

## Public Education and Enforcement Research Study (PEERS)

### SUMMARY

In 2001, the Federal Railroad Administration (FRA) and the Illinois Commerce Commission (ICC) established the Public Education and Enforcement Research Study (PEERS) to test the effectiveness of various education and enforcement (E&E) techniques to improve compliance with traffic safety laws at highway-rail grade crossings. In Federal Fiscal Year (FFY) 2010, the seventh and final phase of PEERS began.

Over the course of the PEERS project, \$2.88 million was distributed through 174 grants to 68 grantees. In addition, FRA provided matching funds worth an estimated \$500,000 to allow the project to conduct an effective analysis of compliance with traffic laws. The ICC also provided an in-kind match of \$495,000 to supplement the E&E programs of grantees in Phase 4.

Table 1. Program Summary by Phase

Phase	Grants	Amount	In-Kind Match	Total
1 (FY02)	4	\$102,500	\$500,000	\$602,500
2 (FY04)	21	\$496,750	\$0	\$496,750
3 (FY05)	14	\$342,000	\$0	\$342,000
4 (FY07)	22	\$495,000	\$495,000	\$990,000
5 (FY08)	26	\$490,000	\$0	\$490,000
6 (FY09)	37	\$475,000	\$0	\$475,000
7 (FY10)	50	\$487,000	\$0	\$487,000
<b>Total</b>	<b>174</b>	<b>\$2,888,250</b>	<b>\$995,000</b>	<b>\$3,883,250</b>

ICC was responsible for project management and documentation while FRA conducted the before and after data collection and analysis to evaluate the effectiveness of PEERS in modifying highway user behavior<sup>[1] [2] [3]</sup>.

Staff from FRA and ICC provided extensive technical support to all grantees.

The majority (86 percent) of grants were awarded to police departments in Illinois. Between July 1, 2003, and June 30, 2012, more than 18,000 traffic law citations or warnings were issued by 58 local police departments and special agents of the Union Pacific Railroad and the Canadian National Railway. Police conducted more than 18,000 hours of enforcement activity yielding an approximately one-to-one ratio of hours of effort to number of citations or warnings issued. The average cost for 1 hour of law enforcement labor was \$57.08.



Figure 1. Example Enforcement Signage

### BACKGROUND

In order to evaluate the long-term effectiveness of the E&E campaigns, three cities (Arlington Heights, Bartlett, and Macomb) were selected to have video surveillance set up at a total of ten locations. The results of the analysis of the data captured from Arlington Heights and Macomb have been discussed previously in Research Report RR07-18 and RR11-29, as well as in the DOT/FRA/ORD-06/27 PEERS Final Report published in 2006.



Figure 2. Law enforcement staff at an E&E Blitz at the Elmhurst, IL, Metra station

The education element of PEERS was founded on the principles of Operation Lifesaver (OL), a non-profit organization committed to raising awareness and improving public safety around highway-rail grade crossings and tracks through public awareness and education programs. Educators were also encouraged to develop innovative approaches to reach the citizens of Illinois.

PEERS funds provided for the training of 121 new OL presenters. Over the course of the project, 8,400 OL presentations were made, reaching an estimated audience of 583,017 people. OL presenters provided 14,601 hours of effort, yielding an average cost per presentation of \$65.71 for labor. The average cost for 1 hour of education labor was \$37.80, indicating that the average OL presentation took 1 hour and 45 minutes.

The average cost for 1 hour of enforcement labor was \$57.08. Enforcement labor was much more expensive than education labor because of the practice many police departments had of “buying back” officer overtime at time-and-a-half salary rates. In addition, it takes many officers

to effectively conduct enforcement details at a typical Chicago area Metra station where hundreds of commuters congregate. Enforcement dollars could go much further if police departments incorporated enforcement activities as part of routine duties. However, most police departments rely on special details for enforcement activities because they do not have enough resources to include rail safety enforcement as a routine duty.

Overall, labor accounted for 56.9 percent of all PEERS funds distributed. E&E materials used in presentations, media campaigns, and other educational activities accounted for 43.1 percent of PEERS funds. The proportion of investment dedicated to labor increased over time as ICC placed more emphasis on enforcement action.

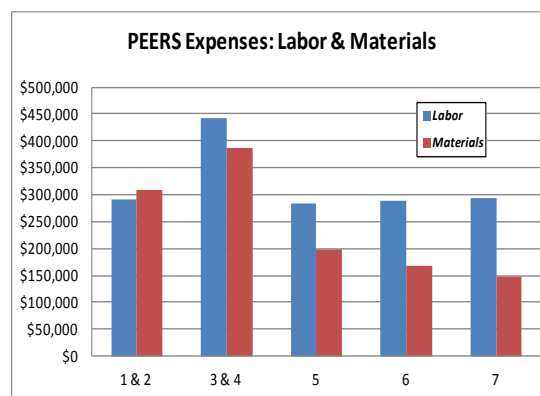


Figure 3. PEERS Expenses: Labor & Materials

Where enforcement is concerned, the potential return on investment (ROI) is significant. The civil fine for violating grade crossing warning devices in Illinois is \$250 for a first conviction and \$500 for any subsequent convictions (625 ILCS 5/11-1201). Twenty-five hours of community service may also be imposed for an initial conviction.



With total enforcement expenses of \$1,160,187 and potential revenue of \$2,305,500, the enforcement element of PEERS generates a ROI of 1.99. When the potential enforcement revenue is compared with the total PEERS investment of \$2,809,051, the ROI drops to .79. Enforcement revenue can be used to subsidize the education element and also potentially convince reluctant local officials that rail safety programs can nearly “pay for themselves.”

**Table 2. PEERS Enforcement and Education Investment**

PEERS Phase	Enforcement	Education	Total
1 & 2	\$174,257	\$424,993	\$599,250
3 & 4	\$349,724	\$480,412	\$830,136
5	\$206,790	\$275,707	\$482,497
6	\$214,940	\$239,988	\$454,928
7	\$214,476	\$227,764	\$442,240
<b>Total</b>	<b>\$1,160,187</b>	<b>\$1,648,865</b>	<b>\$2,809,051</b>
<b>Percent</b>	<b>41.3%</b>	<b>58.7%</b>	<b>100.0%</b>

*Note: The total is slightly short of the total grants awarded because of grantees not spending all funds authorized.*

## E&E HIGHLIGHTS

Several PEERS grantees developed innovative approaches and tools to effectively reach their target audiences.

The Elmhurst Police Department developed a warning sign to address the ongoing issue of pedestrians starting to cross the tracks prior to the warning devices completing their activation. Metra stations in Elmhurst and many other communities in northeastern Illinois often have a second train at or approaching the station, necessitating the reminder that it is illegal to cross the tracks until the warning devices have completed their activation cycle.



**Figure 4. Warning Sign at Elmhurst, Illinois**

Health World Outreach, a safety based non-profit agency, developed the Railroad Rally Safety Game to reach their target audience of school-age children. Health World takes the portable game to schools in the region and challenges students to correctly answer rail safety questions.



**Figure 5. Health World Railroad Safety Rally**

Metra sponsored a safety poster contest to encourage students throughout northeastern Illinois to develop safety messages directed at their peers and parents.



Figure 6. Metra – “Make the Right Choice”

## FUTURE ACTION

PEERS established several guidelines that can be used by agencies when budgeting for the implementation of education or enforcement programs. Previously, there had been no documented data about the cost of these highway-rail grade crossing education and enforcement programs, nor had there been any analysis of the productivity or effectiveness of such programs. Results from the PEERS program can therefore be used from this point forward to foster continued rail safety education and enforcement in the United States.

## REFERENCES

- [1] Sposato, S., Bien-Aime, P. & Chaudhary, M. (2006 Dec.). Safety of Highway-rail grade crossings: Public education and enforcement research study, final report (Report No. DOT/FRA/ORD-06/27, DOT-VNTSC-FRA-06-03).
- [2] U.S. Department of Transportation, Federal Railroad Administration. Research Results: Public education and enforcement research study (Report No. RR 07-18).
- [3] U.S. Department of Transportation, Federal Railroad Administration. Research Results: Public education and enforcement research study – Macomb, IL, analysis (Report No. RR 11-29).

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## KEYWORDS

Highway-rail grade crossings, education, enforcement, violations, effectiveness, Public Education and Enforcement Research Study, PEERS

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