

King of the Hill Warden

(Alfie Brookes)



Contents

- High Level Overview** 3
 - Level Goals 3
 - Main Objectives: 3
 - Secondary Objectives: 3
 - Design Considerations 4
 - Research 6
 - Map Design 8
 - Character Experience 10
 - Points of Interest 11
 - Balance 12
- Aesthetics** 13
 - Theme and Visuals 13
 - Navigational Affordance 15



High Level Overview

For this project the goal was to create a multiplayer king of the hill map for Team fortress 2 using the Hammer level editor.

Level Goals

Main Objectives:

- 3-Lane System which leads to the objective for the players to attack from.
- Symmetrical map that is both fair and identical on each team's side of the map.
- Allowing Player choice in what path they take to the objective by having branching paths form each lane to connect them together.

Secondary Objectives:

- Soft covers are used to provide sightlines without removing covers.
- Accommodation for classes, such as sniper nests and flank routes for spies and scouts.
- Pickup size and placements to provide supplies to players attacking or defending the objective.



Design Considerations

The Main Concerns That Affect the Level Design of Team Fortress 2 Maps:

- Five Ws
- Multiple Perspectives
- Class Types
- Ranges
- Scale

The Five Ws provides a framework for considering how different segments of the level will function in Team Fortress 2.

- Who will use this part of the level? Which class is most effective in this area?
- What will happen in this section?
- Where should this area be placed within the level? Should it be near spawn or in the center?
- When will this segment be most utilized?
- Why would a player use this part of the level? Is it for flanking, ambushing, or another tactic?

The Multiple Perspectives for each part of the level can be viewed from multiple angles, and not all those perspectives are equally advantageous. For example, some areas like spawn rooms are easier to defend, while others like sniper nests may be more vulnerable to attacks from behind. It's important to consider who will benefit from each perspective and where the advantages should be distributed to maintain balance in gameplay.

The 9 Class Types of Team Fortress 2 each have specific abilities and weapons. These class specifications must be considered when designing the level, as different classes excel in different areas. For example, the Engineer excels in area denial, while the Heavy is strong on the front lines. The map design should account for these differences, ensuring that no class can dominate the level or exploit its features unfairly.

The Range of each class in Team Fortress 2 needs to be considered because they all have different effective weapon ranges, so map sections need to accommodate this diversity. It's crucial to prevent there being too many long open areas without cover, as these would favor long-range classes. Similarly, close-quarters areas should have multiple pathways to prevent camping and ensure that short-range classes (like the Spy or Scout) have ways to move around and engage effectively.



Team Fortress 2 uses a unique scaling system based on Hammer Units, where 1 Hammer Unit = 1.905 cm (0.75 inches). This scaling system is a cause for concern for 2 reasons:

1. Unconventional Measurement: The Hammer Unit doesn't easily translate to either the metric or imperial systems, making it difficult to scale objects accurately from real-life references.
2. Character Movement and Size: Each class in Team Fortress 2 has a different height and camera view, so it's important to design doorways and corridors with enough space for all classes to pass comfortably. The recommended minimum width and height for doorways and corridors is 128 Hammer Units to allow sufficient space for all classes to move without obstruction. If scaled incorrectly, certain classes might get stuck or will struggle to navigate the level.

Model	Height	Width / Depth
Player (standing)	83	49
Player (ducking)	63	49
Sentry gun (level 3)	87	49
Dispenser	83	49
Teleporter	95	57
Minimum	95	57

Class	Viewheight
Scout	65
Soldier	68
Pyro	68
Demoman	68
Heavy	75
Engineer	68
Medic	75
Sniper	75
Spy	75



Research

From examining different multiplayer maps and Team Fortress 2 King of the Hill maps, there are 2 similarities seen in all map designs, which are a 3-Lane Design and Long/Close range areas.

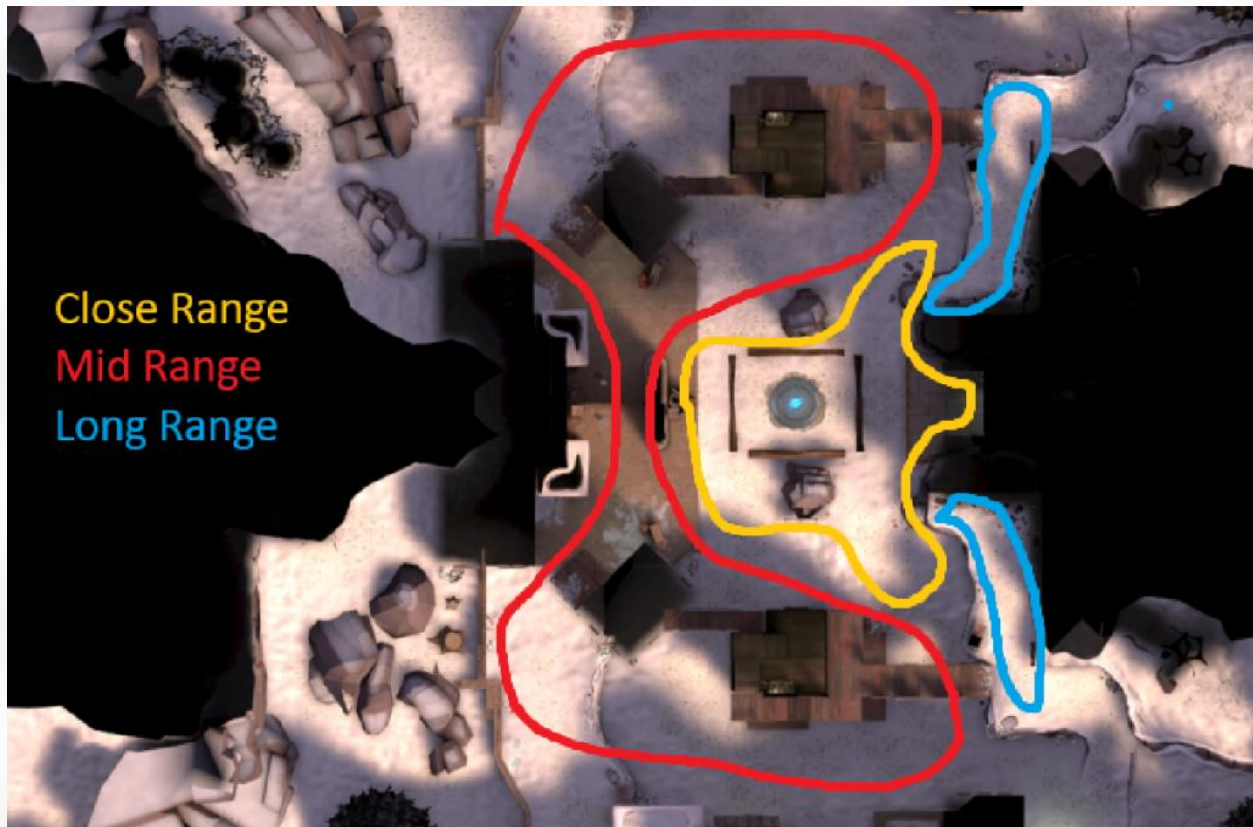


The 3-lane design is that the layout of a multiplayer map is that the player is funneled into 3 lanes, the left, middle and right lane that ends at the main objective, with the middle lane being the main path of attack and the left/right lanes being alternative routes to allow clever tactics. From a gameplay perspective the attacking player has the option to go down the main middle lane of attack for easy access to the objective or the option for either the left or right lane to allow a different angle of attack or to flank the enemy or either snipe, and from a defending player they only have to worry about the attacking player only attacking from 3 directions which is generally in front of them. From a design perspective this allows symmetrical design as either team could be attacking or defending the center of the map, so the access lanes can be identical from either side since the opposite team has no reason to push towards the enemy spawn, only to capture the center of the map.



Long/Close range areas are important to every map in TF2 because the game is a class-based game and most of those classes lack long range abilities and are focused around close to mid-range combat apart from the Sniper which focuses solely on Long, which is a massive issue. The reason why is due to his skill ceiling as a good Sniper can easily dominate the entire enemy team and the maps need to be designed against this as a map with clear open views will be very Sniper heavy because all the other classes will be useless because they cannot out range a sniper, which is why a majority of maps have special sniper areas which only affect 1 lane and/or the objective so that the players know to be aware of those areas and to give other classes a chance because the rest of the map will revolve around close to mid-range areas.

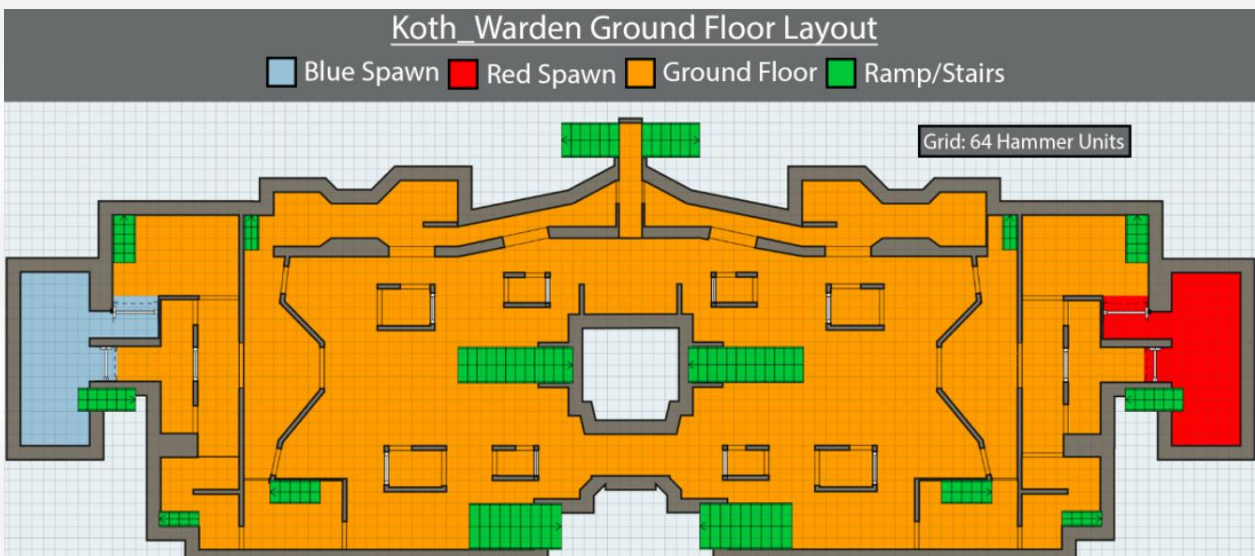
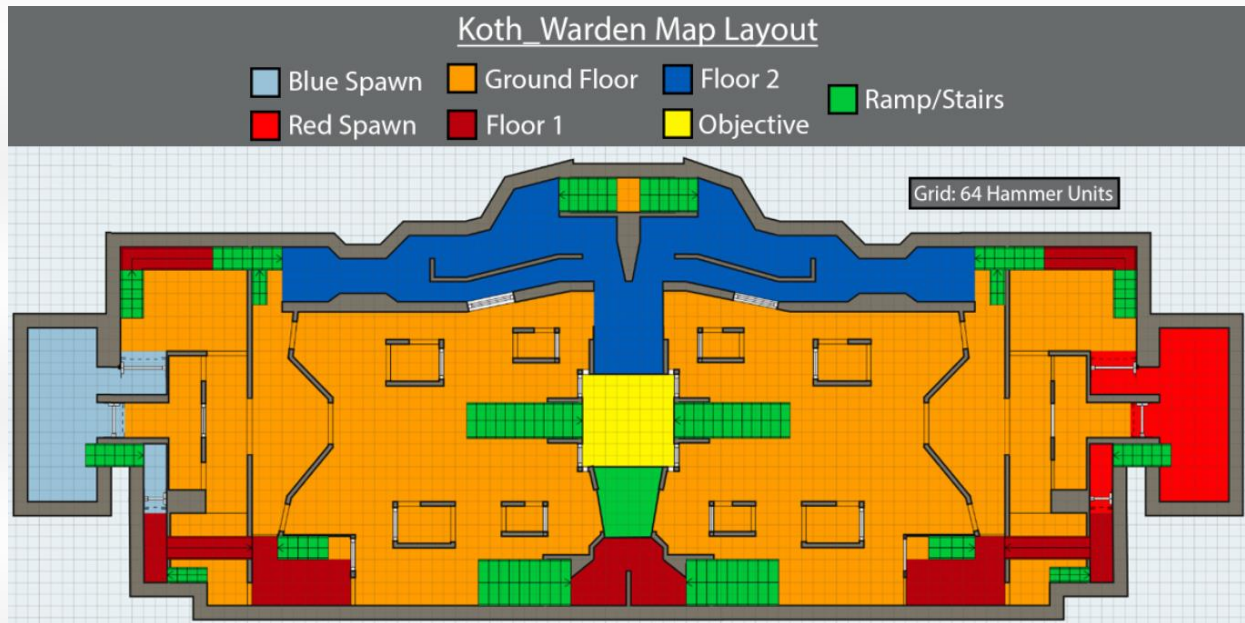
An example of this would be the TF2 map Viaduct which features the 3-lane design and the Long/close Range areas. With the 3 lanes being a easy access fork middle lane and the left lane leading to a sheltered area facing the objective which is opposing the right lane which is a Long range area that is a raised ledge which looms just outside of the centre of the map which grants Snipers view of only the objective and the enemies opposing lane, which protects the middle lane from sniping so that the defenders only have to worry about being sniped from 1 ledge, the middle lane which devolves into close range combat and the mid-range left lane.





Map Design

For the Map itself, it features the 3-lane system leading to the objective which itself is on a raised platform, 2 floors from the ground. The reason why is to create 3 specific areas of conflict on the map on each lane that focuses near the objective, with each being unique with each lane due to the amount of cover, elevation and distance it is from the objective.

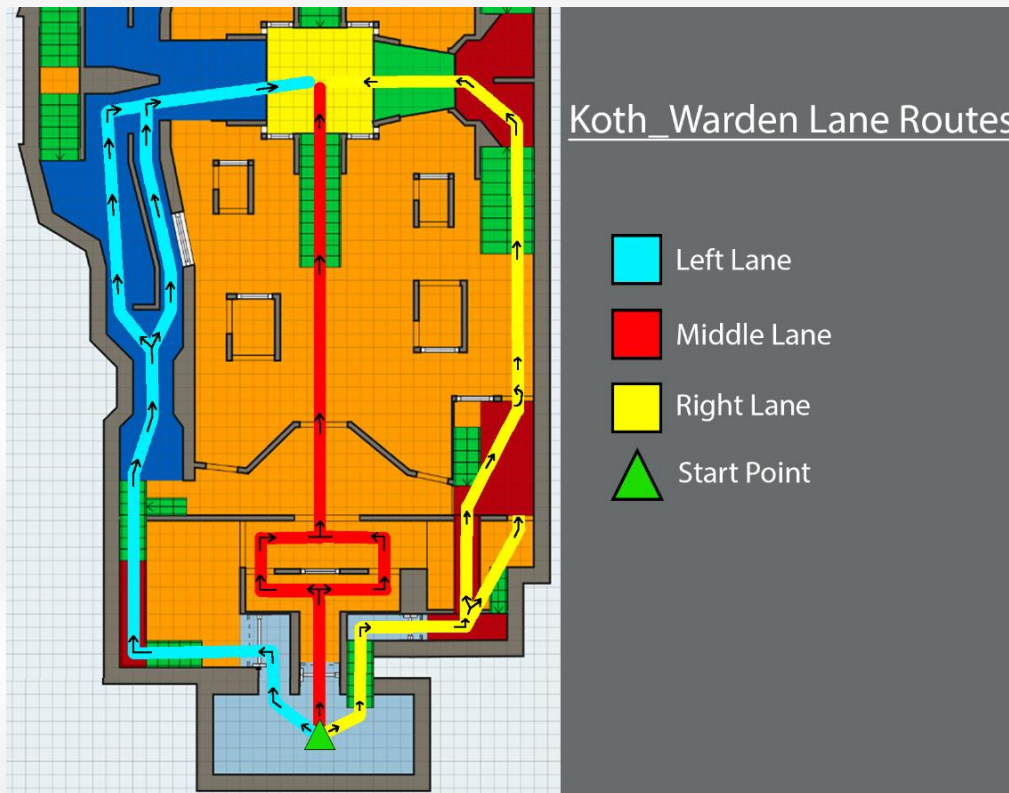


For the Left Lane, it is the longest of the lanes but is on the same elevation to the objective as well as providing cover for mid-range combat with the objective. The reason why the lane is on level with the objective is to provide an even playing field for the attackers to get to the objective, as it removes the high ground advantage to the defenders.



The Middle Lane is the shortest way to the objective with it being a relative straight line to the objective but is the most dangerous route to the objective as it has no cover directly in the lane and is on the low ground to the objective. The reason for this design choice is because the middle lane is a high-risk high reward, as it is the shortest route to the objective, but it is the easiest to defend against from the objective its incentives a more strategic assault on the objective to be taken place in another lane, promoting other lane usage.

For the Right Lane there is a middle ground between the left and middle lane as it is a faster route compared to the left lane and provides more cover compared to the middle lane but still has the low ground disadvantage. The reason for this middle ground is to provide choice to the Player for how they attack the objective that also accommodate for how the enemy defends the objective, with a long-left lane for mid-range, the dangerous middle lane for quick assaults and the defensible Right Lane for a closer fight with the objective.





Character Experience

With each class being vastly different from each other, they all need to consider the design of the map to either accommodate and/or hinder them.

As Pyros and Snipers can easily dominate in close/long range areas due to their high damage, so the map needs to prevent them from dominating by opening close range areas to prevent pyros from dominating and hindering the sightlines for snipers so that they don't dominate over too much of the map.

For accommodating classes, the objective has corners for medics to use against assaults. There are sections of the map perfect for engineers to set up defenses to prevent flankers. The middle lane also accommodates spies and scouts by its easy access to other lanes as well as the lane accommodating for heavies as the objective staircase acts as a funnel to the objective which the heavies can prosper because of their range and dps, which is why the middle lane is the most dangerous.

There are also other areas of the map which do not accommodate but they still provide an advantage, such as the right lanes incline and building leading to the objective is best used for demos because of his bouncing projectiles, and soldier best used in attacking the objective on the left lane due to his range and AoE.

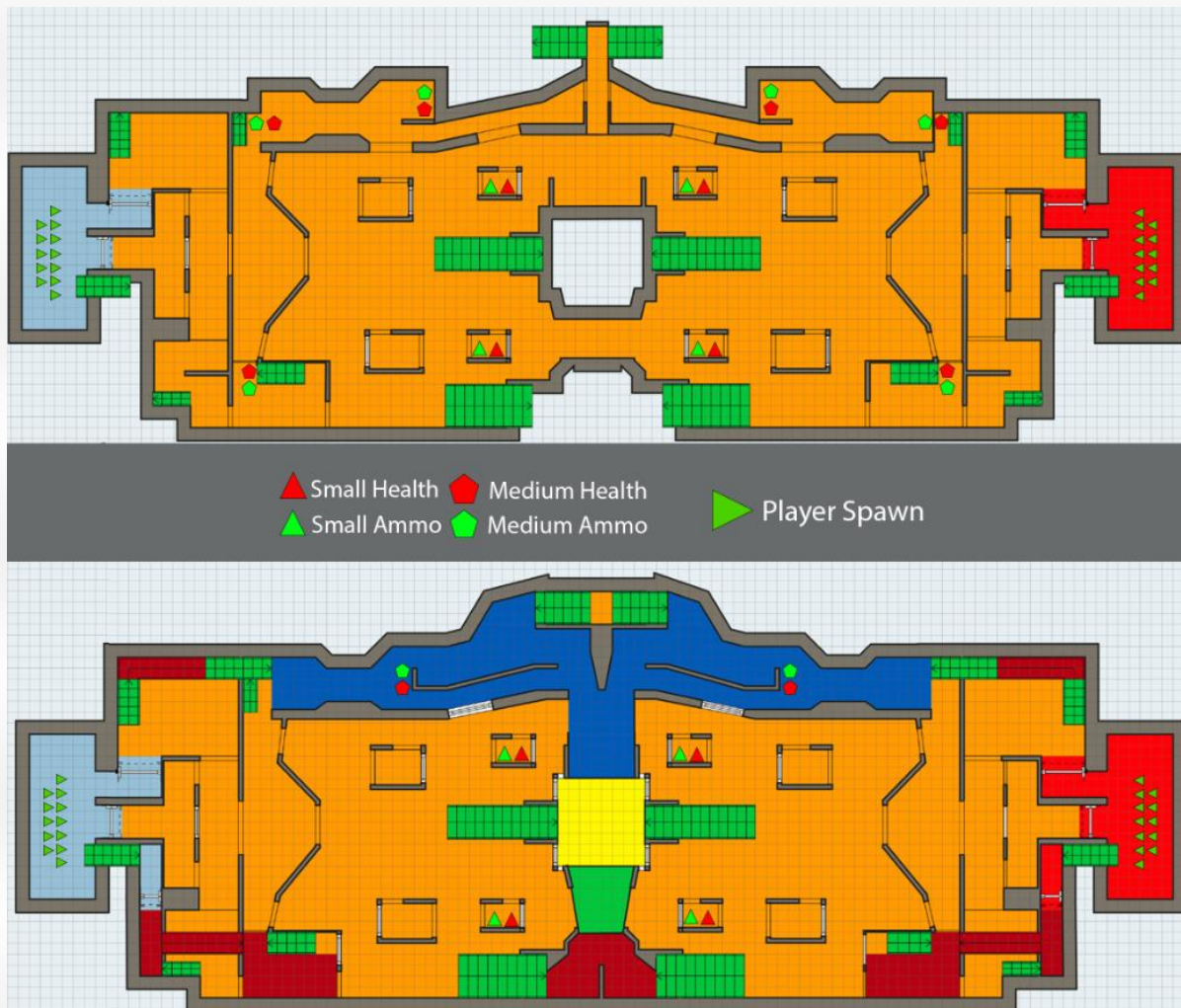




Points of Interest

It is important to consider the placement of the health and ammo supplies because if they are too close to the objective, player can easily camp the objective because they only have to go a short distance to get resupplied, but if they are too far away from the objective the players have to go waste time traveling to supplies rather than fighting. For the placement of the supplies, there are 6 small supplies surrounding the objective to supply the middle lane, flankers and objective, the reason why they are small is to not provide too much to prevent campers, but if the player still needs more they can pick up more supplies by walking around which does not affect balance because it leaves the objective open.

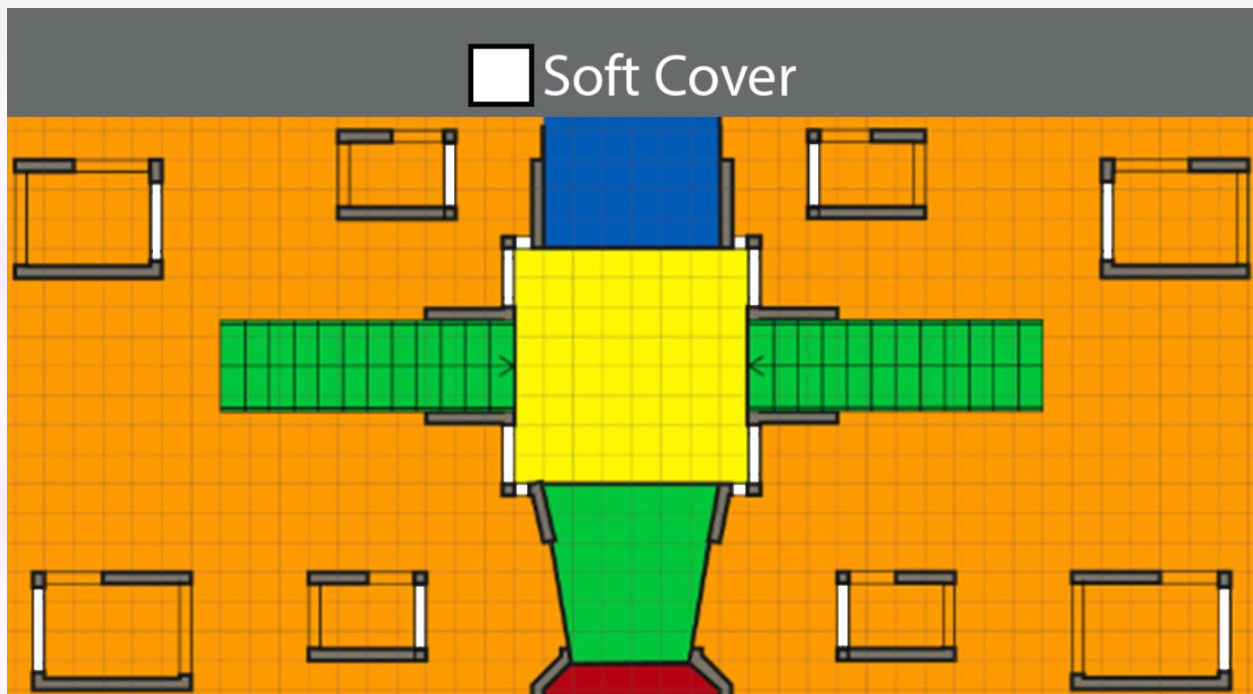
For the spawn points, they are positioned into 2 rows which peak at the center of the spawn room so that when the players spawn, they have a view of 2-3 exit doors so that they immediately know their options of where they could go and what lanes to use.





Balance

For balance considerations for the Map, not only is the map symmetrical for each team side of the map, but there are also lots of soft covers that are used to break up and/or to prevent ambushes. Soft cover is mainly used on the objective and ground floor houses, the reason for the objective is to prevent ambushes from corner campers without removing cover, as it allows player to see if anyone is in the corner while they are approaching the objective so that they don't get ambushed on the objective. For the ground floor houses, the soft cover allows the player to see if anyone is in/out the house to prevent ambushes while also providing a line of sight.





Aesthetics

Theme and Visuals

For the theme and style of my map I decided to go with a prison theme. Because from examining the other TF2 maps, I found that they all share a gloomy yet cartoonish colour scheme with little to no vibrant colour. This is because the majority of my TF2 maps take place within a desert, canyon or facility, with most of the maps being grey or brown from the dirt or stone with the buildings to match, as everything has a dull colour tone and this tone reminds me of prisons.

As Prisons in movies are usually depicted as dark, gloomy and cruel places and are usually set in the middle of nowhere, such as a desert, which aligns perfectly with the setting of TF2.

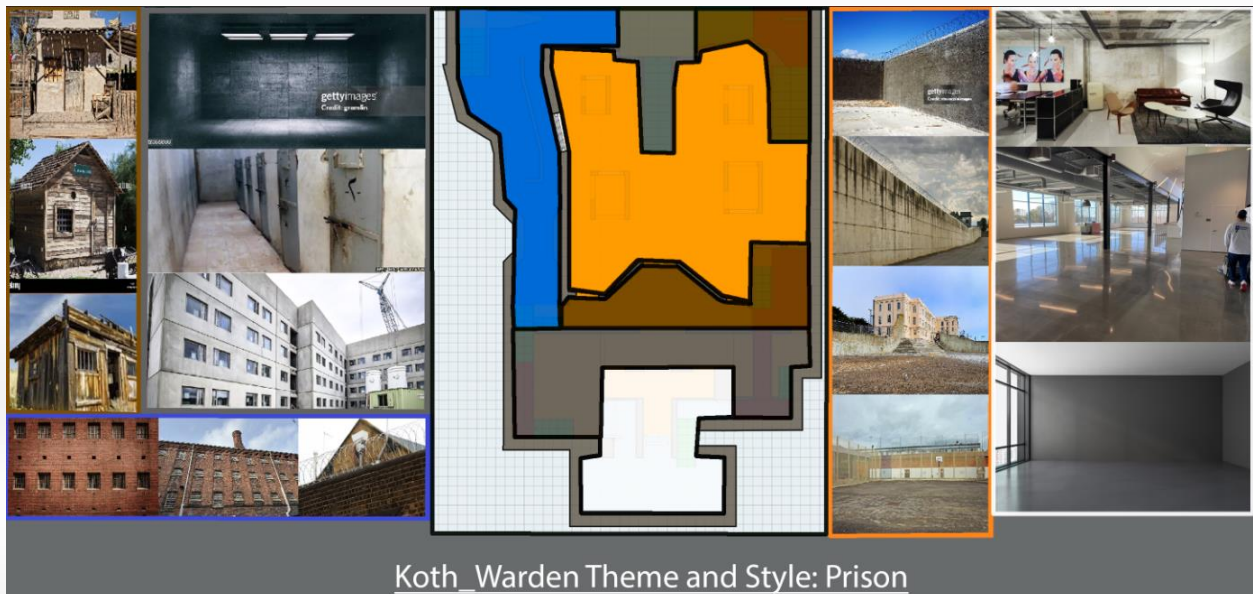
For the map itself, it can fit this theme by having each lane of the map to be divided into 1 section of the prison, such as the Left Lane being long row of jail cells because of the lane's length, the middle lane being a prison courtyard because of its openness and the right lane being a mix of the other lanes as it was originally designed.

As for the name of the Map, Prison is quite the common place name in custom user made maps, so to make the map more unique, it would be best to name the map of something prison related such as the main supervisor of a prison, Warden.





- The Left Lane transitions into some concrete, metal and brick hallway to represent the old prison inspiration for its gloomy look.
- The Middle Lane is separated into 2 different parts with the building and the courtyard. The building just before the open section of the ground floor is an old wooden building attached to the buffer and left lane. The Courtyard is inspired from the prison theme of resembling a sad prison courtyard, which is an open dirt section with the buildings been small shacks that color corresponds with their team's side of the map, so that the players know which side of the map they are on.
- The Right Lane heavily follows the right wall of the map; I textured it to follow a brick and wood esthetic of ram shackled buildings built against the prison's wall with the right lane objective being an old security post modified to be used for approach for the objective.
- The Spawn Room and Buffer consist of the room where the players spawn and the halls after they exit spawn. These areas are signified by their concrete appearance and their team color detailing in the spawn room, with the buffer being a duller version of the spawn room which blends into each lane.





Navigational Affordance

The Navigational and General Affordance in the level can be separated into subtle affordance and obvious affordance, for directing the player with signs or small touches to help the player figure out where they are:

Obvious Affordance:

- Objective Signs that point the player in the direction of the objective in their corresponding lane.
- Exit Signs pointing to where the exit is in the spawn for the Right and Left Door.
- The team side of the map is colour coded to match their team colour.
- Paint splats under health and ammo supplies to mark their position.
- Hazard lines marking the outline of the capture area on the objective.





Subtle Affordance:

- Lighting focuses on doorways and routes for the player to use, such as the left and right spawn doors and flank routes.
- Middle lane Spawn Window which gives the players a direct line of sight of the objective from the middle lane spawn exit.
- Each lane has differing textures from one another, so the players can know exactly where they are from what the area looks like.
- Stairs and ramps jutting from corners and/or walls to make them more visible to players.
- Trims function as leading lines, directing the players to the objective.

