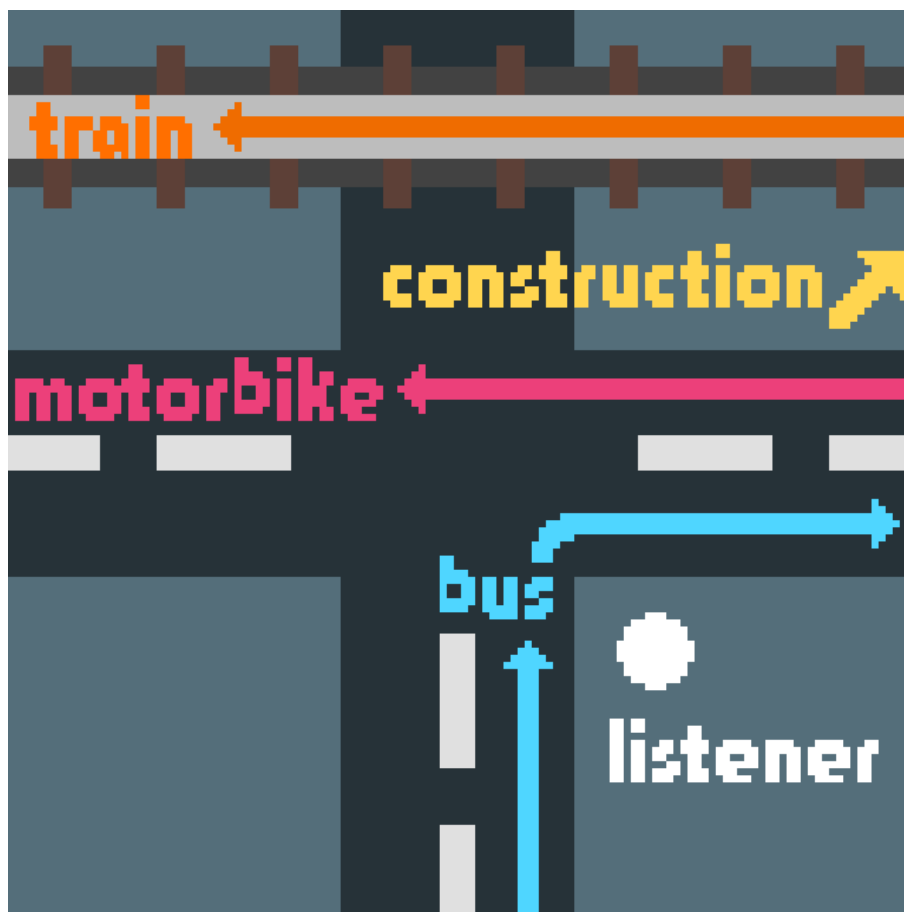


Mixing

Setting

When I heard the unmixed project, I realized to make it sound realistic, I needed to imagine a physical place for the mix to capture. I decided to create the sound of a busy street corner, at a high-traffic intersection. There's a bus lane to the listener's left, train tracks crossing the road up ahead, and construction going on a few blocks to the right. As the bus waits at a stoplight, there's a motorbike going the other direction. An ambulance siren blares in the distance.

Before mixing, I created this diagram in Aseprite to help me plan out where I'd place some of the major sounds:



CityNoise.wav

Techniques: Volume

Sound Cube: Background, Center, Mid Register

I turned this sound quite far down, so my foreground sounds (the bus, motorbike, and train) could take the attention of the listener. It provides a low level noise backdrop, with some nice footsteps and occasional bird calls which make the city feel alive. I left it center since this noise would be coming from all sides equally.

Ambulance.wav

Techniques: Volume, Panning (with automation), Delay

Sound Cube: Background, Right then Left, High Register

I treated the ambulance as part of the city ambiance, not a focal point in the soundscape. I made it sound far away with a soft delay and a low volume. Then, I made it sound like it was traveling across the city by slowly panning from right to left. The pan is subtle, but just enough that it feels like the city is in motion.

Bus.wav

Techniques: Volume, EQ (Equalization), Panning (with automation)

Sound Cube: Foreground, Left then Right, Low and High Register

I wanted the bus to be a prominent audio feature; I liked the idea of it pulling up beside the listener and dominating the soundscape while it's there. I raised its volume relative to surrounding clips, and to make the high-pitched squeal less painful to the ear, I used an EQ that lowers the mid-high register but retains enough of the detail in the high area to sound very close and present. Then, I placed the bus in physical space using panning. As the bus pulls up to the street corner, it's heavily panned to the left so it really feels like the street is there. Later, as the motor revs up and the bus drives away, it takes a right turn and I pan it pretty quickly to the right. I think this makes the sound much more interesting to listen to, and places the listener inside the scene.

CarHorn.wav

Techniques: Volume, Panning

Sound Cube: Middle Ground, Left, Mid Register

I placed CarHorn somewhat nearby, maybe on the same street a ways back, but not right next to the listener. This is because the bus is idling in the foreground directly to the listener's left, so it wouldn't make sense to have a car honk in the same place.

Because this is just before the bus pulls away and turns to the right, to me this car could be honking at the bus to move when a light turns green.

HornsAndTraffic.wav

Techniques: Volume, Panning

Sound Cube: Background, Center Right, Mid Register

These car horns felt more part of the city ambiance, much like the ambulance sound. I turned them a bit lower in volume than CarHorn, and panned them center right so all the honks weren't coming from the left.

Motorbike.flac

Techniques: Volume, Panning (with automation)

Sound Cube: Foreground, Right then Left, Low Register

I wanted this motorbike to sound like it was in the lane to the listener's right, waiting at a light, and then speeding off in a straight line to the left. It's timed with the bus in such a way that it's plausible they're waiting at the same light, which I thought was cool. The main thing I wanted to convey was movement, so I drew a detailed line with panning automation, mapping out the right-to-left movement of the bike as it accelerates. I chose right to left because it is the opposite direction of the bus, which produces the feeling of being surrounded by traffic.

JackHammer.wav and Piledriver.wav

Techniques: Volume, EQ (Equalization), Reverb, Panning

Sound Cube: Background, Right, Mid to High Register

I placed these construction sounds a few blocks away, to the right and forward. I used panning for direction and added pretty heavy reverb (especially to Piledriver.wav) to make it sound like they were echoing off tall buildings. Lowering the volume gave me the distance I wanted, as well as allowing the end of the bus and the beginning of the train to take center stage. Additionally, on both sounds I boosted the bass using an equalizer to make the power tools sound "punchier."

Train.wav

Techniques: Volume (with automation), Panning (with automation)

Sound Cube: Foreground, Right then Left, Low to Mid Register

The train is the next "main event" after the bus drives away. I started it off quiet, on the right side in the distance. As it grows closer, it gets louder and slowly pans to the center. In the recording, you can hear the train cars jostling on the tracks, and it takes over the entire soundscape. Eventually, the train passes to the left, the volume fades, and the detail in the recording fades too.

TruckAndTraffic.wav

Techniques: Volume (with automation), Panning (with automation)

Sound Cube: Background, Left then Right, Low and High Register

This moment in the soundscape is dominated by the train, so TruckAndTraffic mostly serves as a texture underneath the train sound. You occasionally hear the engine or the brakes, and it makes it feel like the city's still around you as the train passes. I panned it left to right to compliment the train's right to left movement; this helps the movement feel more balanced than if they were going the same direction.

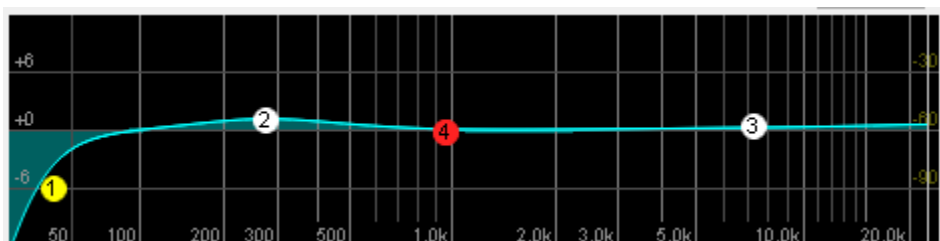
Mastering

Overview

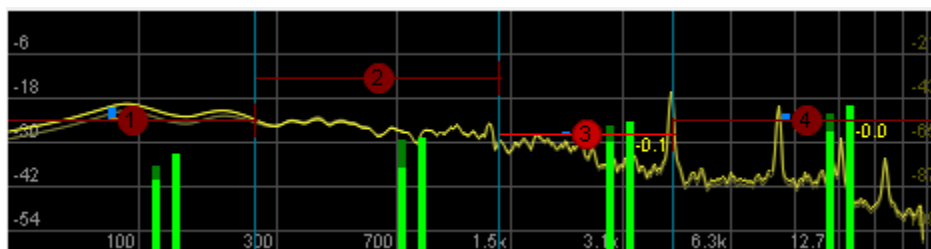
After listening to Ben's mix, I knew I wanted to maintain the space and dynamic range of the piece. I really enjoyed the sense of scale from the soundscape, especially the breadth. To accentuate this, I tried to make subtle mastering changes that, while increasing the overall readability of the scene, would also target and adjust certain ways.

In particular, I wanted to bring out more of the putter and roll of the engines, as well as that little squeak of tire on pavement, and the friction from the oncoming train. To accomplish this, I leaned heavily on the EQ and multi-band compression to isolate and boost the lower-mid and high-end frequencies, as seen below.

EQ



Compression



Bumping the dB at EQ points 2 and 3 helped bring a bit more life to the engine sputters and wheel squeaks, but the compression proved difficult. My early changes brought more timbre and life to the piece, but I found that they also moved the tonal

quality in a very different direction, and I wanted to stay true to Ben's vision. Instead, I experimented with low ratio, high coverage bands. These apply an almost glaze-like effect to each frequency range: accentuating areas boosted in the EQ, but acting more subtly on the remaining portion of the spans.

The limiter also proved a bit annoying. Every time I fiddled with the compression, small areas would fall out of the threshold range, speckling the track with these strange pockets of quiet. I finally settled around -14 dB for the threshold, which got my full coverage without adding any unnecessary background noise. After a few more listen-throughs, I wasn't quite happy with how the high end came out, so I added a touch of gain on that register through the compression. All that was left was getting the fade-in/outs *just* right, and I was done!