Pipeline Stage 1 Synchronization Stage 0 SCENE VERTEX BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE SCENE INDEX BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE INSTANCE BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE MESH INDEX BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE MAT PARAM BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE ALBEDO MAPS --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE NORMAL MAPS --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE AO MAPS --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE METALLIC MAPS --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

SCENE ROUGHNESS MAPS --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

PER FRAME BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

GEOMETRY ALBEDO AO BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

GEOMETRY NORM MET ROUGH BUFFER --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

> GEOMETRY DEPTH STENCIL --OWNERSHIP CHANGE READ--GRAPHICS -> COMPUTE

Pipeline Stage 3 Pipeline Stage 5 Pipeline Stage 7 Synchronization Stage 1 Synchronization Stage 2 Synchronization Stage 3 PER FRAME BUFFER SCENE VERTEX BUFFER SCENE ALBEDO MAPS --OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ--COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS GEOMETRY ALBEDO AO BUFFER SCENE NORMAL MAPS SCENE INDEX BUFFER --OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ--COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS GEOMETRY NORM MET ROUGH BUFFER SCENE AO MAPS SCENE INSTANCE BUFFER --OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ--COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS GEOMETRY DEPTH STENCIL SCENE METALLIC MAPS SCENE MESH INDEX BUFFER --OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ--Pipeline Stage 8 COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS Pipeline Stage 2 Synchronization Stage 4 Render Stage 1 Ray Tracing Render Stage RADIANCE TEXTURE Pipeline Stage 4 SCENE ROUGHNESS MAPS Pipeline Stage 6 SCENE MAT PARAM BUFFER RADIANCE TEXTURE Render Stage 2 Render Stage 3 --TRANSITION FOR WRITE----TRANSITION FOR READ----OWNERSHIP CHANGE READ----OWNERSHIP CHANGE READ--Shading Render Stage RENDER STAGE IMGUI COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS COMPUTE -> GRAPHICS GRAPHICS -> COMPUTE

Pipeline Stage 0 Render Stage 0 Geometry Render Stage