

Any naming conventions for "route", "path", and "trajectory"? #4227

felixf4xu started this conversation in **General**



felixf4xu on Mar 1

Hi,

When I read the code of planning and control, I see some ros2 topics with name like "route", "path", and "trajectory". I'm new to those words (or concepts), any rules or conventions for it?

Thanks.

↑ 1

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maxime-clem on Mar 3

Collaborator

You can find description of these concepts on the following page:

<https://autowarefoundation.github.io/autoware-documentation/main/design/autoware-architecture/planning/>

Route: Offers guidance for the path that needs to be followed from the starting point to the destination. This path is determined based on information such as lane IDs defined on the map. At the route level, it doesn't explicitly indicate which specific lanes to take, and the route can contain multiple lanes.

Path: Provides a rough position and velocity to be followed by the vehicle. These path points are usually defined with an interval of about 1 meter. Although other interval distances are possible, it may impact the precision or performance of the planning component.

Trajectory: Defines the desired positions, velocities, and accelerations which the Control Component will try to follow. Trajectory points are defined at intervals of approximately 0.1 seconds based on the trajectory velocities.

In practice, the *route* is calculated by the router and is then used by the behavior planners to calculate a *path*. Finally, motion planning calculates a *trajectory* from the path and it is sent to the controller.

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