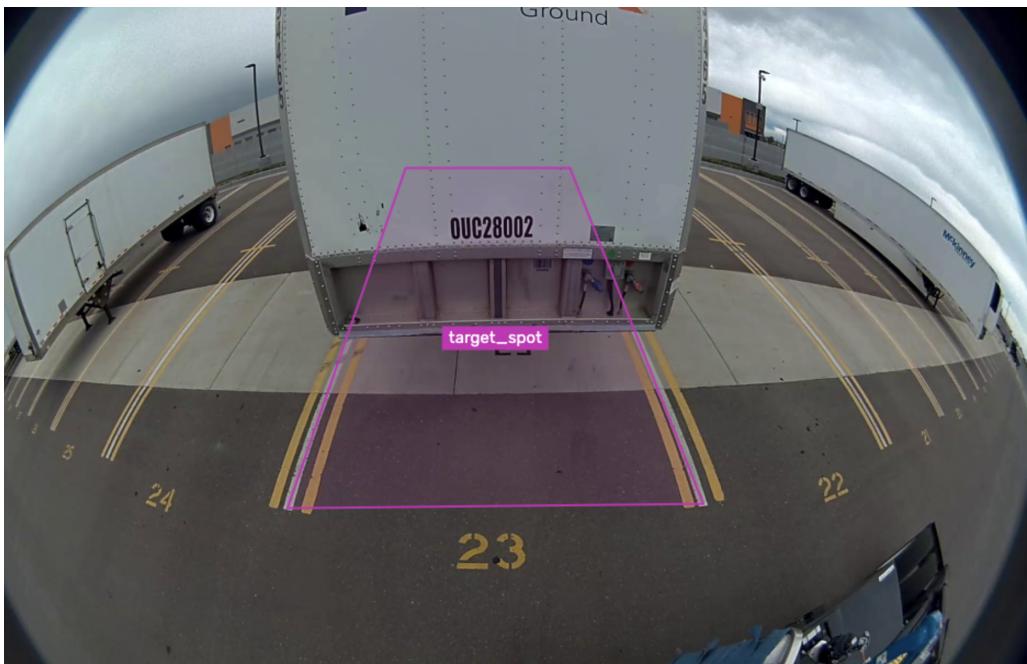
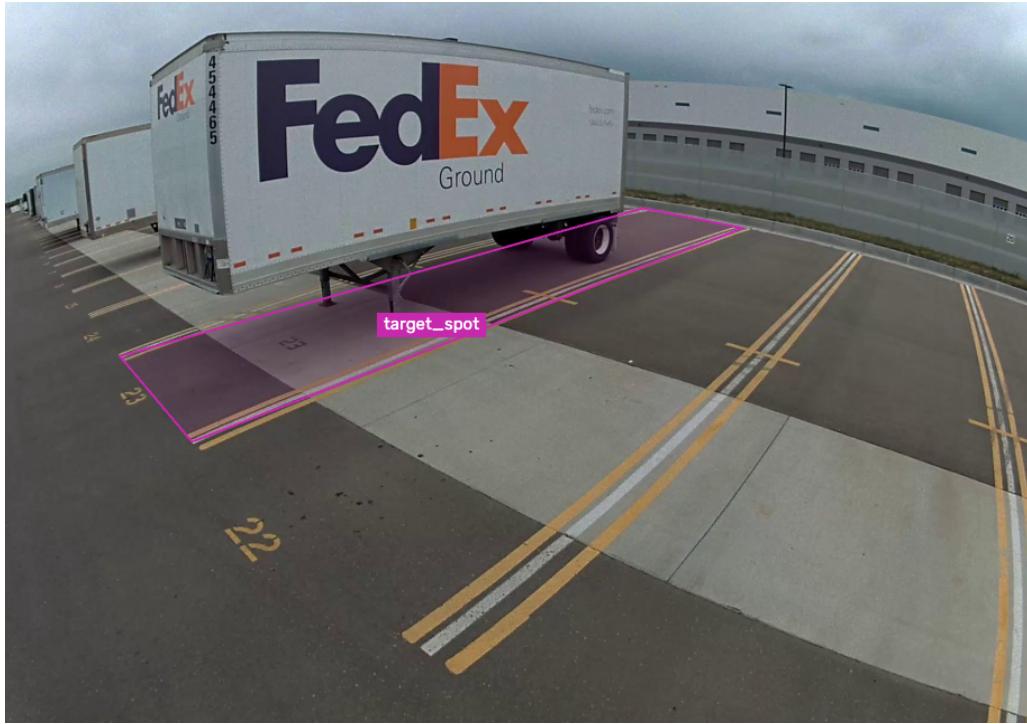


Trailer ID Human Labeling Instructions

High Level Steps

1. While the Outrider system is performing yard inventory, it will create a request for human labeling for each parking spot that likely contains a trailer that it passes.
 - a. This request will contain 2-3 images of the parking spot along with a set of image coordinates for each image that outline the boundary of the spot within the frame. This set of image coordinates is also referred to as “spot annotations”.
2. The user interface used for labeling should provide a view of each image with the image coordinates drawn overtop to help the human identify which parking spot is in question.
3. The user should then attempt to transcribe the trailer ID that is printed on the trailer within the spot in question. It is possible that the user will not be able to read the trailer ID (due to occlusion in the image or poor image quality). It is also possible that there is not a trailer present in the spot in question. Therefore, the user should be able to respond to the request from Outrider in the following ways:
 - a. **Valid Trailer ID:**
 - i. In this case, the trailer ID is visible and the user has confidence that their transcription of the ID is correct. Therefore, the response would just be the transcribed trailer ID. For example, “ABC1234”.
 - b. **Unreadable Trailer ID:**
 - i. In this case, the user is not able to confidently transcribe the trailer ID. Therefore, the response would be something like “trailer_id_unreadable”. Note: This response type could also be implemented in a variety of ways.
 - c. **No Trailer in Spot:**
 - i. In this case, there is no trailer present in the spot in question. Therefore, the response would be something like “no_trailer”. Note: This response type could also be implemented in a variety of ways.
4. The user sends off the response and continues on to service the next request in the queue.
 - a. On the backend of the user interface, the application should invoke a webhook provided by Outrider to provide response data.

Examples of Spot Annotations



Invoking the Outrider Webhook on Response

After the user provides a response (either a trailer ID transcription or one of the other supported response types), the user interface should provide that response data back to the Outrider system using a webhook provided in the initial request.

More specifically, the Outrider system will send a request to transcribe a trailer ID using an API agreed upon by Outrider and the external provider. This API should include the ability to pass a webhook URL in the request object so that the external provider's application knows how to provide the response data back to Outrider.

For example, the request made by the Outrider system using the API may have the following form:

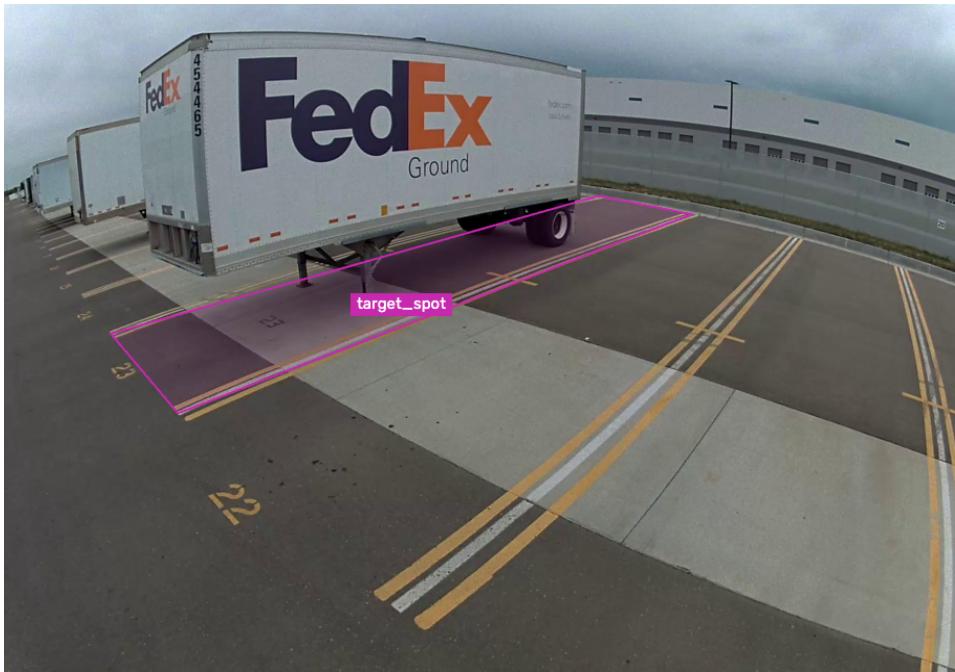
```
{
  "images": [
    "aws.outrider.com/cool_image1.jpeg",
    "aws.outrider.com/cool_image2.jpeg",
    "aws.outrider.com/cool_image3.jpeg"
  ],
  "response_webhook_url": "mc.outrider.ai/engagement_resolution",
  "spot_annotations": [
    {
      "vertices": [
        {
          "x": 0.1, "y": 0.1
        },
        {
          "x": 0.9, "y": 0.1
        },
        {
          "x": 0.9, "y": 0.9
        },
        {
          "x": 0.1, "y": 0.9
        }
      ],
      "label": "target_spot",
      "type": "polygon",
      "image_idx": 0
    },
    { <annotation objects for rest of images>... }
  ]
}
```

In the example request object above, a response should be directed to the webhook served at the URL specified by the “response_webhook_url” field.

Examples of Response Types

Valid Trailer ID

In the following image, there is clearly a trailer in the annotated spot and the trailer ID is visible. Therefore, the response should be: "454465"

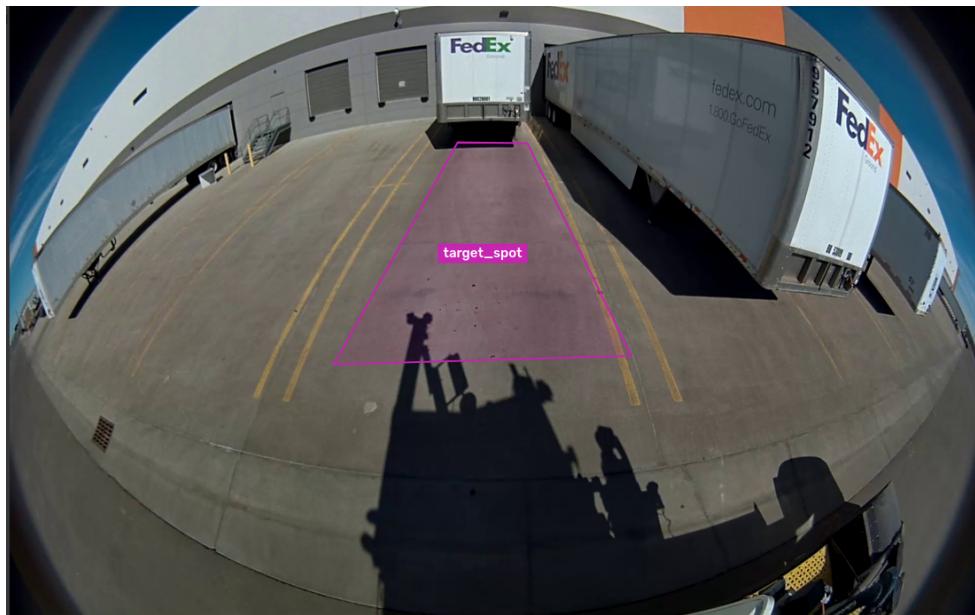


In case the ID is not visible initially, it is often possible for a human to transcribe the ID after zooming into the image. Therefore, it is necessary to allow some sort of zooming functionality in the user interface. The image below is a zoomed in section of the image above.



Unreadable Trailer ID

In the following image, this pup trailer is parked up against a dock door, so its trailer face is further away from the Outrider vehicle. Therefore, there is not enough resolution in the provided image to transcribe the trailer ID with confidence. In this case, the response should be "trailer_id_unreadable".



To further illustrate the point, even after zooming into the trailer face in the image, the ID is still not readable.



No Trailer in Spot

It is sometimes the case that the Outrider system will detect that the spot contains some sort of object, but it is not a trailer. In the following image, the spot is filled with concrete barriers and cones rather than a trailer but a request was made by the Outrider system to transcribe the trailer ID. Therefore, the response in this case should be “no_trailer”.



The following image shows another case where there is an object in the spot other than a trailer, in this case another yard truck. Again, the response should be “no_trailer”.

