

Table 3: The comparison of single-frame CenterFormer (trained on vehicle only) with other methods on WOD validation set for vehicle class.

|             | Method                 | Ref       | L2 mAP      | L2 mAPH     |
|-------------|------------------------|-----------|-------------|-------------|
| CNN         | RSN [1]                | CVPR 2021 | 66.0        | 65.5        |
|             | Voxel R-CNN [25]       | AAAI 2021 | 66.6        | -           |
|             | Pyramid R-CNN [24]     | ICCV 2021 | 67.2        | 66.7        |
|             | LiDAR R-CNN [20]       | CVPR 2021 | 68.3        | 67.9        |
|             | BtcDet [48]            | AAAI 2022 | 70.1        | 69.6        |
| Transformer | BoxeR-3D [29]          | CVPR 2022 | 63.9        | 63.7        |
|             | Voxel transformer [25] | ICCV 2021 | 65.9        | 65.3        |
|             | M3DETR [12]            | WACV 2022 | 66.6        | 66.0        |
|             | 3D-MAN [50]            | CVPR 2021 | 67.6        | 67.1        |
|             | SST_1f [8]             | CVPR 2022 | 68.0        | 67.6        |
|             | CT3D [33]              | ICCV 2021 | 69.0        | -           |
|             | CenterFormer           | ECCV 2022 | <b>70.7</b> | <b>70.2</b> |