

2014 Global Level Crossing
Safety and Trespass Prevention Symposium
University of Illinois at Urbana-Champaign



Education for Pedestrians at Level Crossings

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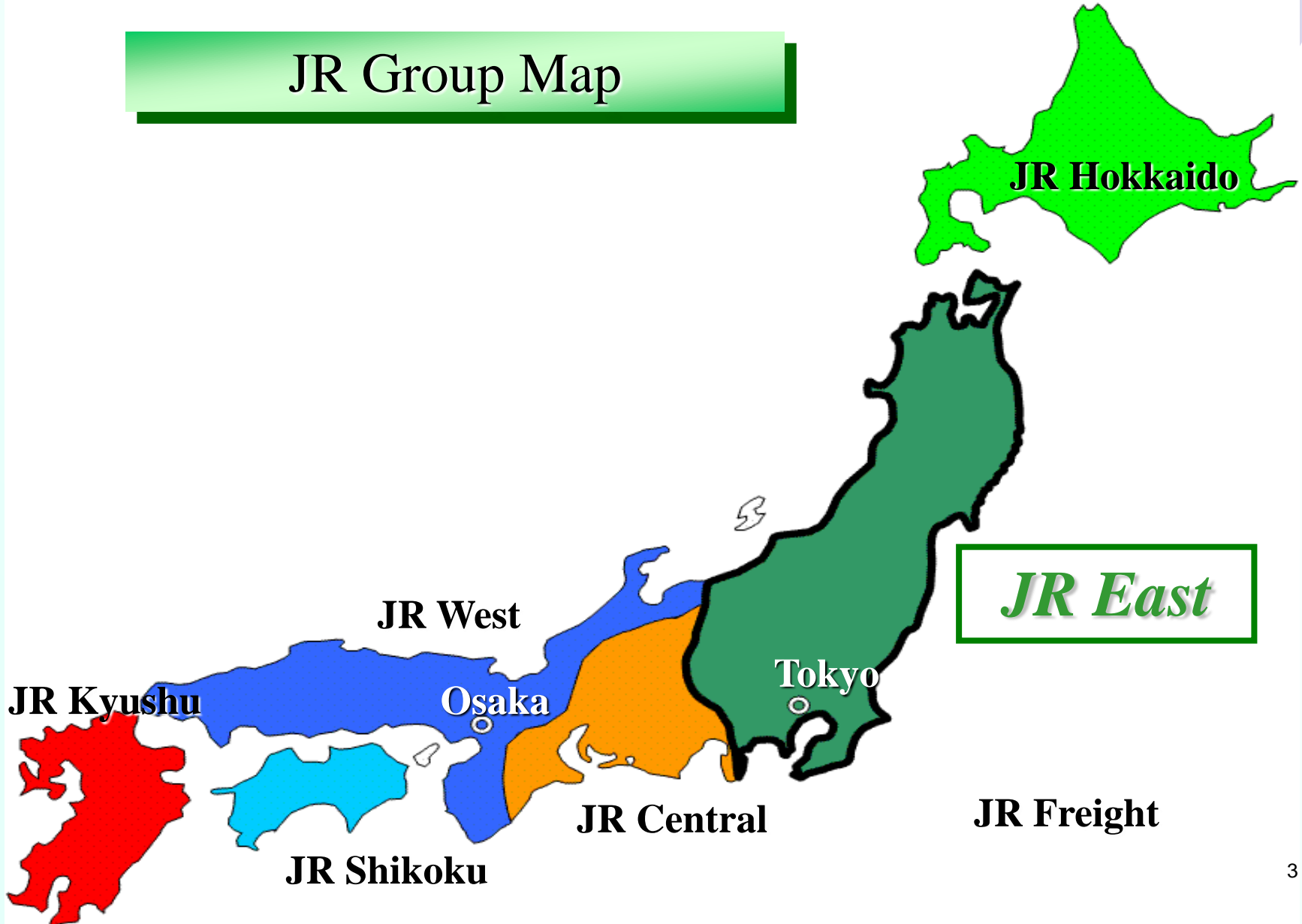
Transport Safety Department
East Japan Railway Company



- 1. Outline of JR East**
- 2. JR East Group Safety Plan 2018
(five-year safety plan)**
- 3. Main efforts for level crossing safety**
- 4. Education for pedestrians at level
crossings**
- 5. Pursuing “Ultimate Safety”**

Outline of JR East

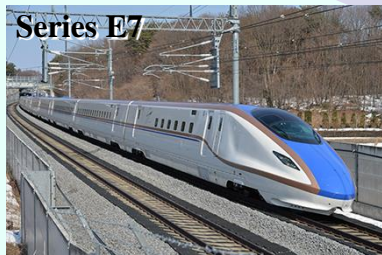
JR Group Map



Outline of JR East

(As of April 1, 2013)

Employees	59,370
Working line-kilometers	7,512.6 km
Stations	1,688
Passengers carried	About 16 million/day
Trains operated	12,784/day
Units of rolling stock	13,469
Number of level-crossings	7,037



Shinkansen



Shinkansen

- Shinkansen lines
- (- - - - - Under construction)
- Conventional lines

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6th Five-Year Safety Plan

“JR East Group Safety Plan 2018”



Ultimate Safety



Accidents involving passenger injuries or fatalities
Accidents involving employee fatalities



0

3 Directions

Accidents caused
by railway system

Completely
Prevented
⇒ nil

Accidents caused by
car driver behavior
at level crossings
and passenger behavior
on the platform, etc

Implementation of efforts in level
crossing safety in cooperation
with pedestrians, car drivers,
and the community in general

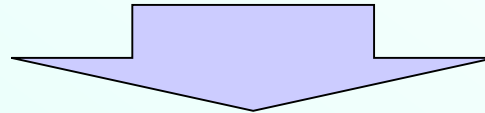
Accidents caused by
external factors including
natural disasters
involving earthquake, snow,
rain, wind, etc

Reduction of risk
where possible

■ For "Accidents Closely Related with Society",
Develop Comprehensive Solution in the Community

Risks at level crossing

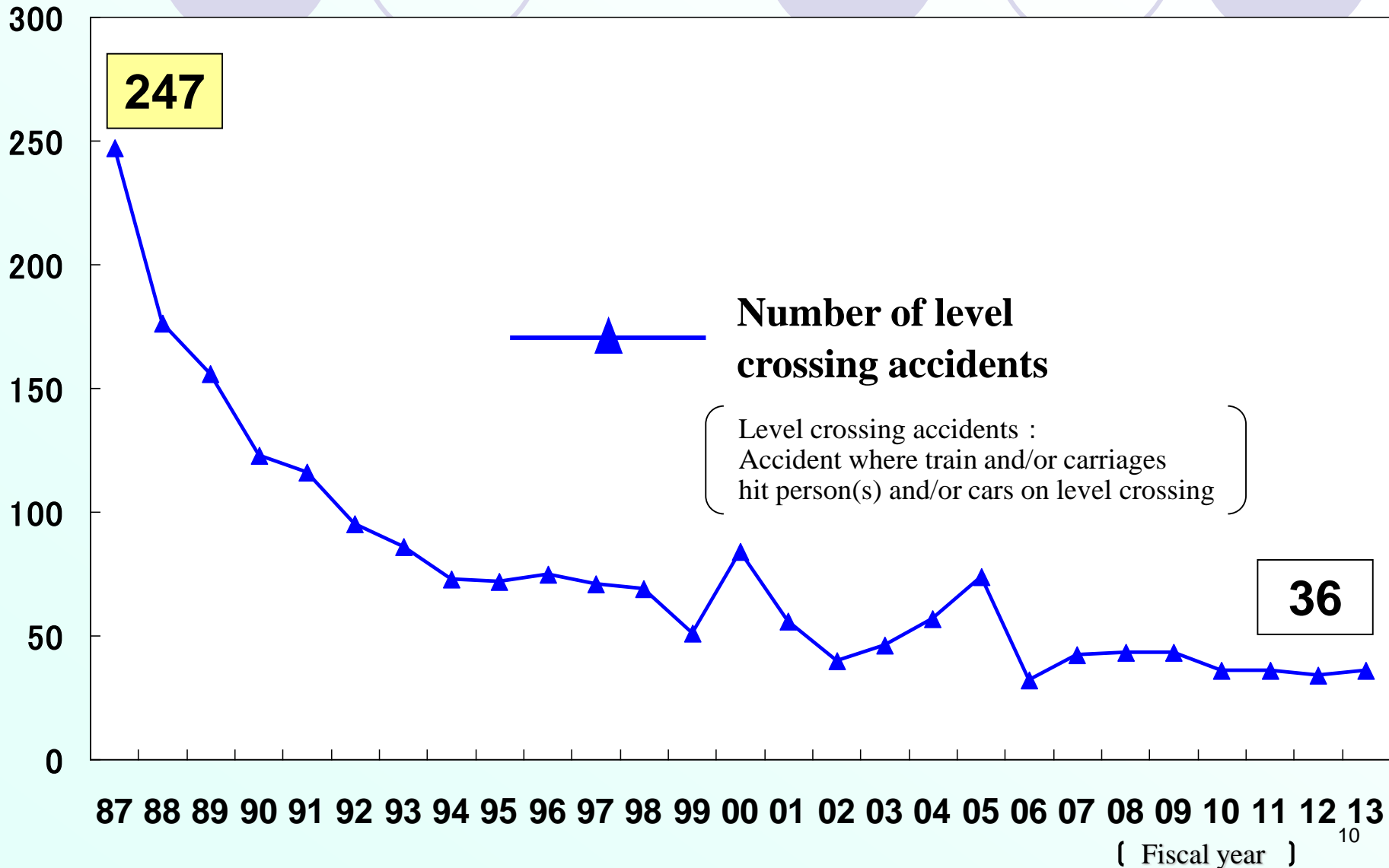
- Trains collide with cars, killing / injuring passengers on board
- Crossing pedestrians killed or injured



- ◇ Install obstruction warning devices for level crossings and equip obstacle detectors.
- ◇ In addition to our campaign, we also work on the abolishment of certain level crossings through the cooperation of local governments and citizens.

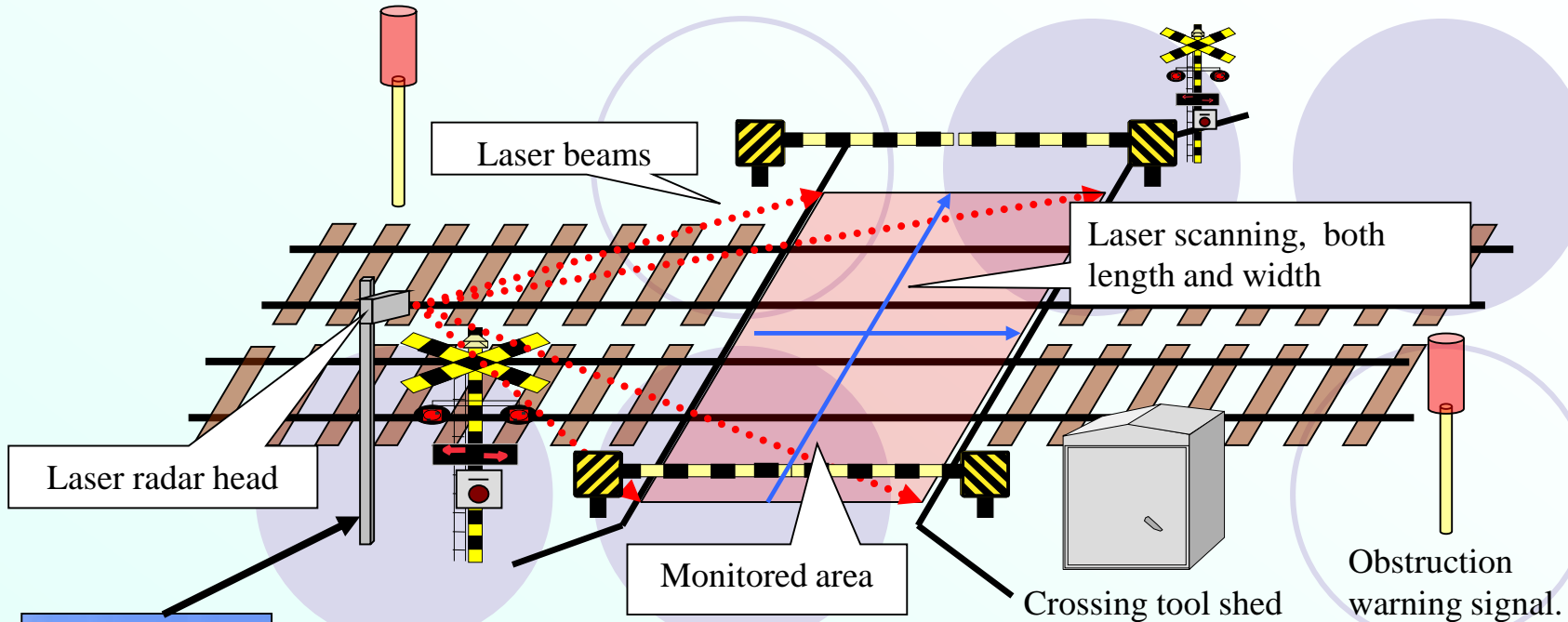
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Trend in the number of level crossing accidents



Level crossing obstruction detectors

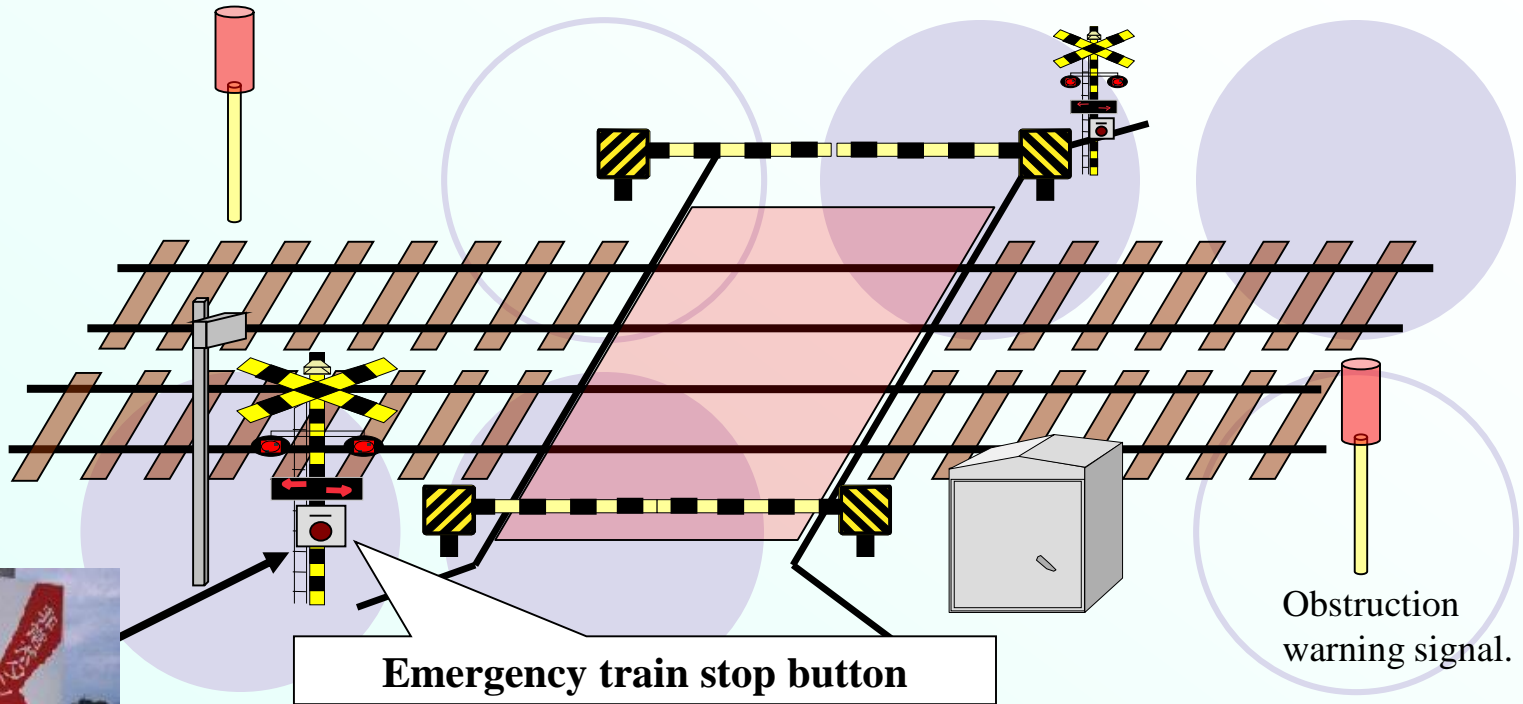
3D laser radar system



On the basis of 3-dimensional data measured by laser beams, obstructions are detected in a pre-determined monitoring area and the obstruction warning signal displays a stop signal to the train.

Installed detectors 2754 (42% rate)

Emergency train stop button



When an error or irregularity at a level crossing is noticed, pedestrians or drivers press the emergency train stop button. Then the obstruction warning signal displays a stop signal for the train.

Installed detectors 4154 (63% rate)

Classifications of level crossing in Japan

Class 1 , Level crossing

- Crossing gates are lowered to close road traffic for all passing trains.

Class 2 , Level crossing

- Crossing gates are lowered to close road traffic for trains passing during certain hours (e.g., rush hour)
(This class no longer exists in Japan)



Class 3 , Level crossing

- An alarm is installed to signal the approach of trains.

Class 4 , Level crossing

- A crossing other than above classes.

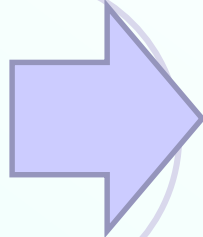
There are still some Class 4 level crossings, that is without crossing gates or alarms, mainly in rural areas.



Countermeasures for Class4 crossings



Class 4



Class 1

Upgrading level crossing

Along with upgrading to Class 1 crossings, we are considering combining or eliminating of level crossings.

Countermeasures for Class4 crossings



Barriers will continue to be installed to prevent entry of automobiles and to encourage pedestrians and bicycle riders to stop before crossing.

Countermeasures for Class4 crossings

Signboards to alert pedestrians

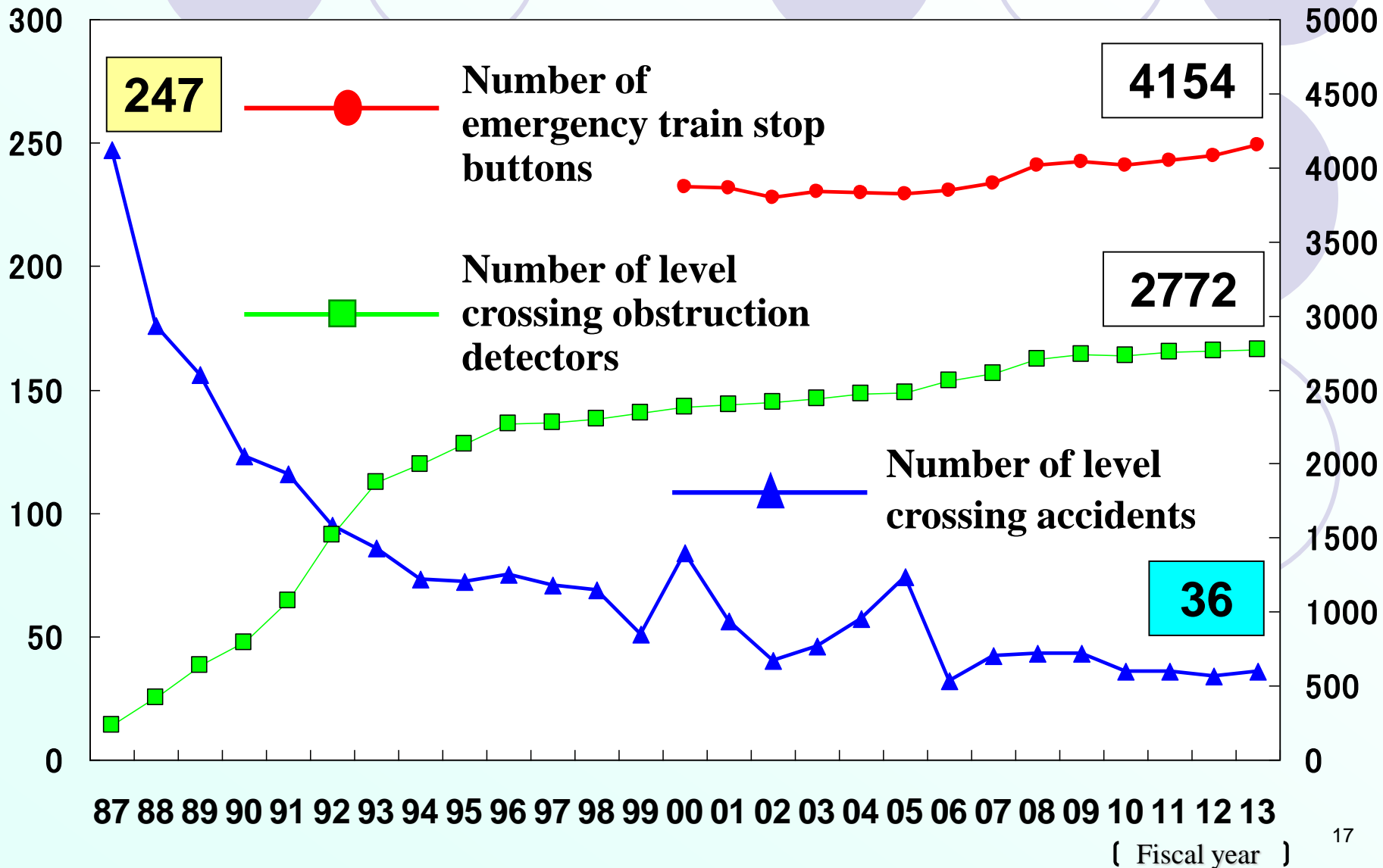


LED lighting
with solar cells



Installed all class 4 crossings

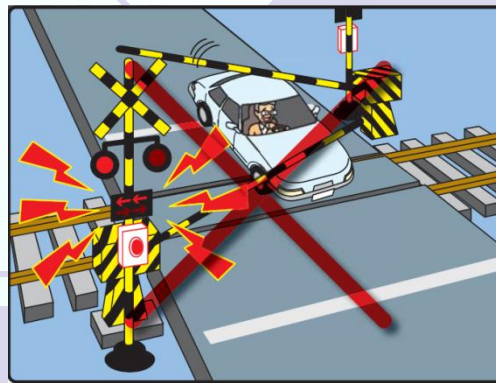
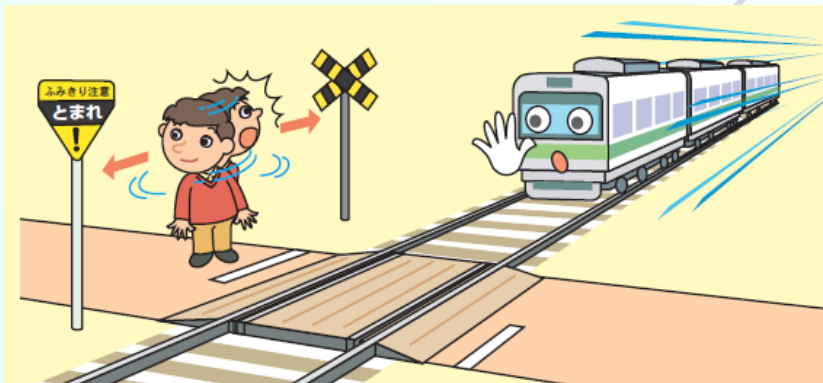
Trend in the number of level crossing accidents



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Education for pedestrians at level crossings

- We have been implementing the “Campaign for Zero Level Crossing Accidents” every year since 1991.



For senior citizens



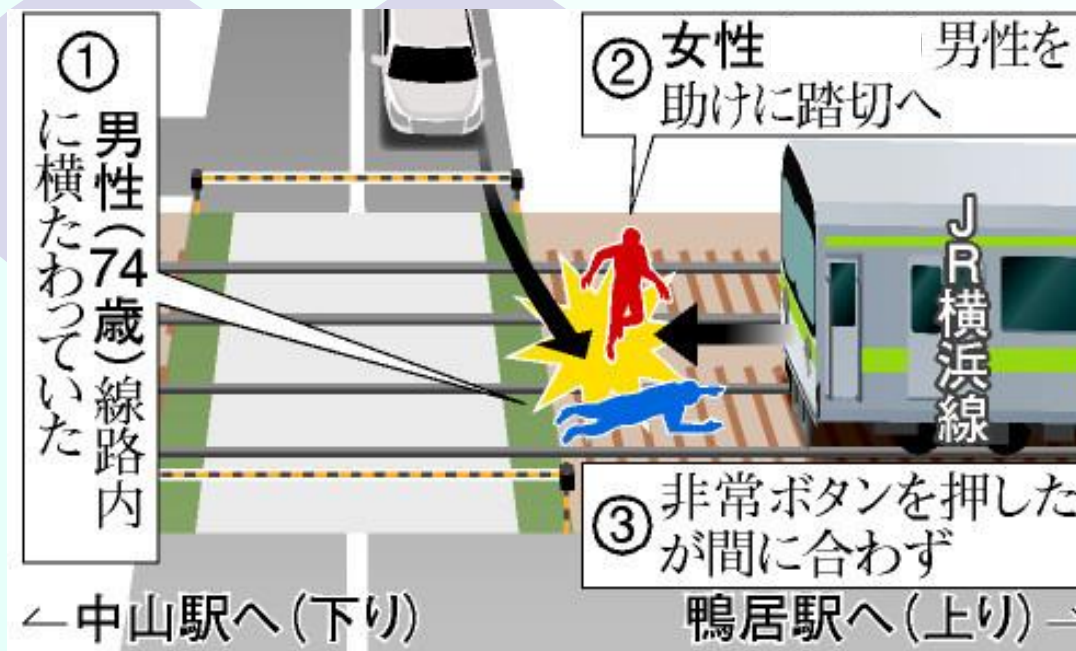
For elementary school students



For car drivers

Education for pedestrians at level crossings

- Despite efforts, in October 2013 a woman was killed in a level crossing accident.
- The woman was hit and killed when she tried to help a man who was trapped on the tracks.
- In this accident, another man pressed the emergency train stop button, but not in time to stop the train before it passed through the crossing.



Education for pedestrians at level crossings



Reference: Nippon Television Network "news every." (October 1, 2013)

Education for pedestrians at level crossings

Regarding this accident, we conducted a campaign to make an appeal for the following three points for pedestrians at level crossings.

警報機が鳴っている間は、
踏切内に立ち入らないでください。

警報機が鳴り始めたら...
無理な横断はやめて、
踏切内に立ち入らないで
ください。

踏切内で異常を認めたら...
直ちに非常ボタンを
押してください。

非常ボタンを押しても...
列車はすぐに
止まれませんので、踏切内に
立ち入らないでください。

※一部には、非常ボタンが設置されていない踏切があります。その場合は列車に向かって手を大きく振るなどして、異常を知らせてください。発煙筒や赤色灯(旗)を使用すると効果的です。

あなたの大切な人にも、ぜひお伝えください。踏切事故0運動

- ① Do not start crossing after the warning starts to sound.
- ② Press emergency button as soon as you notice anything unusual on the tracks in the crossing.
- ③ Do not enter the crossing once you have pressed the emergency button.



踏切事故^{ゼロ}運動

"Campaign for Zero Level Crossing Accidents"

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Pursuing “Ultimate Safety”

- Since the establishment of JR East, safety has been **our top priority**, and we have worked relentlessly to raise our levels of safety.
- **The pursuit of safer measures can never end.**
- **We will continue to implement the efforts for level crossing safety in cooperation with pedestrians, car drivers, and the community in general.**
- We will continue to work tirelessly to improve safety by pursuing our goal of “**zero accidents involving passenger injuries or fatalities** and **zero accidents involving employee fatalities** (including employees of Group and partner companies).”

Ultimate Safety



Thank you for your attention

General Principles of Safety

- ① Safety is the most important mission in transportation.
- ② Safety is ensured by proper observance of rules and procedures, and is achieved through constant practice.
- ③ To ensure greater safety, it is most important to properly verify the situation and keep in communication.
- ④ To ensure safety we must cooperate and go beyond our official responsibility.
- ⑤ When we have questions or must choose among several options, we should remain calm, think by ourselves, and take the safest course after thorough consideration.