Subject: <railMLv3> Infra Geometry Terminology
Posted by Fabrizio Cosso on Fri, 23 Nov 2018 12:01:55 GMT
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Dear all,
can someone address me to some documents where I can find the exact meaning of terminology used in Geometry View?
e.g. the exact meaning of each curveType, etc...

Thanks

BR

Fabrizio

Subject: Re: <railMLv3> Infra Geometry Terminology
Posted by christian.rahmig on Mon, 26 Nov 2018 15:24:08 GMT
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Dear Fabrizio,

Am 23.11.2018 um 13:01 schrieb Fabrizio Cosso:
> can someone address me to some documents where I can find
> the exact meaning of terminology used in Geometry View?
> e.g. the exact meaning of each curveType, etc...

I suggest to use the UML model documentation (HTML report, available in [1]) or the XSD schema documentation (HTML, available in [2]). The railML 3 wiki, where besides the automatically generated schema documentation detailed definitions, best practices and open issues shall be adressed, is still under construction.

Regarding your specific question with the curve type:
Generally, railway alignment knows three basic curves:
* straight lines (constant infinite radius)
* arcs (constant radius)
* transition curves (changing radius)
railML introduces in <horizontalCurve>@curveType some more specific versions of transition curves, e.g. clothoides, cubic parabolas etc.
Some of these curve types are described in more detail e.g. in [3] or [4].

Once, we start with the use case "Track Geometry" [5], we may have a closer look on these different types.

Best regards
Christian

[1] https://svn.railml.org/railML3/tags/railML-3.1-rc/doc/model
[2] https://svn.railml.org/railML3/tags/railML-3.1-rc/doc/schema
[3]
https://www.brainkart.com/article/Railway-Engineering-Transi tion-Curve_4227/
[4] https://pwayblog.com/2016/07/03/the-clothoid/
[5] https://wiki.railml.org/index.php?title=UC:IS:Track_Geometry

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Subject: Re: <railMLv3> Infra Geometry Terminology
Posted by on Wed, 20 Feb 2019 16:58:47 GMT
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Hello,
in relation to terminology, I would like to ask what does the value "mixed" of rail3:tGradientCurveType mean and when to use it. The semantics seems quite unclear to me. Thank you for your feedback.

Subject: Re: [railML3] Infra Geometry Terminology
Posted by christian.rahmig on Wed, 27 Mar 2019 06:19:09 GMT
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Dear Adam,

> in relation to terminology, I would like to ask what does
> the value "mixed" of rail3:tGradientCurveType mean and when
> to use it. The semantics seems quite unclear to me. Thank
> you for your feedback.

sorry for answering so late, but I just recovered from 5 weeks of illness, so that I missed your posting.

A <gradientCurve> with @curveType="mixed" can be used to model a gradient curve with an "administrative" gradient value. Imagine the situation that you have a track from A to B and somewhere on this track a maximum slope of 25 per mille has to be climbed by the train, but you don't know exactly, where this gradient appears. In that case, you can

model a <gradientCurve> covering the whole track from A to B with @gradient="25". By setting @curveType="mixed" it becomes clear, that the gradient of 25 per mille does not affect the whole track from A to B.

If the community knows further examples where different types of gradients shall be modelled, please share them here with us in the forum so that we can discuss them and integrate them in planned Advanced Example and in the Track Geometry use case.

Thank you very much and best regards
Christian

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Subject: Re: [railML3] Infra Geometry Terminology
Posted by Thomas Nygreen JBD on Mon, 01 Apr 2019 11:24:15 GMT
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Dear all,

The gradient information that we use in Norway can be generalised into two types:

Actual microscopic gradient: only used in an IM perspective (infrastructure models, construction, maintenance, etc.)

Averaged gradient over a certain length: used for operational and signalling purposes. The signalled gradient is a moving average over 1 km. The schematic signal plans show average gradient between signals in the same direction.

Additionally, I would guess that a maximum gradient could also be useful. If so, we should be able to distinguish between types of "mixed" curves, i.e. the aggregation method (average, maximum and maybe more).

Subject: Re: [railML3] Infra Geometry Terminology
Posted by christian.rahmig on Mon, 08 Apr 2019 14:52:53 GMT
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Dear Thomas,

Am 01.04.2019 um 13:24 schrieb Thomas Nygreen:
> [...]

> Averaged gradient over a certain length: used for
> operational and signalling purposes. The signalled gradient
> is a moving average over 1 km. The schematic signal plans
> show average gradient between signals in the same
> direction.
>
> Additionally, I would guess that a maximum gradient could
> also be useful. If so, we should be able to distinguish
> between types of "mixed" curves, i.e. the aggregation method
> (average, maximum and maybe more).

thank you for your valuable input from a Norwegian point of view!

From technical side, two possible solutions are possible:
1) extending the value list for <gradientCurve>@curveType replacing the value "mixed" with new values "maximum" and "average".
2) adding a new attribute <gradientCurve>@aggregationReference with values "maximum" and "average", which is only set in case of <gradientCurve>@curveType="mixed".

I prefer solution 1), but the more interesting question for me is if there are further types of "mixed" gradients apart of maximum and average.

Any feedback is highly appreciated...

Best regards
Christian

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