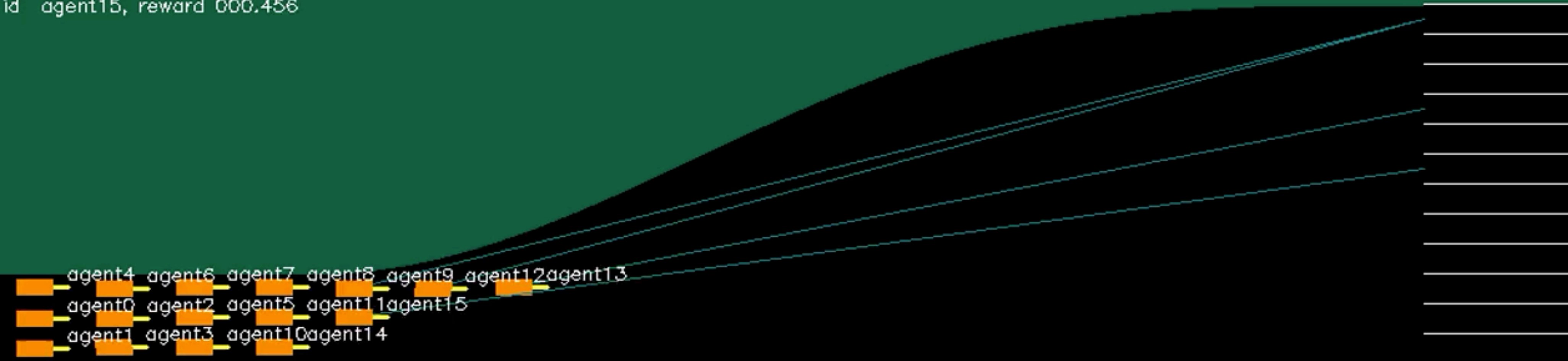




Emergence of “intelligent behaviors”

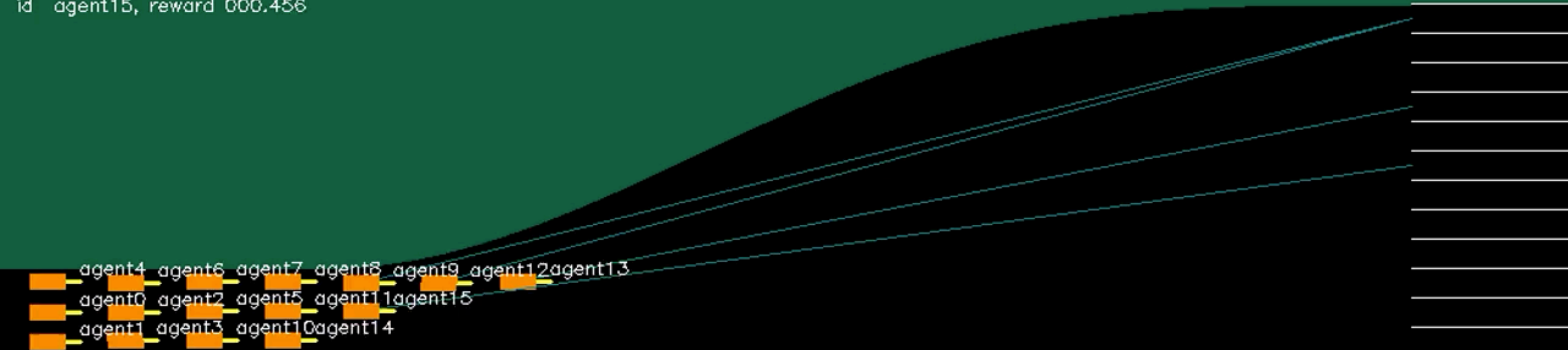
id agent0, reward 000.392
id agent1, reward 000.190
id agent2, reward 000.587
id agent3, reward 000.599
id agent4, reward 000.560
id agent5, reward 000.486
id agent6, reward 000.358
id agent7, reward 000.553
id agent8, reward 000.575
id agent9, reward 000.513
id agent10, reward 000.532
id agent11, reward 000.574
id agent12, reward 000.516
id agent13, reward 000.447
id agent14, reward 000.422
id agent15, reward 000.456



PPO-0409-2 30-iters

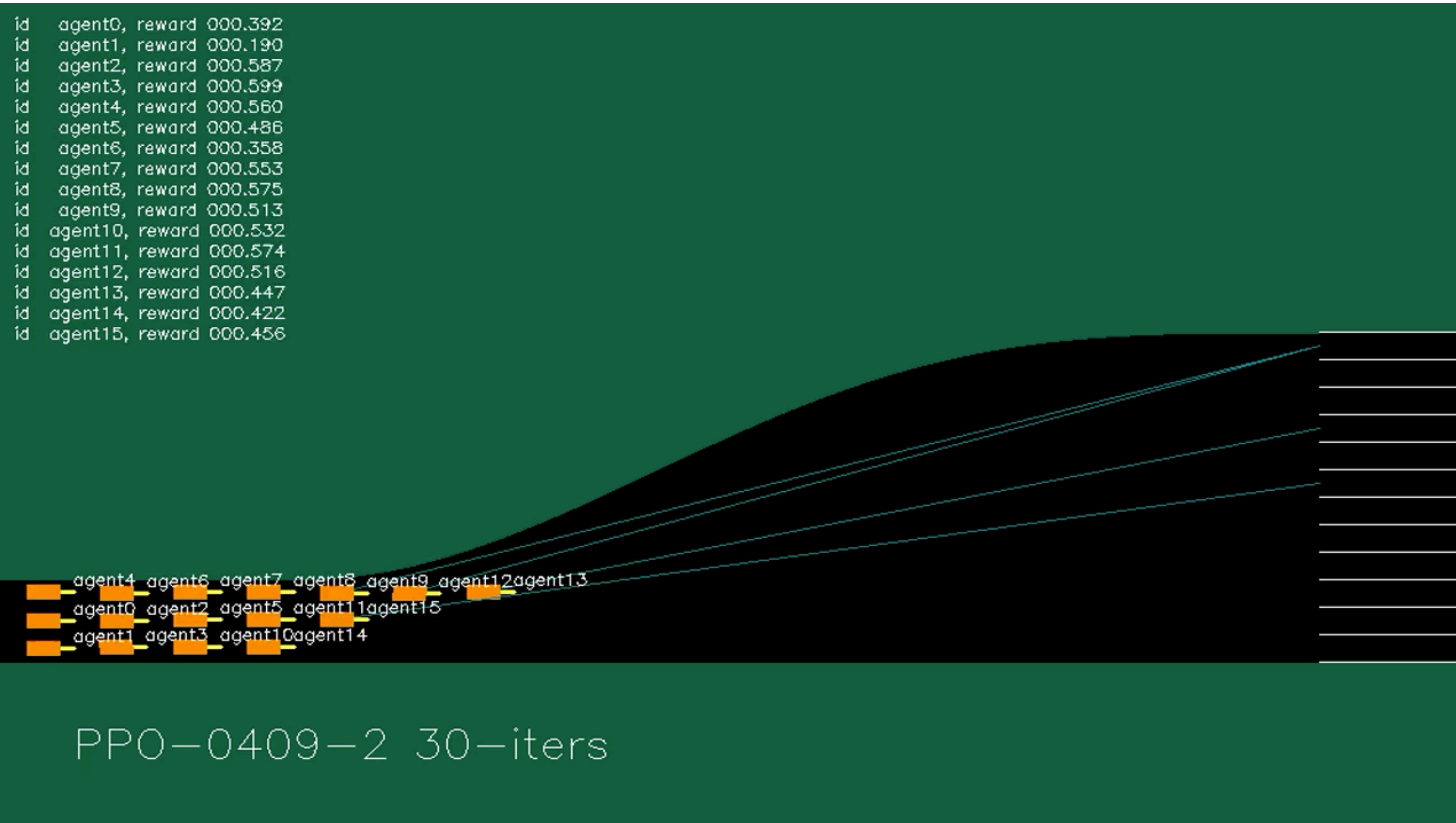
- At 30th iteration
- Regularly drive.
- Learning how to line up and deceleration.
- But easy to collide front vehicles who decelerating.

```
id agent0, reward 000.392
id agent1, reward 000.190
id agent2, reward 000.587
id agent3, reward 000.599
id agent4, reward 000.560
id agent5, reward 000.486
id agent6, reward 000.358
id agent7, reward 000.553
id agent8, reward 000.575
id agent9, reward 000.513
id agent10, reward 000.532
id agent11, reward 000.574
id agent12, reward 000.516
id agent13, reward 000.447
id agent14, reward 000.422
id agent15, reward 000.456
```



PPO-0409-2 30-iters

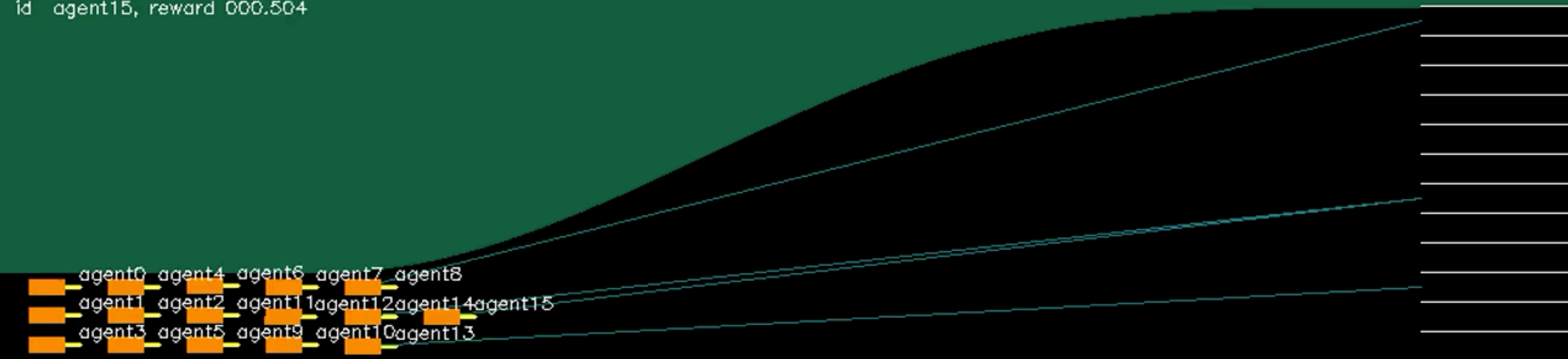
Emergence of “intelligent behaviors”



- At 30th iteration
- Regularly drive.
- Learning how to line up and deceleration.
- But easy to collide front vehicles who decelerating.

Emergence of “intelligent behaviors”

```
id  agent0, reward 000.370
id  agent1, reward 000.278
id  agent2, reward 000.582
id  agent3, reward 000.232
id  agent4, reward 000.386
id  agent5, reward 000.314
id  agent6, reward 000.299
id  agent7, reward 000.323
id  agent8, reward 000.144
id  agent9, reward 000.574
id  agent10, reward 000.421
id  agent11, reward 000.531
id  agent12, reward 000.604
id  agent13, reward 000.594
id  agent14, reward 000.316
id  agent15, reward 000.504
```



- At 40th iteration
- Learned how to line up and deceleration.