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Subject: <track>@mainDir

Posted by [christian.rahmig](#) on Thu, 22 Feb 2018 12:23:41 GMT

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Dear all,

following discussions with some railML partners, I want to bring the topic to the forum and ask for a general feedback in order to adapt implementation in railML 3.x:

In railML 2.x we have an attribute <track>@mainDir that describes the preferred driving direction on that track. Possible values are "up", "down", "unknown" and "none" and they always refer to the track definition direction (trackBegin to trackEnd).

The question to be answered:

Is the information relevant for any use case? Who uses @mainDir and for what?

If there is no specific interest in keeping @mainDir, we may also think of declaring the attribute DEPRECATED with upcoming version 2.4.

Any feedback is highly appreciated...

Best regards  
Christian

--

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Subject: Re: <track>@mainDir

Posted by [Christian Rahmig](#) on Fri, 23 Feb 2018 14:33:57 GMT

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Dear Christian,

we do not use <track>.@mainDir. We would not miss it.

We use <sectionTT>.@trackInfo with:

=1 for "regular track" (dt: Regelgleis)

=2 for "track of the opposite direction" (dt: Gegengleis).

This usage of <sectionTT>.@trackInfo is redundant to <sectionTT>.<trackRef>.@ref: If a train runs on the Gegengleis (<sectionTT>.@trackInfo='2'), it has also <sectionTT>.<trackRef>.@ref

set to the proper track of the opposite direction.

This redundancy is a "short-cut" for cases if there is no full <infrastructure> at the railML file or if a reading software does not like the effort of parsing the <infrastructure>.

In spite of there is a (small) usage of "regular direction" and "wrong direction", it is rather a short-cut around the infrastructure details but not necessarily a demand for infrastructure. It could explain why somebody could want to define a regular direction of tracks. But it is not so obvious or demanding that we (iRFP) need it. So again: no opposition from us against deprecating of <track>.@mainDir.

Dirk.

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Subject: Re: <track>@mainDir  
Posted by [Tobias Bregulla](#) on Mon, 12 Mar 2018 11:51:17 GMT  
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Hello Christian,

thank you for that speech. We do not use this modeling in our programmes and data exports (any longer). Such a predominant direction of track usage is no longer evident in many modern mainline railways. To the best of our knowledge, Austrian and Swiss railways have already abolished this definition in their regulatory frameworks and thus also the associated signals.

On our part, we have no objections to a statement as DEPRECATED as of railML 2.4.

Best regards,

Tobias Bregulla  
Bahnkonzept Dresden/Germany  
\*\*\*\*\*

Hallo Christian,

danke für diese Wortmeldung. In unseren Programmen und Datenexporten verwenden wir diese Modellierung nicht (mehr). Die überwiegende Benutzungsrichtung ist ohnehin bei vielen modernen Vollbahnen nicht mehr festzustellen. So haben unseres Wissens die Österreichischen und Schweizer Bahnen diese Festlegung in ihren Regelwerken bereits abgeschafft und damit auch die zusammenhängenden Signale.

Unsererseits bestehen keine Einwände gegen einer Erklärung als VERALTET ab railML 2.4.

Beste Grüße,

Tobias Bregulla  
Bahnkonzept Dresden/Germany

Am 22.02.2018 um 13:23 schrieb Christian Rahmig:

- > In railML 2.x we have an attribute <track>@mainDir that describes the
- > preferred driving direction on that track. Possible values are "up",
- > "down", "unknown" and "none" and they always refer to the track
- > definition direction (trackBegin to trackEnd).
- > ...
- > If there is no specific interest in keeping @mainDir, we may also think
- > of declaring the attribute DEPRECATED with upcoming version 2.4.

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Subject: Re: <track>@mainDir  
Posted by [christian.rahmig](#) on Mon, 12 Mar 2018 16:19:22 GMT  
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Dear all,

I created a Trac ticket for this issue ideally to be solved with railML 2.4 [1].

Am 22.02.2018 um 13:23 schrieb Christian Rahmig:

- > In railML 2.x we have an attribute <track>@mainDir that describes the
- > preferred driving direction on that track. Possible values are "up",
- > "down", "unknown" and "none" and they always refer to the track
- > definition direction (trackBegin to trackEnd).
- >
- > The question to be answered:
- > Is the information relevant for any use case? Who uses @mainDir and for
- > what?

[1] <https://trac.railml.org/ticket/324>

Best regards  
Christian

--

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Subject: Re: <track>@mainDir

Posted by [christian.rahmig](#) on Fri, 16 Mar 2018 07:50:59 GMT

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Dear all,

Am 12.03.2018 um 17:19 schrieb Christian Rahmig:

> Dear all,

>

> I created a Trac ticket for this issue ideally to be solved with railML

> 2.4 [1].

>

> Am 22.02.2018 um 13:23 schrieb Christian Rahmig:

>> In railML 2.x we have an attribute <track>@mainDir that describes the

>> preferred driving direction on that track. Possible values are "up",

>> "down", "unknown" and "none" and they always refer to the track

>> definition direction (trackBegin to trackEnd).

>>

>> The question to be answered:

>> Is the information relevant for any use case? Who uses @mainDir and for

>> what?

>

> [1] <https://trac.railml.org/ticket/324>

the attribute @mainDir has been marked DEPRECATED with railML version 2.4. However, for railML 3.x implementation the topic shall be reviewed once again w.r.t. infrastructure related use cases.

Best regards

Christian

--

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Subject: Re: <track>@mainDir

Posted by [Torben Brand](#) on Sat, 14 Apr 2018 13:23:42 GMT

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We use track@mainDir in Norway in railML2.3nor for our use case SCTP and capacity planning.

<track @mainDir>

We use mainDir for three things:

1. to indicate on a macroscopic level if the line is single (mainDir="none") or double track (mainDir="up" or "down")
2. to indicate the usual driving direction of the double track

3. to indicate the position of the track in a mesoscopic level (mainDir="up" track on the right side in increasing mileage)

We ask to reverse the deprecation or give us an alternative suggestion towards our mapping needs.

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Subject: Re: <track>@mainDir  
Posted by [Thomas Nygreen JBD](#) on Mon, 16 Apr 2018 12:57:11 GMT  
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I would like to use the opportunity to question the "unknown" value for @mainDir. As the attribute is optional, it seems more natural not to specify it if the value is unknown, and to interpret an unspecified @mainDir as "unknown". Consequently, the "unknown" option could be removed.

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Subject: Re: <track>@mainDir  
Posted by [christian.rahmig](#) on Mon, 16 Apr 2018 14:51:47 GMT  
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Dear Torben,

thank you for sharing your application view that I would like to comment on from railML.org coordinators view. However, the view of the whole community is important to us.

Am 14.04.2018 um 15:23 schrieb Torben Brand:

- > We use track@mainDir in Norway in railML2.3nor for our use
- > case SCTP and capacity planning.
- >
- > <track @mainDir>
- > We use mainDir for three things:
- > 1. to indicate on a macroscopic level if the line is single
- > (mainDir="none") or double track (mainDir="up" or "down")

Actually, reasoning is only possible in one direction: if there is a single track line, it cannot have a main driving direction and the usage of @mainDir="none" is recommended (see [1]). It is not possible to conclude from the main driving direction whether a line is single track or double track. The remaining question in particular: how to distinguish between single track line and double track line without preferred main direction?

- > 2. to indicate the usual driving direction of the double
- > track

Agreed. This is the original and described intention of <track>@mainDir as modelled in railML 2.x. Since we thought to recognize a lack of usage in the community and additionally noticed a wider usage of free float in modern railways with doubled signalling in electronic signalling systems, we tried to adapt and clarify the current model to serve the community.

- > 3. to indicate the position of the track in a mesoscopic
- > level (mainDir="up" track on the right side in increasing
- > mileage)

Sorry, but I do not understand the meaning of this usage scenario. Could you please provide an example for a track with mainDir="up" and mainDir="down" following your proposal? From my current understanding, this approach does not work since the rule "driving on right side" is not unique among European railway lines and even can differ along a single railway line. However, maybe your examples may convince me ;-)

- > We ask to reverse the deprecation or give us an alternative
- > suggestion towards our mapping needs.

I respect your request and leave it up to the discussion here in the forum to come to a conclusion for railML 2.4.

[1] <https://wiki.railml.org/index.php?title=IS:track>

Best regards  
Christian

--

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Altplauen 19h; 01187 Dresden; Germany [www.railml.org](http://www.railml.org)

---

Subject: Re: <track>@mainDir  
Posted by [christian.rahmig](#) on Mon, 16 Apr 2018 14:55:54 GMT  
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Dear Thomas,

Am 16.04.2018 um 14:57 schrieb Thomas Nygreen:

- > I would like to use the opportunity to question the
- > "unknown" value for @mainDir. As the attribute is optional,
- > it seems more natural not to specify it if the value is
- > unknown, and to interpret an unspecified @mainDir as
- > "unknown". Consequently, the "unknown" option could be

> removed.

your approach sounds reasonable to me. We may think about implementing this "unknown issue" as a fundamental railML 3 pattern. This means: whenever an optional attribute (or optional element) is not provided, this means that the related information is unknown.

Any comments from the community are highly appreciated.

Best regards  
Christian

--

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Subject: Re: <track>@mainDir  
Posted by [Thomas Nygreen JBD](#) on Wed, 18 Apr 2018 17:05:34 GMT  
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christian.rahmig wrote on Mon, 16 April 2018 16:55  
your approach sounds reasonable to me. We may think about implementing this "unknown issue" as a fundamental railML 3 pattern.

That is a good idea. It should probably be discussed broader than just in this thread.

christian.rahmig wrote on Mon, 16 April 2018 16:55  
whenever an optional attribute (or optional element) is not provided, this means that the related information is unknown.

Unless a default value is specified. We should strive to always define a default value for optional attributes when possible. A lot of attributes will still not have a meaningful default, in which case a rule interpreting them as unknown will be useful.

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Subject: Re: <track>@mainDir  
Posted by [Thomas Nygreen JBD](#) on Wed, 18 Apr 2018 17:47:32 GMT  
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christian.rahmig wrote on Mon, 16 April 2018 16:51  
Am 14.04.2018 um 15:23 schrieb Torben Brand:  
> We use mainDir for three things:  
> 1. to indicate on a macroscopic level if the line is single  
> (mainDir="none") or double track (mainDir="up" or "down")

Actually, reasoning is only possible in one direction: if there is a single track line, it cannot have a main driving direction and the usage of @mainDir="none" is recommended (see [1]). It is not possible to conclude from the main driving direction whether a line is single track or double track. The remaining question in particular: how to distinguish between single track line and double track line without preferred main direction?

I am not sure that Torben is correct in this case. It is rather the number of connections between two OCPs that determine if the line is single or double track.

However, there will always be operational rules or practices in addition to those represented in railML. In Norway we have no double track lines without preferred main direction. Neither do we have double tracks with mandatory track directions, but the performance will in many cases be degraded by running on the left track. The operational rules and practices will differ from country to country, and so will the amount of information you can interpret from the values of mainDir. The value itself does however have the same meaning in all countries.

christian.rahmig wrote on Mon, 16 April 2018 16:51

- > 3. to indicate the position of the track in a mesoscopic
- > level (mainDir="up" track on the right side in increasing
- > mileage)

Sorry, but I do not understand the meaning of this usage scenario. Could you please provide an example for a track with mainDir="up" and mainDir="down" following your proposal? From my current understanding, this approach does not work since the rule "driving on right side" is not unique among European railway lines and even can differ along a single railway line. However, maybe your examples may convince me ;-)

I do not have a relevant railML example at hand, but again, this is a case of differing practices. A renderer for drawing schematic line plans must always have a set of national drawing rules. And in this nation we always drive on the right side under normal operations. For a renderer, or a macroscopic simulator or infra parser, it is much simpler to look at the track's mainDir than to lay out the full topology to determine which track is to the right (or left) and thereby used in increasing (or decreasing) mileage.

Best regards  
Thomas

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Subject: Re: <track>@mainDir  
Posted by [Benno Kuehn](#) on Mon, 23 Apr 2018 14:55:48 GMT  
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Dear all,

I haven't needed the <track>@mainDir attribute for anything up to now, but reading this discussion, a use case came into my mind:

On a station with two tracks and one platform for each track (thus, no island platform), it is often very clearly stated on the signs, which platform is meant for trains going into which direction („<-- Züge Richtung München | Züge Richtung Weitdraußen -->"). When driving in the "wrong" direction at such a station, the passengers need significantly more time to switch to the correct platform, thus it is necessary to inform them more prominently. If it happens on a regular basis, you might need to send some workers to change the signs. That needs could be determined by the mainDir attribute.

On the other hand, I think that any "it would be possible in both ways, but usually it is done this way" can impose severe safety issues when someone falsely relies on things happening the usual way all the time.

Best regards,  
Benno

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Subject: Re: <track>@mainDir  
Posted by [Thomas Nygreen JBD](#) on Mon, 24 Sep 2018 12:40:39 GMT  
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I see that track@mainDir is still on its way to being deprecated. Just to make it abundantly clear: THIS ATTRIBUTE IS IN USE IN NORWAY. Most of our double track sections are normally operated as "drive on the right", while very few are operated with bidirectional traffic on both tracks. It is useful for us to be able to supply that information in the railML IS.

Please do not deprecate this attribute.

<https://trac.railml.org/ticket/324>  
[https://wiki.railml.org/index.php?title=Dev:changes/2.4#.3Ct rack.3E.40mainDir\\_DEPRECATED](https://wiki.railml.org/index.php?title=Dev:changes/2.4#.3Ct%20rack.3E.40mainDir_DEPRECATED)

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Subject: Re: <track>@mainDir  
Posted by [christian.rahmig](#) on Tue, 02 Oct 2018 12:33:10 GMT  
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Dear Thomas, dear all,

Am 24.09.2018 um 14:40 schrieb Thomas Nygreen:  
> I see that track@mainDir is still on its way to being  
> deprecated. Just to make it abundantly clear: THIS ATTRIBUTE  
> IS IN USE IN NORWAY. Most of our double track sections are  
> normally operated as "drive on the right", while very few  
> are operated with bidirectional traffic on both tracks. It

> is useful for us to be able to supply that information in  
> the railML IS.  
>  
> Please do not deprecate this attribute.  
>  
> <https://trac.railml.org/ticket/324>  
> [https://wiki.railml.org/index.php?title=Dev:changes/2.4#.3Ctrack.3E.40mainDir\\_DEPRECATED](https://wiki.railml.org/index.php?title=Dev:changes/2.4#.3Ctrack.3E.40mainDir_DEPRECATED)

based on your feedback, the plan of marking the attribute  
<track>@mainDir as being DEPRECATED has been revoked.

However, it is suggested to adapt the list of possible enumeration  
values. It makes sense to have a main driving direction

- \* up
- \* down
- \* both

The values "none" (same meaning like "both") and "unknown" (not needed,  
because you can leave the optional attribute out, which means  
"information is unknown") shall be marked DEPRECATED.

What do you think about these adaptations?

Best regards  
Christian

--

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Subject: Re: <track>@mainDir  
Posted by [Thomas Nygreen JBD](#) on Wed, 24 Oct 2018 13:35:19 GMT  
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christian.rahmig wrote on Tue, 02 October 2018 14:33Dear Thomas, dear all,

Am 24.09.2018 um 14:40 schrieb Thomas Nygreen:  
> I see that track@mainDir is still on its way to being  
> deprecated. Just to make it abundantly clear: THIS ATTRIBUTE  
> IS IN USE IN NORWAY. Most of our double track sections are  
> normally operated as "drive on the right", while very few  
> are operated with bidirectional traffic on both tracks. It  
> is useful for us to be able to supply that information in  
> the railML IS.

>  
> Please do not deprecate this attribute.  
>  
> <https://trac.railml.org/ticket/324>  
> [https://wiki.railml.org/index.php?title=Dev:changes/2.4#.3Ctrack.3E.40mainDir\\_DEPRECATED](https://wiki.railml.org/index.php?title=Dev:changes/2.4#.3Ctrack.3E.40mainDir_DEPRECATED)

based on your feedback, the plan of marking the attribute  
<track>@mainDir as being DEPRECATED has been revoked.

Thank you

Quote:However, it is suggested to adapt the list of possible enumeration  
values. It makes sense to have a main driving direction

- \* up
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The values "none" (same meaning like "both") and "unknown" (not needed,  
because you can leave the optional attribute out, which means  
"information is unknown") shall be marked DEPRECATED.

What do you think about these adaptations?

The currently allowed values are only "up", "down", "unknown" and "none". In order not to break  
backwards compatibility, I suggest just removing "unknown", not replacing "none" with "both".

Best regards,  
Thomas

---

Subject: Re: <track>@mainDir  
Posted by [christian.rahmig](#) on Wed, 19 Dec 2018 14:49:02 GMT  
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Dear Thomas, dear all,

Am 24.10.2018 um 15:35 schrieb Thomas Nygreen:

> [...]  
> Quote:  
>> However, it is suggested to adapt the list of possible  
>> enumeration values. It makes sense to have a main driving direction  
>> \* up  
>> \* down  
>> \* both  
>>  
>> [...]  
>

- > The currently allowed values are only "up", "down",
- > "unknown" and "none". In order not to break backwards
- > compatibility, I suggest just removing "unknown", not
- > replacing "none" with "both".

thank you for your feedback. I modified the Trac ticket #324 [1] accordingly, so that we may implement this adaptation of @mainDir enumeration value list with a future version of railML (railML 2.5 or railML 3.x).

[1] <https://trac.railml.org/ticket/324>

Best regards  
Christian

--

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