Subject: mileagesChanges and Anchors
Posted by Stefan Hubrig on Fri, 16 Oct 2026 14:19:15 GMT
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Hello all,

I understood that an anchor can be used to describe a mileage change at the positioning system level.

In some cases, however, the mileage change is not applicable to all parallel tracks that use the same positioning system.

This could happen, for example, when a siding track within a station is longer than the main track. As far as I know, a mileage change is the only mechanism that could be used to represent this additional length.

Or is there another way to model this?

Best regards,
Stefan

Subject: Re: mileagesChanges and Anchors
Posted by Mathias Vanden Auweele on Sat, 17 Oct 2026 10:19:13 GMT
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Hello Stefan,

Best is to make the linear positioning system a truely linear element. Thus it's like a linear location, never branches out. That means that if you need multiple tracks in a station to have a linear referencing system, you also need multiple linear positioning systems in that station. Of course, they can use the same anchors. In that way, linear positioning is unambiguous

Subject: Re: mileagesChanges and Anchors
Posted by Stefan Hubrig on Mon, 19 Oct 2026 08:10:23 GMT
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Hello Mathias,

for many use cases, it does not matter whether a non-main track is somewhat longer than the main track.

However, in cases where this information is relevant, I believe it would introduce considerable overhead if a separate positioning system had to be created for each station track, for example.

Best regards,

Stefan

Subject: Re: mileagesChanges and Anchors
Posted by Mathias Vanden Auweele on Tue, 20 Oct 2026 17:39:06 GMT
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Hello Stefan,

You'll have to do a trade-off for yourself if you need unambiguous positioning or simplification. All I can say is that problems start when reality is simplified and the scope is increased later :)

And your first post in this topic actually already covers one of these cases. It's best solved by defining additional LPS

Subject: Re: mileagesChanges and Anchors
Posted by Stefan Hubrig on Tue, 03 Nov 2026 12:43:52 GMT
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Hello all,

So far, four options have been discussed:

1) Use a new positioning system for all netElements whose length differs from the main track
Problem: This introduces additional overhead for positioning data and may lead to confusing information, as the lengths in one representation differ from those in another.

2) Use a "fake" anchor with a mileage change of 0, which can then be referenced on the siding track
Problem: It seems illogical to make such an anchor mandatory if it is immediately compensated by a "fake" anchor. In addition, the anchor data would differ from the corresponding mileage change data again.

3) Use the length of the track
Problem: The exact location of the mileage change would still remain unknown.

4) Use a railML extension
Problem: This could potentially lead to certification issues. On the other hand, one could argue that railML 3.4 no longer supports mileage changes on netElements.

Are there any additional ideas or alternative approaches?

Best regards,
Stefan

Subject: Re: mileagesChanges and Anchors
Posted by christian.rahmig on Sun, 08 Nov 2026 18:41:56 GMT
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Dear Stefan,

thank you for listing the potential options in dealing with "micro mileage changes". I had a look at them and this is my feedback:

1) As already outlined by Mathias, this is a clean and exact approach. Also, I don't see the risk of confusion caused by different representations of lengths. There is always a clear association between the netElement and the linearPositioningSystem enabling the calculation of the length.

2) Not a good idea. Never use "fake data" please.

3) That is also a proper solution: Locate a track element on each netElement. The track is located with a linearLocation, which itself has an orientation. The track has a length. You could define an own rule saying that the "mileage change" will happen always at the end of the track.

4) I think, this option is not needed considering the better options 1) and 3).

What about the rest of the community: Any further ideas or comments?

Best regards
Christian