Breaking the Habit

A Fight Against the Monotony of Tract Housing

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For: Ron H.L.M. Ramsay

A Design Thesis Submitted to the School of Design, Architecture, and Art at North Dakota State University

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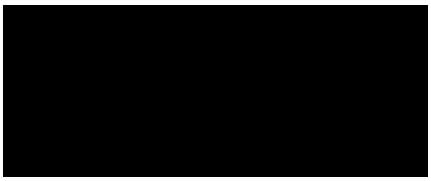

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Thesis Abstract

This project looks at tract housing from the perspective of the homeowner. Tract housing has caused an identity crisis within neighborhoods across the nation, and it's time we start taking a more forward approach to changing that. Many have tried and failed, but many have taken it on through the construction of a house. This project looks at the design of a house.

In tract housing there are 4 steps in the process before the homeowner gets in the house. The first step, the step this project focuses on, is the design of the floor plan. In this step, designers design houses that end up in a library for the developers to pick and choose from. Next is the development step, where the developers choose their floor plans and create the neighborhood they are going to build. Following that is construction, when the houses are actually built, where others have tried to change the process and have failed. Last is to sell the house to the homeowner.

By focusing on the design of the house instead of the construction of a house, we can start thinking of things in a different light. There are rooms in a house that are in every house, and with that knowledge we can create standardized spaces that we can use to assemble a house.

Thesis Narrative

Ever since I was a child, I was fascinated by homes and their unique qualities. A home is more than just a place to live, it is part of the identity of a person. When someone lives in a house that resides in a sea of homes that look and feel exactly like it, that identity gets lost. Over the last summer I lived at a friend's house while interning at an architectural firm. Every day on my way home, I would routinely make the wrong turn and approach the wrong driveway, all because it was nearly impossible to distinguish the difference between the houses. I eventually learned, from my friend, that his driveway was the one with the third fire hydrant on the block. The qualitative measure of his house in his mind was the quantitative measure of the infrastructure outside of his house. Ignoring the fact that I never truly lived there and that he was gone most of year, so he had only the essentials, the house didn't have a home feeling.

On the other hand, my house is in a neighborhood that was developed in the early 1900s and every house is different. There is an identifying feature for each house and that difference allows one to feel at home. There are simple explanations as to why we got where we are; budgets and time constraints being the most prevalent. But there are also more complicated ones that turn the blame on society.

Project Typology

This is a project that heavily focuses on the residential side of architecture, and more specifically the single family alley of residential architecture. Residential architecture has been studied at length, and the more spoken of projects are either high-end architecture or focused on sheltering the homeless. This project focuses on the middle ground, where most of the population lies, and where most of the cookie cutter homes are geared towards.

Project Justification

This project is important because neighborhoods that spring up so rapidly in our society have turned a blind eye to the simplest concepts of architecture regarding the precedent. Regaining the architectural aspect within communities will regain a sense of identity within. People should be proud of their accomplishments, and most of that pride is typically shown with the house you have made home, large or small, elegant or simple. For that reason, your house and home should be unique enough to show that you are doing something special and worthwhile.

Project Emphasis

This project will put an emphasis on the process in which houses are designed. By keeping the design process simple, and keeping the efficiency of the construction of tract housing, we can begin to see an alternative to neighborhoods that are overwhelmingly underwhelming. With this new design process, designers everywhere can have most of the freedoms of designing a custom home while standardizing the spaces within to keep construction time and costs low.

Major Project Elements

Every house has several key spaces that are standard within. Kitchen, living room, dining room, bedroom(s), and bathroom(s), utility/storage room(s). These spaces are the necessities. Other spaces like an office, den, TV room, library, home theater, garage, shop, etc. are optional spaces that are not required for a basic standard of living we follow today.

Figure 1: Kit of Parts

This picture shows the rooms that were used in this project. The left 12 rooms are the bedrooms ranging in 4 different sizes with options of window placement. On top in the middle are the two kitchen options, a secluded kitchen with a serving window, and a kitchen that promotes an open concept. Below the kitchens is a pantry along with two styles of stairs. Surrounding the stairs are two options for a garage, a standard 2-stall and an oversized 2-stall. On the very bottom is the auxiliary room. Then there are the three types of restrooms, a master full-bathroom, a guest full-bathroom, and a half-bathroom. Last is the laundry and utility room

User/Client Description

The target user for this process is a designer for developing neighborhoods, whether it is an architect or a developer, the process was created to be as simple as possible. By targeting these users, the process developed in a way that was unique to the users. Developers have a sense of efficiency and architects have a sense of identity. This is important because the process needed to accommodate for both of them while enabling both of them to work in the confines of the other.

The Context

This project is unique in it of itself because it does not specify what a house should be, it does not specify what a neighborhood should be, instead it allows for each of those to build upon themselves by removing constrictions and promoting free design. The middle class citizen has been seemingly forgotten when it comes to single family housing. The identity of a single family house today has been lost, and it is a goal of this project to bring that back.

Goals

The goal of this thesis project is to change the way homes can be designed while keeping the efficiency and effectiveness of tract housing during the construction. By standardizing certain aspects of a house, but not standardizing the layout of those aspects, we can start to get homes that have all of the essentials but with a different front elevation, giving the house an identity within its surrounding.

Plan for Proceeding

Step 1: Research tract housing and its origins
Step 2: Determine the reasons of tract housing
Step 3: Dissect the process of tract housing to find the main driving forces
Step 4: Isolate these driving forces and determine their importance to the process
Step 5: Design a process that works with these driving forces
Step 6: Test the process against the driving forces
Step 7: Redesign as necessary to ensure the values still align with tract housing
Step 8: Alter the design process to accommodate a new value: Identity
Step 9: Test the new process against the new value and old driving force
Step 10: Redesign the new process as necessary to achieve both the driving forces and new value

Results of Research

The results of my research have confirmed and added to my theory as to why tract housing was and is a large part of the single family residential market. When researching Lustron and Levittown, it was clear that there was a need for housing in a manner that was faster than the supply could support, and people were trying many ways to get caught up with that demand. The most successful of the two, and the most prevalent today, was Levittown with their tract house approach. I believe this is because builders and contractors knew the methods of construction already, where with Lustron they needed to learn a whole new process.

Hayden, D (1982) reinforced the importance of the spacial layout within a home. Her book was about how the feministic movements in the early 1900s would shape the way we live in our homes today by promoting a shared responsibility between partners of the household. By not secluding certain aspects of a house, you can then start to design with more inclusive ideas and properly separated spaces that do not fight social growth.

In an interview with my uncle, Wangler A. (2023), who has made a retirement plan out of developing houses, it was abundantly clear that there was a hard line at the bottom line. Money was the only factor in the decisions he made with the houses he built, and if there was not a positive cost/benefit with one choice, the decision made was the choice that gave him the most positive cost/benefit. If this meant lesser quality or lesser quantity, then that is how it went. It was also evident that time is money. The longer a project is in the process of being built, the longer he has investment in that project and the lower the return was in perspective to time. A home that was able to be built in 3 months was more valuable than a similar home that was able to be built in 6 months.

Over the year-long project and the discussions had with Ramsay, the solution for the design process was becoming more and more clear. When we spoke about his passion on the Akron Plan Church, he would mention these spaces that were apparent in all of these styles of churches. That led me to breaking down the house in a similar spacial analysis, and I came to a conclusion that no matter the house, there are certain spaces that exist in some capacity in every home today. When reading Hayden, D (1982) it was shown that our standard for housing today was not always the standard though. So it is important to make the distinction that this project is dealing with the present.

Case Studies

Lustron Homes
I studied Lustron homes as it was a perspective solution to the housing crisis after WWII. However Lustron failed after only about 2,000 homes were built. There is not a lot of information as to why Lustron and their attempts failed, but I believe it was because they strayed too far from the wood stud building methods. Going with an all steel house changed the construction too much which made it hard for people to adapt.

Takeaway
Upon studying Lustron homes, I found that they offered several floor plan layouts, but none of them were very distinguishable from the last. Having this sort of solution to a accelerating housing market was not the way I wanted this project to go. I wanted the homes from my process to be unique from each other.

Prefabrication, especially with a “foreign” materiel, was another aspect I knew needed to be avoided. Keeping the status quo on how my homes were built was an important piece to this project to avoid a substantial amount of change.

Figure 2: Lustron Home - https://www.heraldstandard.com/news/features/lustron-home-is-unique-architectural-gem/article_a2231f31-9584-5c9a-a010-d39669beca42.html

Levittown
Levittown was one of the first tract house neighborhoods, located in New York. This company bought a bunch of land and then developed it for single family housing. They built on the land like an assembly line, and built more than 140,000. 70 times more than Lustron. These homes were the epicenter of tract housing.

These homes succeeded because they were made affordable, they could be put up at astonishing rates, but I also believe because it was easier to find people to build them as they kept with traditional building methods.

Takeaway
Levittown was closer to my goal than Lustron was, but still came at the price of monotony. It proved that in the process of building it was important to keep the methods contractors knew. The high success rate of the houses in Levittown showed that this project has an opportunity to succeed based on the similarities it has to Levittown.

Figure 3: Levittown - https://www.thoughtco.com/levittown-long-island-1435787

Design Process and Solution

Process Documentation

The end result of this project was a cumulation and distillation of the various rooms within a house that could be standardized and pre-designed.

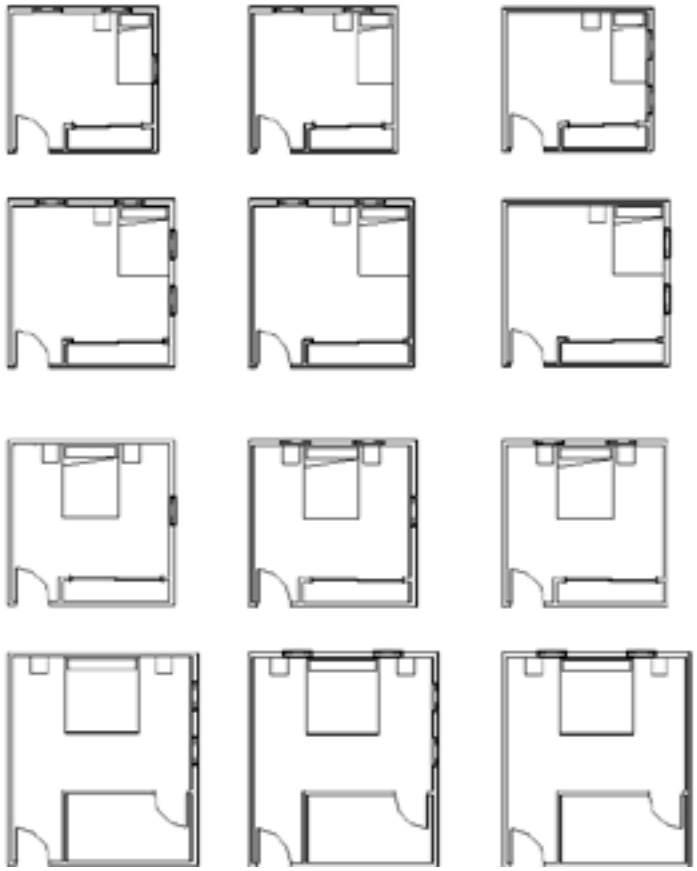

Figure 4: Bedrooms

This picture shows a more refined setup, where before I had many more bedrooms. In the process of designing these spaces, it occurred to me that many of the options I was giving would be obtainable with simple manipulations like rotating or mirroring a previous design.

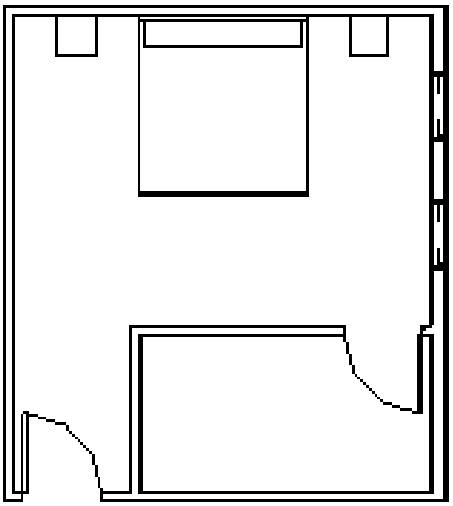

Figure 5: King Bedroom with windows on Side Wall

Part of the refinement process was to add windows and doors in standardized and specific locations based on the size of the room. With this step, it was easy to specify wall type (interior vs. exterior) and incorporate those walls where known types would be. For instance, a wall with a window is absolutely an exterior wall, and the closet walls are absolutely interior walls.

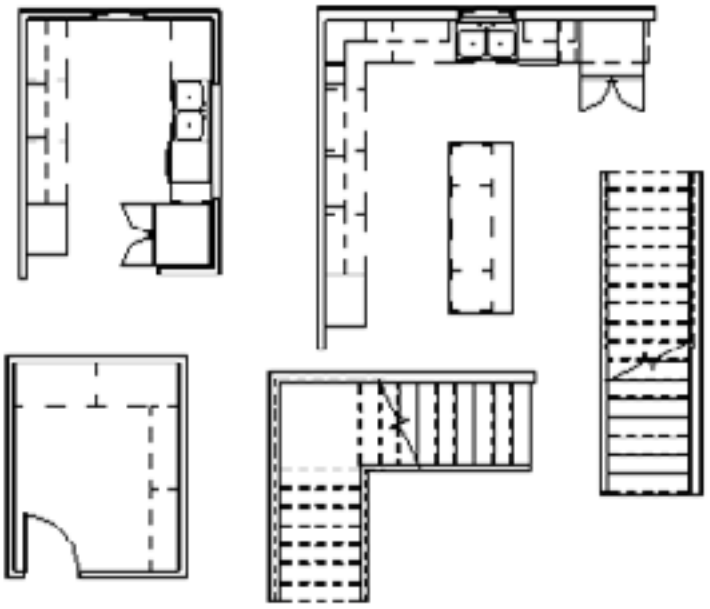

Figure 6: Public Areas

The next step was to design the more public spaces of a house. This included the kitchens, stairs, and a pantry. The decision to add a pantry came from the realization that the kitchen on the left was rather dismal on storage, and those interested in a kitchen that promotes more entertainment, like the one on the right, would likely require the storage needed for small kitchen appliances like crockpots. It was important to have two distinct styles of kitchens. The smaller, cheaper, more efficient kitchen and the larger, open kitchen. The idea to have these two styles derived from conversations with Ramsay who protests against the open concept house claiming that no one wants to smell the fish you are cooking. Upon further deliberation, it seemed like the kitchen was a good buffer between spaces that were public and spaces that were private. Those who prefer their privacy would likely enjoy a kitchen that was more secluded from the other public spaces.

The stairs were also something that needed little refinement. The straight stairs are the most common and affordable, but the addition of the L stair allowed for more space saving and the opportunity for a more a decorative design.

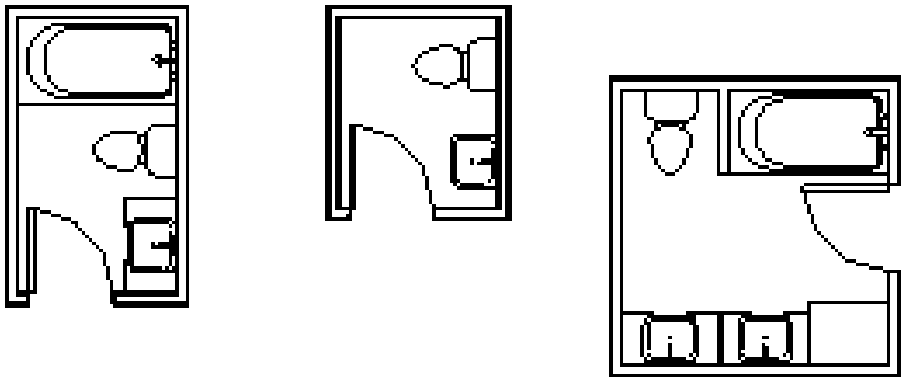

Figure 7: Bathrooms

Simplicity was key in this project, as evident from designing the kitchens, so the bathrooms went through one iteration. I knew there only needed to be the three most common bathrooms in a house, a full bathroom for secondary bedrooms (guest or child's room), a half bathroom for common areas, and a private master bathroom with a double sink. These three fulfill the necessity of bathrooms in a house in any combination or number.

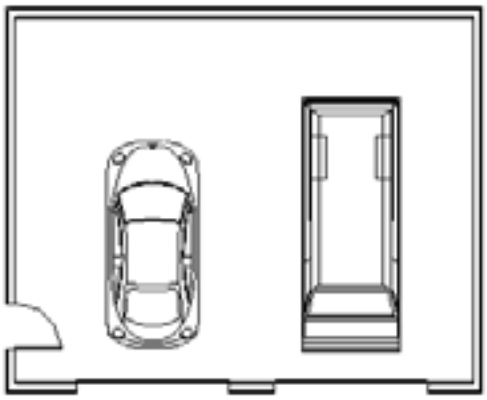

Figure 8: 2-Stall Garage

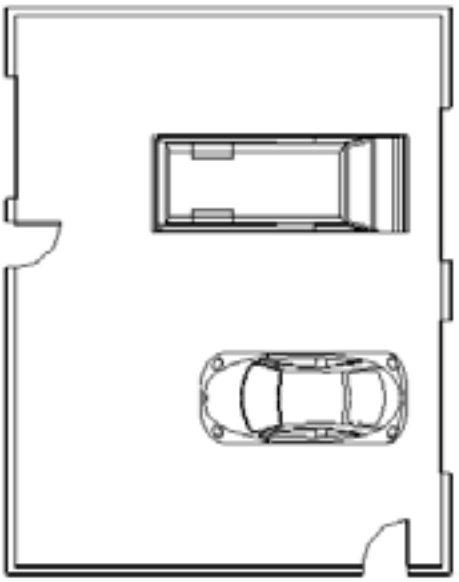

Figure 9: Oversized 2-Stall Garage

The garages went through two iterations and I ended up keeping both. Most houses today accommodate a standard 2-stall garage, but some accommodate a 3-stall garage. With this in mind I started with a standard 2-stall garage and noticed a lack of space for storage. This led to the second iteration of the oversized 2-stall garage to accommodate these storage needs. The oversized garage also includes a third overhead door to allow a pass-through design for larger mowers, and the opportunity to use the garage similar to how a shed would be used.

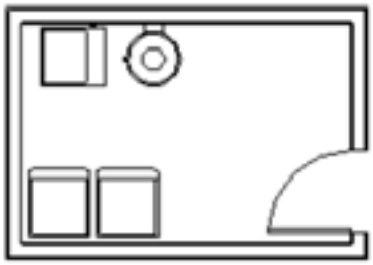

Figure 10: Laundry/Utility Room

The last piece of the puzzle was the laundry and utility room. Loosely based on the size and layout of a laundry and utility room I once had in a house, this design provides enough room for all of the appliances and a bit extra for storage. A generous amount of space without going too large for an area that is visited relatively infrequently.

Figure 11: House 1 Front Elevation

Figure 12: House 1 Level 1 Plan

Figure 13: House 1 Level 2 Plan

This is the first house produced with this design process. With relative success, this house shows how the process has potential in the fundamentals of designing a house. This also displays the rooms that were previously left out of the design process, the living room and dining room. These areas were intentionally left out because based on my observation, these rooms often were defined by the exterior walls of the house. It was always the intention to leave these rooms sort of ambiguous, because these rooms do not have a definitive thing about them. A kitchen needs cabinets and appliances, a bathroom needs a toilet, a sink, and maybe a shower, a bedroom needs a bed and a closet... But a dining room and a living room are more fluid in their needs as well as their abilities.

Figure 14: House 2 Front Elevation

Figure 16: House 2 with Addition Front Elevation

Figure 15: House 2 Level 2 Plan

Figure 17: House 2 with Addition Level 1 & 2 Plan

In a few conversations with other faculty, it was brought to my attention that there was another large issue with single family residential today. The lack of ability to be adapted to new needs of the current owner. This led to the design of the second house. Careful planning allowed the addition of a second floor without giving up too much of the existing space for a staircase. This proves that this process is not only feasible for the initial design, but any subsequent design needs as well.

The conclusion to this project is not quite as simple as the project seems. In a day, one can design enough homes for a block, but it requires a little more thought behind the placement of the rooms than I originally thought. Until I got into playing around with the process, I thought everything would be more intuitive. The idea was to create a process of design that would make it easy for anyone to design a house. I think in that sense, this project failed. This process as it sits would make design easier and faster if one knows the basics of designing a house. Things like where people are, what they do there, how they get there... These things, naturally, are intuitive for an architect. It is what we do. But for just anyone to use this process, does not work.

There was a lot of development spent with the rooms that were to be standardized, but there is a lot of development left to be had with those and other rooms. Many hours were spent on the bedrooms specifically. The bedrooms were the first things I started designing. When I started the bedrooms, the thought that the more options, the less someone would have to do later. There are four sizes of bedrooms, and three options for window placement. This was down from at least double that, and in hindsight there should be half that or less. Less in this project is more, and I was realizing that as I went on. Having too many standardized spaces begins to lose efficacy in the goals of this project.

Performance Analysis

Response to Context
This project did well in the response to the context of the project, with a few minor flaws as mentioned before. The context was single family residential, and it certainly meets the criteria for that, however, the context also included those who are designing these homes, and this is where I feel like this project fell short. Under the pretense that developers would utilize this design process, it is too assumed that they are knowledgeable enough to design a home adequately. It is possible for procedures to be put in place where the design of a home is checked by someone more knowledgeable and therefore passed or failed. It is also possible to write a set of guidelines, as a sort of go/no-go gauge.

Response to Typological or Precedent Research
As far as this performance analytic point goes, this project was very successful. It was designed with the precedent studies in mind every step of the way. I set out to keep certain aspects, avoid certain aspects, and add new aspects to the end result of the design, and have proven that there is plausibility for this design process to be successful on a large scale.

Response to Goals and Project Emphasis
Again this project succeeds the goals I set out for on most accounts, and the emphasis was to be able to easily design a house that was unique to its neighbor which I have accomplished. As stated before, there are parts of the process that are flawed, but that is to be expected. This process was also designed in a way that it could be adapted to any location, any time-frame, and any architectural style. This was above and beyond the initial goal, but upon the realization of this possibility, I ensured the rest of the process would be able to follow it.

Critique of Applied Research Methods
The applied research methods used in this project were similar to the scientific theory model. There was a lot of testing and playing around with the spaces to come up with a comprehensive kit of parts to assemble a house with this particular design process. I added and subtracted spaces as I saw necessary for the project to be whole, and tested the new kit against my goals. With every test came a new sight, and with every new sight came a new test. This process is not finished, and may well never be finished, but it is certainly a step in the right direction.

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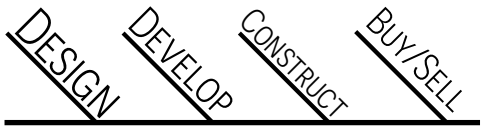
BREAKING the HABIT

Tract housing is an efficient and effective way for contractors to build homes. But it lacks an identity for the homeowner.

Starting in the 1940's after WWII, tract housing took grip of the residential industry and never let go.

Initiatives from manufacturing companies tried to incorporate ready-to-assemble homes like Lustron Homes.

With roughly 2,000 homes sold in the country, it was a relative failure.



Tract house process

Developers are the biggest offenders of the tract house monotony.

The homeowner comes into play too late (Buy/Sell) but that is a constant we cannot change without redesigning the market.

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the construction phase is not able to change substantially, developers and contractors are looking for efficient and effective.

SO LET'S CHANGE THE DESIGN PROCESS.

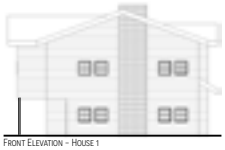
Pre-Designed Floorplans → Easy-to-Design Floorplans

The design process needs to consider the efficiency and effectiveness of tract housing construction while incorporating an identity for the house

With pre-determined spaces that makeup a house, this becomes possible.

Designing homes with separate identities, and floorplans that work, is quick and easy with a template that is designed for home design.

If carefully considered, expansion is possible and encouraged. This would incorporate a degree of sustainability that is also lost in tract housing.



Front Elevation - House 1

Floorplan - House 1 Level 1 & 2

Front Elevation - House 2

Front Elevation - House 2 Addition

Digital copy of presentation boards

Front Elevation - House 3

Front Elevation - House 3

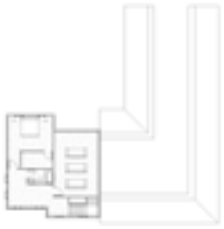
Front Elevation - House 3

Front Elevation - House 4

Front Elevation - House 4

Front Elevation - House 5

Front Elevation - House 5



Front Elevation - House 5

Front Elevation - House 5 Addition

Front Elevation - House 5 Addition

Front Elevation - House 5 Addition

BREAK the HABIT

Digital copy of presentation slides

BREAKING the HABIT

A proposal to end the monotony of tract housing

Designed by
Andrew Wangler

Tract housing: How and Why

High demand for housing post WWII

Efficient and effective way to build homes

Lustron Homes

Pre-fabricated metal homes

~2,000 built

Unsuccessful

Tract housing

Assembly line building

Time and cost reduction

Tract housing

DESIGN DEVELOP CONSTRUCT BUY/SELL

Tract house process

Proposal

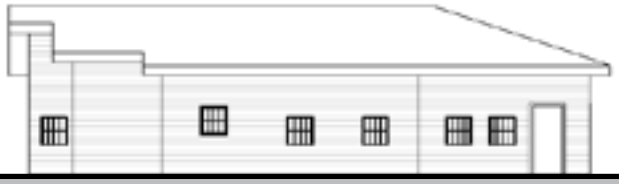
Simple design process

Revit templates

Model groups

House 1 – Front Elevation

House 1 – Level 1 & 2 Floor plans



House 2 – Front Elevation

House 2 Addition – Front Elevation

House 2 – Level 1 Floor Plan

House 2 Addition – Level 1 & 2 Floor plans

House 3 – Front Elevation

House 3 – Level 1 & 2 Floor plans

House 4 – Front Elevation

House 4 – Level 1 Floor plan

House 5 – Front Elevation

House 5 Addition – Front Elevation

House 5 – Level 1 & 2 Floor Plans

House 5 Addition – Level 1 & 2 Floor plans

THANK YOU!

BREAK
the
HABIT

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Presentation Script

A house is defined as “a building for human habitation, especially one that is lived in by a family or small group of people.”

A home is defined as “the place where one lives permanently, especially as a member of a family or household.”

A house is a building for habitation. A home is a place where one lives. These definitions fundamentally mean the same thing, but the focus of the house is on the building while the focus of the home is on the person.

Tract housing is defined as “a type of housing development featuring houses that are all of a similar appearance or design.”

Tract housing has taken a grip of the residential industry which has caused a lack of identity in neighborhoods around the country. Many new homeowners have limited options for buying a house. Custom homes are often too expensive for the middle class, older houses can be intimidating with the amount of updating needed, and finding the perfect home is hard enough. This is where tract housing thrives. They introduce an option for the middle class that is move-in ready and affordable. The problem is that each house looks like the last, and I find it hard to believe that is the true American Dream.

So, how did we get here?

After WWII, upon the return of the soldiers, the residential market was in grave need of expansion. Families were being created and with resources being used for the war, growth slowed during that time. Developers and contractors alike were searching for a solution to build thousands of homes in cities all across the country in a time efficient cost-effective way.

This led to many solutions, one of which was the Lustron Home, a prefabricated house made by a manufacturing company that dealt with steel during the war. In their expertise, these houses were made almost entirely out of anodized steel in the factory and shipped on-site ready to be assembled. The homeowner was liable for the concrete, electrical, and plumbing, and the house came with an instruction manual for assembly. With around 2,000 units sold across the country, the Lustron Home was unsuccessful. I believe the failure came from the fact that the building process was too different from the traditional wood stud methods. Learning new ways to do things is not appealing when time is not on your side, and many contractors are against changing their methods because it would require new training on how to do a job that is not inherently broken.

Henry Ford is known for revolutionizing the process in which cars are made, and many industries followed suit. Most of the consumer goods we have today are made on an assembly line, and houses are no exception. Developers buy lots next to each other, often on a massive scale. They choose a few floor plans, make a few changes to window placement, garage size, and roof lines, or in this case, none at all. The contractors can then go from lot to lot and perform their jobs over and over. The lack of difference makes their job easier from ordering materials to erecting the house. The houses are also likely to come from a group of pre-designed plans that the developers can copy and paste into the lots. This reduces any cost needed for a designer to plan a home for each lot, and the time needed for this is next to none.

To recap, homeowners need a home that they will take a 30-year loan out for, and developers and contractors want to spend as little of time as possible on the house. In the end, the homeowners end up with a house that is essentially identical to their neighbor's. A hard way to make a house a home.

A good example of this was when I was staying in a friend's house in Bismarck for a summer, I had a hard time finding his house. Eventually I started taking in environmental cues, and knew his neighbor had a basketball hoop in their driveway. When I told him "if your neighbors ever take down their basketball hoop, I would drive by your house every time" he responded "the fire hydrants are good too, mine is the 3rd hydrant on the block."…… The qualitative measure of his house in his mind was the quantitative measure of the infrastructure outside of his house. This is where the idea for this project came to fruition. This was a problem for me as an up-and-coming architect.

Before I get into my proposal, there are a few things that will be helpful clarifying. This project is not a design of a neighborhood, it is not a method of construction, it's simply a way in which we can design. The focus is on the beginning of the tract house process. The target group of people for this project is developers, not homeowners.

Another clarification I would like to make is that the homeowner in tract housing has no input in the design, development, or construction. When the homeowner has input, we get into custom/semi-custom homes. As established before, these types of homes are out of reach for the middle class. My previous degree in Industrial Technology has taught me to think about processes in ways many do not. I dissect processes into their core components and figure out where bottlenecks are. Industrial technology has taught me how to think to improve these processes, but architecture has taught me how to think about the process of life, and how certain things make life better for us all. With these two truly unique mindsets, the result is usually practical and effective.

The idea is that by making the design process simple and easy, developers will take a more engaged role in it, or at least will consider hiring someone to do the design at a lesser cost than it would be otherwise. This is simply turning a pre-designed floor plan into an easy-to-design floor plan. With that in mind, simplicity is key.

Revit is a very powerful tool for architects, many of the projects that come through this school have utilized Revit in some capacity. When properly set up with a template, Revit can make any project significantly faster to produce, among other benefits that we will touch on later.

Here you see a set of model groups I have made containing the main rooms in a home. These rooms are what you will see in all of the following home designs. On the left we have bedrooms with options of size and window placement. On top in the middle, we have two kitchen designs, one more secluded and one that promotes an open layout. Below that we have a pantry on the left and two designs of stairs. Next we have a few garages, a standard 2-stall below and an oversized 2-stall on the top right. On the bottom is an auxiliary room for a more flexible space, shown in this project as a home theater. To the right there are 3 styles of bathrooms, a master bathroom, a standard full bathroom, and a half bathroom. Last, we have the laundry and utility room.

There are a lot of rooms missing here, like closets, living room, dining room… but these rooms, as you will see, sort themselves out in the design process. Closets fill in spaces, and the living room and dining room are formed while closing the house.

Simply by dragging and dropping the rooms into the design space you can start to organize a house under the guidelines of the development. For the sake of this project, my guidelines were

wide shallow lots to allow alley access, and the main yard would be on the side. I went with these guidelines to eliminate the unsightly garages from the curb, instead we get unique and interesting elevations.

It is important to know that material choices and finishes were not included in this project because I want to emphasize that those choices are free for the developers to make. I want the focus to be on the front elevations and the floor plans, not on materials.

In this house, starting on level 1, I used an oversized garage, a half bathroom, I placed the laundry and utility room, a pantry, an open kitchen and L-shaped stairs. The dining room and living room are then created with a space from closing off the house. The addition of the chimney adds depth to the house, making it more appealing from the curb.

On level 2, there is an auxiliary room, a full bathroom, two guest bedrooms, a master bedroom with a master bathroom, and an upper-level foyer created by matching the floor lines together. The space on the bottom right is open to level 1, shown by a lack of texture.

A few other noteworthy design choices are standardized window and door sizes. This is for the ease of ordering and installing. When a contractor sees a door, they know just how to frame it, and the same with the windows. I will talk about standardizing the spaces a little later.

Another prevalent issue with tract housing today is the lack of adaptability. When you outgrow a home, the solution is to buy a different house. On my trip abroad, we saw a lot of adaptive reuse of old buildings, and the going phrase was “the most sustainable building is a building that already exists.” While the house one is going to buy probably already exists, the fact is that sustainability within the housing market has dropped significantly with the inability to add-on for your needs. With this house, I have shown that adding on with the pre-designed spaces is not only easy in the design process, but highly feasible. And, if I may say so myself, adds a new dimension of interest to the front elevation.

There is a level of understanding required to design homes regardless of how simple the process is. There are groupings of spaces that make more sense to be next to one another, like the more public spaces in a home such as the living room, dining room, and kitchen. Much to Ron’s dismay, the open concept house is still desired over a more separated house. Regardless of the concept of the house, you wouldn’t want to have a bathroom next to the dining room, or a bedroom next to the kitchen. In this design, I have separated it into 3 main spaces. The top half of level 1 is storage and utility, the bottom half is what I will call public spaces. Spaces in which guests will use when the homeowner is hosting. Level 2 is used for the spaces a guest does not necessarily need to go. These are the more private spaces. Aside from privacy, safety and noise were also considerations.

Not every house will come out perfect with this design process, but it’s just as important to show mistakes as it is to show an ideal layout. As I just said, safety and noise are important things to consider when designing a home. In this layout, there is a bedroom at the front of the house. This is not ideal because of the noise from the street, furthermore it being on level 1 is less ideal because it raises safety concerns. An otherwise good layout can turn bad by the simplest of mistakes.

There is good news though! This design process allows mistakes like this to be addressed easily. Each room is a model group in Revit, so it is as simple as selecting the room and moving it around to right the wrong. Late in the process, it is required to ungroup the rooms so catching it early is better, but not a huge deal either way.

The goal of this project was to create a process of design that is quick and easy, with efficiency and effectiveness in mind. Standardizing the rooms will make it easier for the contractor to build in a tract-like manner, and it will make the ordering of materials less cumbersome. When windows and doors are the same size, the only differences for the doors are swings and materials, and the only differences for windows are operation and materials. The rooms will be able to be framed alike, the amount of finishing material needed for each room will be the same, and installation of the finishes will also be the same. Keeping those aspects of tract housing, along with keeping the methods of construction the same, will appeal to contractors. Adaptability will increase sustainability, and the ease of design will make the developers happy. But most importantly, each house can be different giving the homeowners a sense of identity.

Just like anything else, the more you practice the better you get. Adding depth to the front of the house, placing rooms in proper spots, and carefully planning the initial design to accommodate an addition are all things that will make a house a home.

Thank you for your time, and please… help break the habit.

Appendix

Reference List

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Previous Studio Experience

2nd Year	Fall: 2019 - Ron Ramsay 1. Land Artist Studio 2. Minneapolis Boat House	Spring: 2020 - Emily Gau 1. Single Family - Marfa House 2. Multi-use Rape and Crisis Center
3rd Year	Fall: 2020 - Nilofar Alenjery 1. HOME - Contemporary Architecture 2. Halfway House	Spring: 2021 - Paul Gleye 1. Cultural Center 2. Greenway Pavilion
4th Year	Fall: 2021 - Cindy Urness 1. Multi-use High-rise	Spring: 2022 - Paul Gleye 1. City of Moorhead Downtown Masterplan