

Hello and welcome!

Thank you

My name is Andrew Wangler and this is "Breaking the Habit"

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 floorplans, make a few changes to window placement, garage size, and rooflines, 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 floorplan into an easy-to-design floorplan. 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 floorplans, 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.