



INTERNATIONAL UNION
OF RAILWAYS

unity, solidarity, universality

Rail Statistics at the UIC

focus on safety at level crossing

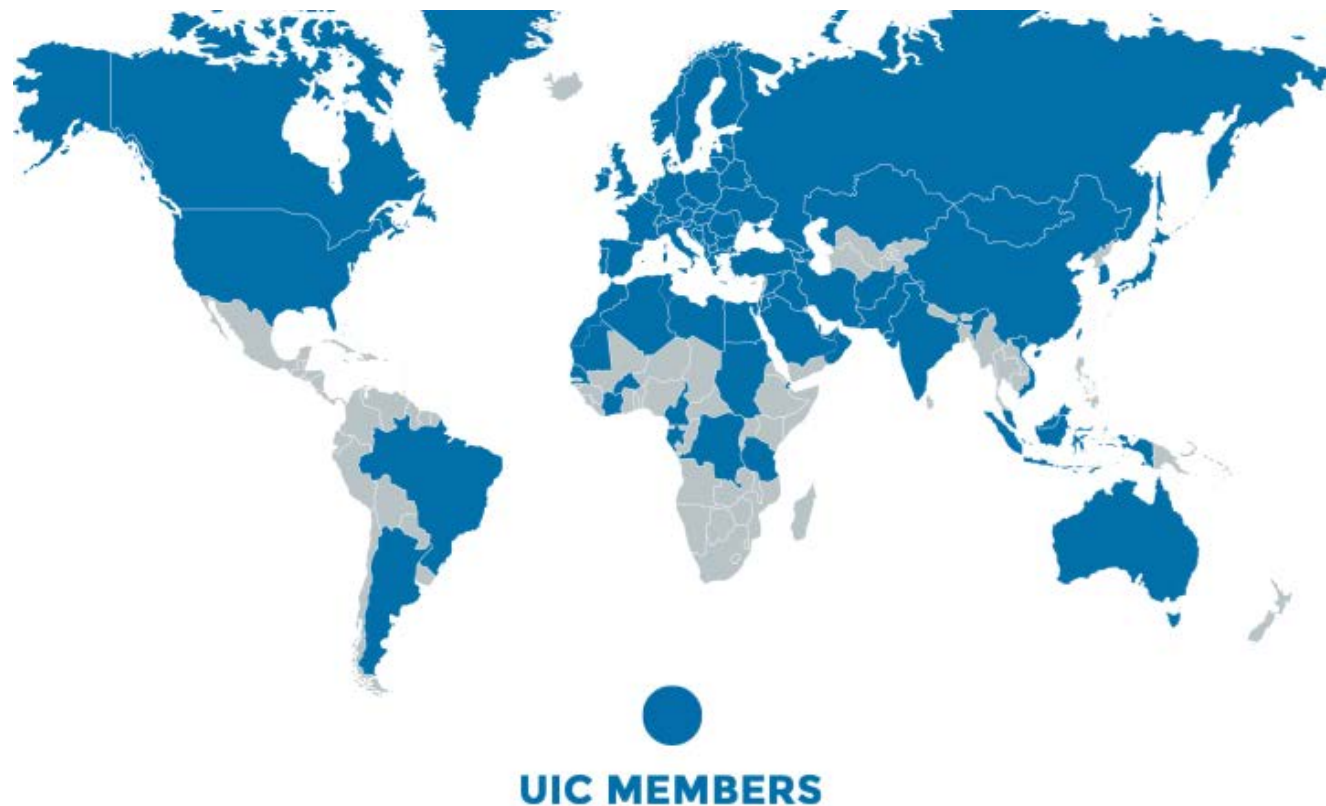
- Data collection: overview
- Significant accidents in Europe
- Level crossings
- Data dissemination
- UIC safety Report
- Safer LC Project

Alice Favre - Statistics Office
favre@uic.org

The **International Union of Railways** counts **196 members**.

>>> **145** are railway companies or associations of railway companies

>>> Other members are administrations, research institutes...



~ **100 railway companies** participate to the statistics group

At least one statistics correspondent per company

Governance

Steering committee :

Chairman: Roman Sterba SZDC (CZ)
17 collaborators from 10 railway companies
+ CER (Communauté Européenne du Rail)

Meeting twice a year

Plenary meeting in November open to all our statistics correspondents.

4 online questionnaires

3 languages: English\French\German



International Railways Statistics data collection tool

User settings ->

- Monthly data : Traffic → Monthly data collection tool ->
- KPIs: Provisional annual data → KPI annual data collection tool ->
- Final annual data → STI annual data collection tool ->
STI Synthesis ->
- 5-yearly data: Network and Rolling stock → Five Yearly Tables data collection tool ->

Questionnaire on Level crossings and features: 15 variables

Questionnaire on significant accidents: 9 variables

<- Logout

>>> additional variables are collected by the **UIC safety Unit**



Data collection: Significant accidents

Company	Country	Code
ADIF	Spain	ES
ADIF AV	Spain	ES
Bane NOR SF	Norway	NO
CFL	Luxembourg	LU
CFR SA	Romania	RO
DB AG *	Germany	DE
Eurotunnel	France - UK	-
HZ	Croatia	HR
Infrabel *	Belgium	BE
IP	Portugal	PT
MÁV	Hungary	HU
ÖBB	Austria	AT
PKP	Poland	PL
PRORAIL **	Netherlands	NL
RFI	Italy	IT
RSSB *	United Kingdom	GB
SBB CFF FFS *	Switzerland	CH
SNCF Réseau *	France	FR
SŽ	Slovenia	SI
SŽDC	Czech Rep.	CZ
Trafikverket *	Sweden	SE
ŽSR	Slovak Rep.	SK

* Members and ** Chair of the Safety Performance Group

European Safety Database members
All participants are Infrastructure managers

<https://uic.org/safety-database>

**Total of 25 variables collected from
21 European Infrastructure Managers
in 19 countries
+ additional questionnaires**



Number of accidents						Number of fatalities						Number of casualties						Number of casualties																																																																
TOTAL	Collisions	Derailments	of persons caused by rolling stock in motion	at level crossings	Other	Collisions and derailments	Other	Collisions and derailments	Other	Collisions and derailments	Other	Total			Collisions and derailments	Other	Collisions and derailments	Other	Collisions and derailments	Other	Total																																																													
												Collisions and derailments	at level crossings	of persons caused by rolling stock in motion							Collisions and derailments	Other	Collisions and derailments	Other	Collisions and derailments	Other	Collisions and derailments	at level crossings	of persons caused by rolling stock in motion																																																					

Contact: Olivier Georger

georger@uic.org

Data collection: Level Crossings

Data type :
 Select year :
 Select a company :
 Select a table :

Step 1 : data entry

		2015	2016	Calc	Comment	var_id	Visibility	Indicators financial	Indicators traffic, staff...
15 - Level crossings									
Number									
Active LC									
Automatic LC									
User side warning (Col.3)	E	8	<input type="text" value="10"/>			1503	Public		
	L		<input type="text"/>			1503	Public		
	N	79	<input type="text" value="74"/>			1503	Public		
	_TOTAL	87	<input type="text" value="84"/>	<input checked="" type="checkbox"/>		1503	Public		
User side protection (Col.4)	E	0	<input type="text" value="0"/>			1504	Public		
	L		<input type="text"/>			1504	Public		
	N	0	<input type="text" value="0"/>			1504	Public		
	_TOTAL	0	<input type="text" value="0"/>	<input checked="" type="checkbox"/>		1504	Public		
User side warning and protection (Col.5)	E	0	<input type="text" value="0"/>			1505	Public		
	L		<input type="text"/>			1505	Public		
	N	0	<input type="text" value="0"/>			1505	Public		
	_TOTAL	0	<input type="text" value="0"/>	<input checked="" type="checkbox"/>		1505	Public		
User side warning and protection + rail side protection (Col.6)	E	62	<input type="text" value="64"/>			1506	Public		
	L		<input type="text"/>			1506	Public		
	N	869	<input type="text" value="867"/>			1506	Public		
	_TOTAL	931	<input type="text" value="931"/>	<input checked="" type="checkbox"/>		1506	Public		
User side warning and rail side protection (Col.6b)	E	0	<input type="text" value="0"/>			1516	Public		
	L		<input type="text"/>			1516	Public		
	N	0	<input type="text" value="0"/>			1516	Public		
	_TOTAL	0	<input type="text" value="0"/>	<input checked="" type="checkbox"/>		1516	Public		
Total automatic LC (Col.7=Col.3 to Col.6b)	E	70	<input type="text" value="74"/>	<input checked="" type="checkbox"/>		1507	Public		
	L		<input type="text"/>	<input checked="" type="checkbox"/>		1507	Public		
	N	948	<input type="text" value="941"/>	<input checked="" type="checkbox"/>		1507	Public		
	_TOTAL	1018	<input type="text" value="1015"/>	<input checked="" type="checkbox"/>		1507	Public		
Manual LC									
	E	0	<input type="text" value="0"/>			1508	Public		
	L		<input type="text"/>			1508	Public		

Number of Active and Passive LC

Active – Automatic and Manual

By type of gauge

Data Dissemination

<http://uic-stats-pp.uic.org/>

RAILISA
UIC STATISTICS


CONSULT-DATA


CONTACT


HELP

LOGIN 

Log in (To get username and password, please send an email to stat@uic.org) ←

USERNAME

PASSWORD

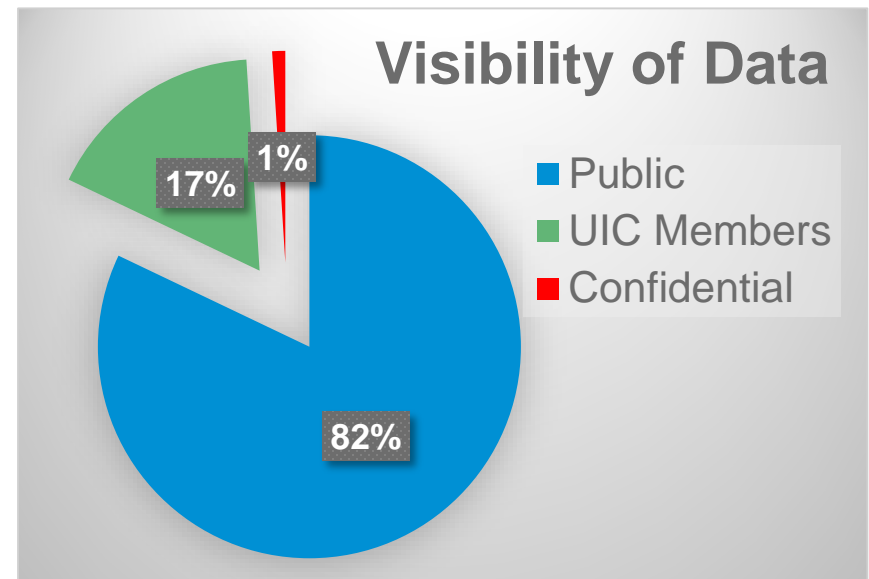
LOG IN

CANCEL

[Reset my password](#)

Public version

More than 80% of data are “public”



Data Dissemination

RAILISA
UIC STATISTICS



PERIOD FROM: 2010
TO: 2016
VARIABLE: INFRA - 1514 : Total Level Crossings
COMPANY: AE - ETIHAD RAIL, AL - HSH, AM - ARM, AM - SCR, AR - ADIFSE, AR - ALL, AR - FEPSA, AR - FSR, AR - NCA, AT - GKB
select all | unselect all

SAVE ✓

- HIGH - 1004 : Length of HS lines - Maximal line speed: 250 km/h and over - e...
- HIGH - 1005 : Length of HS lines - Maximal line speed: more than 160 km/h an...
- INFRA - 1110 : Length of electrified lines - end of year
- INFRA - 1112 : Length of lines worked - end of year
- INFRA - 1113 : Length of tracks - end of year
- INFRA - 1114 : Length of electrified tracks - end of year
- TRAIN - 1204 : Train-km on the network - All types of traction
- TRAIN - 1205 : Train-km on the network - All types of traction - Passenger tr...
- TRAIN - 1206 : Train-km on the network - All types of traction - Freight trains
- TRAIN - 1304 : Gross hauled Tonnekm on the network - All types of traction - ...
- TRAIN - 1305 : Gross hauled Tonnekm on the network - All types of traction - ...
- TRAIN - 1306 : Gross hauled Tonnekm on the network - All types of traction - ...
- INFRA - 1410 : Number of stations and stops - Passenger - Total
- INFRA - 1430 : Approximate average distance between stations
- INFRA - 1514 : Total Level Crossings**
- TRANS - 2104 : Diesel locomotives - end of year
- TRANS - 2106 : Electric locomotives - end of year
- TRANS - 2108 : Diesel railcars - Fleet strength at end of year
- TRANS - 2109 : Electric railcar - Fleet strength at end of year
- TRANS - 2137 : Total DMUs
- TRANS - 2140 : Total EMUs
- TRANS - 2204 : Passenger cars - Coaches - end of year
- TRANS - 2205 : Passenger cars - Multiple unit trainsets and trailers - end of...
- TRANS - 2304 : Railway-owned wagons - at end of year
- STAFF - 3103 : Mean annual staff strength - Infrastructure
- STAFF - 3109 : Staff - Total operation
- STAFF - 3111 : Mean annual staff strength
- TRAIN - 4104 : Train-km - All types of traction
- TRAIN - 4105 : Train-km - All types of traction - Passenger trains

45 variables are available so far

Additional parameters will be made available

Data Dissemination

Contact:
stat@uic.org

1 SELECT 2 VISUALIZE 3 DOWNLOAD

VARIABLE	REGION	COUNTRY	COMPANY	YEAR	VALUE	UNIT
INFRA - 1514 : Total Level Crossings	AFRICA	Democratic Republic of the Congo	SNCC	2010	39	No
INFRA - 1514 : Total Level Crossings	AFRICA	Democratic Republic of the Congo	SNCC	2011	39	No
INFRA - 1514 : Total Level Crossings	AFRICA	Democratic Republic of the Congo	SNCC	2013	21	No
INFRA - 1514 : Total Level Crossings	AFRICA	Democratic Republic of the Congo	SNCC	2014	210	No
INFRA - 1514 : Total Level Crossings	AFRICA	Democratic Republic of the Congo	SNCC	2015	400	No
INFRA - 1514 : Total Level Crossings	AFRICA	Democratic Republic of the Congo	SNCC	2016	400	No
INFRA - 1514 : Total Level Crossings	AFRICA	Cameroon	CAMRAIL	2010	155	No
INFRA - 1514 : Total Level Crossings	AFRICA	Cameroon	CAMRAIL	2011	190	No
INFRA - 1514 : Total Level Crossings	AFRICA	Algeria	SNTF	2015	1226	No
INFRA - 1514 : Total Level Crossings	AFRICA	Gabon	SETRAG	2010	37	No

Download in .csv

Import with Excel

Nom du fichier :

Type :

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Domain	VarID	VarName	Unit	Region	Country	Company	Y 2010	Y 2011	Y 2012	Y 2013	Y 2014	Y 2015	Y 2016
2	Infrastructure	1514	Total Level Crossings	number	AFRICA	Democratic Republic of the Congo	SNCC	39	39	na	21	210	400	400
3	Infrastructure	1514	Total Level Crossings	number	AFRICA	Cameroon	CAMRAIL	155	190	na	na	na	na	na
4	Infrastructure	1514	Total Level Crossings	number	AFRICA	Algeria	SNTF	na	na	na	na	na	1226	na
5	Infrastructure	1514	Total Level Crossings	number	AFRICA	Gabon	SETRAG	37	45	45	44	na	na	na
6	Infrastructure	1514	Total Level Crossings	number	AFRICA	Morocco	ONCF	478	na	na	na	na	376	na
7	Infrastructure	1514	Total Level Crossings	number	AFRICA	Sudan	SRC	na	na	na	87	87	na	na
8	Infrastructure	1514	Total Level Crossings	number	AFRICA	Tunisia	SNCFT	na	1125	na	na	na	na	na
9	Infrastructure	1514	Total Level Crossings	number	AFRICA	Canada	VIA RAIL	na	na	na	na	na	322	na
10	Infrastructure	1514	Total Level Crossings	number	Asia	Japan	CJRC	1900	na	1892	1888	1887	1883	1880
11	Infrastructure	1514	Total Level Crossings	number	Asia	Japan	EJR	7083	7073	7049	7037	6913	6897	6860
12	Infrastructure	1514	Total Level Crossings	number	Asia	Japan	HRC	1795	1786	1780	1778	na	na	1672
13	Infrastructure	1514	Total Level Crossings	number	Asia	Japan	JFRC	224	na	na	na	na	na	na
14	Infrastructure	1514	Total Level Crossings	number	Asia	Japan	KRC	2924	na	2911	2897	2869	2866	2858
15	Infrastructure	1514	Total Level Crossings	number	Asia	Japan	SHRC	1326	1326	1326	1325	1325	1322	1322





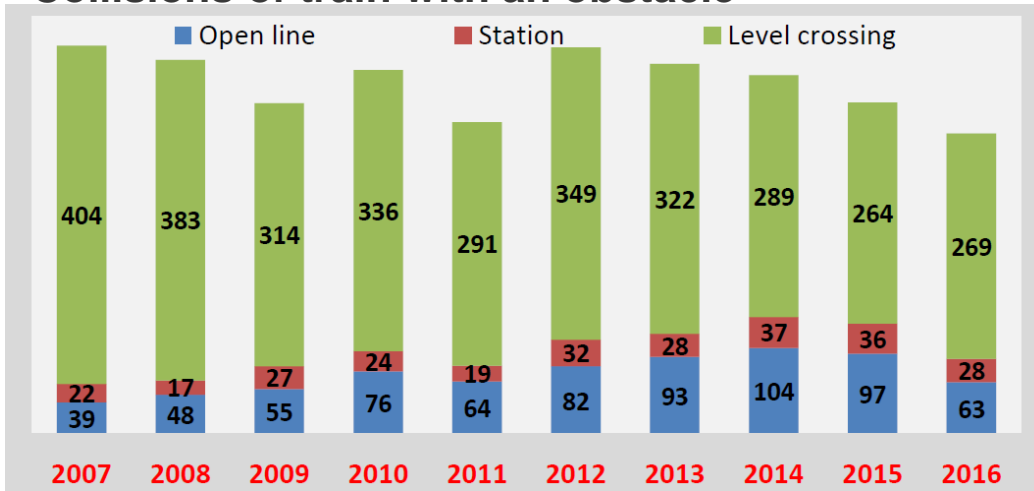
The number of accidents due to internal causes decreases relatively faster than those induced by external causes.

<https://uic.org/safety-database>

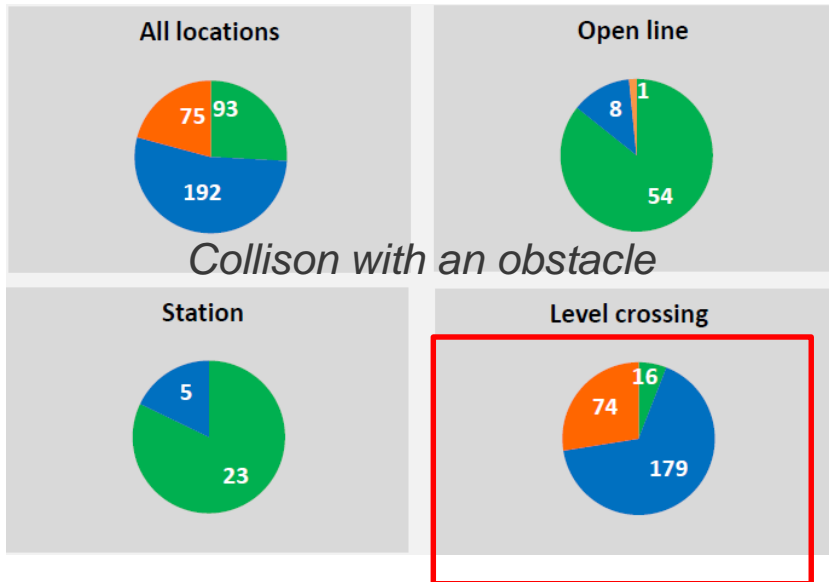
About 80% of railway accidents are caused by third parties (e.g. trespassing)

Individual hit by train is the main type of accident (~60%), followed by collision with an obstacle (~20%)

Collisions of train with an obstacle



>>> most of **collisions** with an obstacle happen at **level crossings**



>>> and most of the time make more than one victim.

- Accidents with two or more victims
- Accidents with one victim
- Accidents without victims



<https://uic.org/safety-database>



Safer Level Crossing by integrating and optimizing road-rail infrastructure management and design

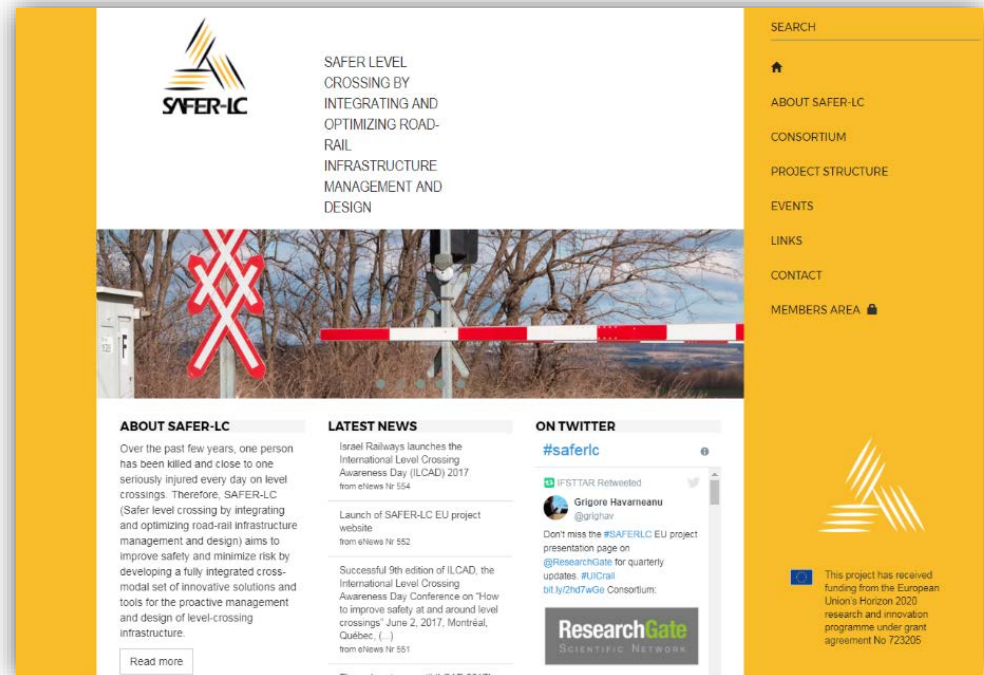


- **Time frame:** 01/05/2017 – 30/04/2020
- **Budget:** 4.9 M€
- **Coordinator:** UIC Security Division
- **Partners:** 17 partners from 10 countries

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 723205

Aims

- Focus on technical solutions and on human processes to improve safety at and around LCs
- Focus on 'self-explaining' and 'forgiving' infrastructure
- Develop a toolbox which will integrate all the project results and solutions





Check public deliverables at:

<http://safer-lc.eu/deliverables-publications-5>

- D1.1 – Analysis of level crossing safety in Europe and beyond
- D1.2 – Level crossing accidents and factors behind them



Website

www.SAFER-LC.eu

Contact

info@safer-lc.eu

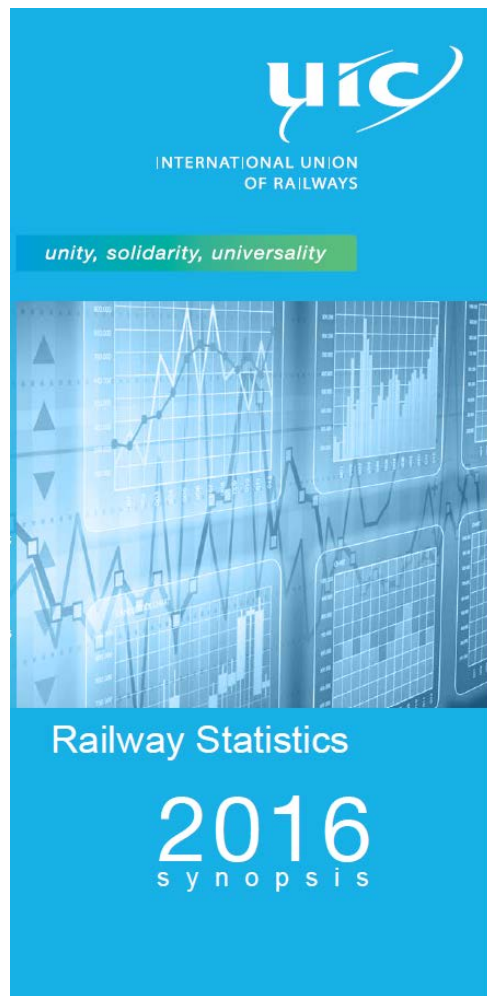
#SAFERLC on social media

<https://events.uic.org/safer-lc-mid-term-conference>



Other publications

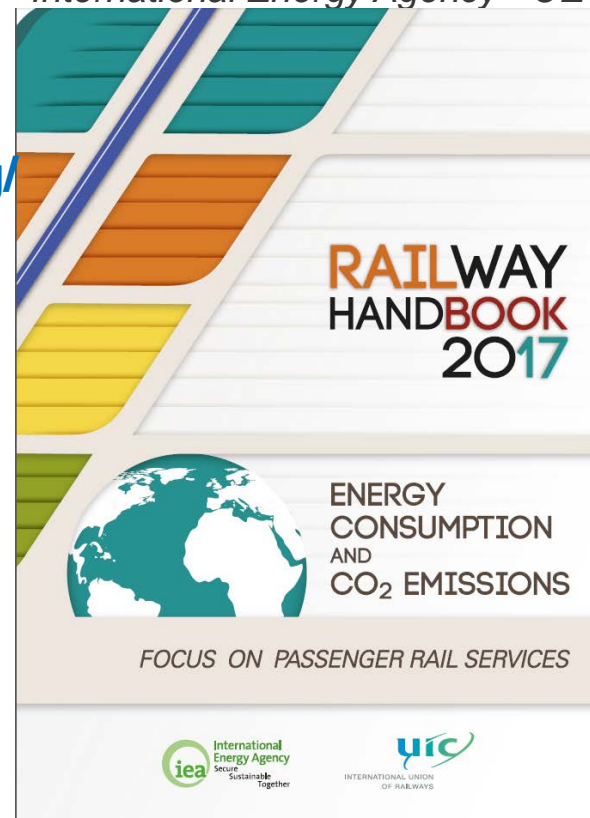
Railway Synopsis
KPIs- Provisional data



<http://www.uic.org/>

Railway Handbook:
Energy Consumption and
CO2 emissions.

*In collaboration with the
International Energy Agency - OECD*



■ ■ ■ **Thanks for your attention!**

Acknowledgment:

Thanks to **Olivier Georger** from the UIC Safety Unit
and **Grigore Havarneanu** from the Security Unit for
their contribution