

# **New Jersey Safety along Railroads**

## **SHORT-TERM ACTION PLAN**



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New Jersey Department of Transportation  
Commissioner James S. Simpson

New Jersey Transit Corporation  
Executive Director James Weinstein



# New Jersey Safety along Railroads– Short-Term Action Plan

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## EXECUTIVE SUMMARY

### Challenge

Pedestrian safety is a top priority in the State of New Jersey. There are multiple programs that focus on improving pedestrian conditions and removing barriers that inhibit safe walking and bicycling along and across New Jersey's roadways. The need to move toward a more comprehensive approach to pedestrian safety, including rail crossings and corridors, was underscored in early October when a 13-year-old boy in Garfield was fatally struck at a NJ TRANSIT roadway crossing. This incident occurred less than 24 hours after two teens in Wayne were struck and killed by a train while trespassing along a rail corridor.

- In 2010 and 2011, there were a total of 81 incidents involving NJ TRANSIT trains at grade crossings or along the tracks in New Jersey, resulting in 51 deaths.
- Of the 51 deaths, 30 were either accidental in nature or undetermined at this time as to whether they were accidental or intentional.
- Of the 30 accidental or undetermined fatalities, 23 occurred along tracks at locations where the public is not permitted.
- 7 of the accidental or undetermined fatalities occurred at grade crossings.

These figures, while not necessarily unique to New Jersey, merit close evaluation to understand how engineering, education, and enforcement solutions can work together to reduce incidents of injury and death on the State's railroads.

### Process

In an effort to reduce injuries and fatalities at New Jersey railroad crossings, and particularly in response to the October, 2011 rail trespass fatalities, NJDOT Commissioner James Simpson and NJ TRANSIT Executive Director James Weinstein took immediate action by calling together experts from transit, traffic, police, and education agencies at the federal and state levels to develop strategies to strengthen rail safety across the state.

With Diagnostic Team site visits on October 19, 2011 and a statewide NJ Safety at Railroad Crossings Leadership Oversight Committee meeting on November 9, 2011, representatives began an aggressive process to develop model rail safety improvement strategies in the areas of engineering, enforcement and education.

Equipped with current statistics on rail injuries and fatalities, as well as research on best practices in engineering design, education and enforcement programs, three sub-committees were assigned the task of identifying short-term actions at a November 30th, 2011 workshop. These actions are highlighted in this [New Jersey Safety along Railroads Short-Term Action Plan](#).

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## Actions

At the November 30, 2011 workshop, the 3E sub-committees identified key actions for implementation in the next 12 months. Although most addressed issues in the areas of engineering, education and enforcement, some recommendations were more over-arching in scope. For example, all agreed that actions should be data-driven; therefore, a database analysis tool that integrates crash information with high frequency trespass areas and land use factors such as proximity to schools and parks should be developed within the year. Another short-term over-arching recommendation was to immediately formalize a connection between NJDOT and NJ TRANSIT to coordinate and leverage rail safety efforts.

In terms of engineering, some key actions include a pilot program of enhanced engineering safety treatments at grade crossings, expanded resources for the existing rail safety diagnostic program, and giving additional consideration to Safe Routes to School grant applications for projects near rail crossings and rail lines.

The education subcommittee identified several action items that could be implemented in the immediate future and continue as ongoing public awareness activities. One high-priority recommendation that goes beyond educational outreach efforts is to collaborate on engineering actions to ensure that educational cues are “built in” to the grade crossing infrastructure through signs, markings and posting of relevant laws.

Other high-priority recommendations include an aggressive public awareness campaign, expansion of NJ TRANSIT’s Rail School Safety Program, and updating the NJ Driver’s Education Manual to include information on pedestrian and vehicular safety at rail crossings.

In the enforcement realm, one short-term action is to target high-risk crossings for enforcement by NJ TRANSIT police. These efforts will be supplemented by public awareness messaging that urges pedestrians to obey the law and set a good example for others.

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## PEDESTRIAN SAFETY ALONG RAIL LINES & RAIL CROSSINGS IN NJ

### Conditions

There are more than 1,000 miles of light and commuter railroad tracks and 2,400 miles of freight railroad tracks crisscrossing New Jersey. Tracks run throughout major cities and small towns, linking destinations and improving mobility for residents. The tracks also run through residential and commercial areas and near schools, parks and other destinations. Encounters between people and trains can be extremely dangerous. Almost every three hours in the United States, a person or vehicle is hit by a train.

NJ TRANSIT is fully compliant with all Federal Railroad Administration safety regulations over its entire system, including its 312 grade crossings. Some of the grade crossings involve a single railroad track while others feature multiple tracks. Some crossings are used exclusively by pedestrians at stations, while other crossings throughout the system are shared by pedestrians and vehicles.

NJ TRANSIT employs a variety of safety and warning devices at grade crossings appropriate to the conditions at particular locations. These devices include crossing gates for vehicles and pedestrians, fencing, signage, lights and audible alerts. In all but a few “quiet zone” locations that are equipped with additional safety devices, trains sound their horns repeatedly as they approach every crossing and station.

Despite these efforts, accidents do occur, frequently with tragic consequences. Table 1 and Figure 1 help to define the scope of the problem. All incidents are investigated by NJ TRANSIT officials and all deaths are investigated by medical examiners who attempt to determine if a fatality was accidental or intentional.

The “Highway Grade Crossing” category in Table 1 includes incidents at grade crossings for pedestrians only and incidents at crossings shared by pedestrians and vehicles. All of the incidents and fatalities at highway grade crossings involve a person or vehicle entering the crossing after warning devices or horns were activated, or involves a person or vehicle being in the crossing and failing to exit when the devices activated or horns sounded.

The “Other Locations” category in Table 1 refers to all areas on or along railroad tracks other than grade crossings. It is against the law for pedestrians or vehicles to be in these locations.

Table 1 shows a significant decline in total incidents from 2010 to 2011, with reductions in incidents at grade crossings and other locations. It indicates that there were 15 accidental or undetermined deaths in both 2010 and 2011.

Figure 1 shows confirmed accidental deaths over the ten year period from 2002 through 2011. Totals in the most recent years are subject to change based on findings by medical examiners.

The point of the actions spelled out in this Short-Term Action Plan is to drive these numbers lower.

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**Table 1 - NJ TRANSIT Incidents/Fatalities Comparison 2010 - 2011**

	2010 All Incidents/Fatalities	2011 All Incidents/Fatalities	Percent Change of All Incidents
<b>Total</b>	<b>48 / 28</b>	<b>33 / 23</b>	<b>-31%</b>
Highway Grade Crossing ( Accidental)	18 / 4	8 / 2	-56%
Highway Grade Crossing (Undetermined)	0 / 0	1 / 1	
Other Locations (Accidental)	16 / 10	10 / 6	-38%
Other Locations (Undetermined)	1 / 1	6 / 6	
Confirmed Suicides	13 / 13	8 / 8	-38%



Source: NJ TRANSIT Rail Safety Department  
February 2, 2012

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## Current Efforts

Since early October, NJ TRANSIT has updated and expanded its efforts to ensure the safety and security of customers, employees and the general public. Actions currently underway or slated for the coming months include re-inspecting infrastructure, redesigning existing school safety programming, and developing Public Service Announcements (PSAs) and safety videos. The following details all of the NJ TRANSIT-led safety initiatives currently planned or underway:

- Performing a comprehensive re-inspection of the rail, light rail and bus systems to look for areas where additional safety measures can be put into operation.
- Revamping the Rail School Safety Program for high school students to include a compelling first-person presentation by a NJ TRANSIT police officer and train engineer who have been involved in a rail fatality to bring home the tragic consequences of failing to heed railroad safety. The first presentation conducted by an NJ TRANSIT police officer and engineer was to 1,100 students at Garfield High School on October 3, 2011. Presentations are being scheduled for high schools within close proximity to railroad tracks and areas with high incidents.
- Creating a safety “wrap” for minivans used by NJ TRANSIT Safety Specialists participating in outreach programs. The graphics-wrapped vehicles serve as a mobile billboard to highlight the importance of safety and vigilance near railroad tracks.
- Developing a bumper sticker with the message, “Keep alert. Keep alive. Keep off the Tracks.” The bumper stickers are scheduled to be placed on all of NJ TRANSIT’s non-revenue vehicles by the end of 2011.
- Producing a new video to be used as part of high school presentations. New age-appropriate videos and a PSA are scheduled for completion for the 2012 school year.
- Holding focus groups with middle and high school students and their parents on rail safety.
- Establishing the Trespasser Intrusion Program (T.I.P.), where train and rail maintenance crews report trespasser activity to rail dispatch who then contact NJ TRANSIT Police.
- Sending periodic Safety Alerts via MY TRANSIT, NJ TRANSIT’s free email alert system.
- Convening a Rail Safety Summit with community leaders and representatives from groups such as Big Brothers/Big Sisters and Boys/Girls Scout clubs to help NJ TRANSIT spread the safety message to communities and bring NJ TRANSIT’s School Safety Program to their schools and organizations.
  - At the Summit, NJ TRANSIT Police, Rail, Bus and Light Rail operators will provide first-person accounts of their experiences with fatalities and the new rail safety video will be shown.
- Creating a website marquee for NJ TRANSIT’s website that includes rail safety tips and a link to the new safety video on YouTube.
- Exploring the use of social media to reach out to teens and young adults about the dangers of trespassing.
- Working with the Department of Education and Legislators to explore developing quality educational programs on rail safety and strategies for motivating schools to annually provide these lessons and activities. These programs are targeted to middle and high school students especially in municipalities with railroad rights-of-way or facilities. The goal is to design classroom lessons that are engaging for the target student population and designed for ease of delivery.

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## High-Priority Short-Term Actions

Based on the input and feedback from the Subcommittee members at the November 30<sup>th</sup>, 2011 workshop, the following over-arching recommendations were developed along with specific action items that fall within the engineering, education and enforcement realms. A description of each recommended high-priority action, along with identification of responsible agencies, and an estimated timeframe for implementation is provided below, with emphasis on those actions that can be implemented in the near-term, generally within one year.

### *Over-Arching Recommendations:*

1. ***Development of Rail Safety Plus Database*** – develop an analysis tool that integrates crash statistics plus land use/contextual variables such as locations of schools, parks, rail lines, at-grade crossings and information on high trespass locations. These inputs will be analyzed to target priority locations for engineering improvements, enforcement activities, and educational outreach.
  - a. Responsibility: Rutgers (Transportation Safety Resource Center) and NJDOT Rail Safety with support from NJ TRANSIT on indentifying high-incidence trespass locations
  - b. Timeframe: 6 to 12 months
2. ***Formalize Structure Linking NJDOT and NJ TRANSIT-*** establish a formal institutional connection linking NJDOT Railroad Engineering & Safety with NJ TRANSIT Safety unit to carry out integrated initiatives. This connection will help to ensure that all NJDOT rail efforts are fully coordinated internally and with NJ TRANSIT, and to ensure safety is addressed along rail lines and at crossings as well as within a broader community context.
  - a. Responsibility: NJDOT Commissioner/NJ TRANSIT Executive Director
  - b. Timeframe: 3 months

### *Engineering Action Items:*

1. ***Pilot Program of Enhanced Engineering Safety Treatments*** –Volpe National Transportation Systems Center (Volpe), under an interagency agreement with the Federal Railroad Administration’s Office of Research and Development, will evaluate gate skirts and second train coming signs which will be installed in New Jersey by NJDOT. The goal of the test is to determine the effectiveness of the installed gate skirts and signs.
  - a. Responsibility: Volpe National Transportation Systems Center
  - b. Timeframe: 1 to 2 years (sufficient to pilot and evaluate effectiveness of treatments.)





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2. **Deploy Dynamic Message Signs**-rotate these signs among high-risk grade crossing locations. These signs will display warning messages to ensure a safe crossing.

- a. Responsibility: NJDOT / NJ Transit
- b. Timeframe: immediately

3. **Expand Diagnostic Team Program** - expand resources, staffing, and capability of Diagnostic Team to proactively assess locations, in addition to reacting to crash incidents.

- a. Responsibility: NJDOT/NJ TRANSIT
- b. Timeframe: Less than one year for initial expansion; proactive solutions at high priority locations will be on-going

4. **Safe Routes to School (SRTS) Integration** - expand project evaluation criteria for SRTS funding to include proximity to rail crossings or rail lines.

- a. Responsibility: NJDOT SRTS Program
- b. Timeframe: 6 to 12 months



## Education Action Items:

1. **Development/Implementation of Public Education Campaign** - develop Public Service Announcements (PSAs) using various media (on signals, gates, social media, at stations, transit vehicle wraps, etc.) and messages targeted to high-risk populations (youth, men 18-25, etc.) focused on changing culture/behavior at rail lines. These efforts would complement an anti-suicide initiative launched in 2010 in which NJ TRANSIT, working with the Monmouth County Suicide Prevention Task Force and The American Association of Suicidology, posted signs listing a suicide hotline number at all rail stations and on trains.

- a. Responsibility: NJ TRANSIT
- b. Timeframe: 1 year

2. **Enhance/Expand NJ TRANSIT's Rail School Safety Program** - provide additional funding and staffing resources for NJ TRANSIT educational initiatives (Safety Summits, school presentations by police officers and train engineers, web-based resources/clearinghouse, etc.) at schools near rail lines and grade crossings. As part of this effort, explore partnership and funding for Metropolitan Planning Organizations (MPOs) and Transportation Management Associations (TMAs), and



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others to train them to present at schools and organizations to complement NJ Transit staff.

- a. Responsibility: NJ TRANSIT lead with support from MPOs/TMAs for partnership program
- b. Timeframe: immediate; all efforts in place within one year and on-going thereafter

3. **Install Educational Cues/Signs at Targeted Rail Crossings-** as part of Diagnostic Team proactive efforts, install clear, well-lit, visible warning/educational signs, including placards detailing laws and fines for violations for trespassing/illegal crossing at stations, crossings and along rail lines.

- a. Responsibility: NJDOT/NJ TRANSIT
- b. Timeframe: 1 year; on-going thereafter



4. **Expand Pedestrian Safety/Vehicle Safety Information at Rail Crossings in Driver's Education Manual** - Enhance and expand language in Manual that addresses pedestrian and vehicular safety at rail crossings and along rail lines, including all warning signs, laws and violations. Work to ensure at least one rail safety question appears on the NJ Driver's License Exam.

- a. Responsibility: Motor Vehicle Commission/NJ TRANSIT
- b. Timeframe: 6 to 12 months

5. **Integrate Rail Safety Message into NJ Ambassadors Program**-this program is being designed to deploy Ambassadors who are trained to conduct outreach and education activities at high-risk locations statewide.

- a. Responsibility: Rutgers lead (NJ Bicycle Pedestrian Resource Center) with NJ TRANSIT support
- b. Timeframe: initial integration within one year; on-going thereafter for duration of Ambassadors Program

## **Enforcement Action Items:**

1. **Rail Safety Enforcement** - target high-risk station and grade crossing locations for enforcement of laws that prohibit such dangerous actions as ducking under activated crossing gates or ignoring other warning devices. To amplify the impact of these efforts, the goal is to link them with Public Service Announcements (PSAs) or other messaging that



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stresses personal responsibility and modeling safe behavior for others.

- a. Responsibility: NJ TRANSIT lead, New Jersey Division of Highway Traffic Safety (NJDHTS) and local law enforcement support
- b. Timeframe: As stand-alone initiative, within 6 months; in tandem with initial PSA rollout, within 12 months

### CONCLUSION

Both NJDOT and NJ TRANSIT are deeply committed to implementing a program to enhance pedestrian safety along rail lines and at rail crossings through design improvements, educational programming and targeted enforcement efforts.

Prepared by:  
**The RBA Group**

In association with  
**Susan G. Blickstein, AICP/PP, PhD**  
**Planning for Livable Communities**

# New Jersey Safety along Railroads– Short-Term Action Plan

## COMMITTEE MEMBERS

### Safety along Railroads E<sup>3</sup> Subcommittee Participants

#### Engineering

William Beans, NJDOT  
Capt. Patrick Clark, NJ TRANSIT  
Marco DaSilva, FRA  
Lou Frangella, FRA  
Michael Gaspartich, NJ TRANSIT  
Todd Hirt, NJDOT  
Debbie Kingsland, NJDOT  
Jeff Kovacs, NJ TRANSIT  
Mark Tozzi, NJDOT

#### Enforcement

Charles Brown, VTC  
Robert Gaydosh, NJ Div. of  
Highway Traffic Safety  
Dep. Chief Joseph Kelly, NJ  
TRANSIT  
Daniel Lefkowitz, NJ DHSS  
Sgt. John Sandner, NJSP  
Mitch Sklar, NJSACOP  
Angel Soto, NJ TRANSIT  
Capt. Tina Arcaro, NJSP  
Chief Dennis Reilly, Morris PD

#### Education

Elise Bremer-Nei, NJDOT  
John Ciaffone, TransOptions TMA  
Carol Giardelli, Safe Kids NJ  
Marie Goodwin, NJDOE  
Grace Mancini Introna, NJ TRANSIT  
Capt. Andrew Keelan, NJ TRANSIT  
Barbara Lazzaro, NJ TRANSIT  
Brendan O'Reilly, NJDOE  
Gina Sine, NJ MVC  
Caroline Trueman, FHWA  
Sarah Weissman-Pascual, NHTSA  
Margaret Lumia, NJDHSS

### Safety Along Railroads Leadership Oversight Meeting

#### Committee Members

James S. Simpson, NJDOT Commissioner  
James Weinstein, NJ TRANSIT Executive Director  
Ernie Blais, Division Administrator, FHWA  
Les Fiorenzo, FRA Regional, Administrator  
Robert Gaydosh, Division of Highway Traffic Safety  
David Hespe, Chief of Staff Dept. of Education  
Major Joseph Hines, NJ State Police  
Raymond Martinez, Division Administrator MVC  
Richard Simon, Deputy Regional Administrator NHTSA  
Chief Christopher Trucillo, NJ TRANSIT

#### Additional Attendees

Capt. Tina Arcaro, NJ State Police  
Penny Bassett-Hackett, NJ TRANSIT  
Sheree Davis, NJDOT  
Joseph Dee, NJDOT  
Jacquie Halldow, NJ TRANSIT  
Todd Hirt, NJDOT  
Joseph Kelly, NJ TRANSIT  
Jeff Kovacs, NJ TRANSIT  
Captain Landoli, NJ TRANSIT  
Kevin O'Connor, NJ TRANSIT

### Diagnostic Team, Outwater Lane, Garfield, NJ

Kevin Amos, City of Garfield  
Kevin J. Boswell, City of Garfield  
Frank Calandriello, Mayor City of Garfield  
Michael Dannemiller, The RBA Group  
Sheree Davis, NJDOT  
John Del Colle, NJ TRANSIT  
Joe Delaney, City of Garfield  
Thomas J. Duch, City of Garfield  
Joseph Femia, Bergen County DPW  
Charlie Filipowicz, NJDOT  
Lou Frangella, Federal Railroad Administration  
Sam Garofalo, City of Garfield  
Mike Gaspartich, NJ TRANSIT  
Joe Haddad, NJ TRANSIT  
John Hill, The RBA Group

Todd Hirt, NJDOT  
Geoff Hobbs, NJ TRANSIT  
E. J. Joscelyn, NJ TRANSIT  
Debbie Kingsland, NJDOT  
David Kopryra, City of Garfield  
Jeff Kovacs, NJ TRANSIT  
Ray Kovech, City of Garfield  
Grace Mancini Introna, NJ TRANSIT  
Charles McBridem, NJ TRANSIT  
Joe Meade, NJ TRANSIT  
Andrew Pavlica, City of Garfield  
Nicholas Perrapato, City of Garfield  
Ronald Polonkay, City of Garfield  
James S. Simpson, NJDOT Commissioner  
Darren Sucorowski, City of Garfield

