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**Identification of stations on the AGC network to be defined
as an international passenger railway hub**

Classification of Rail Passenger Stations

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Classification of Rail Passenger Stations

Classification des gares voyageurs ferroviaires
Klassifizierung von Personenverkehrsbahnhöfen

INTERNATIONAL UNION
OF RAILWAYS

Contents

Summary

UIC Leaflet 180 provides a methodology for classification of railway stations according to criteria developed by the UIC working group on stations: the SMGG (Station Manager Global Group).

1 - Purpose

The purpose of the present leaflet is to establish a classification of railway stations according to criteria as homogenous, quantifiable and objective as possible. The final goal is to be able to compare different facilities, thus highlighting differences and potential for improvement.

The present leaflet is also aimed at providing criteria for station owners and managers to improve the management and organisation of their stations.

The classification proposed in this leaflet is not aimed at replacing any existing national classification systems of stations. It is an additional tool to facilitate international benchmarking and singular case studies within the UIC.

2 - Contextual scope

The facilities concerned by the present UIC leaflet are railway stations or stopping points for trains providing commuter, regional or intercity passenger services.

Stations in urban systems such as trams and metros, road stations, airports, sea or inland waterway ports and any other type of passenger service terminal are excluded.

3 - Geographical scope

The present UIC leaflet applies to all stations throughout the world. Certain national specificities may mean the criteria levels have to be modified to suit the local context in some countries.

4 - Classification criteria

The chosen classification system is simple and quantifiable. It is based on objective criteria which are not subject to interpretation.

The system includes 5 criteria categories. Exceptionally, certain countries may add criteria for their own use if necessary.

The 5 selected criteria for station classification are:

Criterion no.1: Daily number of passengers using a train in the station (A)

This number includes only the number of passengers catching a train (departure) in the station, per day.

The counting has to be done on a working day (Monday to Friday). If for a particular station the number of passengers is significantly higher during the weekend than on a working day (i.e. a station in a touristic environment), the counting can be done on a Saturday or Sunday.

Criterion no.2: Daily number of trains stopping in a station to have passengers mounting or exiting (T)

This number consists of:

- Arriving trains (terminal station): each train to be counted as 1 train

- Departing trains (departure station): each train to be counted as 1 train

- Trains crossing the station and having passengers mounting or exiting: each train to be counted as 1 train.

This number consists on the number of physical trains. So, if a physical train is composed on 2 or more numbers of trains, the number to take into account in that criterion is 1.

Criterion no.3: Number of platforms edges (P)

This is the number of platform edges in commercial operation at the station. This is equal to the number of tracks on which trains stop to have passengers mounting or exiting).

This number does not depend to the number of trains which can stop in the station. For example, if 2 trains can leave one platform at each extremity, the number to take into account is 1.

Platforms which are used only for service purposes are not included for this criterion.

Criterion no.4: Station size (S)

This criterion is based on 2 figures:

- The total net public surface (it includes the station hall, the waiting rooms, passageways, stairways, elevators, the free of charge lavatories and the platforms).

- The total net commercial surface (this includes CTN and books, foods and restaurants, grocery and supermarkets, clothing and accessories, gift shops, flowers, stationery, hotels, personal healthcare, commercial services, entertainment and leisure services, lavatories with charge, offices and meeting rooms for rent or sharing on a commercial basis, the space taken by vending machines).

Criterion no.5: Intermodality (I)

This intermodality provides an idea of the connections between the station and other transport modes (metro, tramway, bus, trolley, taxi, cycle and motorcycle parks, car parks, rental and shared bikes, rental and shared cars, link to airport or port).

	0 points	1 point	2 points	3 points
Connexions to buses / trolleybuses / coaches	No	≤ 5 lines	5 < lines ≤ 10	> 10 lines
Connexions to trams / metro	No	≤ 2 lines	2 < lines ≤ 5	> 5 lines
Taxis ranks	No	----	Yes	----
Parking for private transport	No	≤ 100 pl.	100 < pl. ≤ 500	> 500 pl.
Connected to two-wheeler parking	No	≤ 100 pl.	100 < pl. ≤ 500	> 500 pl.
Connexions to airport or to sea port	No	Regional airport or port	----	International airport or port

The value used for classification is the sum of scored points (maximum = 17).

5 - Calculation method

Each afore mentioned criterion is classed on the basis of 5 ranges of values which characterise the 5 station classes.

A coefficient varying between 1 and 5 is thus allocated to each criterion.

The thresholds for the criteria are:

Criterion no.1 (A):

A is the total number of passengers using a train per working day.

A has 5 thresholds:

- $A < 400$ persons → $K(A) = 1$
- $400 \leq A < 7\ 500$ → $K(A) = 2$
- $7\ 500 \leq A < 20\ 000$ → $K(A) = 3$
- $20\ 000 \leq A < 200\ 000$ → $K(A) = 4$
- $A > 200\ 000$ → $K(A) = 5$

Criterion no.2 (T):

T is the total number of trains per day.

T has 5 thresholds:

- $T \leq 30$ trains → $K(T) = 1$
- $30 < T \leq 250$ → $K(T) = 2$
- $250 < T \leq 750$ → $K(T) = 3$
- $750 < T \leq 2\ 500$ → $K(T) = 4$
- $T > 2\ 500$ → $K(T) = 5$

Criterion no.3 (P):

P is the number of platform edges.

P has 5 thresholds:

- $P = 1$ platform edge → $K(P) = 1$
- $P = 2$ → $K(P) = 2$
- $2 < P \leq 5$ → $K(P) = 3$
- $5 < P \leq 10$ → $K(P) = 4$
- $P > 10$ → $K(P) = 5$

Criterion no.4 (S):

S = 0.8 x (Total public areas) + 1.2 x commercial areas

S has 5 thresholds:

- $S \leq 1\ 000\ m^2$ → K(S) = 1
- $1\ 000 < S \leq 5\ 000\ m^2$ → K(S) = 2
- $5\ 000 < S \leq 40\ 000\ m^2$ → K(S) = 3
- $40\ 000 < S \leq 200\ 000\ m^2$ → K(S) = 4
- $S > 200\ 000\ m^2$ → K(S) = 5

Criterion no. 5 (I):

I = sum of scored points for Intermodality

I has 5 thresholds:

- $I \leq 2$ → K(I) = 1
- $2 < I \leq 6$ → K(I) = 2
- $6 < I \leq 10$ → K(I) = 3
- $10 < I \leq 15$ → K(I) = 4
- $I > 15$ → K(I) = 5

Calculation

Each criterion is then weighted according to its importance.

The sum of weightings amounts is 1.

Each coefficient is multiplied by its weighting factor, thus providing a value for each criterion.

All those values (one for each criterion) are then added up, leading to a number "C", as in "Classification".

C=K(A)*0.3 + K(T)*0.2 + K(P)*0.1 + K(S)* 0.2 + K(I)*0.2

This number varies between 1 (when all the coefficients for every criterion have the value 1) and 5 (when all the coefficients for every criterion have the value 5).

Stations are directly classified according to the "C" value.

Five classes are defined:

C > 4	Class "E"
3 < C ≤ 4	Class "D"
2 < C ≤ 3	Class "C"
1.3 < C ≤ 2	Class "B"
C ≤ 1.3	Class "A"

Table 1 : Summarised calculation method

	K = 1	K = 2	K = 3	K = 4	K = 5	Value
1 - Attendance (A)	[persons/day]	[persons/day]	[persons/day]	[persons/day]	[persons/day]	
Total number of passengers catching a train in the station per day	A < 400	400 ≤ A < 7,500	7 500 ≤ A < 20 000	20 000 ≤ A < 200 000	A > 200 000	0,3
2 - Number of trains (T)	[trains/day]	[trains/day]	[trains/day]	[trains/day]	[trains/day]	
Number of trains	T < 30	30 ≤ T < 250	250 ≤ T < 750	750 ≤ T < 2 500	T > 2 500	0,2
3 - Platform edges (P)						
Number of platform edges	P = 1	P = 2	2< P ≤ 5	5 < P ≤ 10	P > 10	0,1
4 - Railway station size (S)	[sq metres]	[sq metres]	[sq metres]	[sq metres]	[sq metres]	
Calculated surface	S < 1 000	1 000 ≤ S < 5 000	5 000 ≤ S < 40 000	40 000 ≤ S < 200 000	S > 200 000	0,2
5 - Intermodality (I)						
Intermodal modes	I ≤ 2	2 < I ≤ 6	6 < I ≤ 10	10 < I ≤ 15	I > 15	0,2

6 - Change of class

When the "C" value is very close to a limit value (e.g. 2.9 or 1.4), it is incumbent on the classifier to decide which class the station is to be included in, on the basis of:

- Comparison with other stations whose class is not debatable

- Precise knowledge of the station by the classifier

- The image of the station.

Likewise, if the "C" value has changed between two calculations (e.g. in case of annual classifications) leading theoretically to a change of class, the classifier is free to:

- Maintain the station in its previous class, particularly if no other element has changed

- Change the class of the station, particularly if some elements have durably changed the status of the station (improvement of intermodality, increase in traffic, construction of new premises, etc.).

Warning