

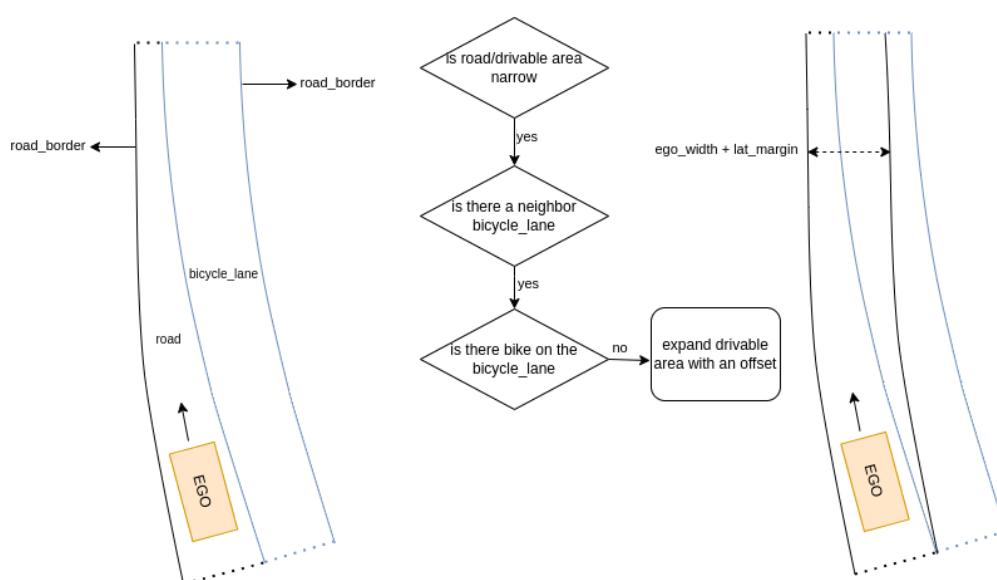
# Handling Bikeways #3560

mehmetdogru started this conversation in Design



**mehmetdogru** on Jun 8, 2023 Maintainer

In the YTU Davutpasa Campus where we are currently testing our self-driving vehicle, we have some scenarios which ego vehicle have to be on the bikeways to be able to drive. To keep the continuity of autonomous drive and to assure the safety of the bikes at the same time, we are thinking of implementing a module in behavior\_path\_planner (Details TBD) Please feel free to share your ideas on this topic. I will update this discussion soon with more details.



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**mehmetdogru** on Jun 8, 2023

Maintainer

Author

Category



Design

Labels

type:new-feature

component:planning

3 participants



cc: [@TakaHoribe](#) [@xmfcx](#) [@mitsudome-r](#) [@maxime-clem](#) [@takayuki5168](#)

↑ 1

4 replies



**maxime-clem** on Jun 8, 2023 Collaborator

I think the dynamic drivable area expansion can work for the YTU Davustpasa Campus as projecting the ego vehicle along the centerline would expand the drivable area into the bike lane. I will build a simple scenario to test it.  
However I can understand the concern about performance and the proposed solution also sounds good.



**mehmetdogru** on Jun 8, 2023 Maintainer Author edited ▾

Thanks [@maxime-clem](#). I think we will complete this obvious overlapping road-bikeway part of the map today and I will share it here if you would like to use it to test.

cc: [@mozhoku](#)

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**mehmetdogru** on Jun 8, 2023 Maintainer Author

[@maxime-clem](#) please find the map files on [the link](#). I marked the related part as follows however bicycle\_lanes are not visible on rviz yet and the annotation might not be very right at the moment since it is the first trial. Hope this helps. Thank you.

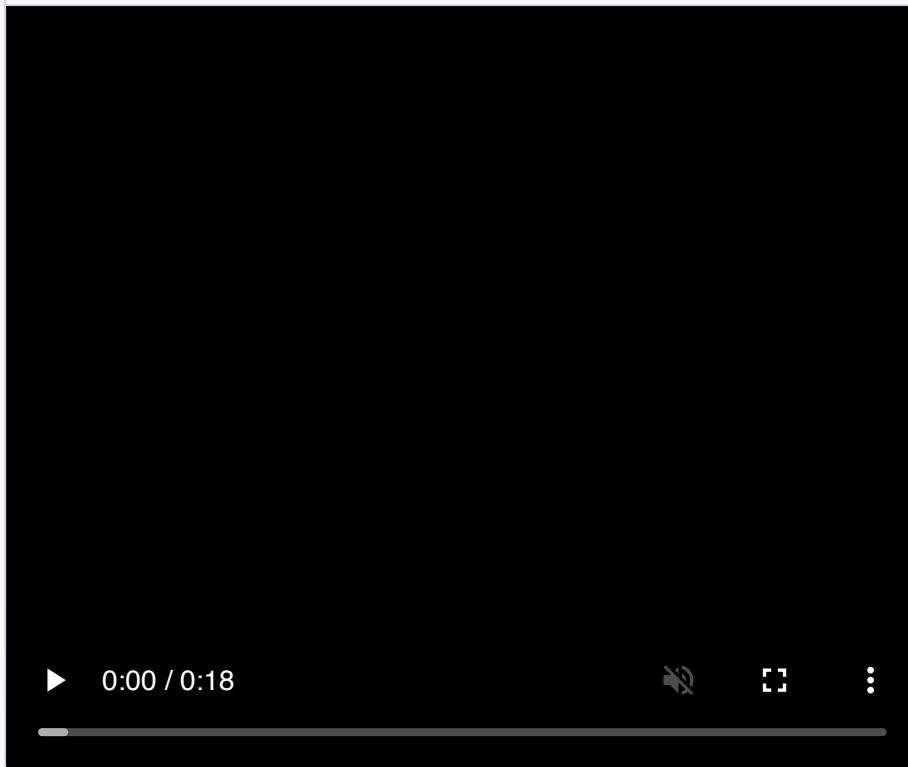


maxime-clem on Jun 19, 2023 Collaborator

Thank you and sorry for the late reply.

The dynamic drivable area expansion works well for this case and can be considered as a temporary workaround.

▶ dyn\_da\_expansion.bicycle\_lane.mp4 ▾



xmfcx on Jun 8, 2023 Maintainer

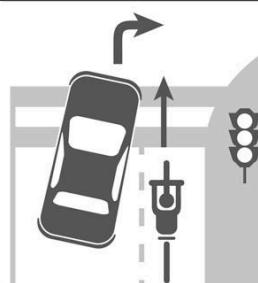
edited ▾

- <https://sfbike.org/news/bike-lanes-and-right-turns/>

## Right Turns and Bike Lanes

### Wrong

! Driver is not turning from as far right as practicable (CVC 22100)



! Bike rider should look for turn signal, avoiding driver's blind spot.



### Correct

✓ Driver must merge into bike lane & turn from curb (CVC 21717)



✓ Bike rider should pass on left as driver merges into the bike lane.



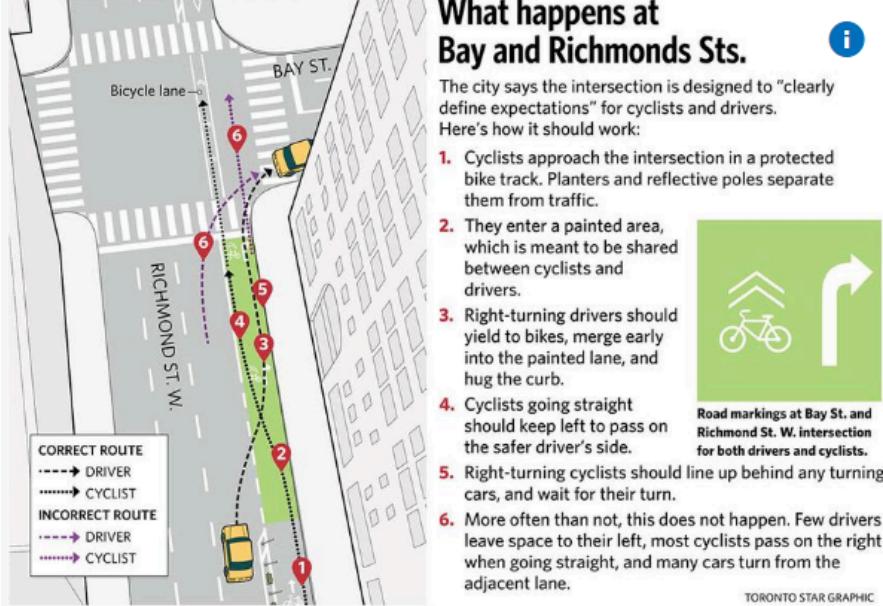
- <https://nacto.org/publication/urban-bikeway-design-guide/intersection-treatments/through-bike-lanes/>



- <http://www.bikeirvine.org/news/2023/2/16/safety-at-intersections>



- <https://www.mcleishorlando.com/insights/drivers-or-cyclists-who-has-the-right-of-way/>



- <https://www.trthaber.com/haber/guncel/konyada-ogrenciler-okullarina-guvendi-bisiklet-yolu-ile-gidiyor-681609.html>



- [https://www.youtube.com/watch?v=T\\_VUXUGjrUw](https://www.youtube.com/watch?v=T_VUXUGjrUw)



↑ 1

0 replies

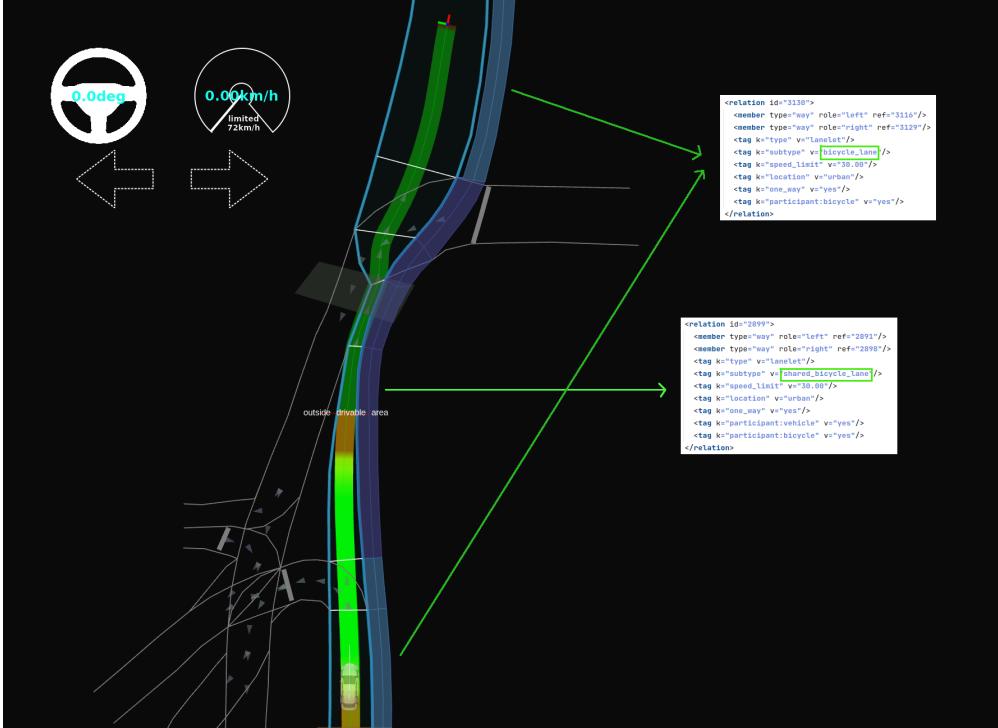


**mehmetdogru** on Jun 15, 2023

Maintainer

Author

What if we annotate `bicycle_lane` and `shared_bicycle_lane` separately and so in cases like below we would be including the neighbor `shared_bicycle_lane` into account. Also with that approach we can manipulate the path easier so we would be using the existing modules as well. Plus we can support scenarios like above as well which `@xmfcx` has shared where there are shared bicycle lanes for routing purposes



What do you think?

cc: [@maxime-clem](#) [@xmfcx](#) [@TakaHoribe](#)

PS:

- The most recent version of the map with the `bicycle_lane`s & `shared_bicycle_lane`s are on [this link](#).
- You can check out these branches to visualize `bicycle_lane`s & `shared_bicycle_lane`s
  - <https://github.com/mehmetdogru/autoware.universe/tree/feat/visualize-bicycle-lanes>
  - [https://github.com/mehmetdogru/autoware\\_common/tree/feat/add-bicycle-lanelet-query](https://github.com/mehmetdogru/autoware_common/tree/feat/add-bicycle-lanelet-query)

↑ 1

2 replies



**maxime-clem** on Jun 19, 2023 Collaborator

This representation looks good.

Maybe I forgot, but why don't we simply represent the shared space (`shared_bicycle_lane`) as a normal lanelet where the autonomous vehicle can drive ? We can keep the centerline of the current lanelet, but move the right bound to be the right bound of the `shared_bicycle_lane`.



**mehmetdogru** on Jun 20, 2023 Maintainer Author

Thanks [@maxime-clem](#)

In such cases bicycles on `shared_bicycle_lane` has the priority so to be able to satisfy this and so ensure the safety of the bicycles I think it will be good to annotate it.

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