENT

by

WILLIAM E. NOLL

Submitted to the Department of Urban Studies and Planning
and The Center for Real Estate Development
on July 31, 1987
in partial fulfillment of the requirements for the degree of
Master of Science in Real Estate Development

ABSTRACT

The thesis presents principal methods of consumer
market research for residential development, and applies
these to a specific single family development typology.

The author describes the current state of consumer
market research in the homebuilding industry, with insights
from interviewed market research consultants. The basic
components of the research process are described, as are
methods and techniques of survey design and administration.
The thesis suggests the use of focus groups and surveys as
tools of research, and stresses the importance of the model
home to single family residential marketing. Constraints to
use of consumer market research in the industry are explored
as well.

The paper also discusses an approach to development
that emphasizes vernacular design elements either born or
widely accepted and utilized in traditional single family
development prior to World War II. This typology is
developed in terms of exterior design elements that can be
tested for consumer preference, such as house type and form,
architectural facade, site design, and landscaping.

The author conducted several case studies of
developments employing the defined typology, in an attempt
to ascertain additional elements that should be considered
in conducting consumer research and marketing for any
development using the typology.

The work concludes by demonstrating a consumer research
method geared to the testing of exterior design attributes
for single family housing that exhibits major components of
the typology.

Thesis Supervisor: James McKellar
Title: Visiting Professor, Departments of Architecture and
Urban Studies and Planning
CONTENTS

Abstract ................................................................. 2
Acknowledgements ..................................................... 6
INTRODUCTION AND OVERVIEW ....................................... 7

General ........................................................................... 7
Targeting Consumer Preference Groups .................................. 8
Single Family House Preference .......................................... 10
Traditionalism and the Vernacular ....................................... 11
An Indigenous Design Typology in Residential Development .... 13
The Homebuilding Industry and Applicability of this Thesis ...... 15
Outline of Document ...................................................... 16
Footnotes ......................................................................... 18

Chapter One. CONSUMER MARKET RESEARCH IN THE RESIDENTIAL REAL ESTATE INDUSTRY .................... 19

General ........................................................................... 19
The Meaning of Consumer Preferences .................................. 19
Types of Market Research ................................................. 20
The State of Consumer Market Research in Residential Development .................................................... 23
Typical Market Research Studies for Residential Developers ................................................................. 29
Standard Elements in Consumer Market Research in Housing ................................................................. 35
The Focus Group ............................................................ 40
Surveys ............................................................................ 44
The Model Home ............................................................ 45
Tradeoff Research and Analysis ......................................... 46
Summary and Conclusions ................................................. 50
Footnotes ......................................................................... 54

Chapter Two. AN INDIGENOUS DESIGN TYPOLOGY FOR SINGLE FAMILY DEVELOPMENT .................... 56

General ........................................................................... 56
Philosophical Underpinning ................................................ 56
Other Purposes ................................................................... 58
The Single Family House .................................................. 59
Indigenous Design ........................................................... 60
The Major Elements of the IDT ......................................... 60
Architectural Components ................................................. 62
Regional Influences on Typology ........................................ 62
Urban Design Issues ....................................................... 63
Landscaping .................................................................... 64
Some Americanisms ........................................................ 65
APPENDICES

Appendix A: Builder (NAHB) 1987 Home Buyer Survey 132
Appendix B: Excerpt Survey from Alberta Municipal Affairs Consumer Preference Tradeoffs in Housing Study 133
Appendix C: IDT Menu Graphics and Examples 139
Appendix D: Seaside Master Plan and Code 159

NOTE: Footnotes are identified in the text by - (N#) -. They are in chronological order within each Chapter.
ACKNOWLEDGEMENTS

For the most part, this document is written so as to give credit where credit is due. Where possible, persons cited in the text are also identified therein. I feel this is necessary given that the overwhelming bulk of my information is derived from others. As this thesis is an exploratory investigation, secondary information sources are very important. I want to gratefully acknowledge all those people who consented to an interview. Their names are listed in the Bibliography, Part Two, as interviewees.

I would like to specifically acknowledge the help of the developers of the three projects studied in Chapter Three: Mr. Robert Davis, developer of Seaside; Mr. Nathan Zaremba of Zaremba Corporation, developer of MacIntosh Farms; and Messrs. Charles Minshall of Battelle and Alfred Berthold of Bohm/NBBJ, associated with the Renaissance project. A special thanks is due to Ms. Linda Dixon of Linda Dixon Marketing Services (see Chapter One), who gave me far more time from her busy schedule than I had expected or even hoped for.

Amongst those not mentioned in the document, thanks also to Nancy Patrie of Robert Davis's office, for all her assistance, and a note of appreciation to CRED alumni Peter Roth and Jim Thomas, each of whom provided me with good leads in my research. Lastly, I acknowledge the help of Jim McKellar, my thesis supervisor.
INTRODUCTION

General

This is a study about methods. As the title of the paper implies, it is also a study with two major elements: consumer market research, and single family design. This study presents methods of consumer market research in the home building industry (also referred to throughout the paper as the "residential development industry" -- the terms are used interchangeably herein), and it presents and describes a design typology for single family development termed the "Indigenous Design Typology" (IDT). The ultimate goal of the paper is to merge the two major elements and create a methodological outline for conducting consumer market research for development utilizing the IDT. Both topics are substantively equal in importance, but in terms of the construction of this document, the IDT is subordinate to consumer market research methods. The basic focus is on methodology for consumer research in housing, and this is then applied to the IDT as an example. Since design is a major element of an IDT development (and hopefully a major selling point), the paper focuses on information that may help to conduct research into consumer preferences in housing design, especially external design.

The author chooses this approach to the thesis and its topics for two simple reasons. First, he wishes to learn more about market research, especially consumer market
research that may be useful in real estate development. Second, he has an urban design background and is interested in the use of historical vernacular design elements in modern development (there is no substantive reason for selection of single family development, other than that it is the dominant form of residential development in the United States and therefore has a marked impact on the man-made environment). The author has attempted to synthesize the two interests in this thesis through documented field research, culminating in a methodology for pursuing consumer market research for the described design typology.

This is an exploratory study. The thesis research, analysis, and composition process required less than nine weeks to complete. Thus, it had to be focused, structured, and realistic in light of time constraints. The paper is meant to provide general information and insights into the topics discussed, and serve as a vehicle for directing further research into relating consumer research with design issues in housing.

Targeting Consumer Preference Groups

When people look to purchase housing today, many complex attributes and variables enter into their conscious evaluation of the housing types from which to choose. "Housing" implies much more than the actual building within which the family will dwell. Indeed, for most people the
housing choice is one of the most important decisions of their life, and correspondingly "housing" includes and therefore exhibits intrinsic lifelong personal values. Price, location, socio-economic makeup of the community, accessibility to services and amenities, floor plan, amount of space and number of rooms in the unit, energy efficiency, ease of maintainance, architectural style, exterior facade/appearance, and many other characteristics are all taken into consideration as a part of what has come to be known as the "housing bundle". Different people weigh the value of each of the attributes under consideration differently. Some prefer one or more of the attributes significantly above all the others. Others are less inclined to let one variable rule their decision.

Developers and market researchers have identified a number of consumer preference groups, describing persons who prefer certain housing attributes over others. For example, consumer groups preferring housing style and exterior facade represent a sizable portion of the buyer market. While members of a given preference group have a general preference for certain attributes, there are sub-groups preferring certain more specific attributes of the general category. The members of the general preference group also are likely to give at least some value to other housing variables. This is where the need for consumer preference research arises. The tradeoffs consumers make in their decisions about levels of satisfaction met by a given
housing product for each desired attribute is an important area of research for developers and marketing experts, leading to the description of tradeoff parameters among the various preference groups.

**Single Family House Preference**

Surveys indicate most people want to live in a single family home, notably a detached structure. Recent surveys conducted by groups as diverse as the National Association of Home Builders (NAHB) and the Joint Center for Housing Studies of the Massachusetts Institute of Technology (MIT) and Harvard University confirm the continued strength of the dream of owning a detached, single family house. The preference for a single family house is shared across all socio-economic groups, even though the increasing cost of all housing, and especially single family housing ($111,900 national average for new single family home in 1986), is reaching a point where home ownership is prohibitive to well over half the population (N1). In contrast, the balance of the population -- composed largely of managerial, professional, and technical workers -- can afford higher-priced housing due to their relatively high incomes. They also can demand that more of their preferences be satisfied, since they can afford them and builders are suffering increasing competition for their business. This means it is important to know what preferences are among market place sub-groups.
So while the single family house is preferred across all social strata, other elements in the housing package must be tailored to the target consumer group for each type of housing product. Socio-economic and psychological information must increasingly be considered in residential development, including single family housing. Consumer preferences for specific attributes of the house must also be identified.

Design is a key consideration among the variables that are now being increasingly analyzed. Surveys show many people put considerable emphasis on the exterior appearance of a structure, including the architectural style and facade. The increasing need for consumer research about design preferences is at the heart of this thesis.

**Traditionalism and the Vernacular in Single Family Design**

The preference for single family housing has had an enormous impact on domestic architecture. Much of the housing built in the United States has been of the single family type, with a fairly small number of distinct forms and styles arising and predominating.

The U.S. market is overwhelmingly dominated by a preference for "traditional" house styles, and has become more so in the recent past. The term "traditional" within the home building industry has come to mean a housing style generally representative of a few well-defined types that have emerged over time and historically been employed over
and over again in new construction, though often with some adaptations in response to contemporary needs or preferences of a given period. For example, very few homes have been built since the Colonial era with qualities truly akin (or "traditional") to those homes built in the American colonies. Nonetheless, through nearly three centuries Americans have built millions of homes strongly modeled on forms prevalent in the Colonial period, mimicking basic proportions, materials, roof lines, and the like. Likewise, other basic forms that emerged in American history, became geographically dispersed, and which have been reused time and again, such as the Cape Cod/Saltbox, I-House, Gable Front, Gabled-Ell, and Bungalow, have all come to be included in the group considered "traditional". Forms that were prevalent in the western U.S., such as the ranch house, have also become so widespread nationally as to be considered fairly traditional today. The term "traditional" just as importantly denotes the types of materials used on a house structure, especially the cladding materials. Materials are components of a house type, and so are important in a traditional typology. However, materials vary more widely in use than do basic house structure types. Thus, materials are a key regionally and locally as to what is "traditional."

Perhaps the preference for these traditional housing types is related to the fact that most American housing has been built by small local builders, and not designed by
architects. The local builders have historically designed by intuition, incorporating the basic forms previously used in the region, with minor refinements made in response to needs of the period and regional availability of building materials and labor. This local or regional use of previous housing forms, with very minor adaptations, resulted in vernacular or folk housing forms -- forms readily associated with a given region or period of time by their sheer prevalence in the housing stock. Thus, home buyers have come to prefer that which is comfortably familiar and of proven good design (notably in a functional sense). There may also be some sort of nationalistic undertone for this preference as well, though it is noted that these traditional forms are common in Canada as well as the United States, and some forms that emerged in the southwestern U.S. also emerged in Mexico at the same time.

An Indigenous Design Typology in Residential Development

Ironically, somewhat removed from the mainstream of 1980s residential design are a number of projects where there has been a purposeful attempt to re-create traditional forms and facades in a fairly accurate way. These projects shun post-World War II design and instead employ design tools characteristic of vernacular or folk architecture from the Colonial era through World War II. They make use of distinctly traditional domestic housing forms and facade treatments. They are, in fact, using indigenous design
tools. The design of the homes in these developments goes beyond adhoc use of certain traits or characteristics as is typical of the post-modernism or neo-eclectic movements. Ultra-traditionalism is a major thrust of these developments and, from a marketing perspective, may be a significant part of what is being sold. And while it is nearly impossible (and probably not desirable) to fully replicate past housing forms, these developments have deliberately employed the past design typologies with a great deal of care. There is a modest amount of adaptation which accompanies this form of design, in order to meet today's lifestyles, provide individual character, and reduce the appearance that the structure is a superficial replication of the past -- a fake. The adaptation is kept to a minimum (primarily in interior floor planning and some substitution of new materials for old ones), just as modest adaptation always has been a part of vernacular architectural practice anyway.

The indigenous design typology is not a major trend, however. An increasingly fragmented society is spawning increasingly diverse lifestyles and consumer preference groups. The indigenous design typology is so historically traditional that it may be viewed as strangely eclectic. It is not for everyone, and this is why it is important to identify those groups who may prefer such a typology, and also test prospective buyer preferences for project-specific designs.
The Home Building Industry and Applicability of This Thesis

The home building industry is characterized by a wide range in the size of firms and in the number of homes each of these firms produces annually. In 1982 the U.S. Census of Construction Industries (conducted every five years) reported that there were approximately 94,000 home building firms, with almost 90% of these engaged in some aspect of single family development. The National Association of Home Builders (NAHB) in 1983 surveyed its member firms and found those involved in single family development were generally small to medium in size. They were producing an annual range of less than ten units (53.5% of total builders) to 100 units, and in total comprised about 90.2% of all single family builders. Larger builders have been shrinking in number over the past ten years, but are gaining more of the market. Thus, it appears small and medium size builders will continue to be dominant, but will be producing even fewer homes on average as the large companies expand their annual production (N2).

The small builder has historically dominated the single family homebuilding industry. This has meant that most builders discover a small niche in the industry and learn to do well at it. The low annual production of a majority of builders indicates that there may be little need for extensive consumer research, since the builders usually are able to react quickly to any apparent market place changes affecting their small niches. These small firms generally
do not have the organizational or financial resources for on-going market research. They utilize the demonstration or model home as the principal tool for obtaining direct consumer reactions. Several other implications for market research in single family home building are brought out in Chapter One.

Nonetheless, a study of consumer market research techniques -- and application, by example, to the IDT -- may prove useful to some builders, especially those in highly competitive markets or those looking for another niche, whether as a new builder or as part of expansion for an older builder. An initial research program such as that presented in this thesis may help define the home builder's product, and then he can pursue its application on a small-scale basis for many years to come, adapting when necessary.

Outline of Document

In order to present the primary elements identified at the beginning of this introduction, the document is organized into four principal chapters.

Chapter One discusses the current state of consumer market research in the residential real estate industry and fundamentals of such research. The chapter notes the different levels of sophistication in market research in the industry, ranging from basic analyses of supply and demand for general types of single family housing through what was
described in a June 28, 1987 New York Times Magazine article as elaborately designed studies that lead "developers throughout the country to play detective - piecing together in painstaking detail the tastes and living habits of prospective customers" (N3).

Chapter One also summarizes the key inputs to "state-of-the-art" consumer market research, including literature search, hypothesis development and testing, interview of professionals, and survey of recent and prospective home buyers. The major elements of survey design are briefly noted, as are methods for conducting consumer preference surveys. The importance of disaggregating the "housing bundle" into its component attributes for review and analysis of choice tradeoffs actually made or preferred by home purchasers is also covered.

Chapter Two provides purposes, definitions, and descriptions of the indigenous design typology and its components, elaborating on the fundamental themes of traditionalism and the vernacular. Chapter Three presents mini-case studies of three developments that have utilized the typology. This chapter also examines the respective approaches to consumer market research and marketing that were employed.

Finally, Chapter Four pulls the elements of the preceding chapters together into a methodology for consumer market research applied to IDT single family development.
Footnotes


Chapter One

CONSUMER MARKET RESEARCH
FOR THE RESIDENTIAL REAL ESTATE INDUSTRY

General

This Chapter summarizes industry methods of consumer preference research in residential real estate. The chapter describes fundamental approaches to residential real estate market research and discusses the varying sophistication in research techniques. A number of market research firms were contacted and analyst comments about their work related to residential real estate are included. Because the elements emphasized in the indigenous design typology are house form, exterior facade, and site planning, this section also describes some techniques for targeting consumers who value these housing attributes over others. The Chapter includes basic models for determining consumer preferences, conducting tradeoff analyses, and identifying target consumers.

The Meaning of Consumer Preferences

"Consumer preferences" is a term referring to the tastes people have in the attributes of a product they consume or desire to consume. In residential real estate, this term refers to the relative likes and dislikes of home buyers or prospective home buyers for various components of the "housing bundle."

The housing bundle is a package of characteristics that
accompanies any house, including physical attributes of the
structure (both internal and external) and site, age,
location, community services and amenities, taxes,
neighborhood socio-economic character, and the like.
Consumers have preferences for each of the many attributes
of the housing bundle -- some very distinct and others less
so. Consumer preferences are part of an inherent
psychological "package." Preferences for various components
of housing decisions, such as cost, location, space,
appearance, and the like cannot be totally disaggregated.
There are tradeoffs made in each component as a consumer
evaluates a product.

However, generalized consumer preference groups can be
identified, and serve as the basis for market research of
the type this report is concerned with. Consumer groups
preferring exterior characteristics (elevation, facade,
exterior physical ambience) are well-documented, and are the
major emphasis in this study. There are clear general
preferences among people for types of housing structures
(e.g. detached, attached, townhouse, patio house, etc.).
Brick and stone facades are preferred by most consumers.
Description of these generalized preferences aids in
revealing preference groups of consumers.

Types of Market Research

Within the field of market research there are four (4)
basic types of studies(N1):
1) Exploratory Study - An exploratory study is a first level study with a purpose to
gain general knowledge, insight, and ideas regarding (the) problem situation, identify important variables, and redefine the problem into more researchable terms...The goal of exploratory research isn't to find answers, but rather to gain ideas and insights -- (to)...suggest rewarding avenues for further research.(N2)

An exploratory study contains subject matter that is generally qualitative, often summarizing and evaluating comments of experts in the study area and previous reports, articles, or essays. Many development consultants and market researchers engage in this form of research as a matter-of-fact part of their profession -- they continually seek new insights through their work.

2) Descriptive Study - The subject matter of a descriptive study may be quantitative and/or qualitative. The purpose of a descriptive study is to report or describe data obtained through primary survey research or secondary information sources. One example is the straightforward reporting of facts, statistics, or other data garnered from responses to a survey questionnaire. Another case would be a summary of information on household size, income, and traffic counts for a given geographic area obtained from government publications or other sources. This type of study represents much of the work performed in real estate market research.
3) *Causal Study* - In this form of study, the goal is to establish probabilistic relationships between variables, especially in determining the importance of specified variables on a given situation outcome. Methods range from simple collation of data (often seen in real estate market studies) to advanced multi-variate regression analysis. Levels of causal analysis vary widely in the real estate market research profession. Residential developers rarely use highly sophisticated causal studies in their work. Instead, causal relationships are usually determined through unstructured review of descriptive studies.

4) *Predictive Study* - The purpose of a predictive study is to predict future characteristics of a variable and its impact on an outcome. Results of a causal study are supplemented with insights and evaluation of trends and external factors to estimate what will happen in the future. Alternative scenarios are often developed to account for a range of fluctuation in important variables impacting on an outcome. Within real estate, predictive studies are often performed for alternative scenario estimates of financial return, but the assumptions made in these analyses are seldom confirmed through structured market research.
Market research in the home building industry is conducted with information that is generally unstructured, informal, and of uneven quality. Most marketing decisions are made through the intuitive knowledge of developers, builders, and architects, and a good deal of this knowledge comes from familiarity with what people are buying in projects recently built or under construction. Much of what a residential developer internalizes about consumer preferences for design comes from the developer's own appraisal of recently built competing development. The involved actors often assume that buyers will act in the near future as they have in the recent past, with very little deviation in tastes. While this is not totally illogical, it shows a misunderstanding of the fact that "consumer preferences" are indicated both by the buying actions of consumers and by the inadequate satisfaction of their desires by purchased product or other product available in the marketplace. Even if recent home buyers' preferences are satisfied, this does not necessarily reflect on the unsatisfied preferences of those who desire to purchase a house immediately thereafter. Present proof of what is now selling does not prove what will sell, and it completely ignores latent demand.

Other than personal intuition, much of the information used by home builders comes through the brokerage community. Brokers and sales people have firsthand experience with
buyers and prospective buyers, and their knowledge is an extremely valuable resource. These people are constantly exposed to very important qualitative psychological signals from consumers, signals which are difficult (if not impossible) to record quantifiably, but which can be communicated orally or documented in writing. Unfortunately, brokers and salespeople rarely document their information and insights. The brokerage community does not on an ongoing basis document consumer preferences and tradeoffs -- whether actual and quantifiable or in statements made by the consumer -- and this results in imperfect information in the marketplace. Design, pricing, size and similar tradeoffs may be generally noted by salespeople, but they are recorded and reported only to the degree housing producers demand they be. Thus, organizations vertically integrated with production and sales functions may have an edge. The soft approach of casual conversation between broker and builder is the major catalyst for product refinement in the majority of firms.

Like most developers and builders, market researchers for the residential real estate industry appear to practice their trade largely with intuitive and accumulated knowledge. Much of their work is qualitative, perhaps because real estate requires as much qualitative as quantitative information. In residential building research there is little emphasis on advanced statistical analysis, although general collation of survey results is standard.
Discussions with over a half dozen market researchers, both of localized and national prominence, revealed that this level of consumer preference research exists because there is a relatively small demand among residential developers for the services of a market consultant when compared to research for commercial development or other products and services. This leads to a relatively small pool of clients and a low level of sophistication in the marketplace about this kind of research for residential real estate. The clients that do exist are very often developing luxury housing (needing research due to the very small market for their product) or are large national developers moving into business in a new geographic area. 90% of West Coast-based Robert Charles Lesser's business is for large clients, such as Trammel Crow and Oxford(N3). Inge Faust of RAMS Marketing Inc. in New York City says that many clients are "novice developers", just entering the marketplace. These developers are typically either starting a new firm or are an established firm (sometimes a non-traditional developer, such as a corporation) seeking to diversify into residential development. The latter case is more common(N4).

There may be additional explanations for the general lack of sophisticated quantitative analysis in consumer housing preference market research. First, the qualitative analysis that prevails may be more important because, as noted above, qualitative information and insights are a big part of the real estate business. So-called "soft"
information resulting from general experience in the field is a key part of success. Secondly, the residential development industry may continue to be based largely on ingenuity and creative entrepreneurship, with success determined through the developer's own insights rather than response to outside insights or data. Third, many builders and developers may conduct their own market research. A large amount of information and data is available through professional and trade associations, the brokerage community, census data, planning agencies, and even local newspapers. Fourthly, a good number of builders and developers do not have the organizational sophistication -- or resources -- to actively include market research as an important part of their work. "It is a fact the market is dominated by small builders" (N5), most of whom don't perceive a need for research because they are only building 20-100 homes a year and they usually build the same product over and over, or they are competing on a pricing basis, with relatively little interest in design. Instead they build what others are building and what they can afford in their construction budget -- they are building the cheapest product for themselves and their customers. However, as the new home buyer market shrinks and becomes wealthier, there will be increased emphasis on market research.

To this point, much has been made of the relatively unsophisticated level of research conducted in the residential development industry. However, it has been
noted that there is a marked range of degrees of sophistication within the industry. Increasingly, more developers are making use of improved studies by market research consultants, or embarking on intra-office studies and adding market analysts to their own staffs. According to Inge Faust, Director of Marketing for RAMS Market Research Inc. in New York City, at least some of the growth in residential market research results from lender requirements. Due to overbuilding in some markets, there has "become more of a demand put upon them (developers) by banks" to conduct market feasibility studies (N6). As developers become used to including market research as a part of their development program, they are increasingly deciding on their own that the research is worthwhile, and that more sophisticated levels of research, such as in preference testing, may reward them with quicker returns.

The principal deterrent to further acceptance of more advanced research appears to be the cost margin above a "standard" base level market research package. In Boston, the difference will typically run an additional five to twenty thousand dollars. This is based on an assumption that each person interview necessary in such a study will average about $90 in cost and that fifty to a hundred people are necessary for such a survey sample (costs are higher in small samples, and drop off marginally as the sample size grows larger) (N7). There is obviously a time expense as well -- interviews, data tabulation and cross-referencing of
responses add considerable time above a basic study. "It's always worth it. The situation is can you convince your client to spend the money," says Jay Grossman, head of residential projects for the Boston-based Codman Company(N8). As the degree of sophistication and range of expertise increases generally within the industry, market research can be expected to improve.

If a developer or builder does determine a need for structured market research, he/she usually approaches the research in one of the following ways:

1) "Active Approach" - Developer conceptualizes product character and conducts or commissions market research to determine if it will sell, or what elements may need to be modified.

2) "Reactive Approach" - Developer conducts or commissions research to determine what product type is most attractive in current marketplace.

The nomenclature coined above should not be misleading, since either approach is acceptable. Nonetheless, it does pay for a developer to be "active" and define his/her basic plan before approaching market research into consumer preferences. Consultant Linda Dixon says that developers always should know the basic site design and density program before coming to her. It is important for the developer to be focused in at least some way, so that research can be tailored to the contemplated product(N9). Of the "reactive" approach developer, Karen Malmuth of Robert Charles Lesser and Co. says "you can't afford to be reactive." She feels good market research, in terms of preferences, is best conducted after some preliminary product is conceptualized,
so that survey respondents can be questioned about the specific product (N10).

Typical Market Research Studies for Residential Developers

Predictive housing preference studies, conforming to rigorous market research guidelines, are seldom performed in the residential development industry. According to Cheryl Tweedie, Research Analyst with Fulton Research Inc., many of the firm's studies result from a developer or builder dissatisfaction with sales performance at a project after construction. These "post-build" studies essentially seek to determine why the project is not doing well in sales or rentals. In almost all of these cases, there was absolutely no pre-development market research performed by the developer/builder. Fulton conducts surveys at the sales models to ascertain the characteristics of the visitors and determine if they match the target consumers the builder was expecting. If they do not, Fulton works with the builder to develop improved marketing and advertising strategies to attract the desired buyers, or conducts additional surveys at the model site to obtain information on what the potential buyers who do visit the site prefer in the product. With this information, adaptations can be made to the product, and any additional phases built in a more customized fashion for the types of persons who have been visiting the model (N11). Like much of market research, this assumes future buyers will be similar to past and present
ones. This assumption can become a problem if the builder does not recognize the constraints on the quality of temporal information.

It is doubtful that this type of survey would be useful to a distressed IDT development, because the essential structural and facade attributes can not be changed significantly. Pre-development market research is the necessary element (though marketing approaches can evolve over the life of the project).

A basic element of nearly all product performance studies, as well as pre-development market studies, is study of comparables. Typically, an analyst defines a geographic area of certain radius from the development site. This area, to be studied in detail, is sometimes defined very arbitrarily. Depending on the degree of sophistication of the analyst, the geographic area definition is refined by analysis of transportation patterns or socio-economic patterns of settlement. Data is collected on characteristics of existing and under-development product in this identified area, including physical and design attributes, sales prices and volumes, absorption rate, buyer traits, and like information. Often the analyst visits the competing sites posing as a potential buyer, in order to get informal insights from brokers and salespeople, and to witness firsthand the types of people visiting the sites. From the collected information, the analyst will focus on evaluation of comparables within the same price range as
that expected for the product to be developed. Any socio-economic data obtained will be assembled and basic linkages between this data and consumer preferences will be summarized, though there is rarely any causal relationships in terms of correlation made through regression analysis.

This may appear to be a reasonable approach to data collection, but there is a problem in the definition of the geographic area to be studied. Arbitrary selection of a five or ten mile radius does not consider the dynamics of the marketplace, travel patterns, and economic inter-relationships in the region, etc. Ironically, it also fails to consider the fact that buyers often are relocating to a region, and may not share the tastes prevalent in the mainstream marketplace. Thus, the studies often ignore strong potential consumer groups not reflected in evaluation of highly localized information. There may also be arbitrary judgments made in the selection and study of price-range comparables. Limiting a study to "like-price" comparables may unwittingly ignore market dynamics. An example might be the case where price preference buyers must expend more of their income than desired on a house, creating a strong need for a lower price range product if it accommodates preference tradeoffs. Another would be where facade preference consumers would be willing to actually spend slightly more on housing to accommodate their likes, and yet this would not be known if an analyst limited study to existing price range projects.
Market researchers also rely on previous studies and informal information obtained from brokers for profiles of home buyers. This secondary source information is a very important part of research.

Perhaps the principal source of market research information in residential development is the National Association of Home Builders (NAHB), whose membership builds nearly 75% of all new U.S. housing. NAHB sponsors several major research endeavors annually. The most important seek socio-economic information and consumer preferences in a number of housing attributes directly related to design and construction. The NAHB annual surveys are a generic standard.

NAHB directly conducts an annual survey of recent home buyers through its Economic Research Division. NAHB obtains information on recent homebuyers through its Home Owner's Warranty Insurety Program. This program covers approximately 26-27 percent of all new single family structures built in the U.S. every year and, according to NAHB's Gopal Ahluwlia, has been found to be "fairly representative" of all such construction. Participating builders send NAHB the names and addresses of buyers of homes covered by the warranty program, as well as design and construction information. NAHB then selects from this listing of homebuyers a Census region and sales price-stratified sample of approximately 2000 persons. It makes a single survey mailing to these persons requesting...
socio-economic information, purchasing and financing arrangements, and preferences for a number of site design, structural, and exterior/interior attributes. There are usually 700-900 responses to the survey. The results are made available to members or participating builders for a fee (N12).

NAHB also sponsors another annual survey of recent home buyers. Through a nationwide network of some 5000 builders, the organization identifies recent purchasers and conducts a program of personal interviews that last 20-30 minutes, from mid-January through late February. In the recent past, there have been about 2700 respondents in this program. The target information may vary from year to year, but normally includes socio-economic and preference questioning (N13).

NAHB's Builder magazine sponsors an annual survey of prospective home buyers. This is the most well-known and widely-used consumer preference study in the industry. Like the new homebuyer study, the survey covers consumer preferences in housing types and exterior/interior design attributes, with general socio-economic and financing decision information also obtained. This endeavor varies in content from year to year. In 1987 the survey was targeted to prospective purchasers of new single family detached housing. In 1986 the survey was constructed to allow for a comparison of the preferences of "empty-nesters" (age 45 or over with no children in the home) and "yuppies" (age 34 and under with household incomes of at least $45,000 and no
Fulton Research Inc. of Fairfax, Virginia has acted as consultant every year in the ten year history of the Builder study. Fulton research analyst Cheryl Tweedie admits there is no elaborate method used in developing the survey questions. Questions are formulated purely on the basis of firm President George Fulton's experience -- "He makes them out of his head" -- and in response to communication with a number of NAHB member builders about their desires for information (N14).

Fulton maintains an extensive listing of residential developers and, with the aid of NAHB, identifies builders around the country who currently have heavy sales and visitation traffic through their developments and model homes. Fulton randomly selects builders to be contacted, most of whom are NAHB members and agree to participate. The sample is appropriately weighted for representation by geographic region and price range of product sold. Cost of living differences between regions are addressed by producing survey reports for specific regions.

The surveys are administered in person in January and February at the model home sites in the participating projects. Independent market surveying teams are contracted for this work. Surveyors keep careful record of how many solicited parties refuse any response, give partial (incomplete) responses to the survey, or respond fully to all questions. This information is important in analyzing
the ability to determine causal relationships among aggregated data through collation. The results in the recent past have been collated by the California firm of Great Western Research (N15).

The NAHB/Fulton surveys are basically descriptive, reporting answers to the questions presented to participants. Researchers commonly collect information and publish descriptive studies, with some collation and evaluation of the data. The 1987 NAHB/Fulton prospective homebuyer survey form is included in Appendix A. Refer to this for an indication of the range of questions that should be asked in preference research.

**Standard Elements in Consumer Market Research in Housing**

The rudiments of the process for consumer preference research can be summarized as follows. As can be seen, "phases" overlap and cumulative linkages must be built (N16).

1) *Literature search.* A review is made of recent literature to summarize the state of knowledge about the problem or opportunity posed. This secondary source information is important in focusing and outlining the balance of the research.

2) *Develop hypotheses about consumer preferences in housing.* The research team -- which should include the developer, architect, and sales or marketing manager (if possible) -- brainstorms on feelings about what preferences are and what groups of persons may share
similar preferences. This brings insights and the intuitive knowledge of the major actors into the process.

3) Develop cumulative consumer information through successive discussions with developers, builders, architects, behavioral scientists, marketing experts, and futurists. Research firms often document numerous interviews they have conducted over time with these actors, so as to have them readily available and not directly create any conflict of interest.

4) Conduct interviews with experts involved in housing production. "Experts" is meant to include national and regional analysts, academics, brokers, and government officials knowledgeable of housing policy and land planning.

5) Test hypotheses under expert scrutiny. The analyst may do this by evaluating the hypotheses in light of documented information from the experts or other outstanding sources or through requesting opinions directly from the expert sources. It is preferable to approach this step from both directions, leading to documentation of direct opinions and evaluative interpretation of linkages between the opinions.

6) Review and analyze existing statistical information and previous research reports. Review of previous research and findings is very useful in fashioning a research design, both by implying what was done correctly and
incorrectly in the past. Additionally, if the research methodology and comparative value of these existing reports can be ascertained, the current research can be reviewed in light of them.

7) Conduct surveys and discussions with recent home buyers of both similar and dissimilar products to the contemplated product. Information should be derived about socio-economic profile, characteristics of the properties purchased, preferences for various housing attributes, and buyer satisfaction with the purchased product.

8) Conduct surveys and discussions with prospective homebuyers. Information derived should be similar to that in no. 7 above, with additional information on characteristics of existing housing and on the consumer's plans for purchase of a new house (time, purchase price range, constraints, etc.).

Essentially, it is first necessary to make some assumptions about likely targets for the product. This will be dependent on the pool of likely homebuyers in the particular market, and the supply of homes available to them. Of the three primary sources of household growth influencing need for new housing in an area -- new household formation amongst the existing population, intra-market reconfiguration (spatial reconfiguration of where people live), and in-migration -- assumptions have to be made about who the "qualifying market" is amongst the players in the
three groups. Primarily it is income data that is analyzed to determine how many persons in an area can afford a new home, given prevailing housing costs (or developer-imposed costs). In-migration data is not easy to get. "Internal turnover (of household location) is much more important than in-migration," says Karen Malmuth. However, some corporations will provide information on the profiles of their relocatees to the area. "Target market segmentation is not complicated. It basically is determination of type of product, size, and price" that prospective buyers are generally interested in(N17). If persons match the general parameters of a project with respect to these things, then more specific preferences can be questioned, and tradeoffs analyzed.

As a part of base level research, before any development of preference questioning, consultant Linda Dixon draws information from four important sources(N18):

1) Review of secondary information on home sales volumes regionally and within the general target region, recent census data on population and income (much of which comes from regional or state planning agencies and which Dixon claims is quite good), and recent articles in journals or other periodicals on the particular kind of product contemplated. Published survey results of interviews dealing in some way with the contemplated kind of product are also evaluated.

2) Discussions with brokers to obtain information on sales prices of product in the general area, types of persons who are visiting their offices and where they are coming from (by obtaining contact sheets), and volume of visitors.

3) Evaluation of comparables -- visiting the sites, obtaining sales data, profiles of residents, and the like.

4) Discussions with local governmental officials, in order to determine what their objectives are and what constraints may be imposed upon the developer's
program.

However, a "typical study does not include a consumer preference" component. Although Dixon laments the general lack of sophistication in residential market research, she admits that she feels there is nothing all that special about techniques of basic analysis, and that consumer preference testing is generally unnecessary. The analysis components above ordinarily suffice to provide the level of information and insight that is germane to the problem at hand, and few developers are interested in any more sophisticated preference analyses.(N19).

There are occasions where preference testing really should occur, such as "when there are few comparables around"(N20). Potential buyers must be surveyed in this situation, because there is no recent historical information as to their attitude about the contemplated product.

Although it is not a standard element of market research, developers should request that the market researcher attend a meeting with the architect to assure that any consumer preference results are incorporated into the design. Linda Dixon reports that when this does happen, "the architects embrace this"(N21) information because, as noted at the beginning of this Chapter, architects actually make many of the target marketing decisions for a developer when specific research is not carried out. Thus, the architect's knowledge is improved, which betters the entire residential builder community.
The Focus Group

One major method for obtaining insight into prospective buyer preferences in design is interview within a focus group setting. Preliminarily-targeted consumers are asked to participate in small group (seldom over fifteen) discussions held in a relaxed setting. A marketing expert usually leads the discussion. Focus groups are best employed when:

1) a proposed project presents something new, innovative, and pioneering
2) a developer has a specific idea he/she wants tested
3) a developer has other very specific informational needs, already itemized to some degree.

The focus group situation allows for a fairly lengthy interview. Participants usually feel more comfortable with the research, are more serious, and think about their answers more carefully than their counterparts in research conducted by telephone or in random surveys at model homes or shopping malls.

Focus groups are of enormous help with the "psychographic" side of market research. By establishing a relatively relaxed setting, responses are usually extremely candid and honest (N22). The approach is an excellent means of obtaining soft information and subjective comments about preferences, especially necessary in design preference testing. "These groups don't yield much quantitative information. It's more gut feelings and price." says Jay Grossman of The Codman Company (N23). Body language and
facial expression in response can be noted. Focus group meetings are usually video-taped and audio-recorded, to allow for continued review of these kinds of signals. There is rarely any opposition to this in most researchers' experiences.

Grossman adds that, in his experience, "the concept for architecture is pretty much set up beforehand." Focus group participants provide feedback and refinement to the design, but rarely significant redefinition (N24). Topics typically discussed in focus groups include basic product type, price, floor plans and functional areas, hardware, furnishings, and amenities. Several consultants agreed that focus groups concentrate on interior design components. There is only a small percentage of instances where discussion centers on external design. In these cases, usually the potential project is already targeted to high-end buyers and the development team seeks soft information about the ambience or character desired in a development.

With the small group size, the leader or interviewer can ask more questions and show more alternative examples of design components than in a situation where the interview is part of a large sample responding to a standardized survey. The focus group session, if dealing with preferences in design, will typically be conducted at four to five levels of questioning:

1) Participants are solicited as to how they bought the home they are currently living in.
2) They are asked for comments about what they have gained in this homeownership, and what they have lost or had to give up.

3) Presentation boards displaying the major components of the contemplated house product are shown and responses elicited. This is an open-ended process, with a great amount of interaction.

4) A written survey is administered or questioning is led by the group leader on specific preferences for specific exterior and interior design attributes.

5) If available, responses are solicited concerning a proposed logo or advertisement. Sometimes different styles of ad copy and logos are presented for reaction if no specific logo(s) have yet been developed. Reaction to an advertisement, logo, or project name is often a reaction to the product concept in total.

Possible names for the development may also be tested. Consultant Linda Dixon is amazed at the level of sophistication people have about advertising and development names. Their responses are very helpful.

Prospective participants are identified by looking at comparable projects in the geographic area, in terms of type and price. If there are no comparables in the area, "we use our experience with that product" says Karen Malmuth of Robert Charles Lesser. Firms having a sales office may compile "interest lists" from people interested in approximately the same type of product. These lists can
also be bought from sales brokers (N25). The listed information usually includes current address, phone numbers, current home type and major attributes, and income. The researcher will then go to secondary information sources, such as reverse city indices, to specifically identify prospective focus group and/or survey participants. Identified people from the targeted geographic area(s) can then be screened via the telephone to see if they qualify for participating in the actual focus group or survey. Basic criteria are:

1) household income and ability to afford a product in the general price range contemplated,
2) value of the current home (including an assessment of the equity position),
3) age of household members (especially head), household size and whether there are children or not,
4) preference for form of ownership (e.g. fee simple or condominium),
5) tenure of current home ownership, interest in moving out of present home and over what time span, and how long the household has lived at the address.

There is normally a need to entice participants. Researchers and developers have used a dinner certificate, a gratuity of $20-$50, bottles of wine, or a catered dinner at the focus meeting itself (which aids in setting a good mood). Sometimes these enticements just don't work, however. Linda Dixon, a consultant based in Milton, Massachusetts, is increasingly advising her clients against attempting use of traditional focus groups in the Boston area because of the very poor attendance records of the participants who agree to meet. Instead, she has been utilizing mini-focus groups of three persons taken to lunch
by the leader. This has been working better (N26).

It is extremely important that the focus group meeting be led by an experienced and qualified person, who can set the tone and assure that individuals do not dominate the discussion and create biases throughout the group. Every participant should be heard from.

A focus group will typically cost around $3000 to administer (N27).

**Surveys**

After analysis of the results of the focus group information, a survey can be constructed that incorporates concerns of the developer as well as those raised by participants in the focus group. General insights into preferences and tradeoffs lead to specific questions that can now be tested with a larger sample. If the survey is to include questioning about design attributes, it is obviously important to conduct the survey in person so that graphic materials and examples can be shown to the respondent. Again, the personal survey also has the benefit of allowing for documentation of responses in facial expression, eyes, and body language.

The majority of surveys dealing with consumer preferences are conducted at model home sites and in shopping malls. The survey usually asks questions about a number of attributes, with a myriad of selections for response in each attribute, or a weighting system of
preferences. For development programs that are pre-conceived, it is useful to pursue this first form of questioning but additionally have specific exteriors, materials, and floorplans graphically depicted in the survey from which the respondent can choose. Thus, response to specific plans and elevations can be compared to general preferences in order to determine relative feasibility of the design program. The survey identifies the general socio-economic characteristics of the persons preferring the planned scheme by requesting basic information on age, income, family makeup, and present housing location and characteristics. Information on employment and travel patterns of the interviewees is also desirable, as this lends insight to potential limitations on development feasibility at a given site. Although identification of who prefers the given typology is the foremost consideration, it is also necessary to identify limitations to that preference in the given locale in terms of affordability, location, and lifestyle.

Researchers also employ telephone surveying, especially for preliminary levels of work when a focus group is not used.

The Model Home

Perhaps the major tool for consumer research in the homebuilding industry is the demonstration or model home. The model home is used by builders who conduct absolutely no
other research, and by builders who have utilized the most highly structured research. The model provides the highest degree of feedback possible -- feedback to the specific house design and all its features. However, it provides this feedback only after considerable work on the project on the part of the developer. A home must actually be fully designed, financed, and built. The model works best for the small builder who cannot afford significant research and who does not have a major concern about the degree of investment in a whole product line of homes.

Tradeoff Research and Analysis

To do a thorough job of analysis of consumer preference tradeoffs in purchase decisions, it is necessary to assign each attribute of the housing bundle (insofar as such attributes can be discreetly identified) a relative value. Optimally, the goal should be to price each attribute of the housing bundle. How can one reach this goal? It is difficult, and perhaps not possible in a pure sense. However, some efforts are being made in industry market research.

One very interesting technique used in preference tradeoff testing is through a game situation, best conducted within the focus group setting. Participants are "given" the base level product house as envisioned by the development program. The components of this base structure are assigned a relative quantifiable value, and participants
are also given a certain amount of "money" to purchase add-on components. They may pick and choose from amongst all the attributes, giving up standard items for something else, keeping all the standard items and deciding to add something on, etc. The rules of the game may or may not require that the total add-on purchase "money" be used. It should be noted that if the participants are instructed to make tradeoff decisions using all the money, it is important to document the order of importance of the choices, as these will generally be declining in importance of preference. Perhaps the best approach would be to automatically require the participants to rank their preferences of add-ons. Interesting twists yielding important information include requesting the participants to take elements away once they have added them on, or to make specific choices between leader-imposed attributes. The gaming nature of this approach makes the research fun and provides excellent information. Of course, the information comes from a very small sample and should be considered only preliminary in nature. Additionally, if actual market-driven values are not utilized for the house components, the game results provide only relative tradeoff correlations.

Information can be developed and analyzed at a more advanced level. Here are some of the considerations (N28):

1) Through survey and interview, compare consumer preferences among the attributes to be evaluated.

2) Determine consequent tradeoffs made by consumers in
actual recent purchases of housing. This can be accomplished through several methods. Consumers can be asked what their actual preferences are and these compared to the attributes of the housing purchased. Buyers can be asked about tradeoff decisions they actually made, and urged to both quantify and qualify their tradeoffs (for instance, a buyer may have wanted a 2100 square foot home, but settled for an 1800 sq. ft. one in lieu of a preferred style of architecture or a significant cost savings).

3) *Hedonic indexing* can be attempted through hedonic regression analysis -
   a. Conduct multi-variate regression analysis to obtain implicit attribute pricing.
   b. Compare implicit prices with general equilibrium prices in the housing market. Assume the general equilibrium prices equate with producer supply price and average consumer demand price. The marginal rates of substitution between component attributes can then be determined (equilibrium price minus implicit price).
   c. If the calculated marginal rates of substitution are assumed accurate, then implicit prices represent the point of maximum preference (utility) for housing consumers, as well as maximum profit for suppliers (producers or builders). Consumer scenarios can be developed around given
socio-economic or obvious preference groups to determine the relative "indexing" of housing attributes in that group. This leads to definitional refinement of certain preference groups and quantifiable tradeoffs they are willing to make in the housing bundle. The analyst can determine to what degree preferences and acceptable tradeoffs can be accommodated by a builder, given the builder's cost information.

d. It should be noted that this method works well only with numerous attributes -- in actuality, most studies aggregate the many components into a smaller number of categories.

e. It is also difficult to employ this methodology and yield totally accurate results because of the assumptions made about market equilibrium, the definition of discontinuous submarkets, and joint production and consumption of various bundle components.

Studies in preference tradeoffs, whether or not as quantifiably defined as in the methodology above, are beneficial only in temporal terms. Just like most other forms of market research, results are "conclusive" only in the short term. Lynden Holmen, Director of Research and Development for the Alberta (Canada) Municipal Affairs Department and overseer of a preference tradeoff studied performed among recent homebuyers in Calgary and Edmonton,
says to remember the fact that any such research is documenting "ephemeral tastes" and that research methods themselves are changing quickly as more private and public sector actors take interest in this information (N29). Thus, both information and survey technique can become obsolete.

Another drawback is cost. Any level of tradeoff analysis will likely add at least $10,000 to the research bill. Irv Dulnick of Robert Charles Lesser says that "most developers don't go for it." Nonetheless, there have been proven payoffs to investing in this research. Dulnick worked with a consultant from the UCLA Business School, Imran Currim, on a tradeoff analysis study in New Jersey. They set up focus groups, and examined responses to five attributes at three levels of preference. They found that prospective buyers would pay $15,000 more for a townhouse if they had an attached garage instead of group parking away from unit entries. When the project was built, townhomes designed with an attached garage all sold out before any others were even touched, and for nearly the estimated $15,000 more (N30).

Summary and Conclusions

This Chapter has summarized principal methods of consumer preference research for residential real estate. It has presented the key inputs to this type of research, and elaborated on some of these elements. The chapter has focused mainly on methods that are applicable in consumer
research about home buyer preferences in design. The major elements of survey design have been briefly noted, as have methods for conducting consumer preference surveys. The importance of disaggregating the "housing bundle" into its component attributes for review and analysis of choice tradeoffs actually made or preferred by home purchasers has also been discussed.

"Consumer preferences", in residential real estate, refers to the relative likes and dislikes of homebuyers or prospective homebuyers for various components of the "housing bundle." Consumer preferences are indicated in part by the buying actions of recent homebuyers. More importantly, they are also indicated by the inadequate satisfaction of homebuyer and prospective homebuyer desires by product available in the marketplace. General preference groups can be identified by grouping house attributes into general categories, and determining persons who value this category of attributes over all others.

There are several elements to consumer preference research in housing, with overlapping linkages amongst them. First, a literature search is made to summarize the general state of knowledge. The researcher should document and develop cumulative consumer information as well. Next, hypotheses are developed about consumer preferences and these are tested under expert scrutiny through interview or other method. Existing statistical information and previous research should be reviewed. Finally, surveys are designed
and then administered to recent homebuyers and to prospective homebuyers.

It generally is worthwhile for a developer to be active and have some sense of his/her product first before approaching consumer market research. In this way, consumers can be queried directly about the product.

A basic element of market research is the study of comparables. Typically, a comparable is identified in terms of physical design attributes, absorption rate, buyer traits and, most importantly, price range. Great care should be exercised in identifying comparables.

Once comparables are identified, the consumer preference survey is designed and administered. Typically, persons are identified as residents in the comparables and screened through telephone interview as to their socio-economic similarity with generally targeted consumers. Next, these persons are invited to a focus group meeting, a setting of ten to twelve persons allowing for in-depth interview and evaluation of preferences, including reaction to specific elements of the contemplated development program. The focus group provides mostly subjective information, but this is helpful in structuring a larger survey program which follows. This survey is administered to at least 75 and up to 300 persons meeting general screening criteria. To allow for questioning about design features, the survey is best administered in person -- at model homes or retail malls, usually. Specific projects may
depart by adding to or subtracting from these basic elements. Use of a demonstration or model home is, in nearly all cases, the most common and desirable method for obtaining direct feedback.

Another important, though rarely performed, element of research is analysis of tradeoffs consumers make in their purchase decisions. Information on tradeoffs may be obtained through gaming exercises -- where the buyer has to decide between home components -- or elaborately designed surveys that test for actual tradeoff decisions made, and attempt to price-quantify these through hedonic indexing.

Consumer market research in the homebuilding industry is conducted with information that is generally unstructured, informal, and of uneven quality. Most marketing decisions are made by developers, builders, and architects. A good deal of their knowledge comes through experience and appraisal of recently built competing development. This form of appraisal fails to adequately consider that existing homeowner satisfaction may not reflect the unsatisfied preferences of prospective homebuyers. Brokers and salespeople have firsthand experience with both actual and prospective homebuyers. Thus, information from the brokerage community is highly useful. Unfortunately, their insights are often unsatisfactorily documented and communicated.

Market researchers in the homebuilding industry seem to mirror their clients. Much of their work is qualitative,
perhaps because real estate requires as much qualitative as quantitative information, in the form of buyer profiles and psychology. There is relatively little advanced statistical analysis in research, though collation of data is standard. This level of industry research exists because there is a relatively small demand among builders for the services of a market research consultant.

Other explanations for the apparent limitations to justifiable consumer market research in the industry include the fact the homebuilding industry is dominated by very small players with little organizational sophistication and resources, and that ingenuity and creative entrepreneurship are prized over information retrieval and analysis. Some builders conduct their own limited in-house research (especially vertically integrated firms with sales divisions).

The National Association of Home Builders conducts several annual survey studies of buyer and prospective buyer preferences. These surveys are the source for much of the general information used by the industry, and set the generic standard for the industry’s current level of research.

Footnotes

N2. ibid.
N5. Malmuth interview.
N6. Faust interview.
N7. Costs based on discussions in:
   Interview with Linda Dixon, Linda Dixon Marketing Services, Milton, Massachusetts, 23 July 1987; and
   Interview with Matthew Hayes, Analysis Plus, Incorporated, Boston, Massachusetts, 22 July 1987.
N10. Malmuth interview.
N13. ibid.
N14. Tweedie interview.
N15. ibid.
N16. These eight elements are based loosely on:
N17. Malmuth interview.
N18. Dixon interview.
N19. ibid.
N20. ibid.
N21. ibid.
N22. ibid.
N24. ibid.
N25. Malmuth interview.
N27. Hayes interview.
N28. The three considerations are based loosely on:
Arthur D. Little, pp. 28-29.
Chapter 2

AN INDIGENOUS DESIGN TYPOLOGY FOR SINGLE FAMILY DEVELOPMENT

General

The Indigenous Design Typology (IDT) is a loose construct characterizing an approach to the design of single family developments, especially the architectural forms and facades of the house structures, but also encompassing additional elements of environmental design. The IDT is but one typology that may be used when developing single family residences, and is not necessarily better than other approaches. It is unique for its lack of originality -- essentially, the IDT attempts to qualify those component elements of pre-World War vernacular single family design and apply them to modern development. The IDT represents what was formerly the traditional, but which came to be eclipsed from 1945 on by larger scale approaches to development, modern architectural influences, and technological changes in materials and construction methods. During this time, modern and contemporary styles, free-form innovations, and the ranch and split level housing types have become dominant. Ironically, the IDT may appear to be eclectic today -- and perhaps even novice -- when in fact it builds on time-tested techniques of development.

Philosophical Underpinning

A principal element of the IDT is use of the
vernacular. There is a philosophical bent here, in that use of the vernacular is aimed at restoring some of the rationality and diversity of design approaches which used to respond overwhelmingly to regional influences. The IDT promotes the vernacular in the hope of recreating more architecturally distinct and identifiable urban communities -- where by naming a particular community, one conjures up images of the prevailing architecture and urban design therein. The philosophy is perhaps best summarized by Herbert Gottfried:

"celebrate the rationality and coherence of vernacular design. It is, after all, the system that most of us encounter as a part of our human development; perceptually, it embodies a large portion of our spatial system. The vernacular has proven to be a healthful environment... it has certainly contributed to the foundation of significant social structures like the single family house, the neighborhood, and the town(N1).

External design elements are the obvious thrust of the typology. There is no discussion of interior design.

With its vernacular emphasis, the IDT stresses that development should be of a design historically in tune with the local region where the development site is located. This does not imply that new adaptations cannot be made to architecture, but that they be made after thorough review of the history of local architecture and design. It implies that there should be heavy usage of time-tested and proven design forms that can help a region to maintain (or in some cases re-establish) an architectural identity and establish a critical link between the newly developed project and the
existing developed environment. It is hoped that by providing this typology, with its information and methods of design ideation, developers can re-establish their apparently lost role of creating entire residential neighborhoods or zones, rather than self-serving islands of homes.

Other Purposes

*Developer-orientation and capability of being tested in consumer preference research.* The typology focuses on design issues, but the major areas of concentration have been selected because they are the critical elements used in creating a sense of place in a development. The site planning, landscaping, and front facades of the houses all contribute to a person's first impression of a development, and so are extremely important to marketing. Additionally, the typology can be tested with market research for its appeal to potential buyers -- elevations can be designed and shown to consumers through techniques described in Chapters One and Four, as can site plans and written descriptions about what the concept is.

*Ease of use.* The typology is put together in such a way as to be a compendium of possible elements in the development design program. These can be pieced together initially so as to create design alternatives, and market research testing can be used to refine and then re-test the design. Essentially, it is intended that the typology as
depicted in this Chapter be flexible and serve as a "cookbook" of ideas that can be drawn for a specific project "recipe." The components are described simply and graphically, and can easily be used by the non-designer.

The Single Family House

The term "single family house", in the context of this study, includes all housing designed to provide for a single household unit in a single building -- one dwelling unit per structure. A single family structure has its own separate entry (-ies) from grade level. The majority of single family structures in the U.S. are of the detached type, and this may be assumed to hold true for the IDT. However, a single family house may be detached or attached; it may be one story or even three or more stories; it may be a townhouse (attached townhouses are known as "rowhouses" -- they can only be included here if they meet the definition of each unit being its own structure) or a patio home (though this type is less prevalent); it may stand on its own lot in a typical subdivision or be part of a cluster development; it may be owned fee simple or be part of a condominium; etc.

The basic point to be made is that a single family home within the IDT context can represent a number of products, providing considerable flexibility to the developer and architect. It is obvious that the majority of indigenous house types are of the detached variety, occupying a single
lot in an urban or suburban subdivision, but the typology may be called upon for design solutions in other settings as well.

**Indigenous Design**

The term *indigenous design* is meant to refer to development that utilizes vernacular design elements originating in, or used very extensively in, America and its geographic locales through the World War II era. The term refers to design components that either originated in or were adapted and came to be employed extensively in the U.S. The term *indigenous* as used here should not be confused with house forms prevailing on the continent prior to colonization. Native American Indian architecture and design is not included in this typology (with the exception of pueblo construction materials), though perhaps it truly is, by strict definition, the most indigenous to this land. The IDT involves design elements that emerged over many years and were repeatedly re-used by successive generations of builders and individual homeowners. They became a laymen's vocabulary in architecture.

**The Major Elements of the IDT**

The IDT presents some of the basic design concepts in planning and single family architecture that are indigenous to the United States (though some of the same elements have been historically employed in Canada and, to some extent,
Mexico). The principal attributes discussed are the following:

1) House facade -- This is the most important element in the typology. The IDT stresses the front elevation.

2) House form/shape -- This is generally a result of several elements:
   a) Basic house forms can be related to the type of roof. The roof sets the vertical limit to the mass, and creates the silhouette:
      1) Gabled houses
      2) Hipped houses
      3) Mansard houses
      4) Gambrel houses
      5) Pyramidal houses
   b) Houses can also be characterized by plan. The basic plan has a shape of its own, and influences the external appearance of the house.
   c) Height and number of stories.

3) Site plan -- Basic elements of street layout and lot sizes.

4) Landscape -- Approach to preservation of the natural plantlife and/or landscape architecture.

From the items in numbers 1 and 2 above, one sees that houses can be characterized by a compilation of the roof, plan, and other elements. The Bungalow is an example. It has a characteristically almost squarish plan, is one or two stories, and usually gabled roofed with a front facade wall gable. By next evaluating the front facade and its materials, one begins to develop a basic set of parameters for both conceptualizing and mentally structuring an indigenous house. A series of three questions are asked in the evaluation(N2):

1) What kind of structure, roof, and cladding does the house have?
2) What are the basic relationships among the design elements?
3) What is the nature of the proportions, tensions among large-scale elements, and continuities among the elevations?
Architectural Components

The principal IDT components in the actual house structure are house types, materials massing, and shape. There are relatively few indigenous residential architecture styles. Style in architecture generally refers to materials used, and embellishment and detailing of minor components, rather than association with major structural components. Most architectural styles in America emerged elsewhere (usually Europe) and were revivals. Additionally, vernacular construction typically employed the prevailing style of the period for details and minor modifications. This is an acceptable approach for continued use in the typology. Where stylistic attributes are important criteria in an indigenous house type (such as the Craftsman Bungalow), they are elaborated upon. As a general rule, architectural style is best incorporated into IDT developments through analysis of the local tradition for the typology selected.

Regional Influences on Typology

Once again, it is stressed that "traditional" house forms vary in different areas of the country, as do materials. Materials are probably one of the more important determinants in defining the local version of "traditional." In southern California, for example, use of brick is rare and thus not traditional, no matter what the housing type. Ranches formerly were considered traditional in that area,
but over the course of twenty years "traditional" also came to mean townhouses. In the Mid-Atlantic, two stories and townhouses are traditional -- there are much fewer ranches (N3).

Because the IDT draws upon vernacular design elements, there are a myriad of regional variations that can occur. This document cannot analyze these at any realistic level of detail. Instead, the IDT user should become familiar with the identified elements of the typology and then evaluate the antecedent variations witnessed in the locale where he/she is working.

Nonetheless, this document does provide some information on readily identifiable variations for certain houses presented. Material and color differences occur very often, and are usually noted. A graphic depiction of some elements of the IDT, as well as examples of house types, are found in Appendix C. Refer to this Appendix for notes that present possible component variations that should be investigated. Additionally, some of the text information provides brief historic and origin backgrounds on structure types, and this serves as a clue to potential regional variations.

**Urban Design Issues**

The size of the development site and expected density are the most important considerations in the large-scale design components of the IDT. A basic design program should
be developed that postulates the range of product possible and whether the site is sufficiently sized to readily allow for varying intra-site densities. These variations are often very important urban design features when a sense of community focal points is important (see the section on the Seaside development). Streetwidths and paving materials, choice of curb-and-gutter or swales, streetscape improvements, and the like should all be considered in the IDT. The location of the site (urban, suburban, exurban, or rural) largely determines the design parameters for urban design elements, as does geographic region. Common and/or open spaces must be considered within the IDT context. Commons or village greens would be appropriate in New England. A central public square, usually with a public building (or at least a public use building) is typical of vernacular community plans in much of the South and Midwest.

**Landscaping**

Landscaping is an important component in creating a sense that the development is stable and the community is established, even when it is not. Landscaping approaches will vary widely depending on the site location and design program. In urban developments, landscaping is used to create rhythm and continuity along streetscapes and to help emphasize important common spaces. Street trees are a basic element in the IDT, seen in virtually all communities where vernacular design has dominated. It is also a good tool for
delineating public and private territory along a street. If the development contemplated is to reproduce design typical of a vernacular element when it originated, historical period landscape schemes might be considered. The representative developments presented in Chapter 3 (namely Seaside and MacIntosh Farms) give insights as to how the natural landscape should be preserved or altered.

Some Americanisms

The IDT typically employs other design elements that have become associated with any traditional American community of single family houses. All IDT houses can be constructed with today's standard platform wood frame construction, even though historically balloon construction has dominated. The fact that some vernacular house forms were built with post and beam or bearing wall construction does not interfere with the typology, and it is obviously not necessary to replicate obsolete construction methods. The most important IDT attribute is the front facade, so sheathing materials will be the primary component depicting the vernacular mode.

Porches, usually covered, are symbolic of the traditional American house. Front porches, usually of wood decking and railing, are especially characteristic of traditional house types. Side and rear porches and verandas are common in the South and should be incorporated there to some extent. Enclosed porches are characteristic of certain
Fences along the streetscape has been characteristic of certain types of vernacular development. Fencing should be of the same basic type, with variations in detailing and in depth of placement from the front and/or side lot line. In the IDT, use of front yard fencing would be best associated with developments reproducing a period design scheme based on the time frame of a vernacular form origination and/or dominance in the locale. Types of fencing may vary, and should be modeled on an identified example in the locale. Wood picket fences and iron railings represent the broad generic categories to be employed.

Garages should generally be placed directly at the rear of the structure, and may be attached or detached. This placement emphasizes the front facade of the house and eliminates any detraction the garage may introduce. A disadvantage of this placement is the requirement for more paving from street to garage structure. An attached garage is recommended, since studies have shown a clear preference among new homebuyers for an attached garage. Additionally, construction cost is typically higher for a detached garage, as an entirely separate footing and foundation is necessary. If it is common in the locale or in the development's prototype to have rear alleys, by all means provide rear access to the garage, as this will eliminate some paving and allow for the lot to be accessed in both front and rear. The alley also provides efficiently for service functions to
be hidden from view from the street.

The Menu

This Chapter -- including Appendix C -- is not meant to be a complete reference to all the components used in constructing a vernacular single family building. The typology primarily considers indigenous single family housing forms and facade elements. Construction techniques, structural elements, and specific architectural styles are considered in a very general sense where relevant for increasing understanding of the house form and facade. Likewise, the origin and history of the housing forms depicted in the Appendix C examples are discussed only to the degree such information is helpful to better conceiving the nature of the facade elements as a key part of a modern development program. Some history is necessary to place these design elements in their appropriate regional, vernacular context.

This section provides the "menu" of components considered in the IDT. These are outlined below. Appendix C presents some of these items graphically. The Appendix also presents a generic form that might be used to document basic information about a prototype vernacular house in the region where a single family development is to be located. A series of four figures, each utilizing the generic form, provides an example of how the various menu components can be documented for four specific indigenous house types.
These figures also graphically depict a typical front facade of each of these four types. There are obviously more than four indigenous house forms, so the goal here is merely to show, by example, how the development team may develop its preliminary design program. Additionally, this kind of conceptual development is valuable for use in consumer preference testing as well. The prototype house forms and facades that are selected can be tested through the survey methods discussed in Chapter One and outlined in Chapter Four for the IDT.

**Construction**

1) **Wood frame** -- The IDT is characterized by wood frame construction. In a historical context, the increasing standardization brought on by the industrial revolution resulted in an array of milling machines that could produce standard dimensioned lumber. This increased the use of wood as a structural, sheathing, and decorative material. By the twentieth century, wood was by far the dominant material used in all facets of housing construction. Wood frame construction members became highly standardized, with carpenters altering components to suit the job at hand.
   a) Balloon
   b) Platform
2) **Masonry load bearing** -- rarely applicable, given today's technology. It may be appropriate for a house form that is truly characterized by a specific form of construction, such as an adobe pueblo.
3) **Post and Beam** -- not likely to be used.

**Cladding**

1) **Shingles**
2) **Clapboard/weatherboard/beaded horizontal board/board & batten**
3) **Brick**
   a) Running bond
   b) Common (American) bond
   c) Flemish bond
   d) English bond
   e) Stack bond
4) **Stone**
   a) Ashlar (cut stone)
      1. Coursed (regular shape)
2. Uncoursed (irregular shape)
3. Random (interspersed random regular shapes, uncoursed look but actually coursed irregularly)
b) Uncut stone
   1. Cobblestone (riverstone — smooth stones of varying size)
   2. Coursed rubble (similar appearance to uncoursed ashlar)
   3. Cobweb stoning
   4. Random rubble
c) Stucco (mix of cement, lime and sand placed over mortar or sheathing with reinforcing netting)
d) Cement
e) Concrete (block or poured)

**Roofs**
1) Types:
   a) Gable
   b) Hip and Mansard
   c) Gambrel
   d) Lean-to and Shed
   e) Flat
   f) Monitor
   g) Pyramidal
2) Roofing Materials:
   a) Tile
   b) Slate
   c) Tin or other metal
   d) Shingles
3) Miscellaneous Elements:
   a) Ridgecover
   b) Rolled roof
   c) Ventilators
   d) Ornaments
   e) Ballustrade
   f) Towers

**Chimneys**
1) Types:
   a) Gable End
   b) Interior
   c) End Wall
2) Exterior Components:
   a) Stack
      1. Normal
      2. Pierced
      3. Fluted
      4. T-Shape or other configuration
   b) Cap/Top
      1. Corbeled
      2. Potted
Dormers
1) Types:
   a) Window
   b) Wall
   c) Either of above w/ balcony
2) Shape/Configuration:
   a) Gable
   b) Hipped
   c) Shed
   d) Mansard
   e) Specialty

Windows
1) Types:
   a) Sash (double hung most typical)
   b) Casement
   c) Fixed
   d) Awning/Hopper
2) Placement:
   a) Single
   b) Paired
   c) Triple
   d) Stepped
3) Fenestration: Symmetrical or Assymmetrical

Footnotes
N2. ibid., p. xvi.
N3. Malmuth interview.
Chapter 3

REPRESENTATIVE DEVELOPMENT CASE STUDIES

General

This Chapter introduces three developments employing the IDT to some degree:

1) **Seaside**, a beachfront community located on the Gulf coast of Florida, approximately equidistant from Tallahassee, Florida and Mobile, Alabama. Seaside is modeled on a vernacular small town, with emphasis on beachfront and southern U.S. components.

2) **MacIntosh Farms**, a community targeting first time and move-up homebuyers. MacIntosh Farms is located in Broadview Heights, Ohio, a suburb of Cleveland. The development has employed vernacular farmhouse architecture in its first phase, and landscape elements are a major element in the vernacular theme.

3) **Renaissance**, an existing urban neighborhood in Columbus, Ohio, where an institutional developer employed indigenous design -- by default -- in new infill construction. The neighborhood has renovated and new construction in a variety of price ranges.

The intent of the following case studies is to review the projects for their use of the IDT and, more importantly, gain insights into the developers' approaches to identification of target consumers, consumer market research (if any), and promotional marketing. It is hoped that these
cases will shed light on elements necessary to successful testing of consumer preferences in an IDT project.

SEASIDE

General Information (N1)

DEVELOPER -- Robert Davis, Seaside Community Development Corporation

ARCHITECT -- Andres Duany and Elizabeth Plater-Zyberk

MARKET RESEARCH/MARKETING CONSULTANT -- None

TYPES AND NUMBER OF UNITS --

Planned: 440 total units, consisting of 320 single family lots, 20 townhouse lots, and 200 apartment units

Through July 1987: 88 single family units constructed, 68 of which are individual-owner-built

ACREAGE -- 80

PHASING -- phasing has been through subdivision platting. There have been seven (7) subdivision plats to date, resulting in 269 lots (most, though not all, of these lots have been placed on the market). 130 lots have been sold as of July 1987.

TOTAL LAND COSTS -- negligible -- The land was purchased in the 1940s by Davis's grandfather and passed through the family.

UNIT CONSTRUCTION COSTS -- in 1987 they are ranging from $50 to $65 per sq. ft. This is considerably above the $35 per sq. ft. typical of production housing in the area. Costs
are higher due to the fact nearly all houses are architect-commissioned and the types of materials used are more expensive -- hardwood floors, wood windows, etc.

**METHOD AND STRUCTURE OF FINANCING** -- Davis used a local savings and loan for money for the first two homes. He had no major problems with financing because of the value of the land mortgaged and the fact he sought loans in relatively small increments.

**UNIT SALES PRICES** -- in 1980-81 cottages cost $75-100 thousand, 1987 prices are in the $150-200 thousand range. In 1980-81 lots sold for $15-25 thousand, 1987 prices are $50-70 thousand (lots average about 5000 sq. ft.)

**MARKET RESEARCH/MARKETING/PROMOTIONAL COSTS** -- Currently approximately $80,000 annually

**Ideation**

According to Robert Davis, the inspiration for his development of Seaside was "my own childhood summers here at this place." Davis's Alabama family vacationed along this stretch of the Gulf coast in the late 1940s/early 1950s, and he has vivid memories of the vernacular architecture and the sense of place common in beachfront communities at that time, such as nearby Grayton Beach. His grandfather purchased an 80 acre site in the 1940s. The land stayed in the family, and Davis "knew in the late 1960s I would get the land. By the late seventies we had worked out all the business arrangements."
Davis first thought seriously about what to do with his land in the mid 1970s. He had received an MBA from Harvard and ended up as a developer in south Florida. He was living in Miami and had been trying "to do Florida architecture in south Florida -- something that worked well in the climate." He was working with modern architecture forms, yet trying to incorporate traditional elements in an abstract sense. After selling a condominium project, Davis took a self-described "sabbatical" to Europe. His journey included trips to a number of small towns where he had a chance to see the vernacular forms that are characteristic in such places. When he returned to Miami, he bought a 100 year old cracker house. He enjoyed this home, saying that it and others like it are "straight forward buildings, modern in a simple way but vernacular." Davis was thinking more and more about vernacular building types. He reflects that "modern architecture claims to provide the ultimate comfort in a place, functional soundness, good use of technology. But vernacular (architecture) does it better." He notes that southern vernacular houses utilize porches, windows, and building orientation in a common sense way to make the home as comfortable as possible in the climate. The house where he lived in Miami rarely needed air conditioning because of these qualities. Davis also says that the vernacular house seems to provide a better sense of place and sense of home. In travels throughout Florida, he always made note of the parts of the state where vernacular architecture was
dominant. He knew that he wanted to develop the family land in a way so as to give the appearance of an old beach development and small southern town. He wanted a place that had the vernacular architecture of Florida and the South he'd known as he grew up.

Since Davis owned the land outright, his carrying costs were negligible. This provided him with freedoms most developers do not have. Davis had abundant time for planning what he wanted and traveling to the kinds of communities he wished to emulate. Over a period of several years, he traveled throughout Florida with his architect Andres Duany looking at the vernacular design elements he would use - town plans, street widths, building architecture, materials, and orientation. "I had the luxury to indulge in the best kind of market research. Developers fifty (50) years ago were doing these projects. I looked at stuff built in the twenties." Examples included nearby Grayton Beach, Yankee Town, and Mount Dora/Eustis, all located in Florida, as well as waterfront resorts such as Mackinac Island. Davis realizes that the lack of land carrying costs eliminated some overhead costs he would have had if he had been trying to rush the development, such as staff salaries and consultant retainer fees. He was able to build two houses that set the tone for what he wanted to do, and just wait and see what happened in terms of sale. "I couldn't have gone as slowly simply by throwing up two houses and seeing what happened."

-75-
No Pre-development Market Research

Davis never engaged in any pre-development market research. He did not even consult general sources such as the annual NAHB prospective home owner survey for his region. Davis is a member of groups such as the ULI and NAHB, and reads their magazines and reports, but has not ever purchased any of the consumer surveys compiled by the groups. "I knew where the market was" he says.

Davis was very confident about his development, truly feeling that his notion would be shared by many of the people who came to this part of the Gulf coast. Many were families who had been vacationing in the area for years, and probably had memories similar to Davis's. The Seaside development was specifically oriented to these families, and to the concept of an indigenous beachfront development rather than one of high-rise condominium towers appearing elsewhere in Florida. The uniqueness, and yet the similarity with what had preceded, was felt to be the key to the marketing. "The area tends to be family-oriented. We were offering an alternative, one that might strike a positive chord. Our very early brochures were very heavily weighted towards families. We were really selling this place to children -- and their parents and grandparents. We were selling the idyllic beach for a childhood."
Early Marketing

In 1981 Davis built two (2) houses (one which came to serve as a model) incorporating the vernacular architectural elements he wanted to promote in the development. There was little direct marketing for the project at this early stage. Davis characterized his approach as "putting up houses and seeing if people took to them." He emphasizes that he felt his image of a beachfront community would be shared by the people who had been coming to the area anyway and that the very theme and creation of a sense of place that he was attempting would be the principal marketing elements. Davis continued to focus on the family appeal by noting such seemingly small factors as the fact that the dirt walkways are comfortable to walk on and for kids to play on. They do not get as hot as concrete or asphalt walks, and are softer. "The kids would be better off this way."

By building the first two speculative houses and putting a few signs up on the property, Davis created natural curiosity among the people who vacationed in the area, and they stopped by to look at the model. Nancy Patrie (now Davis's secretary and a Seaside resident) and her husband noticed the early structures being built near the place where they stayed on vacations away from Alabama. They were curious, investigated the model home, and were sold on the concept. They appear to be typical of most of the early homebuyers. A number of the early purchasers were people of moderate incomes, but they decided to put the
money up for a homesite in such a location.

**Progress**

The initial development "office" consisted of Davis and his wife -- "we were basically a mom and pop sort of business." Davis used a local savings and loan for money for the first two homes. He didn't have much trouble with financing because of the value of the land mortgaged and the fact he sought loans in relatively small increments. He says of the lender: "Initially they thought these were pretty little houses, but they didn't understand the whole concept of establishing a sense of place in development. But we didn't have any trouble with them because of the way we were borrowing. We had pretty low loan to value ratios." Davis had a sales person hired by the time Andres Duany and a half dozen students came to the site for a two week charrette to refine the master plan. Duany, whom Davis met through a journalist friend, was a key player in the early development. Davis says Duany was "instrumental in coming up with two basic ideas." The first was to organize the plan in such a way as to essentially be a small town, with appropriate sizing and shaping of elements such as streets and squares. Davis and Duany traveled around Florida looking at small towns for the key elements they would mimic in their plans. The second major Duany concept was to emphasize design in section as well as plan. This lent the necessary three-dimensionality to the plan and made the
spatial inter-relationships easier to comprehend and ultimately translate to code standards.

Davis realized success with his first few houses, so he continued to proceed and built several others. He found that people came to him, largely out of curiosity. "We just kept doing what we do. The actual sales concept (was that) we would have to build the houses." But then Andres Duany came up with what Davis terms a "brilliant idea." The idea was to merely make horizontal improvements and approach the project as an ordinary subdivision, with one important additional consideration -- Davis and the architects developed a simple, readable code that set forth the design parameters for all structures in the development. Some parameters were quite strict, others much more flexible. The team felt that this code would work, over time, to help "set a community consensus" about what Seaside should be -- how it should look (judging from what is already on the ground six years later, this approach has worked well). Additionally, notes Davis, the approach cut down on the overhead costs that would have been necessary to be in the builder business or in making continual payments to architects and contractors. Refer to Appendix D for the Seaside Master Plan and Code - exemplary indigenous design.

Promotion - Geographic Vacationers

As the development progressed and people bought units and lots, it became apparent that potential buyers were
looking for second (vacation) homes and permanent residences. Davis decided some additional advertising was necessary, if only a piece of paper that visitors could take with them back to their inland homes. He felt it would be good to include some personal written statements about what he was trying to create. "The first brochure was designed and written by me and printed at a local Curry copy shop. It's pretty primitive. The essays were too long, the print was unreadable -- but elegant. The logo -- we used Americana -- it was great."

In 1982 Davis went to Atlanta and found an advertising firm, Rashoon-Shivers et al. Davis has been generally satisfied with the person serving as consultant, witnessed in the fact "we followed our account executive who left for another firm, Bose-Landen." Seaside's slogan -- "The new town...The old ways" -- is credited to the advertising person. However, Davis reflects today on the outside consultant as inevitably leading him away from the very simple approach he originally took, an approach that mirrored the development itself. "In some ways I'm not so sure it hasn't been for the worse. It's lost my philosophical ramblings (a joking reference to the essays Davis included in his early brochure)."

Some of the casual approach may have been lost through different advertising, but until recently the project was never marketed in terms of targeting a specific socio-economic group(s) of consumers (though marked property
appreciation is now limiting who can buy in Seaside, and experience has shown that most buyers are professional-headed families). Instead, second home ownership amongst visitors from fairly well-defined geographic areas has been the sales thrust. Davis says he knew the project would have to be a second home one, because in his experience few people were interested in permanently living on the Florida panhandle Gulf coast and the area was traditionally a vacation destination for families, primarily from Alabama and Georgia, but also Florida, Tennessee, Mississippi, and Louisiana. "It (Seaside) started as a second home community, though I'd hoped there'd be some permanent residents. But it'd be a beach town, no real economic base." The early buyers appeared to represent a relatively broad range of income groups, but the majority were professionals, and have become increasingly so. "For the most part, the people who could afford then can afford now. They are mostly second home buyers, professionals such as doctors, attorneys, bankers, educators. You have to have a certain income to afford two homes. Even the people of somewhat lower incomes have a similar educational level, a lot of college degrees." Asked if he did anything to promote permanent home ownership at Seaside, Davis responded that he did "bend over backward" at times, making price concessions and setting up attractive financing arrangements. Davis's development company does provide financing for buyers. "We vacillate. When we have money we lend it. When we don't we
Seaside promotion appears to now be more oriented to the professional as prospective buyer. Seaside developed and ran a black and white advertisement in publications such as Southern Living, New Orleans Living, Atlanta Magazine and Birmingham Magazine. These were all magazines read by professionals in the general target geographic area. No advertising has ever been done outside the South, and there are only a few owners from other than the principal states mentioned. Billboards using the slogan —”The new town. The old ways.”— appear along the few routes leading to the community. They are the principal thrust of the advertising, since they are visible to those people who actually do come to the Gulf coast here.

Positive Press

Clearly, however, the best promotion for Seaside has come through the extremely positive press coverage, starting with an article in the June 1984 issue of Southern Living. “I think the biggest thing that has drawn people are the articles. The press has been much better than any advertising.” Through a "friend of a friend" Davis made contact with a writer at the magazine, inviting him to see Seaside. After the writer visited and wrote the story, other unsolicited articles followed in architecture and construction journals, Time magazine, and even a German magazine. Davis has been fortunate enough to be content
with this press coverage. "Our ad agency wanted to do a press campaign. We basically haven't done anything about it." Now tourists come to take pictures of what truly is an emerging town, an anomaly in modern private sector development, and the word about Seaside passes ever more quickly.

**Buyer Profile**

"We don't have a whole lot of specific socio-economic information that's collated or anything" says Davis. The sales office has visitors fill out an information card with basic information about address and phone numbers. It serves basically as a contact sheet for follow up on the potential consumer's visit to Seaside. The cards provide an indication of which geographic regions are best represented by visitors, and which of the magazines listed above might have the strongest readership.

a) Age -- household heads range from around 30 to late 50s. There are no retirees to date.

b) Income -- generally upper middle income, although there is no specific data collected on this variable.

c) Size of Household -- mostly families. Davis feels Seaside is a place where members of the extended family can come together for a vacation. Actual average size of these households living in or visiting the community is unknown.

d) Other socio-psychological information -- "most people have traveled a lot." In talking with buyers, Davis noticed that many liked to eat and cook. They are generally casual and low-key in attitude. Many came from small towns, predominantly Alabama and Georgia. Given that most southern towns could be considered relatively small at the time Davis was growing up (and many of the Seaside owners are in his age range), the small town factor is important. Remembrances of the sense of place in a small southern community appear to be important in the preferences of at least some Seaside
owners. They are comfortable in the environment created, though perhaps they would not have specifically looked for something like this -- they found it through circumstance.

**Approach to Sales**

The hiring of a sales manager helped speed up sales. Davis "convinced them (prospective buyers) about the place", but the sales manager "got people to sign...Tactics are very low key and informal. There are two women with brokers licences as salespeople, and one part-time broker/sales manager. Information is conveyed by the saleswomen. They might serve iced tea and talk (with the prospective buyer) on the porch swing of the sales office."

Over time, more uninterested parties have shown up at the sales office, in curiosity or as part of touring the area. "There is no polite way to withhold brochures (from persons not really interested in purchasing a homesite), so we've just gotten to the point of handing out materials to anyone who asks."

**Feedback**

There are monthly meetings with the sales people. The basic purpose is to obtain feedback on what the company needs to provide them in terms of "collateral material", advertisement design and wording, and which magazines or newspapers to advertise in. "You get some skewing" of feedback information says Davis, but the information is the quickest and cheapest available, and comes from the people
who are dealing with the potential consumers.

There has been ongoing informal feedback from both prospective and actual buyers. "At the beginning, there was a lot of questioning about whether this thing (the development) was going to happen or was it a pipe dream. There has been concern over what the town center will look like and over areas where we haven't made up our minds on distinct appearance, such as Ruskin Place (the townhome site). I wanted workshops on the ground floor, but this has yet to be worked out." Davis feels that there will be at least some negative reaction when the town center gets under development, because its density will be higher than the outlying neighborhoods of houses and its appearance therefore considerably different.

Consumer feedback about design comes largely through casual conversation with home buyers after they have become Seaside residents. An annual home owners meeting provides a more formal setting for feedback from residents. The original dirt and clamshell streets were generally disliked because of the dust produced by traffic, and the homeowners promoted brick streets. Davis initially did not desire to make the change, but the homeowners paid for the brickwork themselves. Now Davis agrees with them that the brick is good -- "it's comfortable to walk on and stays relatively cool." Another change resulted from concerns over inadequate lighting. Davis felt the best approach was use of very low level lighting at a large number of locations, rather than
strong lighting at a few locations. He responded by installing old gasoline station lights in the earliest developed parts of the project. When it was discovered that the availability of such lights was extremely limited, another method became necessary to address the concern. A provision was added to the covenants that each homeowner provide individual lights on his lot at the entrances to front and rear gates. Homeowners now buy through Davis a knee-high mushroom-shaped fixture that has become the standard in the community.

Davis notes that the most recent house built at Seaside has been somewhat controversial. It is located at a prominent beachfront site and generally perceived as being blocky and overscaled.

Seaside Within the Context of Regulation

The local planning agency required the completion of a Development Regional Impact report. There was some resistance to the development among the local community. For years the Davis property had stood vacant and people had come to regard it as a sort of public domain "park". Davis was proposing to develop the land and thus take this park away. The local Planning Advisory Board came into existence at about the time the Seaside 2 subdivision was being proposed for platting. This board was composed largely of real estate people who knew virtually nothing about planning" says Davis. "We didn't have people who were
experts (reviewing the plan). They said the streets were too narrow (35 ft. vs. the 40 ft. required in the code). Davis argued that the streets would be privately maintained. There was no Fire Marshall at the time, though the fire department expressed concerns over the lack of pavement on the narrow streets. Davis pointed to the fact that unpaved streets in New Orleans had been served by the fire department there for years. On reflection, Davis feels most of the board members were well-intentioned. However, "one or two were not well-intentioned. We weren't using the local real estate people."

"If we'd had a regular zoning code there is no way this could have happened. I think that reflects somewhat poorly on what the planning profession has come to." The fact that the plans were reviewed by other than planning professionals was a mixed blessing. On the one hand, there was a lack of sophistication, but on the other there could have been stronger adherence to the standards if the local planning board had been advised by planners who administered strictly by the books.

The location of the project requires adherence in some instances to federal building standards for hurricane flood prone areas. Though these standards have not posed any real obstruction to the development to date, Davis feels that they may in the future. He mentions that once a regulation is in place, it is likely to become more rigorous as better information becomes available and the sophistication of
implementation improves. The regulations would most likely affect the minimum first floor elevation and the rigidity of structural materials. The elevation regulations will probably not be burdensome given the fact that the Seaside code already requires houses to be elevated above the natural ground elevation, for promotion of good air circulation, ventilation, and adherence to this traditional style of construction along the southern seashore. However, Davis has some definite opinions on the possibility of requirements for additional rigidity in structural members. He feels that in this locale, a well-constructed house is not a rigidly constructed house. The ability of structural members to bend is preferable to a more rigid structure where momentary stress may cause collapse or movement from a foundation. A house constructed of "weaker" flexible members may be bent out of shape in a strong storm, but stand a better chance of being restored.

Other Comments and Insights

Davis describes his market research as "pretty much seat-of-the-pants", and characterizes his role in the development process as the "ringmaster of the circus." "I've often thought we'd have a problem in an economic downturn" in selling lots, because no specific market research has been done to determine how to attract buyers when there is an unfavorable economic climate. Davis says he has an interest in better analyzing how to appropriate monies used
in the interior construction of units, in order to meet consumer wishes while reducing costs.

To Davis, the most important lesson is unrelated to the marketing of the project, but is related to the linkages between design and finance. "We've proved the (financial) model." Because of the development concept of creating a vernacular architecture small town, Davis did not develop the beachfront sites to their normally highest use and density as would typically be determined in the modern market place. He wanted to find out "how much more we'd have to get on the inland sites" so as to compensate for the low density beachfront development. The model emphasized analysis of what return was necessary on the interior land in order to compensate for a lower return to the market value of the beachfront land. In effect, he modeled as if subsidizing low returns on the beachfront with higher returns from interior land. "The feasibility was determined through some economic modeling -- it seems primitive now."

Although Davis' land costs were "negligible", he approached the development "as if I had paid fair market value" at the time (late 1970s) of approximately $3500 per square foot. He wanted to see how the money he derived from the land could be "spread out evenly over the site." Given that there were no land costs, it is difficult to accurately assess this model's performance but Davis feels that there is relatively equal disbursement of economic return across the 80 acre site. He has been able to sell 5000 square foot
lots over 1000 feet removed from the beach for $60,000, not much less than frontage tracts. "The real trick is (that) there's a very delicate balancing act" in planning for openness and accessibility to the beach as a method for improving return on interior lots. Davis is proud to show other developers that "there are other models for development."

There is another element to the degree to which the beachfront should be developed within this typology. During the interview, Davis reflected on whether he would leave the entire beachfront area undisturbed -- as a park -- as the early opponents of Seaside had wanted. He decided that he would not. "It's important to colonize the beach (to have at least some development at the beachfront). Public uses are necessary. The (proposed) Seaside Inn and cottages... it's public."

Seaside was obviously approached with traditional Gulf coast vacationers in mind. Davis says that Seaside "started out as a kind of tobacco road. Now it's more sheik, though not uncomfortably so. I'm slightly unhappy about it. It prohibits some people from moving in. We may do some sort of subsidy (in the future)." But what seems to matter most to Davis is satisfaction that he has developed a project that he would want to buy into. He has essentially developed what he likes and banked on the notion that others will share his own tastes.
MACINTOSH FARMS

General Information(N2)

DEVELOPER -- Zaremba Corporation

ARCHITECT -- Kaczmar Architects Incorporated

MARKET RESEARCH/MARKETING CONSULTANT --

Gregory Inc., Gregory PR Inc., and Marketeam Associates
served as the market research/advertising/public relation team

TYPES AND NUMBER OF UNITS --

Planned: 2200 total units, including single family
       detached and attached, and multi-family

Through February 1987: 115 single family attached and
       detached units constructed

ACREAGE -- approx. 1000

PHASING -- this is a large multi-phase PUD, to be developed
over twenty or more years

TOTAL LAND COSTS -- not supplied; the land was purchased in
increments about 35 years ago.

UNIT CONSTRUCTION COSTS -- not supplied

METHOD AND STRUCTURE OF FINANCING -- not supplied

UNIT SALES PRICES -- phase one units are priced at $80,000
       to $120,000

MARKET RESEARCH/MARKETING/PROMOTIONAL COSTS --

Approximately $460,000 in Phase One; planned for 4% of
       sales for the balance of the development
Design Elements

MacIntosh Farms is by far the largest of the representative developments discussed in this Chapter. The site in Broadview Heights, a suburb of Cleveland, encompasses approximately 1000 acres and there are plans for 2,200 total units, including single family detached, single family attached clusters, and multi-family clusters. The homes contemplated include two-story gable wall structures modeled on a vernacular farmhouse, two-story bungalows, and ranches. The developer, Zaremba Corporation, hopes the site design and architectural tone established in the first phase of 115 single family attached and detached units will generally continue through the project's many additional phases.

The phase one structures strongly mimick many of the architectural features of vernacular farmhouse communities seen throughout northern Ohio. Some of the commonalities between the new product and the existing vernacular include relatively large square footages (in the vernacular, due to the large size of farm families); assymetrical front facades; varying window shapes (often with exterior shutters); porches with simple wood picket railings; narrow, light gray clapboard siding; narrow brick chimneys of the same color (sometimes two or more to a house); and a mixture of front and side-gabled facades with black shingled roofs at a minimum 45 degree angle pitch. The detached structures seem the most true to the vernacular, but the attached
structures ironically also seem at home in this typology because the concentration of buildings in the clusters appears at a distance strikingly similar to the vernacular clustering of farm buildings around a farmhouse. With a very low density of just over two units to the acre, the MacIntosh Farms site planning allows for gentle, graceful approaches to the attached unit clusters and, in some cases, excellent open approach vistas that strengthen the apparent metaphor to vernacular farm community clustering.

The curvilinear road system and attached housing concept applied to a midwest farmhouse vernacular are two of the apparent incongruities on paper. The use of fiberglass shingle roofing is another. Here, however, the dark color choice gives the new roofs the same look as the dark gray slate (often tarred after a certain age) of a 100 year old farmhouse. The requirement for garages (many which are multi-vehicle) in a suburban community does not detract from the architecture because there is never more than one garage visible in an elevation, and sometimes the garages are offset to the rear or side of the main dwelling structure. The garage has been a necessary building on the vernacular midwest farm for well over sixty years anyway.

Perhaps the most important contributing factor to the indigenous design typology at MacIntosh Farms is the landscaping. Natural and man-made ponds, split rail and white picket fences, apple orchards and pear groves, preserved woodland and meadow open space all combine to
create the sense of place that is important to the typology. Use of drainage swales instead of curb and gutter adds to the rural feeling (Zaremba had to obtain a variance from the local ordinance to allow for this). The plan calls for hedgerows and tree windbreaks to be spread out through the development, leaving yet another impression of a typical midwest farm. The project master plan does not look any different at face value from that of any generic residential PUD, but once on the site any person will probably notice a difference. The streets wind through the new landscape as they do in any suburban subdivision, and the lots are sized large because that is what the mainstream market dictates here, but the project certainly exhibits enough of the indigenous design typology qualities to be considered representative.

**Regulatory Hurdles**

There were several regulatory roadblocks to the development of MacIntosh Farms. The two most important involved sewerage and zoning. When Zaremba first started thinking about developing the land nine years ago, there were no sewers available to the 1000 acre site. Additionally, the site was classified a "sensitive area", thus prohibiting development of a localized package treatment plant. Zaremba worked for several years to come up with a program satisfactory to local officials and the Ohio Environmental Protection Agency.
Zaremba wanted to develop a Planned Unit Development (PUD), but there was no enabling zoning for this in the small town of Broadview Heights. On top of this, the town uses referendum zoning that requires a public vote on new zoning or significant zoning changes. Zaremba opted to work with officials and use the existing zoning system applied to the MacIntosh Farms master plan, rather than attempt to pass a special PUD ordinance. They flew the Town Council and Planning Board members to other large PUD developments around the country in an effort to provide, by example, an image of the type of development program they envisioned for the large tract. When the time arrived for the final drafting of the zoning for the tract, Zaremba put an advertisement in a local newspaper inviting the public to attend a presentation and meeting. Zaremba was so confident of its presentation and the appeal of the project's farm theme that they felt it was better to invite people and educate them about the project than to attempt to divert the public's attention away from the development. It worked — over two hundred people attended the presentation and hearing, and most left satisfied. The referendum vote on the zoning passed thereafter.
Success in Weak Market

Simultaneously to the zoning effort, the Zaremba team was conducting extensive market research about potential buyers and their preferences. This research effort proved very worthwhile. The Cleveland residential market is relatively weak, and the fact that the project is located in a fairly undeveloped part of the metropolitan area meant little traffic could be generated by signage in the immediate area. Nonetheless, home prices in the first phase of the development range from $80,000 to $120,000 and 56 units were sold of the 86 available in early 1987. The home prices make them comparable to others in the Cleveland new home market (about 10% more expensive on average), but the unit sales rate is nearly three times that of other new projects, and prospective buyer traffic has been four times that typical locally. The market research and subsequent marketing campaign — better dubbed a mega-promotional campaign — can be credited.

Market Research

The Zaremba team spent nearly three years developing and refining its program through market research. Nathan Zaremba wanted the architecture to follow a farmhouse theme, modeled upon the Western Reserve tradition of the area's first white settlers, who originally came from Connecticut.

Zaremba hired Gregory PR Inc. to conduct focus groups in order to obtain some input to the design process.
Participants were selected through an elaborate phone survey process. Because relatively few new homes are sold in the Cleveland area every year, the research team actually obtained a listing of all new home buyers in the preceding twelve month period. The team telephoned all these persons and queried the interviewees about preferences for types of units, preferred characteristics, and reasons why they had purchased their new homes. The research quickly revealed a distinct pattern. Many recent buyers were either retirees, non-retired empty nesters, childless young professional couples, or recent divorcees. Interestingly, an overwhelming majority had previously lived in one of five distinct zip code zones. This information was used in screening criteria. The focus group participants included both these recent home buyers and randomly selected persons living within the five zip code zones who met the screening criteria.

Within the focus group setting, participants saw pictures of different types of farmhouses, and they selected which they liked most. Zaremba says the people "really liked the rural feeling." However, "the biggest thing that came to front was that people didn't like standard townhouse designs in Cleveland." By pulling from the farmhouse theme and creating one and two story attached units, Zaremba created a sort of hybrid between a single family detached house and the more standard townhouse.

Zaremba built a matrix of the characteristics found to
be most desirable amongst the focus group participants, and incorporated these into the final designs. They developed a list of prospective clients through assemblage of broker interest lists and through their own telephone interview sessions. When the first models had been built, they began their marketing campaign with a "Pioneer sneak preview" event, inviting these selected people to be the first to see the project.

Marketing Campaign

The marketing effort was only beginning at this point. The MacIntosh Farms marketing campaign was budgeted at 40 percent of phase one's expected sales, but will level off at four percent once this phase has sold out. Nathan Zaremba knew that up-front costs would be high, but felt that his development would set a standard once word got out. Not only did he provide a large marketing budget, he also installed many of the amenities for the entire project in phase one -- "we had to put the amenities in up front to define the neighborhood." These facilities include an amphitheater for summer outdoor performances, a community center housed in a new barn building (complete with silo), and a windmill which pumps water through the development's pond system. Zaremba was apparently correct in putting the amenities in at this stage, for they have served as the site for special events such as musicals and country-like crafts fairs that have drawn thousands to the project. Traffic to
models quadrupled upon completion of the amenities and start-up of the programmed activities.

Because of the emphasis on design (and the lifestyle it is meant to represent), even the architects, landscape architects, and interior designers were important to the marketing effort. With 2200 units to be sold, the team developed a general brochure to set the mood and explain the site and then color-keyed pocketed supplements giving details on particular floor plans and elevations. A newsletter format was created and the letters were sent to interested visitors. Move-up buyers were first targeted, notably renters looking to own. 20,000 postcards invited apartment residents to a special event for them that included not only tours of models and the site, but also liquid refreshment and live music. This generated 2000 visitors on a rainy day, culminating in 12 sales in the 10 days thereafter.

Nostalgia

Although the indigenous design typology need not be characterized as a nostalgiac return to the past, use of indigenous architectural design does pay homage to well-defined and proven forms. Zaremba has played this up at MacIntosh Farms in numerous ways. The development advertising scheme deliberately promotes a return to tradition and a simple, almost rural, lifestyle -- presumably supplied by the development. The project
embodies not only the IDT, but perhaps more importantly is in line with the exurban growth pattern of Cleveland (and experienced in nearly all urban centers today) and the national conservative mood. MacIntosh Farms might just be the perfect suburban or exurban development for the late 1980s, and the marketing campaign brags about it. Models are furnished in early American furniture (decorated models are unusual in Cleveland) and salespeople bake apple pies. Newspaper ads and brochures stress the sense of place created by the indigenous design. Events at the community center and amphitheater are advertised in large format newspaper ads as well. Graphics depict life at MacIntosh Farms as a return to the farm.

The sales office itself maintains the low-key farmhouse theme by offering panoramic views of apple orchards, meadows, and white picket fences. Information on the existing phase one neighborhood and future planned neighborhoods, amenities, and Zaremba Corporation is on display in a sizable room, allowing for casual review by visitors. The office almost seems to be a self-guided tour of the development, and yet there is little sense of de-personalization. The sales office layout is necessary given the marketing techniques for generating huge visitor volume.

Miscellaneous Notes

Though Zaremba has concentrated its marketing effort to
date on the groups it had identified in its preliminary research, the company is now implementing a "Plus One Club" oriented to young couples with one child or who are planning for a child in the near future. The large size of the project and the desire to construct at least one hundred homes annually means promotional activities must be geared to numerous buyer groups. Zaremba has found good success in sales through referrals by visitors or other buyers. About 25 of the first phase's units were sold on this basis. Although not publicized, Zaremba gives a department store gift certificate to those referring actual buyers.

Nathan Zaremba hopes to continue with the farmhouse theme for some time, but the large size of the project will probably demand diversity. Still, he feels that the architecture will be modeled on local vernacular forms, most notably Greek Revival period architecture and Saltbox form houses. He is noticeably proud that "we've provided a series of psychological experiences" as residents enter the development. The approach sequence is through a road network that becomes smaller scale close to the cluster "villages" of homes, with a sense of increasing private and decreasing public space. "It is important that they feel like they are coming to their home."
RENAISSANCE

General Information (N3)

DEVELOPER -- Battelle Memorial Institute: several different entities were established to engage in different functions, including Battelle Development Corporation, Renaissance Realty Co., Olentangy Management Co.

ARCHITECT -- Bohm/NBBJ for master plan and some architecture, many additional architects in different phases

MARKET RESEARCH/MARKETING CONSULTANT -- None

TYPES AND NUMBER OF UNITS -- renovation and relocation of existing townhouses and detached structures, new construction of infill detached structures and townhouses (all in an existing neighborhood involving 425 properties)

ACREAGE -- approximately 100 acre neighborhood, with over 70% of the properties involved

PHASING -- numerous

TOTAL LAND COSTS -- not supplied (the properties were accumulated over many years, and this information would be difficult to accurately ascertain in any case)

UNIT CONSTRUCTION COSTS -- not supplied

METHOD AND STRUCTURE OF FINANCING -- not supplied

UNIT SALES PRICES -- over the course of six to seven years (approx. 1979-1985) that most of the properties were brought onto the market, costs ranged from approximately $35,000 to $175,000

MARKET RESEARCH/MARKETING/PROMOTIONAL COSTS -- not supplied (there was some indication these costs may never have been
The Six Level Plan

Renaissance is actually a multiple-project development. It is essentially a "re-master-planned" neighborhood in an urban area of Columbus between the central business district and the residential neighborhood immediately south of the Ohio State University campus. The area surrounds the headquarters of the Battelle Memorial Institute, a private research facility engaged primarily in work for the federal and other nation governments. Thus, this is an example of an institutional developer utilizing the IDT. According to Alfred Berthold of the architectural firm Bohm/NBBJ, project manager for the planning and architectural design elements of this project, there were six (6) basic levels to work within the project boundaries(N4):

1) Exterior facelifts on a majority of structures, consisting of painting, new roofing where necessary, and weatherizing through installation of storm windows and insulation in the roof, and sometimes in walls. There were other minor cosmetic exterior improvements on some properties. No work was performed on the interiors. This level of housing was marketed to urban homesteaders, and was sold on the outstanding price value. These homes were originally contemplated to be sold at an auction with sealed bids, but this was disapproved by neighborhood and other residents for a
variety of reasons, including the fact that prices bid were considerably higher than expected and the intent was for these homes to be affordable and able to be purchased by existing residents. The homes were then put on the open market at prices of approximately $35,000 to $55,000, with advertising in local newspapers. This level of the project was occurring from 1979 on.

2) A demonstration project involving homes of more architectural significance where local builders and rehabbing firms were contracted by Battelle to renovate exteriors and interiors completely. Houses in this level of the development were targeted at yuppies, Battelle employees, and corporate heads in an attempt to provide an alternative to purchase of a home in the suburbs. These homes sold for $120,000 to $160,000, beginning in 1979-80 and continuing through about 1985. There were about fifteen or twenty homes of this category. The advertisements, which were published in local newspapers and Columbus Monthly magazine, were relatively small and low key, and the logo that was developed can best be described as neo-gothic in appearance (though there are relatively few homes exhibiting any Gothic style details -- the majority are vernacular period Victorian and front/side-gabled simple townhomes). Experience has shown that these houses were bought by primarily singles and young
childless couples who were first or second time buyers, with very few, if any, relocatees from the suburbs.

3) Dennison Park Place. A group of six historically and/or architecturally significant structures were relocated from an area where Battelle planned to expand its parking facilities to a former more isolated parking lot site and were condominiumized. The master plan called for the residential area around the parking facilities to be buffered from that use. Twelve homes had been identified as having to be removed from the future buffer area in order to better define the buffer and rid the neighborhood of undesirable projections of asphalt from the existing parking lots into the housing district. The six relocated homes were among the twelve, the balance were demolished. The six relocatees were developed and known as Dennison Park Place. They sold in the early 1980s for in excess of $150,000, and were the high-end portion of the development. There was a special individual plan for this phase. Dennison Park Place included creation of a special sense of place through landscaping, consistent fencing types, provisions of rear access garages, and sidewalk improvements. The work in the public areas was performed in part by Battelle and in part by the City of Columbus. Since there were only six houses involved in this level, there really was no specific marketing or promotion. Good press coverage aided the
sales, as did the fact the development served as the site for an annual local interior design event. The houses were sold through local realtors and the same Renaissance Realty sales program as the level 2 renovations.

4) New infill construction scattered throughout the project area on a large number of vacant lots pre-existing or resulting from demolition of derelict structures. The structures were placed on narrow townhouse-like lots that were 100-130 feet in depth, backing up to an alleyway. The infill structures were generally two-story twenty-four (24) to thirty-two (32) feet wide on lots of thirty (30) to fifty-five (55) feet width. Thus, some houses, though detached, were only six feet apart. This is in keeping with the very narrow side yard separation seen between many of the existing houses in the area. Even so, Battelle had to obtain a setback variance from the current Columbus zoning code to allow for this. The infill houses are typically of the generic two-story Victorian vernacular that comprises probably a third of the stock in the project area. There is little exterior detailing or fenestration. Circular or other odd-shaped windows are included in some units -- this element is a vernacular characteristic of the upper story front and/or side wall window in many townhouses, attached and detached, in Ohio valley cities during the late 1800s. Most of
the infill houses have clapboard siding, front wall gables, and gable roofs. The only other detailings other than the windows are decorative doors (though the frames are simple). The infill houses are simple and well-proportioned with the neighborhood, and this makes them fit in rather than stand out (though the new materials obviously suggest new construction). Interestingly, the major determinant that these houses would be so simple was pricing. They were deliberately intended to be affordable and replace some of the affordable stock that was lost. They sold typically for $55,900 in the early 1980s.

5) All new construction of single family one and two-story detached structures in one zone. Battelle contracted with M/I Schottenstein, one of the largest builders in the area (ranked 60th in size nationally in 1986) for construction management services for this project. The property was retained by Battelle and the finished houses were sold fee simple as would be typical in most single family developments. The design of these homes borrows from the same vernacular elements as the infill housing, but is much less characteristic of the housing type seen in the project area, and thus probably the least in keeping with the indigenous design typology.

6) All new construction of townhouses on a site originally planned as a neighborhood retail development. After a great deal of opposition to the retail by neighborhood
residents and others, Battelle decided to plan for residential development. The site was sold to Schottenstein, who developed the townhouses. Like the new detached houses, the townhomes borrowed from vernacular elements but applied a more contemporary look, and thus cannot be readily associated with the indigenous design typology in the way the renovated and small lot infill structures can.

Several streets in the neighborhood were closed to through traffic and small streetscape parks were developed.

Range of Affordability

Although the new construction levels 5 and 6 do not meet the indigenous design typology, it should be pointed out the resultant construction was priced at near existing average market prices (approximately $60,000 to $80,000 in the early to mid 1980s), helping to provide a full range of affordability options in the project area. The multiple options in housing in this neighborhood are traditionally typical of an urban setting, and the range of structural types that are similar in scale if not entirely in other attributes can be considered an element of the typology, from a planning perspective. The options in housing range from the well-below-market urban homesteads to moderately priced below-market infill structures to the mid-priced new detached and townhouse structures to the high end completely renovated properties and the very expensive Dennison Park
History and the Reason for Development

Battelle got into the development business by default. The organization expected to expand its facilities considerably in the 1960s, and began to purchase properties in the surrounding middle-class neighborhood as they became available. Battelle also contemplated housing many of its employees in the neighborhood, generally within walking distance of the organization's facilities. At times, Battelle even made purchase offers to the existing residents, in contemplation of the expansion. Eventually Battelle came to own over 70% of the properties in a sizable 100-acre neighborhood. The area quickly became a renter neighborhood, and Battelle served as landlord. By the mid-1970s the area was predominantly low-income renters, and many of the properties suffered maintenance neglect, in part due to a Battelle policy of maintenance only to the absolutely essential and minimum level (since the original notion had been that the structures would be demolished). When it became obvious that Battelle's expansion needs were much smaller than had been conceived, the Institute embarked on a program to divest itself of the properties, which it made little, if any, money on. The program was conceived as selling as many of the properties in their current condition as possible, to urban homesteaders. Additionally, Battelle was interested in greatly improving the condition of the
housing stock and promoting a better mix of socio-economic groups in order to make the community more economically viable again. The stated goal was "to not make money" according to Charles Minshall, a Battelle official involved in development and urban affairs. In 1977 the Institute made a study of what buyer income was basically necessary to assure a sales price that would give a break even return to Battelle.

In the mid to late 1970s, when Battelle finally determined to "divest" itself of these properties, the general neighborhood was already experiencing what Minshall describes as "creeping gentrification" along the core of architecturally interesting townhouses and almost mansion-like homes of Neil Avenue, a central spine through the project area. Market forces were causing gentrification already, but relatively little displacement. As Battelle became highly active in promoting redevelopment of the neighborhood, the Institute bore the brunt of a wave of negative press and public criticism from neighborhood residents (led by what were termed "professional activists" by some of those interviewed) over the issue of displacement. Battelle became "very sensitive" about this issue and tried to promote at least some purchases of structures by existing tenants. Marc Smith, formerly a consultant to Battelle and now a Professor in the Real Estate program of the University of Florida's Department of Finance, says the Institute conducted a survey of existing
rental residents to determine interest in and limitations to their purchase of their units (N5). Relatively few participated in a program where the previous year's rent was included in a down payment for purchase. Battelle's sensitivity over accusations that they were promoting displacement and planned for it by investing almost nothing in their rental structures continues to this day, evident in the reluctance to disclose much of the information requested as a part of this study, especially concerning financing arrangements, construction costs, and the methods for planning the project. For "historic purposes", Battelle produced a confidential report documenting the history of all its efforts related to the project area. To its credit, the document "aired a lot of dirty laundry" says one of its authors, but remains inaccessible (N6).

The expected sales prices of the majority of the houses in the project area were $35,000 to $55,000. When word got out about the low prices, which were ten to thirty thousand dollars below average market in 1979-80, a significant interest and demand developed for the structures. Battelle initiated a program of applications for an auction approach to sale. Using the results of their study, Battelle would pre-qualify participants on the basis of reasonable parameters that the buyer could make a success of the purchase and renovation. There was an outcry by resident associations to this "closed" method of screening and charges of a plan of purposeful displacement. There was
considerable negative press, as well as minor demonstrations.

Sales and Marketing

Around 1980, Battelle established Renaissance Realty to handle sales and marketing of the project area. Local realtors were also actively involved in making contacts of people who might be interested in the price ranges available.

There were no specific market research or marketing strategy studies done in connection with Renaissance. An advertising consultant was involved in producing ad copy, but even most of the basic ideas were generated by Battelle staff, their sales brokers, and the architect.

Profile of Buyers

The majority of buyers in the Renaissance project were young professional couples without children, with some professional singles. Many worked for nearby Ohio State University or some of the small entrepreneurial companies located near the university. Since a large proportion of the early houses put on the market were of the homesteader type, requiring at least moderate -- and sometimes extensive -- interior upgrades, many of the properties may have been bought for investment purpose. The new owners quickly renovated and resold them for a sizable profit. Additionally, in a number of cases the new owners did not
realize the amount of work involved in the properties, and they sold fairly quickly. These two factors have combined to produce a turnover two or three times in a substantial number of the homesteader properties. These homes have recently been selling for $55,000 to over $100,000 (the average 1986 home price -- new and resale -- in Columbus was a little under $90,000), depending on the degree of upgrade. Today's buyers are more diverse in terms of age, background, and place of employment, but remain largely professionals. The relatively rapid appreciation of houses in the area requires a higher buyer income than it did in 1979, but this is probably as related to the escalating housing costs nationally as much as the history of the Renaissance project locally.

Summary and Conclusions

This Chapter presented three different developments, with the only significant commonality being use of major components of the IDT. The purpose for choosing such different examples was to demonstrate the range to which the IDT could be employed successfully. It was also designed to determine any linkages between diverse sites in terms of approach to targeting consumers, consumer market research, and promotion.

There are few linkages, but they are important. An interesting finding is that each project really demonstrates
more about its developer and its locale than about approaches to consumer market research or the IDT. In this respect, these projects, though atypical of new single family construction from a design perspective, are typical of how homebuilding occurs all over the country. The developer in each case had a specific product in mind for the development program. The developers demonstrated an understanding of the local marketplace, and this is the most significant common factor, leading to success in each endeavor.

Early identification of the major target market(s) is another common thread, though only in the case of MacIntosh Farms was there any consumer preference testing in the pre-development stage. The Zaremba Corporation made good use of some early market research that revealed likely target consumers for its product. It targeted these groups in its mega-advertising campaign, necessary due to the weak local market. Although advertising and promotion are a major reason for that project's success, the early focus group and telephone survey research was perhaps the most important factor. In the case of Seaside and Renaissance, there was literally no pre-development market research at all, in large part because the developer had a particular group of persons in mind and was confident of at least moderate demand for the product envisioned.

Though it at first seems minor, another common piece of ground is that the model home served an extremely important
function in each case. Robert Davis essentially built two speculative homes and waited to see what happened. These structures sold visitors on the project. The model was also very important to MacIntosh Farms. As the first phase in a multi-phase 1000 acre new development, the house structures were the principal element for identifying the development character. In Renaissance's various levels of development, the model home was important to the demonstration rehabilitation and the small lot infill units, which were the first new construction. As mentioned in Chapter One, the model home can function not only as the obvious project sales tool, but also a center for obtaining information on prospective home buyers and feedback about the structure's design. This is the most common "approach" to consumer research used amongst home builders. This may imply that pre-development consumer research is no more necessary in the case of the IDT than it is for any other form of housing development. However, it does not imply that such research is without merit. If the IDT is to be truly successfully employed time and again, there must be some initial research into its merits through consumer research, such as that used by Zaremba at MacIntosh Farms. This is essentially what this thesis is exploring.

Land cost was a variable in all three projects. At Seaside, the negligible land cost was a significant variable that allowed Robert Davis the time to carefully develop and research his development concept, an almost philosophical
one. In the MacIntosh Farms project, there was land cost, but it was a buried cost in that the property was purchased some 35 years prior to development. At Renaissance, land had been purchased over the course of many years and was again essentially a buried cost. The land cost variable seems unique to these developments and is probably not indicative of any relationship to the IDT cost of construction. In fact, MacIntosh Farms and Renaissance provided housing at near-average-market prices, indicating that high construction costs are not directly associated with indigenous design (though they were at Seaside).

Each development targeted different consumers. It is not possible to say that the IDT was any more important an element of appeal to buyers than a myriad of other factors different to each setting. Nonetheless, there may be a thin psychological thread running through these three cases. At Seaside, certainly design was (and still is) an important part of the preference package -- it is impossible to ignore. The old vernacular architecture is probably most appealing to those who can remember it from their childhood and to those who want something different from today's typical beachfront development. At Renaissance, a certain appeal was the charm of a real, existing old neighborhood. There is different architecture in the community, but all at the same scale. The generally common lot sizes are home to a range of diversely priced housing, the streets are lined with mature trees, and the neighborhood has distinct

-116-
boundaries. This leads to the feeling of a stable neighborhood -- a certain timelessness. And finally, MacIntosh Farms played on the timelessness theme directly by promoting its development as a return to farm architecture, tradition, and a semi-rural environment. The common psychological thread is the timeless character of the traditional -- the indigenous vernacular -- planning and architecture. And it is also the feeling that the development is different because it is so like past development that utilizes proven indigenous single family design principles.

Footnotes
N1. Information for the section on Seaside came principally from:
N2. Information for the section on MacIntosh Farms came principally from three (3) sources:
   - Interview with Nathan Zaremba, Zaremba Corporation, Lakewood, Ohio, 3 August 1987.
   - Interview with Totie Defante, Kaczmar Architects, Incorporated, Cleveland, Ohio, 24 July 1987.
N3. Information for the section on Renaissance came principally from:
   Interviews with Charles Minshall, Battelle Columbus Division, Columbus, Ohio, 10 July 1987 and 24 July 1987.
   Specific information from other sources is noted where appropriate.
N4. Information on the six (6) levels was supplied in part by:
   Interview with Alfred Berthold, Bohm/NBBJ, Columbus, Ohio, 24 July 1987.
N6. Interview with Tom Martineau, Florida State University, School of Architecture, Tallahassee, Florida, 24 July 1987.
Chapter Four

AN OUTLINE FOR CONSUMER MARKET RESEARCH IN INDIGENOUS DESIGN SINGLE FAMILY DEVELOPMENT

General

This Chapter is a summary and conclusion of the preceding chapters. As noted in the introduction, this is an exploratory study with a purpose of revealing insights and ideas about how to proceed in market research for a defined development typology. This Chapter suggests an outline of the components necessary for further, more expansive, research. The preceding chapters have

1) summarized consumer market research methods for residential development, emphasizing testing of preferences and research of tradeoffs,

2) defined an Indigenous Design Typology (IDT) for single family development, and

3) presented and evaluated several representative developments.

This Chapter now draws from the most important components of the preceding topic discussions and presents an outline of an approach for conducting consumer market research geared to the IDT.

This thesis states that the IDT typology is tested in terms of exterior design attributes. Thus, the methods and techniques presented herein are specifically designed for testing exterior housing design preferences. They
admittedly do not address the full range of market research issues. Optimally, research in pricing strategy, spatial needs, interior design attributes, and so on must also be considered.

Preliminary Elements

Before any market research into a specific design development program can be conducted, a few significant accomplishments must occur. First, the developer must perform basic economic analysis of the regional supply and demand for single family housing, to determine general feasibility and likely need for units and rate of absorption. If analysis indicates acceptable demand levels to fulfill preliminary estimates of financial parameters, the developer then needs to preliminarily develop and refine the general parameters of the design development program he/she wishes to test for consumer acceptance. Obviously, information on the principal IDT components to such a program are covered in Chapter 2 and Appendix C. However, it is also obvious that this presentation is necessarily general and open-ended so as to allow development teams the ability to tailor their product to a myriad of needs and yet still work within the IDT. The team must develop a project-specific preliminary site plan and program of architectural and landscape elements.

The basic component elements presented in Chapter 2
must each be evaluated for applicability in the contemplated development. Most importantly, the typical facades and architectural elevations of the housing structures must be designed, pulling from the typological elements that have been presented, with modifications responding to local custom and vernacular antecedent. The developer and/or architect may utilize the basic form itemizing major components that is presented in Appendix C, or create a similar form. Then, preliminary elevation sketches should be developed with notations as to materials. Color should be used as accurately as possible. If not used, color schemes should be clearly noted on the drawings.

**Fundamental Study Elements**

Once the development team defines a preliminary site design scheme and architectural typology, they proceed with the following fundamental actions:

1) Identify and analyze any other similar product prototype (that utilizes at least a majority of IDT attributes) existing in the region, if available, documenting specific design attributes and resident profiles. If the project is still under development, attempt to identify the targeted consumers, understanding that this may not be an accurate indication as to who ultimate buyers will be. If no comparable IDT project is available in the locale, attempt to identify any other similar product in
another location. Be careful to choose a project with many direct design comparables, and be sensitive to differences in the general economic, income, and sociological variables between the two regions.

2) Next, the team must make some assumptions about the buyer groups to be generally targeted and engage in the more standard analysis of general comparables in the market (this would be the first step if no IDT comparables could be found). As mentioned earlier, one must exercise great care in defining the geographic market and neither exclude potential buyers locationally nor over-compensate and include too great a market base. The "comparables" are identified primarily in terms of the preliminary target group, sales price, and similarity of at least some attributes (beyond those of the IDT) with what is being contemplated. Obtain any information available through the brokerage community or existing publications, including any recent census data, with the intent to ascertain buyer profiles in these projects. Additionally, contact sheets or interest lists maintained by brokers are a worthwhile and time-saving device for identifying people meeting assumptions about the general target market. Telephone screening surveys should be used to identify at least fifty persons, preferably 100 to 300, with some of the basic characteristics identified as representative of
preliminarily targeted buyers with respect to age, income, household size, and the like.

3) When a sufficient pool of people closely comparable with the necessary parameters above have been identified, a more substantial telephone survey can be administered. This survey may in fact be merely a second part of a survey in which screening questions are the first section. If the telephone respondent matches necessary responses in the screening section, the second section can be continued. The survey should include questions designed to ascertain where the buyer previously lived and for how long, how long he/she has been at the current residence, occupation, degree of satisfaction or dissatisfaction with the current residence, and expectations as to how long the person will remain at the current residence and what kind of house they would likely move into. The results of this level of survey should give some indications as to what relatively large pools of people (but more specific than the preliminarily assumed targets) may be generally interested in the contemplated project. One should look for a general sense of the previous places of residence of buyers in comparable projects, or if there is a demand for another product due to dissatisfaction with the current residence. These things indicate a general market(s) where additional detailed surveying should occur, such as certain
renters, first home buyers or move up buyers, or even the very respondents to the survey.

4) The general markets identified from the above research should be screen-surveyed by phone or in high-foot traffic sites, such as retail malls, for qualification with the basic criteria that have been identified thus far. Persons meeting all screening criteria should be invited to a focus group session. The prospective participants should optimally include persons from both this screening and the one described in items 2 and 3 above, and should number at least fifteen. This will reasonably assure at least ten to twelve actual participants on average.

5) The focus group should be led by an experienced professional. No member of the development team should actually attend the meeting. Questions and focus issues should be decided upon in advance by the moderator professional with input from the developer. The setting for the meeting should be in a neutral location most convenient to a majority of participants, and should be a prestigious one (avoid a sales office or office building generally; hotels or conference sites are better, or a large home with meeting space, if available). If possible, supply a catered dinner or, at minimum, substantial hors' douerves, wine, and soft drinks. A small gratuity of $25-$40 should also be assumed, distributed at the end of the session or by
Since the IDT emphasizes exterior design, the focus group will likely concentrate on participant preferences in exterior design generally, supplemented with discussion about the specific plan, or alternative plans, being proposed by the developer. The discussion of any project-specific plan(s) must wait until a general discussion of design preferences has concluded, so as not to create any biases. Presentation boards should be prepared depicting the conceptual site plan, floor plans, and exterior elevations of the product scheme. Materials should be noted as well, and available for sight and touch if possible. A range of products is desirable (at least three), so as to compare preferences. The meeting should be video and audio-taped by an experienced person, to allow for thorough evaluation of all the verbal and non-verbal responses that emerge in the discussion.

If time can be allotted, the meeting should include some discussion of tradeoffs, including any specific tradeoffs made by participants in the past, as well as general preference tradeoffs. The tradeoff game of Chapter One may be the most useful here, since it is usually enjoyable for the participants (this alone often means it can yield the best information). Again, any tradeoff gaming should precede discussion of specific project plans which might influence responses.
6) If financial constraints prohibit use of the focus group setting, personal surveys at cooperative sales offices or shopping malls may substitute. Any survey dealing with project specifics must be in person to allow for display of the design components and testing of preferences. Surveys at these locations also normally provide the benefit of more potential respondents, thus allowing for a large sample size. Additionally, it may be possible to display larger items in these settings, such as prototype sections of a proposed facade. Responses to this kind of dimensionality offer excellent insights in comparison with responses to an oral questionnaire or even to presentation boards.

7) Surveys and interviews of the realm mentioned in no. 6 above may occur anyway as an outcome of focus group results. The development team can refine their design program with information from the meeting and then retest it before a larger sample. Screening criteria must continue to be used, unless focus group insights revealed problems with the initial criteria, such as potential market groups being segregated. This is a final level of survey and would likely include questions about attributes other than those of the IDT, and typically is designed to require fifteen to twenty minutes to take.

The development design plan should have been proven or
refined with feedback by this point, and there should be good indications about the most likely prospective buyers. The task now is promotion, and turns to advertising and marketing. Pay careful attention continually to the use of key words and phrases amongst surveyed persons. Words that may have been used repeatedly in survey or focus group responses should obviously be used in advertising if the connotation was positive. Design elements should be stressed among the development qualities (which specific design elements being a function of the research to date). Advertising should appear in widely-read publications in the targeted geographic area, as well as publications known to be read by the targeted groups. This information may be obtained in the focus group and/or the final level survey.

Design Refinement

During the course of the market research, it is likely that certain original design elements have been cast aside in favor of others. Properly designed research will have made inquiries into preferences in not only prototypical facades, but also individual composite elements. For example, casement windows may be preferred to double hungs. If the integrity of the IDT is to be maintained and the double hung is typical of the typology, choose substitute casement windows very carefully for their high degree of similarity in appearance with the double hung. Or, tradeoff analysis may be performed to determine the relative value of
the casement window over the double hung. If there is a justification for keeping the double hung (and thus not using the casement) window because it will save the buyer an amount of money that is within the tradeoff range, then the double hung may still be used. If the opposite is true, and markedly so, the development team will obviously have to make compromises among design and financial variables. It is unlikely that compromises will have to be made in all attributes. The basic facade(s) will have been selected for appeal to a majority of respondents, or to an acceptable number in terms of the market pool for the project.

**Tradeoff Analysis**

The level of tradeoff analysis to be conducted will be determined by the degree to which research reveals consumer preferences to be markedly at odds with the typology. The tradeoff game, at minimum, should be employed as a technique for gathering insights into relative tradeoffs. Hedonic indexing is probably only necessary in very competitive markets or when numerous design refinement decisions have to be made. The time and monetary investment in this form of regression analysis is justified depending on the developer's financing situation or personal goals. Given the prevailing industry approach to tradeoff analysis, it is probable that relative information about consumer decisions will suffice.
Conclusion

This paper has summarized major components of consumer market research for residential real estate, and applied them to the IDT for single family development. As stated in the introduction, this thesis program sought general insights through exploratory study of the existing state of consumer research in the industry and case study of several projects employing the IDT. It is hoped that some insights have been presented as to how consumer research and design can be linked to produce a better residential product.
BIBLIOGRAPHY

Part One: Published Materials


Part Two: Interviews


Martineau, Tom. Florida State University, School of Architecture, Tallahassee, Florida. Interview 24 July 1987.


APPENDICES
APPENDIX A

Builder (NAHB) 1987 Home Buyers Survey

THIS MATERIAL IS REPRINTED HERE WITH THE PERMISSION OF CHERYL TWIEDE Of GEORGE FULTON RESEARCH, AND SHOULD NOT BE REPRODUCED IN ANY FORM WHATSOEVER WITHOUT THE EXPRESS CONSENT OF GEORGE FULTON RESEARCH.
1987 Home Buyers Survey

We would appreciate a few minutes of your time so we can determine how various features appeal to you and also how important they would be in your decision to move to a new home.

An annual survey conducted by BUILDER magazine and Fulton Research, Inc.

1. Would you prefer to live in a single-family detached home or an attached home (townhomes or condominiums)?
   (Check one.)
   (1) Attached (2) Single-family detached home
   
   If you selected a single-family detached home, what are the primary reasons influencing your choice? Check the degree of influence each of the following factors would have in your decision.

<table>
<thead>
<tr>
<th>No influence</th>
<th>Minor influence</th>
<th>Major influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>

   (9) Better investment potential
   (10) More privacy
   (11) No common walls with neighbors
   (12) More traditional lifestyle
   (13) Private yard
   (14) Larger home
   (15) Other

2. Would you seriously consider purchasing a resale home?
   (1) Yes (2) No
   
   If yes, why? (Check the degree of influence.)

<table>
<thead>
<tr>
<th>No influence</th>
<th>Minor influence</th>
<th>Major influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>

   (17) Better value for the dollar
   (18) Better location for the dollar
   (19) More homes available for immediate occupancy
   (20) Mature landscaping
   (21) Complete, ready to move in
   (22) Prefer older floor plans and exteriors

3. On a smaller lot, where would you prefer to have the garage? (Check one.)

   (1) Attached to the home as part of front elevation
   (2) Detached, in front of home
   (3) Detached, in rear, driveway on the side
   (4) Attached in rear, driveway on the side

4. Assuming you were going to buy a new home, which of these home types would you seriously consider purchasing? (Check all applicable housing types.)

   (24) Single-family detached
   (25) Garden (patio) home
   (26) Townhouse
   (27) Mid-rise condominium (2 or 3 floors)
   (28) High-rise condominium (4 or more floors)

5. How will the new tax reform act influence your decision to buy a new home? (Check one.)
   (1) Encourage it by retaining mortgage-interest deductions on first and/or second home purchases.
   (2) Discourage it since lower tax rates make the deduction worth less.
   (3) Does not affect my decision.

6. How many homes have you owned?
   (1) None (2) One (3) Two (4) Three or more

7. Do you own or rent the home you are living in now?
   (1) Own (2) Rent
   
   If renting, what is your monthly rent? ________________ (32-35)
   
   If you own a home, what type?
   (1) Single-family detached
   (2) Garden (patio) home
   (3) Townhouse
   (4) Mid-rise condominium (2 or 3 floors)
   (5) High-rise condominium (4 or more floors)

8. If you own your current residence:
   What is its approximate market value? $_________ (37-39)
   What is its approximate size? ______ sq. ft. (40-43)
   
   Approximately how much equity do you have in your home? $_________ (44-46)

9. What is the maximum price you would be willing to pay for a new home? $_________ (47-49)
   
   What is the maximum down payment you would be willing to make? $_________ (50-52)
   
   What is the maximum monthly payment you would be willing to make? (Including property taxes and homeowner's insurance) $_________ (53-56)
   
   What is the square footage you would expect in a new home? ______ (57-60)

10. Which of the following would you choose?
    (1) A home on a half-acre lot in a community without recreational facilities or fees.
    (2) A home on a quarter-acre lot in a community with a park area, jogging trails, swimming pool, tennis courts, clubhouse and community association fees.

11. What size lot do you anticipate with the purchase of your next home?
    (1) More than one acre (2) ½ to ¾ acre
    (3) One acre (4) ¼ to ½ acre
    (5) ¼ acre to one acre (6) less than ½ acre

12. Check the number of bedrooms desired in a new home.
    1 (1) 2 (2) 3 (3) 4 (4) 5 or more (5)

13. Check the number of bathrooms desired in a new home.
    1 (1) 2 (2) 3 (3) 4 (4) 5 or more (5)
14. Which exterior design would you most prefer? (Check one.)

(1) Modern/contemporary  (8) Ranch
(2) Colonial  (9) Spanish
(3) Mediterranean  (10) Territorial
(4) New England Salt Box  (11) Victorian
(5) Country French  (12) Tudor
(6) Cape Cod  (13) Farm
(7) Traditional  (14) Other

15. Assuming you were buying a home, rate the appeal of the following exterior features or products. (Rate each item on a scale of 1 to 5 with 1 being least appealing and 5 most appealing.)

Least appealing  Most appealing

<table>
<thead>
<tr>
<th>Siding that is primarily:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brick</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement block</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plywood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood shingles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (such as slate or metal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Roofs that are:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt composition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay or concrete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood shake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (such as slate or metal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entry doors that are:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain wood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decorative wood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain steel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decorative steel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Windows (insulated) that are:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl-clad wood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Garage options:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-car garage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-car garage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three-car garage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic door</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Which one of these floor plan types do you most prefer?

(1) Single-story
(2) Split-level
(3) Two-story
(4) Three-story

17. Which rooms would you prefer facing the front or rear of your home?

<table>
<thead>
<tr>
<th>Front yard</th>
<th>Back yard</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Kitchen</td>
<td></td>
</tr>
<tr>
<td>(2) Living room</td>
<td></td>
</tr>
<tr>
<td>(3) Dining room</td>
<td></td>
</tr>
<tr>
<td>(4) Family room</td>
<td></td>
</tr>
<tr>
<td>(5) Master bedroom</td>
<td></td>
</tr>
<tr>
<td>(6) Secondary bedrooms</td>
<td></td>
</tr>
</tbody>
</table>

18. Rate the appeal of the following interior features or products. (Rate each item on a scale of 1 to 5 with 1 being least appealing and 5 most appealing.)

<table>
<thead>
<tr>
<th>Least appealing</th>
<th>Most appealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flooring:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardwood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgraded carpeting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Windows and doors:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay window</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French doors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse section/Sunroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse window</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sliding doors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skylight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Window seat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Walls and trim:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-in shelving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decorative molding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirrored walls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood paneling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Security:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deadbolt locks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedar closet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceiling fan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central vacuum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fireplace</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recessed/track lighting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step-up/step-down rooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaulted ceilings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wet bar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

-135-
19. Rate the appeal of the following kitchen features or products with which you are familiar. (Rate each item on a scale of 1 to 5 with 1 being least appealing and 5 most appealing.)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Least appealing</th>
<th>Most appealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinks:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double-bowl</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Single-bowl</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Porcelain</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Stainless steel</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Cabinets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laminate finish</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Wood finish</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Counter Tops:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laminate</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Ceramic</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Cultured marble</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Other</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Flooring:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resilient vinyl</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Wood</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Ceramic tile</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Appliances:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbecue cooktop</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Double oven</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Microwave oven</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Range hood</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Single oven</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Built-in food processor</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Dishwasher</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Disposer</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Trash compactor</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating area</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Greenhouse window</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Intercom</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Island work area</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Snack bar</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Walk-in pantry</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Washer/dryer</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
</tbody>
</table>

20. The main components of a master bedroom suite are the sleeping area, dressing area, bath and closet. Assuming the same square footage, which floor plan would you prefer? (Check one.)

- Large sleeping/dressing area
- Separate tub & shower
- Large bath area
- Wall closet
- Small sleeping/dressing area
- Separate tub & shower
- Large bath area
- Walk-in closet
- Large sleeping/dressing area
- Combined tub & shower
- Small bath area
- Walk-in closet

21. How important are brand names when purchasing an item? Which brands do you prefer in each of the following categories?

<table>
<thead>
<tr>
<th>Category</th>
<th>Very Important</th>
<th>Important</th>
<th>Not Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchen cabinets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen counters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen appliances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl flooring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood flooring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceramic flooring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathroom fixtures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faucets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skylights</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating/AC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fireplaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paints and stains</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22. Rate the appeal of the following features or products for the master bedroom and master bath. (Rate each item on a scale of 1 to 5 with 1 being least appealing and 5 most appealing.)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Least appealing</th>
<th>Most appealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom features:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balcony or patio</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Bay window</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Fireplace</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>His/her closets</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Sitting area</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Walk-in closet</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Bath features:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>His/her baths</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Colored fixtures</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Separate shower enclosure</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Two sinks</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Upgraded fittings (i.e., faucets)</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Water-saving fixtures</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Whirlpool tub</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Ceramic tile flooring</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Ceramic tile walls in tub and shower</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Resilient flooring</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Exhaust fan</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Heat lamp</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Linen closet</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Natural light in bath</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Mirrors in bath</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
<tr>
<td>Vanity storage</td>
<td>1  2  3</td>
<td>4  5</td>
</tr>
</tbody>
</table>
23. (2) Have you seriously considered remodeling rather than purchasing a new home?
   (1) Yes (2) No
   If yes, how much would you anticipate spending to remodel?
   $__________000 (52-53)

24. (54) How would you describe your buying intentions? (Check one.)
   (1) Plan to buy now
   (2) Plan to buy within one year
   (3) No plans, just looking

25. (55) Please check which category represents the age of your head of household:
   (1) 25 or under
   (2) 26-35
   (3) 36-45
   (4) 46-55
   (5) 56-65
   (6) over 65

26. (56) Which of these categories best describes your household?
   (1) Single male adult
   (2) Single female adult
   (3) Couple without children (or none at home)
   (4) Couple with children
   (5) Single parent with children at home
   (6) Unrelated individuals

27. How many people, including yourself, live in your household? (57)

28. (58-59) Please check which range indicates your total annual household income, before taxes. (Including wages of all family members.)
   (1) $15,000 or less
   (2) $15,001-$20,000
   (3) $20,001-$25,000
   (4) $25,001-$30,000
   (5) $30,001-$35,000
   (6) $35,001-$40,000
   (7) $40,001-$45,000
   (8) $45,001-$50,000
   (9) $50,001-$65,000
   (10) $65,001-$75,000
   (11) $75,001-$100,000
   (12) More than $100,000

29. (60) Does more than one person contribute to the above household income figure? Yes (1) No (2)

Thank you for your help.
APPENDIX B

Excerpt Survey from Alberta Municipal Affairs Consumer Preference Tradeoffs in Housing Study

Bibliographic Information:

THIS MATERIAL IS REPRINTED HERE WITH THE PERMISSION OF LYNDEN HOLMEN, DIRECTOR OF RESEARCH AND DEVELOPMENT OF ALBERTA MUNICIPAL AFFAIRS, AND SHOULD NOT BE REPRODUCED IN ANY FORM WHATSOEVER WITHOUT THE EXPRESS CONSENT OF ALBERTA MUNICIPAL AFFAIRS.
INSTRUCTIONS: Please read each question carefully before answering. In most cases your answer can be noted by checking or circling a numbered response. Some questions have a space for a written response.

Your assistance in this important study is greatly appreciated. Please use the envelope provided to mail your completed questionnaire back to us. Postage has already been provided. All answers will be kept in the strictest confidence.

It is important that you return your completed questionnaire by October 20, 1982.

Q.1 How would you describe your home buying intentions at the present time? (CHECK ONLY ONE)
   □ 1. plan to buy a home within the next six months
   □ 2. plan to buy a home within the next year or so
   □ 3. no plans to buy within the next few years

Q.2 (a) If you were to buy a new home, what style of home would you most prefer? (CHECK ONE ONLY)
   □ 1. bungalow (single-level)
   □ 2. bi-level
   □ 3. split level
   □ 4. 1-storey
   □ 5. other

(b) If you were to buy a new home, what type of home would you most prefer? (CHECK ONE ONLY)
   □ 1. single-detached home
   □ 2. semi-detached home or duplex
   □ 3. townhouse
   □ 4. an apartment condominium
   □ 5. other

Q.3 If you were to buy a new home, how many bedrooms would you need?

Q.4 If you were to buy a new home, (a) how many full bathrooms (3-piece) would you need?
   (b) how many half baths (2-piece) would you need?

Q.5 Approximately how large (square footage) would you need your next home to be?

Q.6 What is the maximum price you could afford to pay for a new home at the present time?

WRITE-IN NUMBER OF BEDROOMS □
WRITE-IN NUMBER OF FULL BATHS □
WRITE-IN NUMBER OF 1/2 BATHS □
WRITE-IN APPARENT SIZE □ 1,000 SQ. FT.
WRITE-IN PRICE □
Q.7 If you were deciding whether to buy a particular new single-detached home, how important would the following things be? Please rate the importance of these things using the scale from 1 to 7. A “1” means not at all important or that this aspect of a new home would not enter into your decision to buy or not buy. A “7” means absolutely crucial or that if this aspect was not as you wanted it, you would not buy that home.

HOW IMPORTANT?

| a. the style of the home, that is, whether it’s a bungalow, bi-level, 2-storey, etc. (CIRCLE NUMBER) |
| b. the size of the backyard |
| c. the size of the front yard |
| d. side yard space on both sides of the house |
| e. parking access, that is, whether you use a rear lane or have access from the street to park your car on your lot |
| f. location of the main entry, that is, whether it’s at the front or side of the house |
| g. location of the 2nd entry, that is, whether it’s at the side or back |
| h. windows on all four sides of the house |
| i. the total size (square footage) of the house |
| j. being able to save money on the total price of the house |
| k. features on the front of the house such as a bay window, chimney chase, or brick accent material, etc. |
| l. features on the front of the house such as decorative shutters, window grills, or other decorative materials |
| m. the width of the home, that is if it’s 20 or 25 feet wide, for example |
| n. the width of the lot, that is if it’s 30 or 35 feet wide, for example |
INSTRUCTIONS FOR RANKING QUESTIONS

A number of questions in this questionnaire ask you to rank in order of your preference some different designs and layouts of a home. The alternatives are in most cases described by a simple diagram and a verbal description.

The alternatives only focus on a limited number of characteristics of a home. In order to rank the alternatives, assume that the things not shown or described about the home are to your liking. For example, if the alternatives show different kitchen layouts, assume that the rest of the home, its location, backyard space, style of home, etc. are to your liking.

Some symbols may be used in the diagrams. These are always explained at the bottom of the page.

You may find it easiest to rank the alternatives in order of your preference if you first go through and check off those you like and those you don't like and then go back and rank the ones you liked and rank the ones you didn't like. If for example, there were 8 alternative or different homes to rank, you may find 3 that you like and 5 that you don't like. The three that you liked, you would rank using the numbers 1, 2, 3 where "1" would be the most liked, "2" the second most liked and "3" the third most liked. The five that you didn't like would be ranked using the numbers 4, 5, 6, 7, 8 where a "4" would be given to the fourth most liked alternative and so on.

The very least liked alternative would be ranked "8".

PLEASE NOTE: Where the size of the home is shown in square feet, this only includes the developed, liveable area of a home. It does not include the basement, although all the alternative homes do have basements.

The cost savings associated with an alternative should be considered as an amount that would be taken off the maximum price you could afford to pay for a new home.

Try to avoid giving more than one alternative the same rank.
Q.8 The diagrams on this page show different variations in facade treatment of how a house appears from the street. The homes also differ in style, size and cost savings. Please rank the 8 different homes from most liked to least liked using the numbers from 1 through 8 where "1" means the most liked and "8" means the least liked. Try to avoid giving more than one house the same rank. Assume that the interior arrangement and other things not shown are to your liking. Consider the cost savings as an amount which would be taken off the maximum price you could afford.
Q.0 Known below are 8 different single-detached homes which vary in shape, parking arrangement, size, placement on a lot and cost savings. Please rank the different homes in order of your preference using the numbers from "1" to "8", where "1" means the most liked and "8" means the least liked. Try to avoid giving more than one home the same rank. Assume that the things not shown about the homes, the style, appearance, location, interior arrangements, etc., are to your liking. Consider the cost savings as an amount which would be taken off the maximum price you could afford.

- Lot size 30 by 100 feet
- House 25 feet wide
- Front yard 15 feet deep
- House size 900 square feet
- $4000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 20 feet wide
- Front yard 15 feet deep
- House size 1100 square feet
- $5000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 20 feet wide
- Front yard 15 feet deep
- House size 1000 square feet
- $2000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 20 feet wide
- Front yard 25 feet deep
- House size 1000 square feet
- $4000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 25 feet wide
- Front yard 15 feet deep
- House size 1000 square feet
- $5000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 25 feet wide
- Front yard 25 feet deep
- House size 800 square feet
- $6000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 20 feet wide
- Front yard 15 feet deep
- House size 900 square feet
- $4000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

- Lot size 30 by 100 feet
- House 20 feet wide
- Front yard 15 feet deep
- House size 900 square feet
- $2000 cost saving

Rank (Circle) 1 2 3 4 5 6 7 8

Legend: Main Entry - Secondary Entry - Lot Line -
Q.10 The diagrams on this page show variations in entry locations, window locations, front yard setback, unit size, size of house and cost savings. Please rank the 6 homes from most liked to least liked using the numbers from 1 through 8, where "1" means most liked and "8" means the least liked. Try to avoid giving more than one house the same rank. Assume that the interior arrangement of the homes and other things not shown are to your liking. Consider the cost savings as an amount which would be taken off the maximum price you could afford.

<table>
<thead>
<tr>
<th>No.</th>
<th>Lot Size</th>
<th>Square Footage</th>
<th>Unit Size</th>
<th>Front Yard</th>
<th>Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lot size 30 by 100 feet</td>
<td>900 square foot bi-level</td>
<td>house 20 feet wide</td>
<td>front yard 15 feet deep</td>
<td>$4000 cost saving</td>
</tr>
<tr>
<td>2</td>
<td>Lot size 30 by 100 feet</td>
<td>900 square foot 2-storey</td>
<td>house 20 feet wide</td>
<td>front yard 15 feet deep</td>
<td>$4000 cost saving</td>
</tr>
<tr>
<td>3</td>
<td>Lot size 30 by 100 feet</td>
<td>900 square foot 2-storey</td>
<td>house 20 feet wide</td>
<td>front yard 25 feet deep</td>
<td>$4000 cost saving</td>
</tr>
<tr>
<td>4</td>
<td>Lot size 30 by 100 feet</td>
<td>1100 square foot bungalow</td>
<td>house 20 feet wide</td>
<td>front yard 25 feet deep</td>
<td>$0 cost saving</td>
</tr>
<tr>
<td>5</td>
<td>Lot size 30 by 100 feet</td>
<td>1100 square foot split level</td>
<td>house 20 feet wide</td>
<td>front yard 15 feet deep</td>
<td>$0 cost saving</td>
</tr>
<tr>
<td>6</td>
<td>Lot size 30 by 100 feet</td>
<td>1100 square foot split level</td>
<td>house 20 feet wide</td>
<td>front yard 25 feet deep</td>
<td>$0 cost saving</td>
</tr>
</tbody>
</table>

RANK (CIRCLE): 1 2 3 4 5 6 7 8

LEGEND: MAIN ENTRY • SECONDARY ENTRY • LOT LINE • WINDOW
Q.11 How important would the following aspects of the interior layout or arrangement of a home be to you, if you were considering buying a new home? Please rate the importance of the items listed below using the scale from 1 to 7, where "1" means not at all important or that this aspect of a new home would not enter into your decision to buy or not buy and where "7" means absolutely crucial or that if this aspect was not to your liking, you would not buy that home.

<table>
<thead>
<tr>
<th>HOW IMPORTANT?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. the size of the living room</td>
</tr>
<tr>
<td>b. the size of the eating or dining area</td>
</tr>
<tr>
<td>c. the size of the master bedroom</td>
</tr>
<tr>
<td>d. the size of secondary bedrooms</td>
</tr>
<tr>
<td>e. the number of bedrooms</td>
</tr>
<tr>
<td>f. the amount of kitchen storage space</td>
</tr>
<tr>
<td>g. the layout of the kitchen (&quot;L&quot; shape, &quot;U&quot; shape, etc.)</td>
</tr>
<tr>
<td>h. a window in the kitchen work area</td>
</tr>
<tr>
<td>i. a window in the eating/dining area</td>
</tr>
<tr>
<td>j. a bath on the main floor if a full bath was on another floor</td>
</tr>
<tr>
<td>k. the location of the stairway (near an entry or more centrally located)</td>
</tr>
<tr>
<td>l. an entrance hall or foyer off the main entry</td>
</tr>
<tr>
<td>m. a main entry leading directly to the living room</td>
</tr>
<tr>
<td>n. the location of the eating area (with the kitchen or a separate dining area)</td>
</tr>
<tr>
<td>o. whether the 2nd entry is a sliding patio door or a hinged door</td>
</tr>
<tr>
<td>p. the potential to develop the basement into a living or sleeping area</td>
</tr>
</tbody>
</table>

---

-146-
The diagrams on this page show some variations in interior layout and design. Only the main floor is shown; bedrooms and a full bath would be on the second floor. Please rank the different layouts from most liked to least liked using the numbers from 1 through 8, where "1" means the most liked and "8" means the least liked. Try to avoid giving more than one layout the same rank. Assume that things not shown about the house are to your liking. Consider the cost savings to be an amount which would be taken off the maximum price you could afford.

Q.1.1

- 400 square feet 2-storey
- House 20 feet wide
- 1 bath
- $4000 cost saving

- 1. like
- 2. don't like

[Diagram 1]

- 1100 square feet 2-storey
- House 20 feet wide
- 1 bath
- $0 cost saving

- 1. like
- 2. don't like

[Diagram 2]

- 1100 square feet 2-storey
- House 25 feet wide
- 1 bath
- $0 cost saving

- 1. like
- 2. don't like

[Diagram 3]

- 400 square feet 2-storey
- House 25 feet wide
- No bath
- $5500 cost saving

- 1. like
- 2. don't like

[Diagram 4]

- 400 square feet 2-storey
- House 25 feet wide
- No bath
- $5500 cost saving

- 1. like
- 2. don't like

[Diagram 5]

- 1100 square feet 2-storey
- House 20 feet wide
- 1 bath
- $4000 cost saving

- 1. like
- 2. don't like

[Diagram 6]
Q.13 Described below are 4 different homes that vary in terms of the space given to certain rooms. Please rank them from most liked to least liked using the numbers from 1 to 4, where "1" means the most liked and "4" means the least liked. Try to avoid giving more than one home the same rank.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>RANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100 square foot bungalow 1. like</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>large living room (200 square feet) 2. don't like</td>
<td></td>
</tr>
<tr>
<td>small eating/dining area (50 square feet)</td>
<td></td>
</tr>
<tr>
<td>2 large bedrooms (200 square feet each)</td>
<td></td>
</tr>
<tr>
<td>1100 square foot 2-storey 1. like</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>large living room (200 square feet) 2. don't like</td>
<td></td>
</tr>
<tr>
<td>small eating/dining area (50 square feet)</td>
<td></td>
</tr>
<tr>
<td>1 large bedroom (200 square feet) and 2 small bedrooms (100 square feet each)</td>
<td></td>
</tr>
<tr>
<td>1100 square foot bungalow 1. like</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>small living room (150 square feet)</td>
<td></td>
</tr>
<tr>
<td>large eating/dining area (100 square feet)</td>
<td></td>
</tr>
<tr>
<td>1 large bedroom (200 square feet) and 2 small bedrooms (100 square feet each)</td>
<td></td>
</tr>
<tr>
<td>1100 square foot 2-storey 1. like</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>small living room (150 square feet)</td>
<td></td>
</tr>
<tr>
<td>large eating/dining area (100 square feet)</td>
<td></td>
</tr>
<tr>
<td>2 large bedrooms (200 square feet each)</td>
<td></td>
</tr>
</tbody>
</table>

-148-
Q. 14: The diagrams on this page show different types of kitchen arrangements. The differences basically involve the layout of the work area, the location of the eating/dining area, whether storage space is provided by overhead cupboards or a pantry and whether the completion of that storage space is included in the price or done by the buyer at a saving of $500 off the price of the home. Please rank the different kitchen arrangements from most liked to least liked using the numbers from 1 through 8, where "1" means the most liked and "8" means the least liked. Try to avoid giving more than one arrangement the same rank. Assume that the other things not shown are to your liking.

RANK (CIRCLE) RANK (CIRCLE)
1 2 3 4 5 6 7 8

1. like
2. don't like

LEGEND: RANGE □ REFRIGERATOR □ SINK □ WINDOW
-149-
Q.15 How important would the following construction-related aspects of a home be to you if you were considering buying a new home? Please rate the importance of the following things using the scale from "1" to "7", where "1" means not at all important or that this aspect of a new home would not enter into your decision to buy or not buy and "7" means absolutely crucial or that if this aspect was not to your liking you would not buy that home.

<table>
<thead>
<tr>
<th>Aspects</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. the quality of painted surfaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. the quality of carpeting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. the quality of linoleum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. workmanship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. insulation quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. the quality of light fixtures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. the quality of closet doors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. the quality of kitchen cabinets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. the quality of soundproofing between</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adjacent homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1/30
Q.16 On this page 8 different homes are described. These homes differ in the quality of insulation and whether or not certain things are left for buyer completion in exchange for a cost saving in the price of the home. Please rank the different homes from most liked to least liked using the numbers from 1 through 8, where "1" means the most liked and "8" means the least liked. Try to avoid giving more than one home the same rank. Assume that things not described about the home are to your liking.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>
| - interior of the home is not painted  
- light fixtures & closet doors are installed  
- carpet & lino are not included  
- insulation is standard  
- $2300 cost saving | - interior of the home is not painted  
- light fixtures & closet doors are installed  
- all floors are covered with linoleum  
- insulation is upgraded  
- $3000 cost saving |
| 1. like  
2. don't like | 1. like  
2. don't like |
| RANK (CIRCLE) 1 2 3 4 5 6 7 8 | RANK (CIRCLE) 1 2 3 4 5 6 7 8 |
| - interior of the home is not painted  
- light fixtures & closet doors are not included  
- carpet & lino are not included  
- insulation is standard  
- $3000 cost saving | - interior of the home is not painted  
- light fixtures & closet doors are not included  
- carpet & lino are installed  
- insulation is upgraded  
- $700 cost saving |
| 1. like  
2. don't like | 1. like  
2. don't like |
| RANK 1 2 3 4 5 6 7 8 | RANK 1 2 3 4 5 6 7 8 |
| - interior of the home is painted  
- light fixtures & closet doors are not included  
- all floors are covered with linoleum  
- insulation is standard  
- $1000 cost saving | - interior of the home is painted  
- light fixtures & closet doors are installed  
- carpet & lino are not included  
- insulation is upgraded  
- $300 cost saving |
| 1. like  
2. don't like | 1. like  
2. don't like |
| RANK 1 2 3 4 5 6 7 8 | RANK 1 2 3 4 5 6 7 8 |
| - interior of the home is painted  
- light fixtures & closet doors are installed  
- carpet & lino are installed  
- insulation is standard  
- $50 cost saving | - interior of the home is painted  
- light fixtures & closet doors are not included  
- carpet & lino are not included  
- insulation is upgraded  
- $1000 cost saving |
| 1. like  
2. don't like | 1. like  
2. don't like |
| RANK 1 2 3 4 5 6 7 8 | RANK 1 2 3 4 5 6 7 8 |

3/3
These last few questions are about your present home & the people that live in your home.
All answers are confidential.

Q.17 What kind of a home do you live in at the present time?
   □ 1. single-detached house
   □ 2. semi-detached or duplex
   □ 3. townhouse
   □ 4. apartment
   □ 5. other

Q.18 How long have you lived at your present address?
   WRITE-IN TO CLOSEST YEAR □ □ YEARS

Q.19 Do you rent or own your home?
   □ 1. rent
   □ 2. own

Q.20 IF YOU RENT: Approximately how much do you pay in monthly rent?
   WRITE-IN $ □ □ □ □ □ □ .00

IF YOU OWN: Approximately how much are your monthly mortgage payments (principal, interest, taxes)?
   WRITE-IN $ □ □ □ □ □ □ .00
   □ NO MORTGAGE

Q.21 How many people, including yourself, live in your home?
   WRITE-IN □ □ PERSONS

Q.22 Do you have any children living with you?
   IF YES: How many children live with you?
   □ 1. yes
   □ 2. no
   WRITE-IN □ □ CHILDREN

Q.23 What is your present marital status?
   □ 1. single
   □ 2. married
   □ 3. separated/divorced
   □ 4. other
   WRITE-IN □ □ YEARS

Q.24 IF APPLICABLE: What is the age of your spouse?
   What is your age?
   WRITE-IN □ □ YEARS
   WRITE-IN □ □ YEARS

Q.25 Approximately, how much was the total before tax income of all the members of your household last year?
   Did this include income from more than one person?
   WRITE-IN $ □ □ □ □ □ □ , 0 0 0 , 0 0 0
   □ 1. yes
   □ 2. no

Q.26 What is your sex?
   □ 1. male
   □ 2. female

Q.27 IF APPLICABLE: Did you answer any of this questionnaire with your spouse?
   □ 1. yes
   □ 2. no

Q.28 Do you have any comments you would like to make?

THANK YOU VERY MUCH FOR YOUR TIME & CO-OPERATION IN HELPING US WITH THIS STUDY.
PLEASE USE THE STAMPED ENVELOPE PROVIDED, TO RETURN YOUR COMPLETED QUESTIONNAIRE.
**SINGLE-DETACHED UNITS**

**SUMMARY OF QUESTIONNAIRE RESULTS:**

<table>
<thead>
<tr>
<th>Q.1 home buying intentions:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. within 6 months</td>
<td>31%</td>
<td>22%</td>
<td>24%</td>
<td>26%</td>
<td>25%</td>
</tr>
<tr>
<td>2. within 12 months</td>
<td>25%</td>
<td>30%</td>
<td>35%</td>
<td>19%</td>
<td>28%</td>
</tr>
<tr>
<td>3. no purchase intentions</td>
<td>44%</td>
<td>49%</td>
<td>41%</td>
<td>55%</td>
<td>47%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.2 (a) preferred unit style:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. bungalow</td>
<td>43%</td>
<td>21%</td>
<td>23%</td>
<td>16%</td>
<td>25%</td>
</tr>
<tr>
<td>2. bi-level</td>
<td>17%</td>
<td>22%</td>
<td>21%</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>3. split level</td>
<td>25%</td>
<td>52%</td>
<td>35%</td>
<td>39%</td>
<td>38%</td>
</tr>
<tr>
<td>4. 2 storey</td>
<td>15%</td>
<td>6%</td>
<td>22%</td>
<td>19%</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.2 (b) preferred unit type:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. single-detached</td>
<td>100%</td>
<td>99%</td>
<td>98%</td>
<td>98%</td>
<td>97%</td>
</tr>
<tr>
<td>2. semi/duplex</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>3. townhouse</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.3 bdrms. req'd.:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. two</td>
<td>10%</td>
<td>12%</td>
<td>11%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>2. three</td>
<td>68%</td>
<td>81%</td>
<td>76%</td>
<td>79%</td>
<td>76%</td>
</tr>
<tr>
<td>3. four</td>
<td>22%</td>
<td>7%</td>
<td>13%</td>
<td>9%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.4 (a) full baths req'd.:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. one</td>
<td>61%</td>
<td>57%</td>
<td>65%</td>
<td>71%</td>
<td>63%</td>
</tr>
<tr>
<td>2. two</td>
<td>40%</td>
<td>43%</td>
<td>35%</td>
<td>30%</td>
<td>37%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.4 (b) ½ baths req'd.:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. none</td>
<td>10%</td>
<td>7%</td>
<td>14%</td>
<td>14%</td>
<td>11%</td>
</tr>
<tr>
<td>2. one</td>
<td>83%</td>
<td>84%</td>
<td>78%</td>
<td>81%</td>
<td>81%</td>
</tr>
<tr>
<td>3. two</td>
<td>7%</td>
<td>9%</td>
<td>8%</td>
<td>5%</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.5 sq. footage required:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. under 1050 sq. ft.</td>
<td>9%</td>
<td>16%</td>
<td>15%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>2. 1050-1150 sq. ft.</td>
<td>16%</td>
<td>16%</td>
<td>10%</td>
<td>7%</td>
<td>12%</td>
</tr>
<tr>
<td>3. 1150-1250 sq. ft.</td>
<td>34%</td>
<td>30%</td>
<td>36%</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>4. 1250-1350 sq. ft.</td>
<td>9%</td>
<td>9%</td>
<td>8%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>5. 1350-1450 sq. ft.</td>
<td>7%</td>
<td>10%</td>
<td>4%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>6. 1450 sq. ft. or more</td>
<td>25%</td>
<td>19%</td>
<td>27%</td>
<td>28%</td>
<td>25%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.6 max. affordable price:</th>
<th>TYPE 1 [20%]</th>
<th>TYPE 2 [23%]</th>
<th>TYPE 3 [32%]</th>
<th>TYPE 4 [25%]</th>
<th>TOTAL [388]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. under $75,000</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>18%</td>
<td>19%</td>
</tr>
<tr>
<td>2. $75-$80,000</td>
<td>15%</td>
<td>10%</td>
<td>16%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>3. $80-$85,000</td>
<td>28%</td>
<td>22%</td>
<td>21%</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>4. $85-$90,000</td>
<td>16%</td>
<td>7%</td>
<td>8%</td>
<td>12%</td>
<td>11%</td>
</tr>
<tr>
<td>5. $90-$95,000</td>
<td>3%</td>
<td>8%</td>
<td>8%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>6. $95-$100,000</td>
<td>3%</td>
<td>7%</td>
<td>3%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>7. $100,000 or more</td>
<td>23%</td>
<td>28%</td>
<td>24%</td>
<td>21%</td>
<td>23%</td>
</tr>
<tr>
<td>Q.7 average importance rating [7=hi]:</td>
<td>TYPE 1</td>
<td>TYPE 2</td>
<td>TYPE 3</td>
<td>TYPE 4</td>
<td>TOTAL</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>1. saving money on price</td>
<td>6.1</td>
<td>5.8</td>
<td>6.1</td>
<td>6.1</td>
<td>6.0</td>
</tr>
<tr>
<td>2. type of parking access</td>
<td>5.1</td>
<td>5.3</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
</tr>
<tr>
<td>3. total unit size</td>
<td>5.5</td>
<td>5.2</td>
<td>5.1</td>
<td>5.1</td>
<td>5.2</td>
</tr>
<tr>
<td>4. lot width</td>
<td>5.1</td>
<td>5.2</td>
<td>5.0</td>
<td>5.0</td>
<td>5.1</td>
</tr>
<tr>
<td>5. backyard size</td>
<td>4.8</td>
<td>5.0</td>
<td>5.0</td>
<td>5.1</td>
<td>5.0</td>
</tr>
<tr>
<td>6. unit style</td>
<td>4.9</td>
<td>4.9</td>
<td>4.8</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>7. unit width</td>
<td>4.8</td>
<td>4.7</td>
<td>4.6</td>
<td>4.5</td>
<td>4.7</td>
</tr>
<tr>
<td>8. main entry location</td>
<td>4.5</td>
<td>4.1</td>
<td>4.6</td>
<td>4.1</td>
<td>4.4</td>
</tr>
<tr>
<td>9. structural facade features</td>
<td>4.2</td>
<td>4.4</td>
<td>4.4</td>
<td>4.0</td>
<td>4.3</td>
</tr>
<tr>
<td>10. two side yards</td>
<td>4.0</td>
<td>4.1</td>
<td>4.3</td>
<td>4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>11. windows on side</td>
<td>4.0</td>
<td>4.1</td>
<td>4.2</td>
<td>3.8</td>
<td>4.1</td>
</tr>
<tr>
<td>12. second entry location</td>
<td>3.6</td>
<td>3.5</td>
<td>4.0</td>
<td>3.5</td>
<td>3.7</td>
</tr>
<tr>
<td>13. front yard size</td>
<td>3.5</td>
<td>3.6</td>
<td>3.9</td>
<td>3.5</td>
<td>3.7</td>
</tr>
<tr>
<td>14. decorative facade features</td>
<td>3.6</td>
<td>3.4</td>
<td>3.6</td>
<td>3.3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.8 average preference rankings [8=hi]:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>2.9</td>
<td>3.4</td>
<td>5.7</td>
<td>5.4</td>
<td>4.6</td>
</tr>
<tr>
<td>a.2 [numbered by column]</td>
<td>5.2</td>
<td>6.7</td>
<td>6.6</td>
<td>7.0</td>
<td>6.4</td>
</tr>
<tr>
<td>a.3</td>
<td>3.0</td>
<td>2.0</td>
<td>3.0</td>
<td>2.3</td>
<td>2.6</td>
</tr>
<tr>
<td>a.4</td>
<td>4.5</td>
<td>5.4</td>
<td>4.9</td>
<td>5.9</td>
<td>5.2</td>
</tr>
<tr>
<td>a.5</td>
<td>5.0</td>
<td>4.1</td>
<td>3.7</td>
<td>3.5</td>
<td>4.0</td>
</tr>
<tr>
<td>a.6</td>
<td>5.9</td>
<td>5.4</td>
<td>5.2</td>
<td>4.1</td>
<td>5.1</td>
</tr>
<tr>
<td>a.7</td>
<td>3.7</td>
<td>5.1</td>
<td>3.8</td>
<td>4.9</td>
<td>4.3</td>
</tr>
<tr>
<td>a.8</td>
<td>5.9</td>
<td>4.0</td>
<td>3.5</td>
<td>2.8</td>
<td>3.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.9 average preference rankings [8=hi]:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>4.6</td>
<td>6.0</td>
<td>5.0</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>a.2</td>
<td>4.7</td>
<td>4.8</td>
<td>4.2</td>
<td>5.5</td>
<td>4.8</td>
</tr>
<tr>
<td>a.3</td>
<td>3.4</td>
<td>3.4</td>
<td>4.3</td>
<td>4.3</td>
<td>3.9</td>
</tr>
<tr>
<td>a.4</td>
<td>4.3</td>
<td>4.4</td>
<td>4.9</td>
<td>4.1</td>
<td>4.5</td>
</tr>
<tr>
<td>a.5</td>
<td>5.4</td>
<td>3.9</td>
<td>4.8</td>
<td>2.7</td>
<td>4.2</td>
</tr>
<tr>
<td>a.6</td>
<td>4.7</td>
<td>3.7</td>
<td>3.9</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>a.7</td>
<td>4.8</td>
<td>4.3</td>
<td>3.9</td>
<td>3.9</td>
<td>4.2</td>
</tr>
<tr>
<td>a.8</td>
<td>4.5</td>
<td>5.3</td>
<td>4.8</td>
<td>4.8</td>
<td>4.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.10 average preference rankings [8=hi]:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>3.7</td>
<td>5.5</td>
<td>4.0</td>
<td>6.1</td>
<td>4.8</td>
</tr>
<tr>
<td>a.2</td>
<td>2.3</td>
<td>2.7</td>
<td>4.2</td>
<td>5.4</td>
<td>3.7</td>
</tr>
<tr>
<td>a.3</td>
<td>2.7</td>
<td>2.9</td>
<td>5.7</td>
<td>5.3</td>
<td>4.3</td>
</tr>
<tr>
<td>a.4</td>
<td>6.4</td>
<td>5.4</td>
<td>4.9</td>
<td>3.5</td>
<td>5.0</td>
</tr>
<tr>
<td>a.5</td>
<td>5.4</td>
<td>3.7</td>
<td>3.9</td>
<td>2.0</td>
<td>3.7</td>
</tr>
<tr>
<td>a.6</td>
<td>4.3</td>
<td>5.0</td>
<td>5.0</td>
<td>5.6</td>
<td>5.0</td>
</tr>
<tr>
<td>a.7</td>
<td>6.6</td>
<td>6.5</td>
<td>5.2</td>
<td>5.3</td>
<td>5.9</td>
</tr>
<tr>
<td>a.8</td>
<td>5.4</td>
<td>5.6</td>
<td>3.5</td>
<td>2.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Q.11 average importance rating (7-hi):</td>
<td>TYPE 1</td>
<td>TYPE 2</td>
<td>TYPE 3</td>
<td>TYPE 4</td>
<td>TOTAL</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>1. bsat. dev't potential</td>
<td>5.6</td>
<td>5.8</td>
<td>5.5</td>
<td>5.9</td>
<td>5.7</td>
</tr>
<tr>
<td>2. window in kitchen</td>
<td>5.8</td>
<td>5.8</td>
<td>5.9</td>
<td>5.5</td>
<td>5.7</td>
</tr>
<tr>
<td>3. kitchen storage space</td>
<td>5.6</td>
<td>5.6</td>
<td>5.7</td>
<td>5.7</td>
<td>5.6</td>
</tr>
<tr>
<td>4. ½ bath on main flr.</td>
<td>5.5</td>
<td>5.5</td>
<td>5.2</td>
<td>5.5</td>
<td>5.4</td>
</tr>
<tr>
<td>5. mst. bdrm. size</td>
<td>5.3</td>
<td>5.5</td>
<td>5.3</td>
<td>5.1</td>
<td>5.3</td>
</tr>
<tr>
<td>6. number of bedrooms</td>
<td>5.4</td>
<td>5.3</td>
<td>5.1</td>
<td>5.1</td>
<td>5.3</td>
</tr>
<tr>
<td>7. living room size</td>
<td>5.2</td>
<td>5.1</td>
<td>5.2</td>
<td>5.3</td>
<td>5.2</td>
</tr>
<tr>
<td>8. eating area size</td>
<td>5.0</td>
<td>5.0</td>
<td>5.2</td>
<td>5.1</td>
<td>5.1</td>
</tr>
<tr>
<td>9. location of eating area</td>
<td>4.9</td>
<td>5.0</td>
<td>5.0</td>
<td>4.5</td>
<td>4.9</td>
</tr>
<tr>
<td>10. window in eating area</td>
<td>4.8</td>
<td>4.6</td>
<td>4.9</td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td>11. kitchen layout</td>
<td>4.8</td>
<td>5.0</td>
<td>5.0</td>
<td>4.4</td>
<td>4.8</td>
</tr>
<tr>
<td>12. main entry foyer</td>
<td>4.8</td>
<td>4.9</td>
<td>4.8</td>
<td>4.4</td>
<td>4.7</td>
</tr>
<tr>
<td>13. secondary bdrm. size</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>14. stair location</td>
<td>4.3</td>
<td>4.2</td>
<td>4.4</td>
<td>4.1</td>
<td>4.3</td>
</tr>
<tr>
<td>15. second entry type</td>
<td>4.2</td>
<td>4.4</td>
<td>4.2</td>
<td>4.1</td>
<td>4.2</td>
</tr>
<tr>
<td>16. main entry to living room</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>3.4</td>
<td>3.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.12 average preference rankings (8-hi):</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>5.1</td>
<td>5.3</td>
<td>5.1</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>a.2</td>
<td>6.4</td>
<td>5.8</td>
<td>5.9</td>
<td>5.3</td>
<td>5.9</td>
</tr>
<tr>
<td>a.3</td>
<td>3.6</td>
<td>3.6</td>
<td>4.1</td>
<td>4.1</td>
<td>3.9</td>
</tr>
<tr>
<td>a.4</td>
<td>3.9</td>
<td>3.7</td>
<td>3.5</td>
<td>3.1</td>
<td>3.5</td>
</tr>
<tr>
<td>a.5</td>
<td>6.3</td>
<td>5.1</td>
<td>5.1</td>
<td>4.7</td>
<td>5.2</td>
</tr>
<tr>
<td>a.6</td>
<td>3.0</td>
<td>3.3</td>
<td>3.9</td>
<td>4.2</td>
<td>3.6</td>
</tr>
<tr>
<td>a.7</td>
<td>4.1</td>
<td>5.1</td>
<td>4.7</td>
<td>5.5</td>
<td>4.9</td>
</tr>
<tr>
<td>a.8</td>
<td>4.0</td>
<td>4.1</td>
<td>3.6</td>
<td>3.4</td>
<td>3.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.13 average preference rankings (4-hi):</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>2.5</td>
<td>2.3</td>
<td>2.1</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>a.2</td>
<td>2.8</td>
<td>2.8</td>
<td>2.9</td>
<td>3.0</td>
<td>2.9</td>
</tr>
<tr>
<td>a.3</td>
<td>3.2</td>
<td>3.1</td>
<td>2.8</td>
<td>2.8</td>
<td>2.9</td>
</tr>
<tr>
<td>a.4</td>
<td>1.7</td>
<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.14 average preference rankings (8-hi):</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>5.9</td>
<td>6.4</td>
<td>5.5</td>
<td>6.0</td>
<td>5.9</td>
</tr>
<tr>
<td>a.2</td>
<td>3.8</td>
<td>3.3</td>
<td>3.8</td>
<td>3.4</td>
<td>3.6</td>
</tr>
<tr>
<td>a.3</td>
<td>5.6</td>
<td>5.6</td>
<td>5.4</td>
<td>4.9</td>
<td>5.4</td>
</tr>
<tr>
<td>a.4</td>
<td>5.1</td>
<td>4.8</td>
<td>4.8</td>
<td>5.3</td>
<td>5.0</td>
</tr>
<tr>
<td>a.5</td>
<td>3.5</td>
<td>3.1</td>
<td>3.4</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>a.6</td>
<td>5.8</td>
<td>6.1</td>
<td>5.9</td>
<td>6.3</td>
<td>6.1</td>
</tr>
<tr>
<td>a.7</td>
<td>3.3</td>
<td>3.6</td>
<td>3.3</td>
<td>3.2</td>
<td>3.5</td>
</tr>
<tr>
<td>a.8</td>
<td>3.1</td>
<td>3.0</td>
<td>3.5</td>
<td>3.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Q.15 average importance ratings (7=hi):</td>
<td>TYPE 1</td>
<td>TYPE 2</td>
<td>TYPE 3</td>
<td>TYPE 4</td>
<td>TOTAL</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>1. insulation quality</td>
<td>6.4</td>
<td>6.4</td>
<td>6.5</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>2. workmanship</td>
<td>6.3</td>
<td>6.4</td>
<td>6.4</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>3. soundproofing quality</td>
<td>6.2</td>
<td>6.1</td>
<td>6.1</td>
<td>6.0</td>
<td>6.1</td>
</tr>
<tr>
<td>4. carpet quality</td>
<td>5.4</td>
<td>5.4</td>
<td>5.5</td>
<td>5.6</td>
<td>5.5</td>
</tr>
<tr>
<td>5. kitchen cabinet quality</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.3</td>
<td>5.4</td>
</tr>
<tr>
<td>6. lino quality</td>
<td>5.3</td>
<td>5.1</td>
<td>5.3</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>7. paint quality</td>
<td>5.0</td>
<td>5.0</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>8. closet door quality</td>
<td>4.9</td>
<td>4.4</td>
<td>4.6</td>
<td>4.7</td>
<td>4.7</td>
</tr>
<tr>
<td>9. light fixture quality</td>
<td>4.7</td>
<td>4.3</td>
<td>4.4</td>
<td>4.0</td>
<td>4.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.16 average preference rankings (8=hi):</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 [see questionnaire for description]</td>
<td>3.6</td>
<td>3.1</td>
<td>4.1</td>
<td>3.8</td>
<td>3.7</td>
</tr>
<tr>
<td>a.2</td>
<td>2.7</td>
<td>2.2</td>
<td>3.4</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>a.3</td>
<td>4.0</td>
<td>4.1</td>
<td>3.5</td>
<td>3.7</td>
<td>3.3</td>
</tr>
<tr>
<td>a.4</td>
<td>6.3</td>
<td>6.3</td>
<td>5.3</td>
<td>5.4</td>
<td>5.7</td>
</tr>
<tr>
<td>a.5</td>
<td>5.0</td>
<td>5.0</td>
<td>4.4</td>
<td>4.5</td>
<td>4.7</td>
</tr>
<tr>
<td>a.6</td>
<td>4.9</td>
<td>5.5</td>
<td>5.0</td>
<td>5.7</td>
<td>5.3</td>
</tr>
<tr>
<td>a.7</td>
<td>5.3</td>
<td>4.9</td>
<td>5.4</td>
<td>4.3</td>
<td>5.0</td>
</tr>
<tr>
<td>a.8</td>
<td>4.5</td>
<td>4.5</td>
<td>5.3</td>
<td>5.0</td>
<td>4.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.17 present dwelling:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. single-detached</td>
<td>61%</td>
<td>72%</td>
<td>62%</td>
<td>71%</td>
<td>66%</td>
</tr>
<tr>
<td>2. semi/duplex</td>
<td>10%</td>
<td>5%</td>
<td>4%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>3. townhouse</td>
<td>8%</td>
<td>12%</td>
<td>9%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>4. apartment</td>
<td>18%</td>
<td>8%</td>
<td>19%</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>5. other</td>
<td>4%</td>
<td>3%</td>
<td>5%</td>
<td>2%</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.18 length of residence:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. one year or less</td>
<td>53%</td>
<td>64%</td>
<td>48%</td>
<td>60%</td>
<td>56%</td>
</tr>
<tr>
<td>2. two years</td>
<td>19%</td>
<td>23%</td>
<td>21%</td>
<td>24%</td>
<td>22%</td>
</tr>
<tr>
<td>3. three years</td>
<td>7%</td>
<td>2%</td>
<td>7%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>4. four years</td>
<td>5%</td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>5. five years or more</td>
<td>16%</td>
<td>9%</td>
<td>20%</td>
<td>7%</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.19 present tenure:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. rent</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
<td>28%</td>
<td>32%</td>
</tr>
<tr>
<td>2. own</td>
<td>70%</td>
<td>65%</td>
<td>60%</td>
<td>73%</td>
<td>66%</td>
</tr>
<tr>
<td>Q.20 IF RENT: average monthly rent</td>
<td>TYPE 1</td>
<td>TYPE 2</td>
<td>TYPE 3</td>
<td>TYPE 4</td>
<td>TOTAL</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>1. under $250</td>
<td>13%</td>
<td>3%</td>
<td>8%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>2. $250-$350</td>
<td>9%</td>
<td>14%</td>
<td>10%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>3. $350-$450</td>
<td>26%</td>
<td>21%</td>
<td>18%</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>4. $450-$500</td>
<td>26%</td>
<td>17%</td>
<td>29%</td>
<td>26%</td>
<td>25%</td>
</tr>
<tr>
<td>5. $550-$650</td>
<td>17%</td>
<td>33%</td>
<td>18%</td>
<td>22%</td>
<td>23%</td>
</tr>
<tr>
<td>6. $650 or more</td>
<td>9%</td>
<td>7%</td>
<td>16%</td>
<td>7%</td>
<td>11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.21 IF OWN: average monthly mortgage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. under $450</td>
</tr>
<tr>
<td>2. $400-$550</td>
</tr>
<tr>
<td>3. $550-$650</td>
</tr>
<tr>
<td>4. $650-$750</td>
</tr>
<tr>
<td>5. $750-$850</td>
</tr>
<tr>
<td>6. $850-$950</td>
</tr>
<tr>
<td>7. $950-$1050</td>
</tr>
<tr>
<td>8. $1050 or more</td>
</tr>
</tbody>
</table>

| Q.22 household size: 1. one person | 5%     | 5%     | 4%     | 5%     | 5%    |
| 2. two                             | 43%    | 47%    | 41%    | 43%    | 43%   |
| 3. three                           | 22%    | 23%    | 33%    | 23%    | 26%   |
| 4. four                            | 22%    | 19%    | 17%    | 19%    | 19%   |
| 5. five or more                    | 8%     | 7%     | 5%     | 10%    | 7%    |

| Q.22 number of children: 1. none    | 52%    | 58%    | 49%    | 52%    | 52%   |
| 2. one                             | 16%    | 16%    | 31%    | 14%    | 22%   |
| 3. two                             | 25%    | 21%    | 16%    | 18%    | 19%   |
| 4. three or more                   | 8%     | 5%     | 4%     | 8%     | 6%    |

| Q.23 marital status: 1. single      | 8%     | 14%    | 10%    | 8%     | 10%   |
| 2. married                         | 88%    | 82%    | 81%    | 88%    | 85%   |
| 3. separated/divorced             | 4%     | 3%     | 5%     | 0%     | 3%    |
| 4. other                           | 0%     | 1%     | 4%     | 3%     | 2%    |

<p>| Q.24 age of spouse: 1. under 25 yrs.| 20%    | 25%    | 20%    | 22%    | 21%   |
| 2. 25-29                           | 39%    | 43%    | 47%    | 54%    | 46%   |
| 3. 30-34                           | 16%    | 17%    | 17%    | 17%    | 17%   |
| 4. 35-39                           | 8%     | 6%     | 4%     | 5%     | 5%    |
| 5. 40-44                           | 3%     | 1%     | 3%     | 1%     | 2%    |
| 6. 45-49                           | 5%     | 3%     | 5%     | 1%     | 3%    |
| 7. 50-54                           | 6%     | 0%     | 4%     | 1%     | 3%    |
| 8. 55 yrs. &amp; older                 | 3%     | 1%     | 1%     | 0%     | 2%    |</p>
<table>
<thead>
<tr>
<th>Q.24 cont'd...</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>age of respondent:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. under 25 yrs.</td>
<td>14%</td>
<td>18%</td>
<td>26%</td>
<td>31%</td>
<td>23%</td>
</tr>
<tr>
<td>2. 25-29</td>
<td>37%</td>
<td>42%</td>
<td>39%</td>
<td>44%</td>
<td>40%</td>
</tr>
<tr>
<td>3. 30-34</td>
<td>27%</td>
<td>24%</td>
<td>19%</td>
<td>14%</td>
<td>21%</td>
</tr>
<tr>
<td>4. 35-39</td>
<td>8%</td>
<td>9%</td>
<td>5%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>5. 40-44</td>
<td>3%</td>
<td>1%</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>6. 45-49</td>
<td>4%</td>
<td>1%</td>
<td>4%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>7. 50-54</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>8. 55 yrs. &amp; older</td>
<td>6%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.25 household income:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. under $25,000</td>
<td>25%</td>
<td>21%</td>
<td>17%</td>
<td>22%</td>
<td>21%</td>
</tr>
<tr>
<td>2. $25-$30,000</td>
<td>18%</td>
<td>14%</td>
<td>16%</td>
<td>23%</td>
<td>17%</td>
</tr>
<tr>
<td>3. $30-$35,000</td>
<td>19%</td>
<td>13%</td>
<td>15%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>4. $35-$40,000</td>
<td>21%</td>
<td>18%</td>
<td>11%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>5. $40-$45,000</td>
<td>12%</td>
<td>8%</td>
<td>10%</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>6. $45-$50,000</td>
<td>3%</td>
<td>9%</td>
<td>12%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>7. $50,000 or more</td>
<td>3%</td>
<td>19%</td>
<td>20%</td>
<td>5%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>more than one income:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. yes</td>
<td>55%</td>
<td>61%</td>
<td>66%</td>
<td>63%</td>
<td>62%</td>
</tr>
<tr>
<td>2. no</td>
<td>45%</td>
<td>39%</td>
<td>34%</td>
<td>37%</td>
<td>38%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.26 respondents’ sex:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. male</td>
<td>60%</td>
<td>69%</td>
<td>55%</td>
<td>65%</td>
<td>62%</td>
</tr>
<tr>
<td>2. female</td>
<td>40%</td>
<td>32%</td>
<td>45%</td>
<td>35%</td>
<td>38%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q.27 answered with spouse:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. yes</td>
<td>54%</td>
<td>57%</td>
<td>45%</td>
<td>56%</td>
<td>52%</td>
</tr>
<tr>
<td>2. no</td>
<td>46%</td>
<td>43%</td>
<td>55%</td>
<td>44%</td>
<td>48%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A. respondent type:</th>
<th>TYPE 1</th>
<th>TYPE 2</th>
<th>TYPE 3</th>
<th>TYPE 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Edmonton shopper</td>
<td>30%</td>
<td>29%</td>
<td>33%</td>
<td>28%</td>
<td>30%</td>
</tr>
<tr>
<td>2. Edmonton recent buyer</td>
<td>23%</td>
<td>25%</td>
<td>20%</td>
<td>31%</td>
<td>24%</td>
</tr>
<tr>
<td>3. Calgary shopper</td>
<td>22%</td>
<td>20%</td>
<td>25%</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>4. Calgary recent buyer</td>
<td>25%</td>
<td>26%</td>
<td>22%</td>
<td>25%</td>
<td>24%</td>
</tr>
</tbody>
</table>
APPENDIX C

IDT Menu Graphics and Examples

This material was drawn, in part, from Gottfried, McAlester and Walker. Please see the bibliographic information for these three sources in the Bibliography.
WOOD CLADDING

CLAPBOARD

WEATHERBOARD

BEADED HORIZONTAL BOARD

BOARD AND BATTEN
BRICK CLADDING

STRETCHER
HEADER
SOLDIER

FLEMISH BOND

COMMON BOND

RUNNING BOND
STONE CLADDING

COURSES ASHLAR: SMOOTH FACED

COURSES ASHLAR: ROCK FACED

UNCOURSES ASHLAR: ROUGH CUT

COBWEB OR PUZZLE RUBBLE

RANDOM ASHLAR

RANDOM OR UNCOURSES RUBBLE
INTERSECTING GABLE
OR CROSS GABLE

CENTER GABLE

GABLE

HIP

MANSARD

COLLAR BEAM

BARGEBOARD OR VERGEBOARD

OPEN GABLE

GABLE MOLDING
BARGEBOARD

ATTIC VENTILATOR

PENT ROOF

CLOSED GABLE

GABLES

STRAIGHT SIDED

CONVEX

CONCAVE OR BELLY CAST

ROOFS AND GABLES
CHIMNEYS

CORBELED CHIMNEY CAP

CHIMNEY STACK

PIERCED STACK  T-SHAPE STACK

DIAMOND CHIMNEY POTS  CIRCULAR CHIMNEY POTS
GABLE DORMER

HIPPED DORMER

SHED DORMER

DORMER SHAPES & CONFIGURATION
<table>
<thead>
<tr>
<th>NOTES ON COMPONENTS</th>
<th>MISCELLANEOUS ELEMENTS</th>
<th>OTHER ELEMENTS</th>
<th>SITE PLANNING</th>
<th>DOORWAYS</th>
<th>GABLES</th>
<th>CHIMNEYS</th>
<th>CLADDING</th>
<th>ROOF MATERIALS</th>
<th>ROOF TYPE</th>
<th>CONSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOGRAPHIC DIFFERENCES:</td>
<td>APPLICATIONS:</td>
<td>MISCELLANEOUS NOTES ON COMPONENTS</td>
<td>OTHER ELEMENTS</td>
<td>SITE PLANNING</td>
<td>DOORWAYS</td>
<td>GABLES</td>
<td>CHIMNEYS</td>
<td>CLADDING</td>
<td>ROOF MATERIALS</td>
<td>ROOF TYPE</td>
</tr>
<tr>
<td>GEOGRAPHIC CONCENTRATION:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Bungalow Typological Components

<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>wood frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOF TYPE</td>
<td>-gable, usually double with a minor and major gable, both facing front -sometimes cross gables</td>
</tr>
<tr>
<td>ROOF MATERIALS</td>
<td>shingles</td>
</tr>
<tr>
<td>ROOF OTHER</td>
<td>-very little pitch typical, more pitch on Eastern versions -significant overhang</td>
</tr>
<tr>
<td>CLADDING</td>
<td>literally any material, usually shingles, brick, or stone</td>
</tr>
<tr>
<td>CHIMNEYS</td>
<td>-brick with simple top -varied placement</td>
</tr>
<tr>
<td>WINDOWS</td>
<td>-usually double hung with 1x1 or 2x2 panes -sometimes uses fixed glass &quot;Bungalow windows&quot; (see graphic)</td>
</tr>
<tr>
<td>DORMERS</td>
<td>shed dormers, especially in East</td>
</tr>
<tr>
<td>GABLES</td>
<td>-closed minor gable over entry porch -open major gable(s) -gables can be front and/or side</td>
</tr>
<tr>
<td>SITE PLANNING</td>
<td>often built on site raised 3-10 ft above street level, with front entry stairs</td>
</tr>
<tr>
<td>OTHER ELEMENTS</td>
<td>-covered porch, relatively large, is a major characteristic -porch normally surrounded by knee wall or railing -sometimes porch fully enclosed</td>
</tr>
<tr>
<td>MISCELLANEOUS</td>
<td>-exposed rafter, purlin, and ridge beam ends is typical</td>
</tr>
<tr>
<td>NOTES ON</td>
<td>-covered porch supported by tapered columns</td>
</tr>
</tbody>
</table>

---

**GEOGRAPHIC CONCENTRATION:**
- widespread
- originated in California
- suitable anywhere

**GEOGRAPHIC DIFFERENCES:**
- very little roof pitch Western US
- cladding material varies by region
- Bungalow Cottage prevalent in Northeast and Midwest (see graphic)

**APPLICATIONS:**
- starter, empty nester, or any homes for small households (Bungalow rarely has more than 1500 sf)

**OTHER COMMENTS:**
- Bungalow was outgrowth of many influences, including Japanese and Indian
- Bungalow could take on almost any style
- Craftsman style most suitable - wood and stone materials, exposed structural members
TWO - FRONT - FACING GABLES
ONE OPEN
ONE CLOSED

LOW SLOPING ROOF W/ GENTLE PITCH
EXPOSED RAPERS, PURSINS, RIDGE BEAMS
LARGE OVERHANG

"BUNGALOW WINDOWS"
LARGE COVERED PORCH SUPPORTED BY TAPERED COLUMNS

PORCH W/ KNEE WALL
TYPICAL FACADE (WESTERN U.S.)

CENTRAL CHIMNEY
LOW SHED DORMERS FOR UPPER LEVEL SPACE & LIGHT
STeeper ROOF FOR 2ND STORY
FRONT & SIDE GABLES

VARYING WINDOW TYPES

BUNGALOW COTTAGE
ENCLOSED PORCH

BRICK, STONE OR SHINGLE CLAD

SEMI- OPEN PORCH
TYPICAL EASTERN MODIFIED

CHIMNEY PIERCES OVERHANG

OFFSET CHIMNEY

CURVED PORCH CANOPY

BUNGALOWS

STUCCO OR CLAPBOARD CLAD

SOME WESTERN MODIFICATIONS

-169-
## Cape Cod Typological Components

### Construction
- Wood frame (post & beam original)

### Roof Type
- Single gable, occasionally bowed, with 45 degree pitch
- Sometimes gambrel, allowing for two stories

### Roof Materials
- Split cedar shingle originally, other shingles similar in appearance may be used

### Roof Other

### Cladding
- Split cedar shingle originally, white painted cedar clapboards or similar appearing acceptable

### Chimneys
- Brick with simple top, typically centered

### Windows
- Usually double hung with 4X4 panes
- Exterior shutters of wood typical

### Dormers
- Window dormers occasionally

### Gables
- Open side wall gables
- Small front facade wall gable occasionally

### Site Planning
- On small lots, typically at least 50 ft. setback from front property line

### Other Elements
- Picket fence originally placed on side of house facing prevailing wind
- Small porch or stoop
- Door usually simple with small window

### Miscellaneous
- No projections or decoration
- Trim painted contrasting color

### Geographic Concentration:
- Widespread in North and West
- Obviously originated on Cape Cod; usage best in southern New England and coast from New Jersey north

### Geographic Differences:
- Stone facade acceptable in areas where that material is abundant

### Applications:
- Probably best used in the region where it originated, for second homes along the seashore
- Might be employed for small starter homes

### Other Comments:
6 OVER 1 OR 6 OVER 6 WINDOWS

DECORATIVE WOOD DOOR (SOMETIMES W/ WINDOWS)

SYMMETRICAL IN ALL ASPECTS

COLOR—NATURAL OR PAINTED WHITE
TRIM CONTRASTING COLOR

SIDE- GABLED

PLENTY OF WINDOWS LEADING TO A WELL-LIT INTERIOR

SHUTTERED WINDOWS

CAPE COD HOME
<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>wood frame (balloon or bearing wall construction originally)</th>
<th>GEOGRAPHIC CONCENTRATION:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Nationwide, primarily rural and resort areas</td>
</tr>
<tr>
<td>ROOF TYPE</td>
<td>single or double gables that intersect (steep pitch typical)</td>
<td></td>
</tr>
<tr>
<td>ROOF MATERIALS</td>
<td>wood shingle (usually cedar)</td>
<td></td>
</tr>
<tr>
<td>ROOF OTHER</td>
<td>-sometimes thatch roof</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-decorative (see figure)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-projecting roof</td>
<td></td>
</tr>
<tr>
<td>CLADDING</td>
<td>stone walls</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-board and batten siding</td>
<td></td>
</tr>
<tr>
<td>CHIMNEYS</td>
<td>brick or cut stone - typically fancy brick top</td>
<td></td>
</tr>
<tr>
<td>WINDOWS</td>
<td>varied as to type</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-diamond pane, multi-pane, or plain casement usually</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-bay window used at times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-sometimes awnings over window</td>
<td></td>
</tr>
<tr>
<td>DORMERS</td>
<td>window dormers occasionally</td>
<td></td>
</tr>
<tr>
<td>GABLES</td>
<td>usually open wall gable</td>
<td></td>
</tr>
<tr>
<td>SITE PLANNING</td>
<td>house should be nestled in landscape, so as to appear</td>
<td></td>
</tr>
<tr>
<td></td>
<td>picturesque - best suited to rural environment</td>
<td></td>
</tr>
<tr>
<td>OTHER ELEMENTS</td>
<td>rafter brackets accentuated</td>
<td></td>
</tr>
<tr>
<td>MISCELLANEOUS</td>
<td>materials always rough</td>
<td></td>
</tr>
<tr>
<td>OTHER ELEMENTS</td>
<td>rafter brackets accentuated</td>
<td></td>
</tr>
<tr>
<td>NOTES ON</td>
<td>verticality stressed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>by roof and board &amp; batten siding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-first American house to have small slab porch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-deep shadow lines created by roof overhang</td>
<td></td>
</tr>
</tbody>
</table>

**GEOGRAPHIC DIFFERENCES:**

- Roof pitch less pronounced in South
- Stone facade in Northeast and in some Mountain areas

**APPLICATIONS:**

- Inland resorts, especially mountain and forest areas
- Potentially moderate cost housing in other areas where the style is common

**OTHER COMMENTS:**

- Verticality stressed by roof and board & batten siding
- First American house to have small slab porch
- Deep shadow lines created by roof overhang
STEEP SLOPING ROOF

EXPOSED RAFTERS BRACKET

SOMETIMES THERE IS A VINE CANOPY OVER A WINDOW

COVERED ENTRY W/ SMALL PORCH

BOARD & BATTEN SIDING

SPLIT CEDAR SHINGLE ROOF

STONE CHIMNEY W/ FANCY BRICK TOPS

CASMENT WINDOWS

OCCASIONAL BAY WINDOW USED ON ONE ELEVATION

VERTICALITY IS STRESSED BY SMALL PLAN, STEEP ROOFS, OPEN WALL GABLE & BOARD-BATTEN SIDING

COLOR - NATURAL MATERIALS OR PAINTED TAN, GREY OR GREEN

COTTAGE
**FRONT GABLE HOUSES**

**TYPOLOGICAL COMPONENTS**

<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>wood frame (balloon originally)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOF TYPE</td>
<td>gable at 45 degree pitch, facing front</td>
</tr>
<tr>
<td>ROOF MATERIALS</td>
<td>slate or shingle</td>
</tr>
<tr>
<td>ROOF OTHER</td>
<td></td>
</tr>
<tr>
<td>CLADDING</td>
<td>clapboard typical, occasionally brick</td>
</tr>
<tr>
<td>CHIMNEYS</td>
<td>-brick, with a plain or fancy top</td>
</tr>
<tr>
<td></td>
<td>-usually centered or just slightly</td>
</tr>
<tr>
<td></td>
<td>-off-centered</td>
</tr>
<tr>
<td>WINDOWS</td>
<td>-double hung</td>
</tr>
<tr>
<td></td>
<td>-sometimes decorative upper level</td>
</tr>
<tr>
<td></td>
<td>(third story) window</td>
</tr>
<tr>
<td></td>
<td>-bay window used at times</td>
</tr>
<tr>
<td>DORMERS</td>
<td>side wall dormers occasionally</td>
</tr>
<tr>
<td>GABLES</td>
<td>usually open wall gable, but can be closed</td>
</tr>
<tr>
<td>SITE PLANNING</td>
<td>typically urban/suburban lot</td>
</tr>
<tr>
<td>OTHER ELEMENTS</td>
<td>-covered porch with railing</td>
</tr>
<tr>
<td></td>
<td>-porch raised 3-4 ft. above yard</td>
</tr>
<tr>
<td></td>
<td>(entry level thus raised)</td>
</tr>
<tr>
<td>MISCELLANEOUS</td>
<td>based on 3 bay organization</td>
</tr>
<tr>
<td>NOTES ON COMPONENTS</td>
<td></td>
</tr>
</tbody>
</table>

**GEOGRAPHIC CONCENTRATION:**
- Nationwide, primarily urban and suburban

**GEOGRAPHIC DIFFERENCES:**
- brick used at times in North

**APPLICATIONS:**
- nearly any use
- the three level plan may not appeal to certain buyer groups

**OTHER COMMENTS:**
- typically, symmetric fenestration, but could be asymmetric
- "Prototype" 2 - story house
CENTER CHIMNEY

45° ROOF PITCH
SLATE OR SHINGLES

DOUBLE-HUNG WINDOWS
SYMMETRIC FENESTRATION

CLAPBOARD SIDING

SIMPLE, WINDOWED DOOR
COVERED & RAISED FRONT PORCH

TYPICAL FACADE
OPEN-GABLE

BASED ON THREE BAYS - A PROTOTYPE TWO-STORY HOUSE

FRONT-GABLE HOUSES
URBAN AND SUBURBAN LOTS

CLOSED GABLE
DECORATIVE SHINGLE SIDING W/IIN GABLE

SIDE DORMERS - GABLED

DECORATIVE UPPER LEVEL WINDOW
SOMETIMES W/FIXED GLASS

BAY WINDOW OR TRIPLE WINDOW
WINDOWS DOUBLE-HUNG
VARYING SYMMETRIC/ASYMMETRIC FENESTRATION

CLAPBOARD SIDING

SLIGHTLY FANCIER PORCH WOODWORK
THAN THE TYPICAL OPEN-GABLE

TYPICAL FACADE - "GENERIC" VICTORIAN - MADE SIMPLE USE OF DETAILING
APPENDIX D

Seaside Master Plan and Code

THIS MATERIAL IS REPRINTED HERE WITH THE PERMISSION OF ROBERT DAVIS, SEASIDE COMMUNITY DEVELOPMENT CORPORATION (MASTER PLAN AND WRITTEN CODE), AND ANDRES DUANY, ARCHITECT (CODE GRAPHICS), AND SHOULD NOT BE REPRODUCED IN ANY FORM WHATSOEVER WITHOUT THE EXPRESS CONSENT OF THE RESPECTIVE PROVIDER.
The Seaside master plan is continually being refined. The Master Plan will be revised from time to time at the discretion of the developer. No purchaser shall have any vested rights in any aspect of the Master Plan unless specifically set forth in the Purchase Agreement between the developer and the purchaser.
**Urban Code • The Town of Seaside**

<table>
<thead>
<tr>
<th>TYPE I</th>
<th>TYPE II</th>
<th>TYPE III</th>
<th>TYPE IV</th>
<th>TYPE V</th>
<th>TYPE VI</th>
<th>TYPE VII</th>
<th>TYPE VIII</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
<td><img src="#" alt="Yards" /></td>
</tr>
<tr>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
<td><img src="#" alt="Porches" /></td>
</tr>
<tr>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
<td><img src="#" alt="Outbuildings" /></td>
</tr>
<tr>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
<td><img src="#" alt="Parking" /></td>
</tr>
<tr>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
<td><img src="#" alt="Building Heights" /></td>
</tr>
</tbody>
</table>

**Specifications**

1. Yards shall be provided to rear of each dwelling unit on all four sides unless an exception is made by the Architect.
2. Porches shall be provided to rear of each dwelling unit on all four sides unless an exception is made by the Architect.
3. Outbuildings shall be provided to rear of each dwelling unit on all four sides unless an exception is made by the Architect.
4. Parking shall be provided to rear of each dwelling unit on all four sides unless an exception is made by the Architect.
5. Building heights shall be limited to 4 stories as specified by the Architect.

© - The Plan's Design and Specifications are the Property of Seaside Colony and Seaside Planning Commission. Architectural and all other plans shall be copied exclusively to persons or firms without the written consent of the Architect.
Unlike West Fairacres Village and Westbriar, the Town of Seaside is a development encompassing not only houses, but also some attendant commercial and public functions. Commissioned as a resort with 450-550 dwellings and lodging units along with a shopping center, conference facilities, and a tennis club, the project was viewed by its architects as a cohesive small-town unit rather than simply as a conventional contemporary real estate "development." Thus, the retail center is conceived as a downtown commercial district, the conference facility doubles as town hall, and a portion of the recreation budget is dispersed to create small civic amenities throughout the town. Civic character is further reinforced by reserving sites for public buildings such as a chapel, a primary schoolhouse, a fire station, a post office, a service station, and a workshop district.

After a study of small towns in the American South, the designers concluded that a community of genuine variety and authentic character could not be generated by a single architect. They recommended, therefore, that buildings be given over to numerous designers — public buildings to be designed by architects selected for their demonstrated sympathy with the regional vernacular, private buildings to be commissioned by individual citizen/buyers subject to provisions of an innovative master plan and zoning code. These documents were intended to generate an urban environment similar to that of a small southern town of the period prior to 1940.

The site for Seaside is 80 acres located in Walton County in Northwestern Florida, adjacent to the settlement of Seagrove Beach. It straddles County Road 30-A and fronts 2300 feet of beach to the south.

The layout of the community responds to pre-existing natural and man-made conditions as follows:

Two large gorges providing access to the beach determine the location of the central square and the easternmost street.

Existing wooded areas are preserved along the diagonal avenue and in open areas around the tennis club and also
around the city hall as well.

High ground determines the location of the tennis club and one of the small squares.

A central square opens to the south, increasing the building frontage on the ocean.

The existing grid of Seagrove to the east is received and extended to provide multiple access points and social continuity.

The new street grid is left open to the north allowing access to the inland lake at some future time.

The proportion and dimension of individual lots are specifically related to their intended use and building type. In order to provide a relatively neutral urban fabric and to facilitate marketing, most lots are standardized, but others do not avoid the idiosyncratic characteristics which generate unusual buildings to serve as landmarks. There is a gradual downsizing of residential lots toward the center of town in order to increase density.

The graphic zoning code, written and administered by the architects, is meant to be easily understood by the citizen/buyer without professional assistance and is intended to control only those aspects of building form that directly affect the public realm. It employs conventional tools of zoning, but with substantial variations such as the following:

Variances are granted on the basis of architectural merit.

A specified minimum percentage of the lot frontage must be built out in order to maintain the spatial definition of the street.

For the same reason, picket fences are mandated for lots with deep front yards.

Porches in residential districts and arcades in commercial districts must be built to a specified percentage of the frontage. This pattern is considered an essential characteristic of the southern-
town type, and a positive influence on the social utilization of the street.

Outbuildings at the rear of lots are encouraged so as to create a secondary level of urbanism tied to the footpaths and to generate rental apartments dispersed within single-family areas. This arrangement is intended to prevent the homogeneity of age and income common to modern development.

The location of parking within the lots is specified with precision to prevent parking lots from causing discontinuities in the street frontage.

Minimum and maximum heights of roofs and porches are specified to control the spatial proportion of the public spaces and to determine the degree of formal variation in streets.

Towers of small footprint (200 sq. ft.) are encouraged everywhere so that even the most landlocked house may reach for a view of the sea.

Boundaries between zoning types occur at mid-block rather than more conventionally along streets, allowing streets and squares to be perceived as coherent spatial entities with similar building types on all sides.

A concentric pedestrian and vehicular network provides the backbone of the master plan, maximizing the number of buildings with an ocean view and allow-
Below: (Top) Concentric street layout.
(Middle) Plan showing major public buildings.
(Bottom) Private land lots.

Below: (Top) Public pedestrian walkways.
(Middle) Proportions of public spaces.
(Bottom) Private buildings that may include apartments, shops, hotels, motels, or workshops.
The master plan further locates major public buildings inland to activate and enrich those areas farthest from the shore. These buildings are connected to the central square by adjacent public spaces: the town hall by a square, the tennis club by an avenue, the chapel by a marketplace. Pavilions at the termini of north-south streets belong to the residents of those streets. Two larger clubhouses in the central square provide beachfront colonies for residents of east-west streets. Public buildings are all to be painted white to insure a public identity despite their size which is often smaller than that of private buildings.

Zoning for private buildings is divided into eight types, each with requirements specific to its location within the town:

**TYPE I**

These lots define the large central square that straddles Route 30-A with a decisive spatial act. Type I zoning is intended for retail uses on the ground floors, with residential above. It will
Below: (Top left) Two Type V residences. (Middle left) Type II plan of small pedestrian square in front of the town hall. (Bottom left) Type II perspective showing four-story buildings with courtyards and smaller buildings at the rear.

Below: (Top right) Type VI residence (Photograph by Steven Brooke). (Middle right) Type III lots used for warehouses, shops and services. (Bottom right) Perspective of exemplary Type III buildings.
probably generate hotels and rooming houses, especially on shoreline lots. These are the tallest buildings at Seaside and are permitted a maximum of five stories. They are party-wall buildings with no setback at the front, where a large arcade is required. A great deal of height variation is permitted. The prototype is found on main streets throughout the South, although seldom in such a continuous sequence.

TYPE II

These lots define a small pedestrian square at the front of the town hall. Type II zoning is intended primarily for office uses, although apartments and retail establishments may occur. The code generates four-story buildings with courtyards and smaller buildings at the rear. The provision affecting arcades and silhouettes is highly specific and only minimal variety is possible. It is intended that this square will have a decidedly more sedate and dignified appearance than the central square. The prototype is found in the Vieux Carre of New Orleans.

TYPE III

This type generates two uses ultimately determined by lot size and location. Large lots face the service street at the rear of the central square buildings. Warehouses will occupy these, probably for automobile repair, storage and workshops. A firehouse and a service station will also be located in this zone at lots abutting Route 30-A. Smaller lots occur along the north-south pedestrian route connecting the church with the central square. These should generate small shops, and it is hoped that a Sunday Market will be housed on these premises. Type III generates party-wall buildings with few restrictions other than a limit on height.

TYPE IV

These are large lots that line the avenue connecting the central square to the tennis club. Type IV zoning generates large freestanding buildings with substantial outbuildings at the rear. This type includes private houses, small apartment buildings or bed-and-breakfast inns. The setbacks on all sides, together with a continuous porch mandated for the street front, should result in buildings of some grandeur. The prototype is the Greek Revival mansion of the Antebellum South.

TYPE V

This type is a special category for large lots that can contain several buildings. Similar to PUD zoning, the requirement here is that lots be planned as coherent groupings, with the provision that the designs be approved by the municipal authority.

TYPE VI

These lots are the suburban section of Seaside. They occur on north-south streets where there is a view of the sea at the end of the street corridor. Lots become slightly smaller toward the center of town for a gradual increase of density. Type VI zoning generates free-standing houses and encourages small outbuildings at the rear as guest houses and rental units. The requirements for substantial front yards secure the sea view for the inland units. Picket fences help to maintain the spatial section of the street, which would otherwise be excessive. The prototype is found everywhere in the suburban and rural South.

TYPE VII

This type occurs along the east-west streets where no view of the sea is possible. The lots are, therefore, smaller and less expensive. Since a view corridor is unnecessary, the front setbacks are minimal. Since a zero setback is permitted along one of the side yards, houses tend to generate private yards to one side. The Charleston single house is the prototype.

TYPE VIII

This type is dispersed throughout the residential areas of town, occurring at locations that require some degree of acknowledgement as gateways or special places. The Code provisions are more liberal than those of Type VI and Type VII, permitting slightly greater height and freedom of placement on the lot. This flexibility provides meaningful variety within the relatively homogeneous residential districts.
1. Plans for all buildings, alterations and additions shall be submitted to the SARC for approval. Variances shall be based on architectural merit and not on hardship.

2. In addition to the Seaside Urban Code and these Regulations, all construction is subject to the Provisions of the Southern Standard Building Code and the CABO One & Two Family Dwelling Code and any state or county building codes. All review and inspection procedures described in these regulations and the Design Approval Process information are intended to assure compliance only with the Seaside Urban Code and aesthetic considerations. Seaside Community Development Corporation, its affiliates and the SARC are not responsible for design or construction defects or failure of the building to meet appropriate building codes.

3. All contractors shall be approved by the Seaside Administration. All contractors shall carry insurance as follows:
   A. Workmen’s compensation: as required by law.
   B. Public Liability: $100,000 for one person, 300,000 for each accident occurrence.
   C. Property damage: $50,000 for any one accident.

The general contractor shall furnish to the owner evidence of the above coverage and shall secure same from all subcontractors. The general contractor and all his subcontractors shall be licensed as required by the Walton County Building Department. The general contractor shall warrant all materials and workmanship to be good quality and remain so for a period of one year.

4. Construction shall be generally of wood unless otherwise designated. All wood exposed to weather shall be pressure treated or of a species that is generally considered decay resistant.

5. Existing vegetation shall remain undisturbed during construction, except for an area 4 feet beyond the perimeter of the building. Existing foliage shall be protected by roping it off from construction activities. It shall be protected from paint over spray and from trash. Sod is not permitted. New planting materials shall be indigenous species or from the approved plant materials list.

6. Garages, where permitted, shall have a concrete floor with natural or painted CMU walls to the level of the base trim on the associated house with a wood structure above which shall be detailed in a manner similar to the house.

7. White painted wood picket fences are required at the street front and path front property lines except at lot types I, II and III. Type VII lots require picket fences at the front building setback line and at all other street front or pathfront lines. Individual fence patterns...
shall not replicate another on the same street.

8. For-sale signs on lots or in front of houses are not allowed.

9. For the convenience of owners and the Seaside rental program, a clearly marked valve to drain the house during freezing weather should be located in an accessible location. All supply lines must be sloped to drain to that value.

10. A Certificate of Occupancy issued at the completion of the house by the Walton County Building Department will be necessary for the house to be put on the rental program.
1. Footings

-8x8 pressure treated or penta-treated wood piles, minimum 8' depth north of C30A, elevating finish floor to an elevation 2' minimum above the existing grade. Crawl space beneath the floor joists should be a minimum of 1'6". Restrictive heights shall be measured from the c/l of road. South of C30A pilings and structure to be approved by structural engineer.

2. Roof Structure

-roof pitch above the main body shall be 8 in 12
-pitch of hip roofs above wrap-around porches and ancillary structures shall be 3 in 12
-monopitches shall not be permitted unless abutting vertical walls
-roofs shall be symmetrical about their peaks
-flat roofs shall be permitted only when accessible from an adjacent enclosed space.
-rafters: 2x6 minimum - 1' - 6" min. overhang - no soffits - fascias, if any, shall not completely cover rafter tails
-purlins: 2x2 or 2x4

3. Exterior Woodwork

-Material: All wood exposed to weather shall be of:
  Cedar
  Redwood
  Cypress
  Pressure treated pine

-Siding Pattern: (may be rough or smooth)
  106 dropsiding
  6" wood lapsiding
  wood shingle
  vertical board and batten

-Trim Pattern: (smooth planed)
  2x4 or 2x6 at corners and openings. Note: Caulk butt joints.

-Pine: to be used only when properly finished to prevent moisture from rotting the wood.
4. Exterior Doors

- Material: wood or metal

- Pattern: recessed ladderback
  recessed two or four panel
  French door (true divided lites)
  Glass "store door"
  ANY OTHERS NEED SPECIFIC APPROVAL BY SEASIDE

- Hardware: Schlage Plymouth, Baldwin 5030, Kwikset Standard, U.S. Lock Plymouth, or similar; no key in knobs allowed. Bright brass (lacquered finish not recommended), brushed chrome, brushed aluminum, or oiled bronze finish.

- Garage doors: Wood sectional, panel-type, overhead by Crawford, Overhead, or equal. Eight foot maximum width.

- Sliding glass doors shall be permitted only for access to baths and shall be located behind privacy screens, and shall be coated with white E.S.P. paint

- Screen doors shall be of wood and of approved pattern

5. Windows

- Casement, awnings, or double-hung (wood or wood with metal or plastic cladding)

- No snap-in muntins permitted

- Individual windows and porch openings, when rectangular shall be square or vertical proportion not less than 1 to 1.5.

- Awning type windows of horizontal proportions may be used at clerestories

- Fan windows, circle windows, stained glass or other windows must be submitted for approval to the Seaside Architectural Review Committee

- Dark grey fiberglass, aluminum or copper screens

- Wood or ESP white aluminum frames for screens

6. Exterior Stairs and Railings

- Stair stringers shall be notched to receive tread

- Railings shall have a top and bottom rail, and pickets shall die into the bottom rail
7. Privacy Screen
   - canvas
   - wood lattice

8. Fasteners
   - all bolts, nails, staples, hinges, etc., exposed to the weather - hot
dipped galvanized steel, stainless steel or brass
   - provide complete hurricane tie-down system consisting of anchor
bolts, strapping and clips as required for the particular connections
within the structure.

9. Roof Cladding
   - wood shake
   - metal shingle
   - corrugated metal sheet
   - V-crimp metal sheet
   - standing seam metal sheet
   - metal roofs may not be painted. Batten rib seam roofs are also not
   allowed. Any horizontal seams shall be aligned.

10. Exterior Finishes
    - all exterior colors shall be approved by the Seaside Administration
    - paint system used must be minimum:
      1 coat oil based primer
      1 coat acrylic latex paint
    - must contain Mildew Additive
    - trim around openings shall be of a contrasting color in high gloss
    - caulking shall be required around all exterior openings and at other
      necessary places where wood is joined and shall be 100% acrylic or
      paintable silicon
    - when repainting is necessary, the original color scheme shall be
      repeated or a new color scheme shall be submitted for approval.

11. Electrical, Telephone & Television Service Drops
    - all service drops shall be underground
12. Exterior Lights

- exterior lights shall use light bulbs of 40 watts or less. Lights shall be placed so that they do not shine directly at neighbors.

- all exterior light fixtures shall be approved by Seaside prior to installation

- at least one Progress P5204-38 "mushroom light" shall be placed at the intersection of the path to front door and the street so that it casts light on both the street and the path and it shall be controlled by a photocell.

13. Air Conditioning Compressors

- air-conditioning compressors shall be screened or fenced so that they are not visible from the adjacent property and so that the sound transmission to neighboring properties is minimized.

14. Driveway Surfacing

- driveway surfaces shall be one of the following:
  Brick pavers—to match those on Seaside streets
  Crushed oyster shells 4" thick compacted
  White clay over dolomite base
  Other (to be approved by Seaside)

15. Construction Debris

- contractor shall furnish trash containers and, at all times, shall keep the premises free from accumulation of waste materials or rubbish caused by his operations.

- trash shall not be allowed outside of designated trash & scrap area and any that does intrude beyond shall be cleaned up immediately.

- at completion of the work, all remaining waste materials and rubbish shall be disposed of legally, and tools, construction equipment, machinery and surplus materials shall be removed from the site.

- Seaside Administration shall charge contractor for any clean-up of contractor's building area.

16. Construction Noise, Pets

- construction activities shall not take place before 8 A.M. on Saturdays or before noon on Sundays. Holiday hours will be announced according to occupancy load.

- radios are not allowed on construction jobs.