

JOINT TRANSPORTATION RESEARCH PROGRAM

Principal Investigator: Professor Darcy Bullock, Purdue University, darcy@purdue.edu, 765.494.2226

Program Office: jtrp@purdue.edu, 765.494.6508, www.purdue.edu/jtrp

Sponsor: Indiana Department of Transportation, 765.463.1521

SPR-3411

September 2011

Recovering Full Repair Costs of INDOT Infrastructure Damaged by Motor Vehicle Crashes

Introduction

There are approximately 4,000 instances per year that require infrastructure located along right-of-way maintained by the Indiana Department of Transportation (INDOT) to be replaced or repaired due to motor vehicle crashes. This infrastructure includes guardrail, cable barriers, crash attenuators, lighting structures, signs, bridges, culverts, fences, traffic signals, pavement, and site earthwork re-grading to restore proper roadway drainage. A common example of infrastructure damage is shown in Figure 1. The guard rail pictured was damaged in early 2010 and subsequently repaired in the spring of 2010.

In the spring of 2009, Seymour District Traffic Systems Engineer Ed Cox and Professor Darcy Bullock conducted a preliminary screening of INDOT's cost recovery process and drafted a research need statement. In the fall of 2009, research project SPR-3411 was initiated with Purdue University to assess the fiscal effectiveness of INDOT recovering the full repair costs associated with repairing infrastructure damaged by motor vehicles. As part of the SPR-3411 project, Purdue surveyed all 50 states on their reimbursement practice and received responses from 41 states. Follow-up email and phone calls with 13 states and a webinar on September 15, 2010 provided opportunities to clarify details on best practices used by other states and to begin to synthesize those recommendations.

In addition to reviewing practices of other states, the research team consulted a variety of INDOT stakeholders, including Unit Foreman, District Staff, District Highway Maintenance Directors, Central Office Accounting Staff, and Deputy Commissioners to conduct a top-to-bottom assessment of INDOT practices and develop consensus on what practices would be most appropriate for Indiana. These consensus ideas were then further vetted by the research team through a series of field visits to crash sites, review of internal paperwork associated with those crashes, and analysis of invoicing timelines and collection rates.



Figure 1. Crash site on I-65 adjacent to mile marker 193.4 with approximately \$1,600 in direct repair costs. Top: before repair. Bottom: after repair.

Findings

Based upon detailed examination of INDOT processes and best practices used by other states, it is estimated that there is an opportunity to improve collections by two million dollars to four million dollars annually by:

1. More effectively associating vehicle crash reports with crash damaged infrastructure;
2. Reducing the time between a crash and when an invoice is sent to the responsible party;
3. Ensuring that invoices reflect the fully-loaded repair cost;
4. Improving documentation sent to responsible party to reduce write-downs.

Implementation Recommendations

Based upon the review of internal INDOT procedures and best practices used by other states, the report makes the following recommendations:

- Deploy a state-wide law enforcement crash damage tagging system that will immediately associate crash damaged infrastructure to a crash report (see Figure 2). The tagging system will document the crash report identification number, crash date/time, and inspecting agency. This will reduce uncertainty when determining the responsible party. A pilot deployment of this program was conducted in early January 2011 along I-65 between Indianapolis and Lafayette.
- Develop partnerships with local agencies to extend the tagging system at a local level.

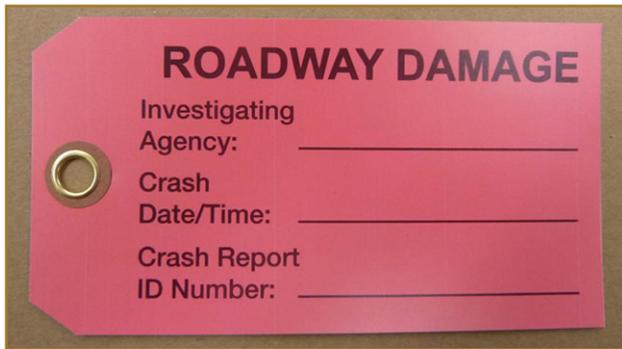


Figure 2. Damage to State Property tag.

- Revise the state crash report title from “Damage to State Property” to “Damage to Public Sector Property.”
- Consider adding an additional field to the Roadway Damage tag (Figure 2) for license plate numbers, so that in situations where no crash report is filed, such as for fuel spills or vehicle fires, the license plate number can serve as a tracking mechanism for the state to identify the responsible party.
- Develop an improved INDOT form for documenting crash repair costs (internally referred to as an M54). A revised M54 was drafted as part of this study and is included in the technical report referenced at the end of this technical summary. Ideally, this would be a web based form that supports digital photo uploads.
- INDOT maintenance crews (or the contractor) should document the crash damage by taking a photograph with a time stamp and GPS location recorded. These photographs help in resolving claims disputes with insurance companies regarding extent of damage and thus reduce write-downs.
- Upon determining responsible parties, a notification letter should be sent to the insurance company and driver of a pending invoice to repair crash damaged infrastructure.
- As part of the repair invoice, an overhead and/or

administration fee should be collected by INDOT to cover the preparation and processing costs to invoice responsible parties. In May 2011, INDOT implemented an overhead fee of 28 %.

- INDOT staff using the ARIES crash reporting system should be trained to query on more than just the “damage to state property” field. The first of these training sessions was conducted on March 25, 2001, and should be continued on a regular basis.
- An organizational chart/document should be created at the district level to identify task owners for each phase of the crash repair recovery process. An overall process owner should be identified at the state level to oversee district processes and the overall cost recovery process.
- There is broad misconception among INDOT staff regarding where the funds from insurance reimbursement go. Perhaps a short article for an internal INDOT newsletter could help clarify how insurance claims are in fact returned to INDOT and why the timely processing of M54 forms benefit the districts.
- On a quarterly basis, tabulate four performance measures to evaluate the crash repair cost recovery process at the district and state level. These performance measures are as follows:
 1. Elapsed time between crash date and completion of the M54;
 2. Elapsed time between the completed M54 and the invoice date;
 3. Elapsed time between the invoice date and the collection date;
 4. Average % of invoiced amount collected.
- Evaluate INDOT processes and contracting procedures to determine if the guardrail repair contracts can be revised to require the contractor to invoice the insurance company to collect reimbursement. In cases where a contractor could not collect from an insurance company or responsible individual, INDOT would pay those costs.
- INDOT currently has 9 or 10 guardrail repair contracts. It may be appropriate to assess if there are opportunities to consolidate effort and reduce the number of guardrail repair contracts.

References

Farnsworth, G., Brennan, T. M., & Bullock, D. M. *Recovering Full Repair Costs of INDOT Infrastructure Damaged by Motor Vehicle Crashes*. Publication FHWA/IN/JTRP-2011/11. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana, 2011. DOI: 10.5703/1288284314624.

View the full text of this technical report here:
<http://dx.doi.org/10.5703/1288284314624>