Dear all,

within railway networks there are special components of infrastructure with
impact to train operation - bascule bridges, tunnel gates or water barriers.
Mainly they have some characteristics in common:

1) They are in infrequent use compared to train operation.
2) They have one position supervised by the interlocking for safe train passage.
3) If they are not in that position their operation is outside the interlocking,
e.g. by a local panel.

Thus the modelling in railML would be similar to a keylock. However, there may
be other data about them needed. The technical time for opening and closing
process might be of interest for calculating the minimum duration of
non-availability for train passage. Additional the typical duration of
non-availability is needed for planning process.

In addition there are networks with more harsh conditions where it is desired to
keep gates at tunnel portals closed most of the time and open them only for
train passage. In that case they are fully controlled by interlocking and the
modelling would be more like level crossing.

The question to you is:
a) What are the data you need with such infrastructure?
b) Are there other modes of operation?

--
Best regards,
Joerg v. Lingen - Interlocking Coordinator

ticket for bascule bridge:
https://trac.railml.org/ticket/449

ticket for tunnel gate:
https://trac.railml.org/ticket/450

Best regards,
Joerg v. Lingen - Interlocking Coordinator

Subject: Re: [railML3]: special infrastructure in IL - bascule bridge, tunnel gates
Posted by christian.rahmig on Mon, 18 Jan 2021 14:28:45 GMT

Dear Jörg,
dear all,

the solution proposal formulated in mentioned Trac tickets aims at adapting the IL model. How about the IS view? Or, to make it concrete:
- Do we need tunnel gates in the infrastructure scheme?
- Do we need to extend the attribute @constructionType for bridges/tunnels to flag bascule bridges?

Any feedback is highly appreciated...

Thank you very much and best regards
Christian

Subject: Re: [railML3]: special infrastructure in IL - bascule bridge, tunnel gates
Posted by Heidrun Jost on Mon, 18 Jan 2021 16:10:43 GMT

Dear all,

for tunnel gate and bascule bridge we need the following elements:

1. position in infrastructure (IS element)

2. conditions for opening and closing: (route setting, activationCondition, hasTvdSection) analogue to levelCrossingIL activation/deactivation conditions (IL element)

3. Should we consider more than one track in parallel for a tunnel gate?

Mit freundlichen Grüßen/Best regards
--
Heidrun Jost
Data Manager
Transportation Systems
Thales Deutschland GmbH

Phone: +49 (0) 30 688306 423
Schützenstr. 25 – 10117 Berlin – Germany

Am 06.12.2020 um 06:20 schrieb Joerg von Lingen:
> Dear all,
>

> within railway networks there are special components of infrastructure with
> impact to train operation - bascule bridges, tunnel gates or water barriers.
> Mainly they have some characteristics in common:
>
> 1) They are in infrequent use compared to train operation.
> 2) They have one position supervised by the interlocking for safe train passage.
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> e.g. by a local panel.
>
> Thus the modelling in railML would be similar to a keylock. However, there may
> be other data about them needed. The technical time for opening and closing
> process might be of interest for calculating the minimum duration of
> non-availability for train passage. Additional the typical duration of
> non-availability is needed for planning process.
>
> In addition there are networks with more harsh conditions where it is desired to
> keep gates at tunnel portals closed most of the time and open them only for
> train passage. In that case they are fully controlled by interlocking and the
> modelling would be more like level crossing.
>
> The question to you is:
> a) What are the data you need with such infrastructure?
> b) Are there other modes of operation

Subject: Re: [railML3]: special infrastructure in IL - bascule bridge, tunnel gates
Posted by Jörg von Lingen   on Sat, 23 Jan 2021 06:47:21 GMT
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Dear Christian,
dear all,

to answer your questions - yes, we will need extensions in IS.

1) We shall have a new element "tunnelGateIS" in functionalInfrstructure, which
shall provide the position of this gate and the relation to the <overcrossing>
(tunnel).
For small tunnels the exact position might be neglectable and just using the
tunnel position. However, for longer tunnels the gates will be controlled
separately and thus we need to know on which end of the tunnel (or even in its
middle) the gate is located.
In the IL scheme the element will be named "tunnelGateIL".

2) The attribute @constructionType may be extended for <undercrossing> (bascule
bridge) to have the information in IS already.

Best regards,

Joerg v. Lingen - Interlocking Coordinator
Am 18.01.2021 um 15:28 schrieb Christian Rahmig:
> Dear Jörg,
> dear all,
>
> the solution proposal formulated in mentioned Trac tickets
> aims at adapting the IL model. How about the IS view? Or, to
> make it concrete:
> - Do we need tunnel gates in the infrastructure scheme?
> - Do we need to extend the attribute @constructionType for
> bridges/tunnels to flag bascule bridges?
>
> Any feedback is highly appreciated...
>
> Thank you very much and best regards
> Christian

Subject: Re: [railML3]: special infrastructure in IL - bascule bridge, tunnel gates
Posted by christian.rahmig on Sun, 20 Feb 2022 16:25:03 GMT
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Dear all,

the introduction of tunnel gates is on the list for implementation with upcoming railML version 3.2. The railML development issue #466 [1] describes the solution in infrastructure as proposed by Jörg:

* introduce a new functional infrastructure element <tunnelGateIS>
* besides the location (see other functional infrastructure elements), a new optional attribute @installedInTunnel (tRef) shall be added
* the <tunnelGateIS> will be referenced from the interlocking schema, where aspects of control are described

Dear community, do you agree with this proposal? Do you have further aspects to be considered for implementation?

[1] https://development.railml.org/railml/version3/-/issues/466

Best regards
Christian

Subject: Re: [railML3]: special infrastructure in IL - bascule bridge, tunnel gates
Posted by Jörg von Lingen on Mon, 21 Feb 2022 05:17:05 GMT
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Dear all,

in addition to Christians post you shall consider that tunnel gates maybe placed:
- at the portals
- at several places within the tunnel

The purpose of tunnel gates can be various:
- controlling the air flow and temperature within the tunnel
- sectioning the tunnel in case of fire (smoke) or water ingress

Depending on this information the requirements for functional control of the gates can vary.

--
Dr.-Ing. Jörg von Lingen - Interlocking scheme coordinator
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