Rail crowds observatory

Name of the lever – name of the station

Pedestrian flow analysis

Given name Family name[1], Given name 2 Family name 2[1,2], Given name 3 Family name 3[2]

[1] **First affiliation** [affiliations are optional]

[2] **Second affiliation**

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In the introduction, a very short description of the lever is made: what is the lever, how it grossly operates, with which effects, and which important particularities. The context of the station can be briefly mentioned. We understand why the lever is interesting. By lever we understand a management measure that can be implemented with reasonable measures and aiming at a substantial effect; therefore, this balance can be mentioned in this introduction.

Contrarily to most scientific papers, this introduction also acts as a summary (similarly to Wikipedia's lead section, for instance). This is done to favour both dissemination and keep the paper as short as possible.

It is great to include one photo from the introduction (and several photos or graphics in the paper).

1   Description of the lever

1.1   Situation

Situation refers to the spatial positioning of the lever in the station and in the journey of station users. It is important both in the railway and the pedestrian contexts. A schema can be very useful to complete the description of the situation.

For digital levers, the situation refers not only to the place that the lever takes in the digital space (in the digital journey followed by the traveller, for instance) but also to the physical space where the lever finally has effects.

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1.2   Operation and effects

This section should answer shortly bus with precision to the following questions: by who and when is the lever activated? What are its (desired and less desired) effects on the behaviour of the users, of the crowd? What is its impact on the station operation (rail operation, pedestrian operation, other functions? When is it decided for the lever use to cease and why?

A schema of the effect of the lever (by instance comparing the situation with or without the lever) is very useful.

1.3   Activation

The 1.2 section states briefly by who and when the lever is activated. This section can bring more precision on these topics, and explains how is the lever actually activated: what is the process? Which manipulations does it involve?

1.4   Classification

Tick X in the appropriate cell of the table for each category.

You can use the text to justify the choice you made.

	100% A	Mostly A	Slightly A	In the middle	Slightly B	Slightly B	100% B
A : Physical <-------> B : Virtual		X					
A : Influence <----------> B : Coercion			X				
A : Easy to activate <----------> B : Complex to activate				X			
A : Cheap <----------> B : Costly			X				
A : Activable if needed <----------> B : Permanently used							X

Table 1: classification of the lever

1.5   Similar levers

Similar levers in the literature, including other descriptions in the Observatory.

2   Characteristics of the station

That section can start by a short summary of how this station is important in the network/the territory… If it is a single point of access, or other unusual characteristics, it is worth mentioning it.

2.1   Frequentation

Statistics about daily/annual frequentation of the station/the area where the lever takes place. It is useful to know more precisely the spatial and temporal repartition of the ridership.

2.2   Transport and service offer

Public transport offer (not only of trains, but also of other modes serving the station). Other transport possibilities, if relevant with pedestrian flow management. Offer of services and shops in the station, if important or relevant.

2.3   Station stakeholders

All the station stakeholders that could be linked with the lever: train operators, station managers, travellers, shop tenants, authorities… What are their interests? How are they represented in decision-taking processes?

2.4   Other levers and flow management measures implemented in the station

Stations might use numerous levers to manage their pedestrian flows. It is important to know which other measures are in place, as they can have an impact on the lever itself.

3 Analysis of the lever

3.1 Costs

Financial costs can be direct (acquiring the tools needed, staff wages) or indirect (impact on punctuality, change of use in the station). It is difficult to estimate the indirect costs, but it is possible to refer to the opinion of the stakeholders on these ones.

It is also possible to consider other kinds of costs (cost in credibility, use of limited staff resource, etc.).

3.2 Gains

Gains are vastly indirect and rarely expressed in monetary units. You can report the actual gains if measured, of an estimation. In our approach, it is best practice to try to convert back these gains to financial value, in order to compare them to the costs (but there is no established methodology for that at this point).

3.3 Existing measure mechanism

Many levers incorporate a custom measure mechanism. You can describe it in this section. Which techniques and indicators does it use?

3.4 Specific measure made for the paper [Optional]

If the measures are not sufficient or if you want to precise them, we encourage you to run by yourself specific measures for this paper. You can present how you did it and what are the results in this section.

3.4.1 Methods

3.4.2 Results

3.4.3 Discussion

3.5 Impact on risks [Optional]

If the lever changes the risk assessment of the station operations, this section explains why.

4 Historic of the lever

The *story-behind-the-lever* might be important. In this section, we encourage you to write the discussions that for this lever to be added in the station. Depending on the actors to who you had access to, we're conscious that this story can be biased – however, it brings value to be able to understand how this kind of decision is taken in different context.

4.1 Decision to implement the lever

How did the idea of the lever come? Which actors pushed for its implementation? Did other actors try to block the implementation?

4.2 First implementation

When did the first implementation happen? What was the reception?

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4.3   Subsequent changes

After the first implementation, were there important changes in the implementation, and why?

4.4   Acceptance

Was the lever accepted easily by the travellers impacted? By staff members? By other stakeholders? Were mitigation measures needed?

5   Replicability

5.1   Similar implementations

Are there similar implementations of such mechanisms that are not described in the literature (if they are, they should go to section 1.5)? Are other implementations planned?

5.2   Ability to reproduce the lever

Identified conditions of success (implication, lever of ridership, spatial configuration…). Ability to scale: would it be easy to reproduce the lever? Is the cost per implementation decreasing?

6   Conclusion

What makes this lever interesting? What did we learn compared to other levers?

7   Bibliography