



**SUR LA VOIE
DU GIU**



Level crossings in France

March 2014- Virginie Taillandier and Jean Luc Balacey

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Agenda

- Level crossings in regulation
- Focus on different types of level crossings
- Few pictures
- Numbers of level crossings
- Evolution of accidents

Regulation

- The Ministerial Order of March, 18th 1991 defined the classification, regulation and equipment of level crossing.
- There are 4 categories:
 - ☐ Level crossings equipped with automatic light signal with or without barriers
 - ☐ Level crossings equipped with St. Andrew's cross
 - ☐ Pedestrians level crossings
 - ☐ Private level crossings

Level crossings equipped with automatic light signal with or without barriers

- **There are different kinds of automatic level crossings:**
 - ❑ « SAL 0 » : equipped with flashing red lights and bells but without barrier
 - ❑ « SAL 2 » : equipped with flashing red lights, bells and 2 half barriers
 - ❑ « SAL 2 garded » is equipped with flashing red lights, bells and full barriers operated by an agent of the railroad
 - ❑ « SAL 2 B » is equipped with flashing red lights, bells and full barriers (it remains less than 10 and we are to transform either with two or four half barriers)
 - ❑ « SAL 2 FC » is equipped with flashing red lights, bells and 2 half barriers. But crossing by train is carried out if the lights Side marker is green
 - ❑ « SAL 4 » is equipped with flashing red lights, bells and 4 half barriers
- **The lights switch on and the buzzer snaps for 7 seconds before the lowering of barriers which occurs in about 9 seconds.**
- **For the SAL2 , the announcement period is 25 seconds for the fastest train**
- **Level crossing equipped “SAL 4” have a notification period increased due to the closing of the half barriers of exit after half barriers of entry. Depending on the speed of the trains, the announcement period is from 35 to 45 seconds**
- **In 2013, there were 10,844 automatic level crossings of which 10,445 on operated lines**

Level crossings equipped with St. Andrew's cross

- These level crossings are open to traffic of all road users without half or full barrier and without the supervision of an agent of the railroad operator
- Level crossings with St. Andrew's cross can be equipped with or without a STOP sign
- The speeds of trains are less than 140 km / h
- In 2013, there were 3,478 level crossings with St Andrew of which 2,805 on operated lines

Pedestrians level crossings

- **Pedestrians level crossings are used only by pedestrians under their own supervision and without agent of the railroad operator**
- **The level crossings can be equipped with or without gates and with or without light pictogram**
- **In 2013, there were 796 pedestrians level crossings of which 719 on operated lines**

Private level crossings

- Private level crossings are used by cars and / or pedestrians under their own responsibility
- The right to use the crossing by people is defined in an agreement
- Level crossings equipment are based on criteria such as:
 - ☐ Speed of trains
 - ☐ Traffic moment (number of trains x number of road vehicles per day)
 - ☐ Importance of daily traffic
 - ☐ Visibility of the user of the level crossing on trains
- In 2013, there were 1,039 private level crossings of which 874 on operated lines

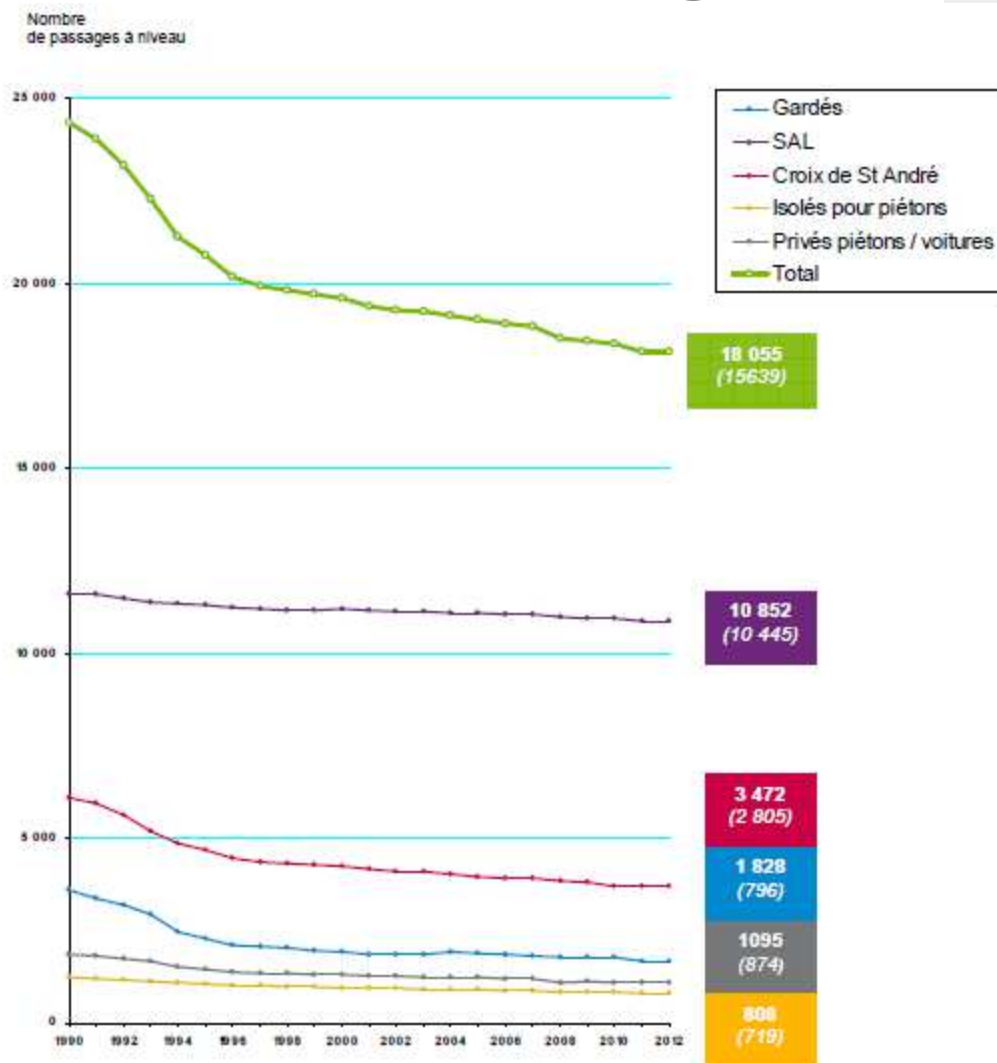
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Some pictures



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Numbers of level crossings in France in 2013

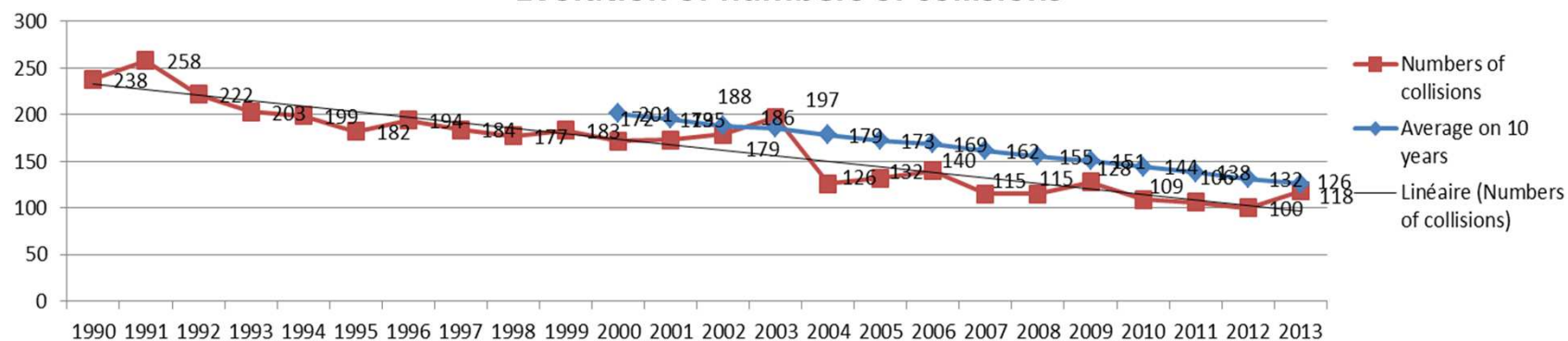


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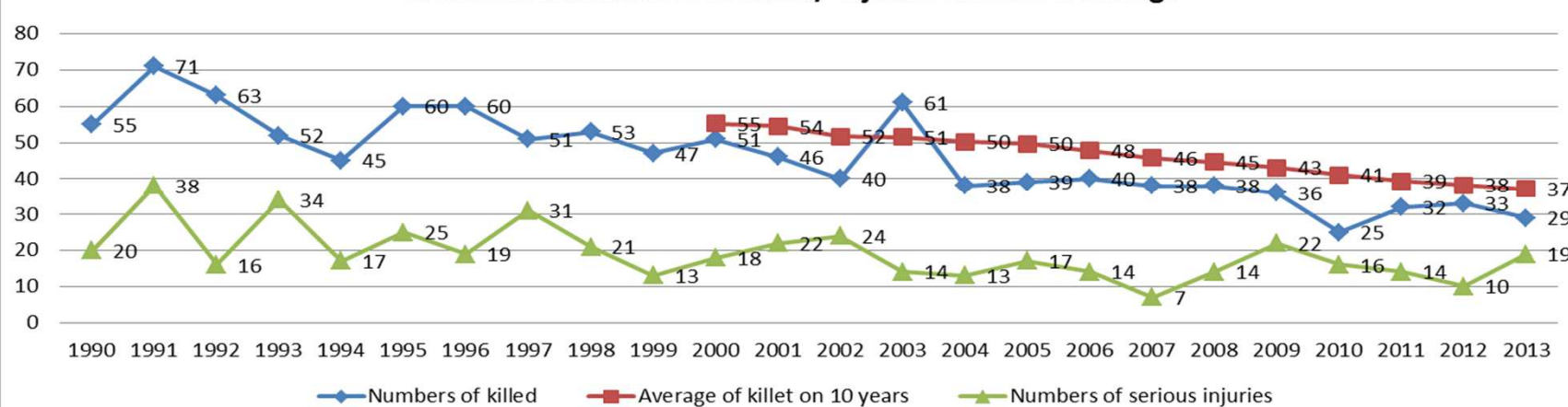
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Evolution of accidents in France

Evolution of numbers of collisions



Evolution of numbers of killed/ injuries at level crossings





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Feedback of speed radar at level crossings

April 2014- Virginie Taillandier

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Summary

- Description of speed radar at level crossings
- Mapping of speed radar
- Few examples of level crossings
 - LC 289 of Agde (Languedoc Roussillon)
 - LC 43 of Coyolles (Nord Pas Calais Picardie)
 - LC 93 of Etrembières (Rhône Alpes Auvergne)
 - LC 15 of Isle sur Sorgue (Provence Alpes Côtes d'Azur)
 - LC 6 of Château de Gadagne (Provence Alpes Côtes d'Azur)
 - LC 5 of Milhaud (Languedoc Roussillon)

Description of speed radars

- ☐ Implanted near a level crossing registered on the list of the ministry
- ☐ 23 level crossings have been equipped with speed radars in 2009 and 2010



- ☐ **Amount of the breach depends on the speed of overtaking:**
 - ☐ The fixed fine is between 68€ and 3750€
 - ☐ A withdrawal from 1 to 6 points on the driving licence
 - ☐ From 30 kph above the limitation, a suspension of 3 years of the driving licence
 - ☐ From 40 kph above the limitation fixed immobilization and/or seizure of the vehicle
 - ☐ In case of second recurrence of exceeding the speed limit superior or equal to 50 kph, jail sentence of 3 years
- ☐ **The analysis was made on 6 level crossings having the most important number of breaches and accidents**

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Mapping of level crossings equipped with speed radars

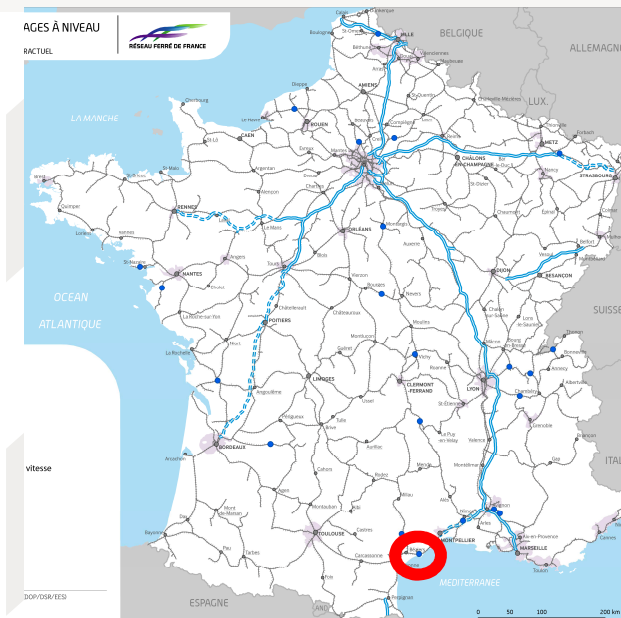
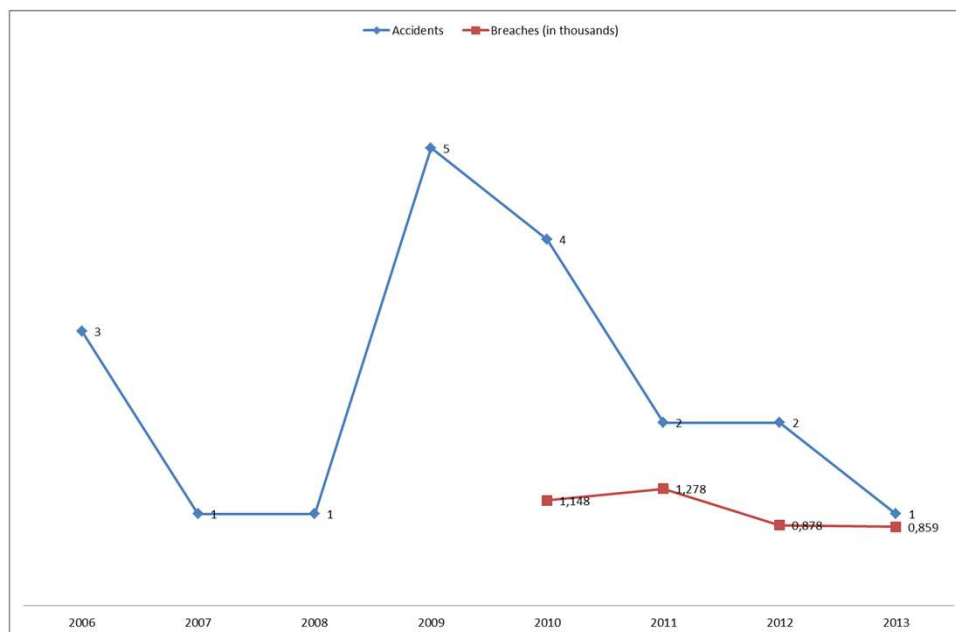


N° LC	Town	Line	Département
61	Béon	890 000	01
34	St Denis en Bugey	890 000	01
43	Coyolles	229 000	02
7	Creuzier le vieux	785 000	03
425	Chaniers	500 000	17
193	Bengy sur craon	690 000	18
427	Bergerac	629 000	24
5	Milhaud	819 000	30
289	Agde	640 000	34
13	Bédarieux	722 000	34
41	St André le gaz	905 000	38
36	Vercia	880 000	39
89	Salzuït	790 000	43
397	La Baule	516 000	44
76 bis	Machecoul	534 000	44
38	Amilly	750 000	45
82	Brulange	140 000	57
34	Strazeele	195 000	59
29	Chambly	325 000	60
93	Etrembières	897 000	74
55	Ectot les baons	340 000	76
6	Chateaneuf de gadagne	925 000	84
15	L'isle sur la sorgue	925 000	84

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LC 289 of Agde

- Automatic LC with 4 half barriers on secondary road
- Speed of trains 160 km/h
- Equipped with radars in 2009
- Ongoing behaviorial study

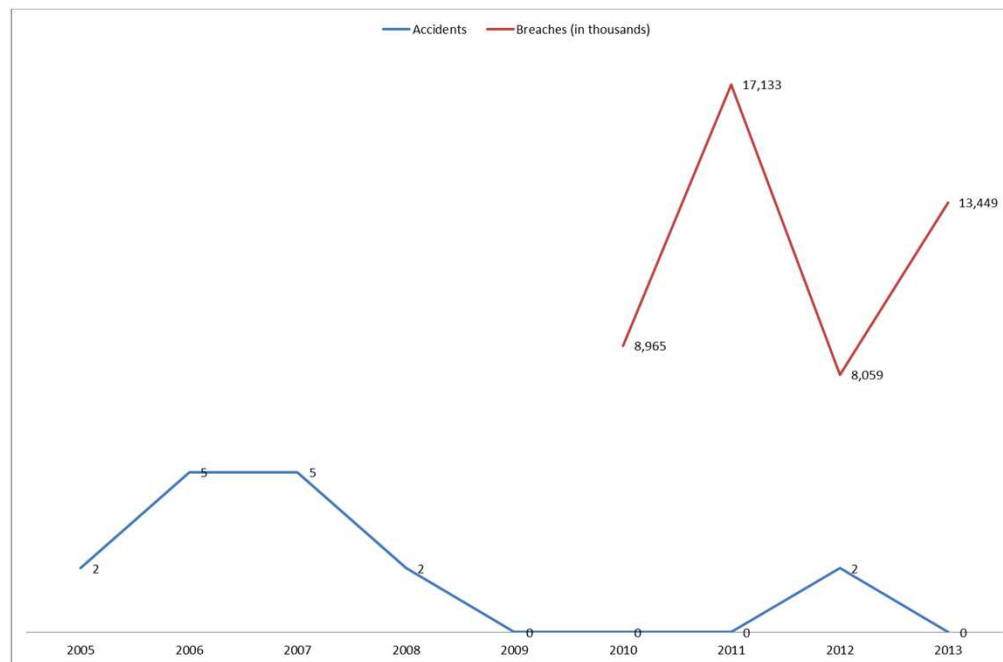


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LC 43 of Coyolles

- Automatic LC with 2 half barriers on main road
- Speed of trains 140 km/h
- Equipped with radars in 2009

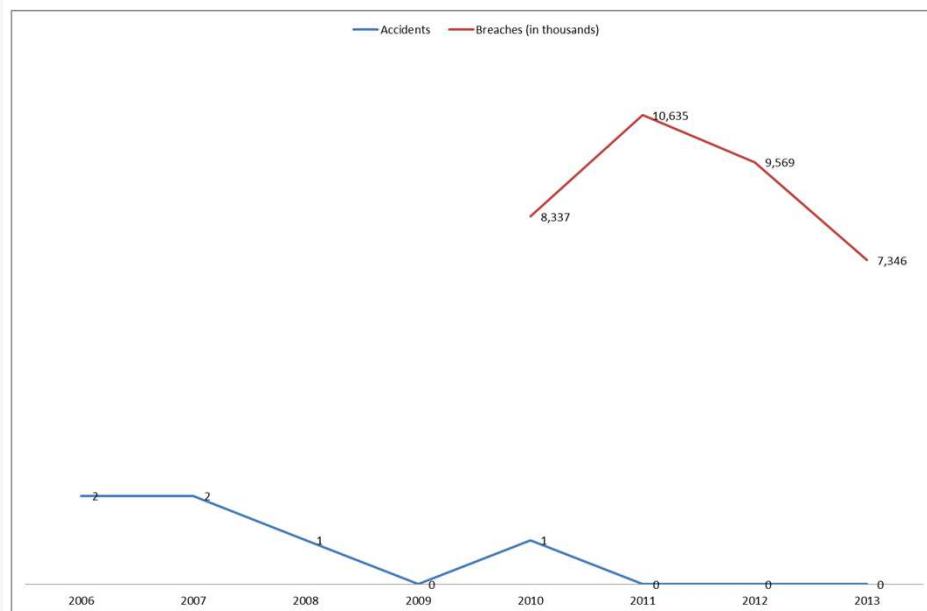
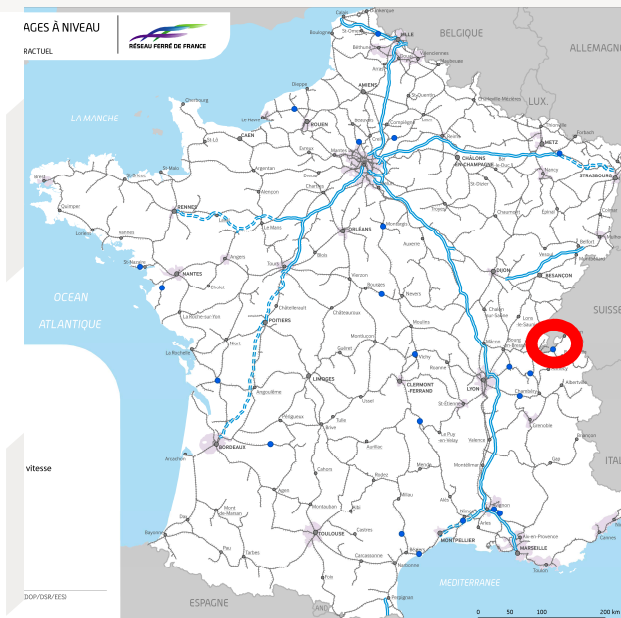


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LC 93 of Etrembières

- Automatic LC with 2 half barriers on secondary road
- Speed of trains 80 km/h
- Equipped with radars in 2008

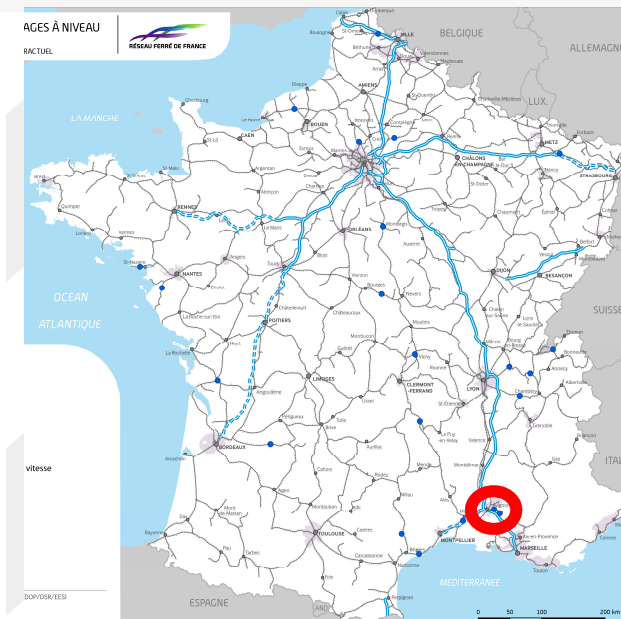
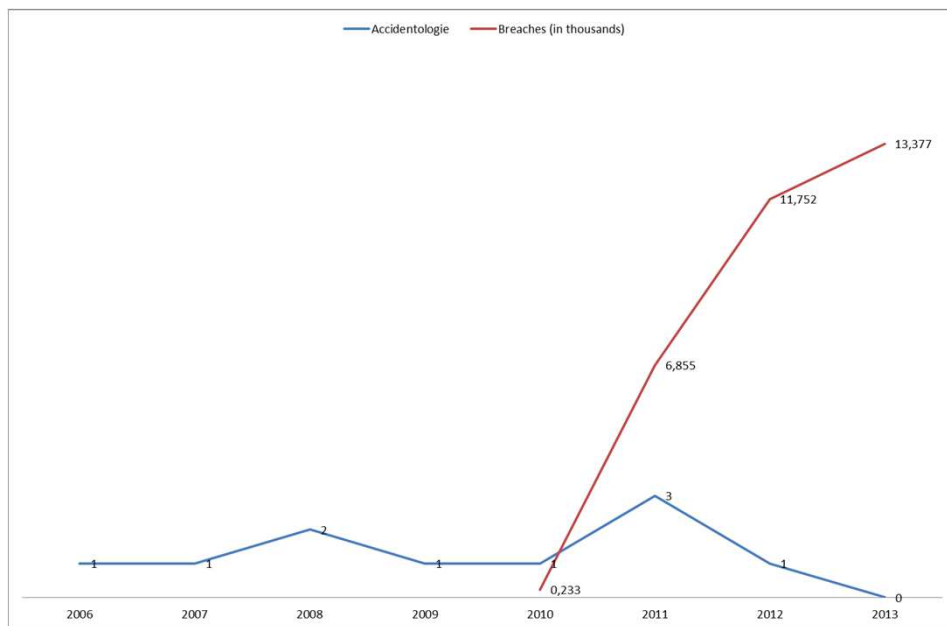


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LC15 of Isle sur Sorgue

- Automatic LC with 4 half barriers on secondary road
- Speed of trains 130 km/h
- Equipped with radars in 2009

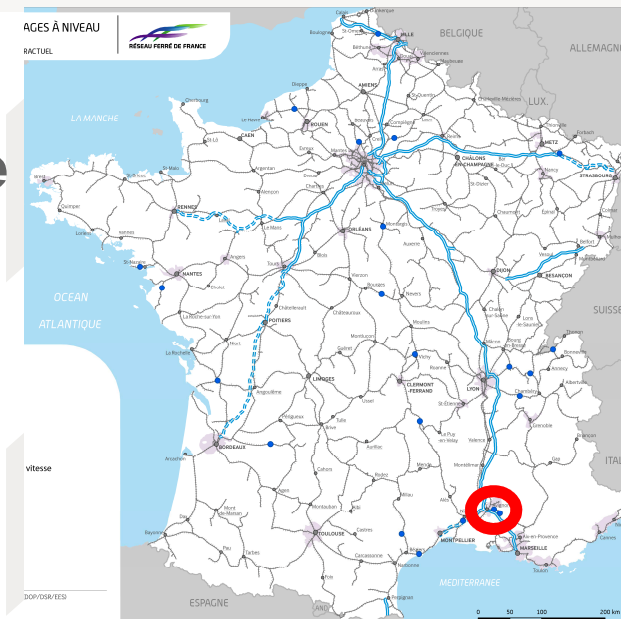
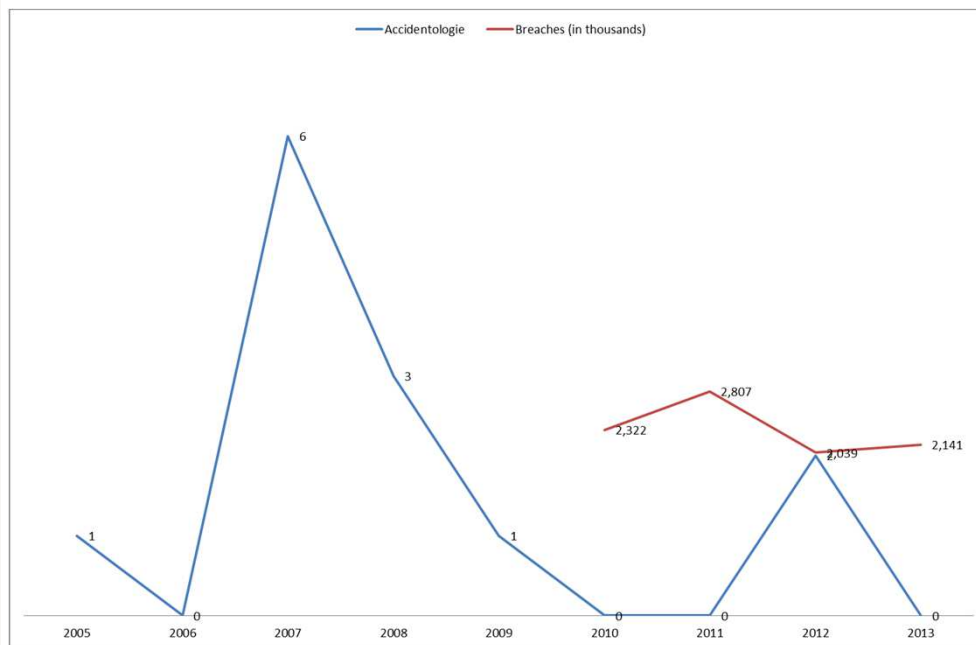


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LC 6 of Châteauneuf de Gadagne

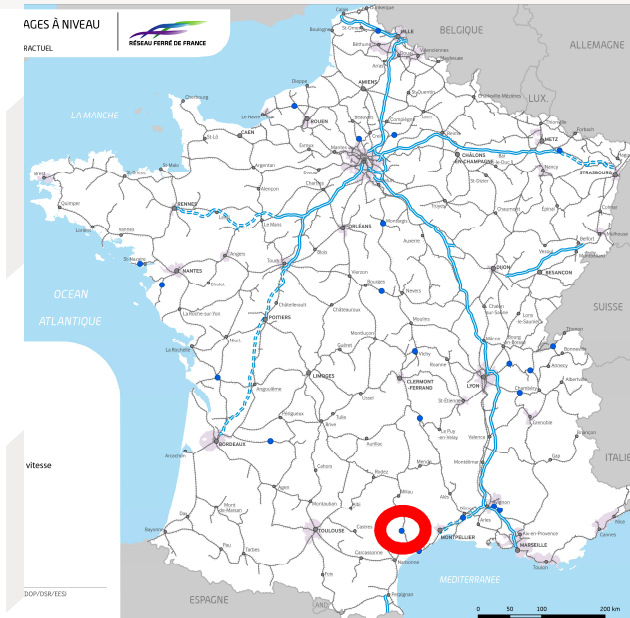
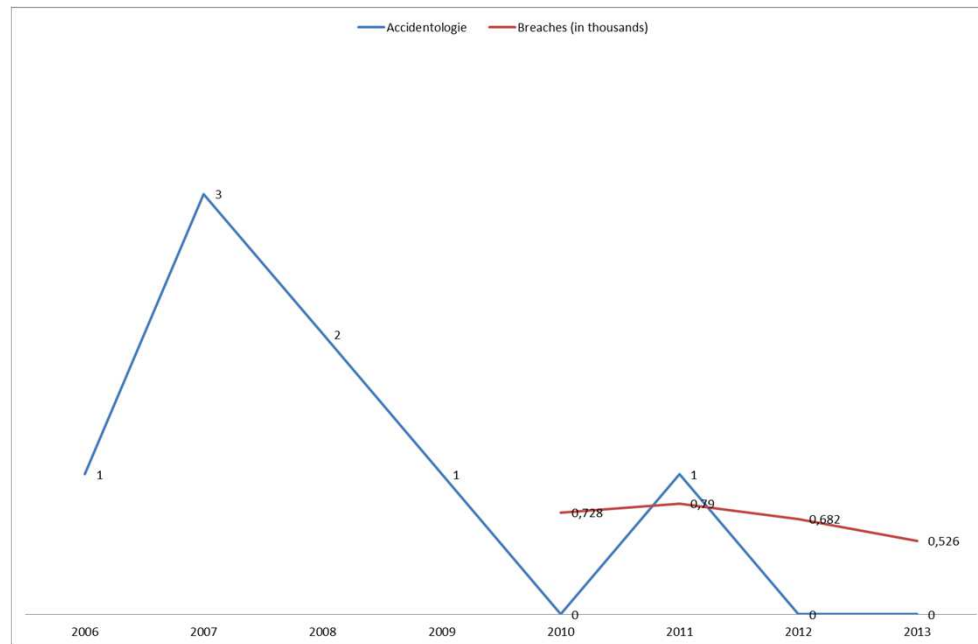
- Automatic LC with 2 with diving island on secondary road
- Speed of trains 110 km/h
- Equipped with radars in 2009 and 2011



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LC 5 of Milhaud

- Automatic LC with 2 half barriers on secondary road
- Speed of trains 100 km/h
- Equipped with radars in 2011



Conclusion

- ❑ In spite of the implementation of speed radar on some LC, we can observe that the number of breach continues to increase or stays in the same level (LC 15 of Isle sur Sorgue or LC 6 of Chateauneuf de Gadagne)
- ❑ Some LC Observe on the other hand a real reduction of the accident since the implementation of the radar (LC 5 of Milhaud)
- ❑ Others LC keep an identical number of accidents but for other reasons that the speed, like in 2011 on LC 15 of l'Isle sur Sorgue with a suicide
- ❑ Having no index forms on the other events, the causes of accidents arisen after the setting up of the speed radar were not able to be analyzed