**Purpose:**

Approximately 4,000 times each year, the Indiana Department of Transportation (INDOT) must repair or replace infrastructure located along INDOT right-of-way that is damaged by 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.

Challenged to identify new procedures, processes and operational efficiencies, INDOT began to investigate potential solutions to the increasing financial burden of repairing and replacing damaged right-of-way infrastructure in the spring of 2009. The effort had several goals, including increasing the amount recouped for damage to state infrastructure on INDOT right-of-ways; improving overall repair cost collection rates; and reducing the length of time between reported crashes and the invoice billing date.

After a detailed examination of our processes and best practices used by other states, an INDOT team determined that there was an opportunity to increase billings and improve collection rates and lower collection times by implementing a new program – DamageWise. This program includes range of policy and procedure changes designed to more effectively associate vehicle crash reports with crash-damaged infrastructure; ensure that invoices reflect the fully-loaded repair cost; reduce the time between a crash and when an invoice is sent to the responsible party; and improve documentation sent to responsible parties.

**Impact of Application Improvement(s):**

INDOT’s DamageWise program is an effective, innovative solution to the increasing financial burden of repairing and replacing damaged right-of-way infrastructure. As a result of DamageWise, reimbursement for repair costs associated with repairing infrastructure damaged by motor vehicles has more than doubled, while INDOT’s speed and efficiency in recouping costs from responsible parties has also increased. In Fiscal Year 2010, for example, INDOT billed $1.4 million for right-of-way infrastructure repair costs. That amount climbed to $2.4 million in FY 2011 and more than $4 million in FY 2012.

**Summary:** INDOT’s DamageWise program, an innovative solution to the financial burden of repairing damaged right-of-way infrastructure, has enabled Indiana to more than double the amount of money it recoups annually for infrastructure damage.
**Category 1 - Customer Focus**

1.1.
1.1.a. INDOT Deputy Commissioner of Finance
1.1.b. INDOT District Maintenance Service Directors

1.2.
1.2.a. INDOT’s Deputy Commissioner of Finance was determined to be a key customer because he is responsible for overseeing and managing INDOT’s annual budget, including capital program expenditures and operational costs. For several years, the Deputy Commissioner had been concerned about annual and on-going increases in the amount INDOT spent each year in repairing damaged right-of-way infrastructure. To address this concern, an INDOT implementation team conducted a preliminary screening of INDOT’s cost recovery process and drafted a research need statement which was presented to the Deputy Commissioner.

1.2.b. INDOT District Maintenance Service Directors were determined to be key customers because they were responsible for managing repairs to damaged right-of-way infrastructure. In this role, they needed a standardized, uniform program that would enable them to better document, manage and recoup direct and indirect repair costs for damage to state property.

1.3.
1.3.a. Members of INDOT’s DamageWise team held in-depth interviews and strategy and planning sessions with the Deputy Commissioner of Finance. The team and Deputy Commissioner also reviewed and analyzed researched financial projections, program metrics, procedures, and measurables. From these discussions, the group established program financial goals. A Purdue University research team concluded that INDOT could increase billings for ROW infrastructure damage by a minimum of $2 million annually – or an average of more than $166,000 per month.

1.3.b. The DamageWise team, which consisted of District Traffic System Engineers and the Purdue University research team, consulted with District Maintenance Service Directors, as well as unit foremen, Central Office accounting staff, and Deputy Commissioners to develop consensus on what practices and procedures would be more appropriate for Indiana. The Purdue research team conducted a preliminary screening of INDOT’s cost recovery process and worked with the District Maintenance Service Directors to draft a research need statement in spring 2009. In fall 2009, the Purdue research team conducted an in-depth assessment of the effectiveness of INDOT’s current efforts to recover repair costs associated with infrastructure damaged by motor vehicles. Team members cross-checked Indiana right-of-way damage with current INDOT recovery efforts and surveyed all 50 states on their recovery practices. They then analyzed results and developed program recommendations for INDOT. As a result, INDOT staff created a new DamageWise software program to enable district staff to manage and oversee each element of the program by reporting and tracking incident reports, infrastructure damage, repair estimates, invoicing and payment. The expectation from District Maintenance Service Directors would be that the DamageWise program activities could be incorporated into field employees’ regular scope of duties, and that the DamageWise software program would be convenient, intuitive, and available for field use through portable wireless devices.

1.4.
1.4.a. During the interviews and strategy and planning sessions held with the Deputy Commissioner of Finance, the team drilled down to determine a series of needed revisions to
INDOT’s policies and procedures for increasing billings for ROW infrastructure damage. These recommendations were vetted through a series of field visits to crash sites, review of internal paperwork associated with crashes, analysis of invoicing timelines and collection rates. Success of these recommendations was based upon the ability to incorporate them into employee workload, level of success, and end financial result. Another element of success was to raise the awareness by police officers covering crashes and identifying when state property has been damaged. This education has raised the reporting level in the ARIES crash database, thereby making it easier to identify ROW damages that can be attributed to specific events.

1.4.b. In one-one-one interviews and group meetings, District Maintenance Service Directors conveyed their requirement that DamageWise program activities be incorporated into field employees’ regular scope of duties, and that the DamageWise software program be convenient, intuitive, and available for field use through portable units.

1.5.  
1.5.a. Satisfaction with the DamageWise program results is measured by meetings with the Deputy Commissioner to determine whether the results, including the presentation of management information, met his month-to-month and year-to-year expectations. As an indication of the Deputy Commissioner’s level of satisfaction, he nominated the DamageWise team for a Governor’s Award and for an INDOT Achievement Award. A key focus remains addressing dissatisfaction with some program metrics, including collection rates and length of time between a traffic crash and invoice billing.

1.5.b. The satisfaction level District Maintenance Service Directors have with the DamageWise program is measured through their feedback to key program analytics that are collected and can be analyzed on a monthly basis. In development are delivered reports that will measure key elements of program workflow, including date of accident, date of time assessed, date of estimate prepared, date of invoice distribution and date of payment received. INDOT will also be able to track how many accidents occur and have not been billed, so that program trend analysis can be done to ensure that all accidents that can be billed are being identified.

**Category 2 - Process Management**

2.1.  
2.1.a. The DamageWise team worked to improve key INDOT data collection and invoicing processes relating to ROW infrastructure damage. Among these processes were: Determining party responsibility for damage; Obtaining sufficient evidence to prove liability; Determining and documenting extent of damage; Determining total repair costs; and Identifying and invoicing the correct responsible party. The DamageWise software program is used to generate reports in each of these areas – which will enable managers to perform trend analysis to ensure that all eligible reports have been assessed, billed and collected, and as well as the time involved in the billing process. As a result of this process, INDOT can track overall DamageWise activity and billings on a monthly basis.

2.2.  
2.2.a The DamageWise team undertook a series of steps to create and implement the DamageWise program. These steps included a preliminary evaluation of INDOT’s current cost recovery processes; in-depth assessment of the effectiveness of INDOT’s current efforts; a survey of all 50 states on their recovery practices; analysis of assessment conclusions and development of
program recommendations. The team used planning and presentation software to explain the program goals, benefits, and steps needed for DamageWise program adoption to key customers.

2.3.
2.3.a. To accomplish program goals, the DamageWise team coordinated with INDOT Information Technology staff, Indiana State Police (ISP) and vendors to ensure that crash reports could be interfaced into the DamageWise system. INDOT Traffic Management Center personnel coordinated with ISP and local law enforcement agencies to conduct employee training on the use of incident tag bags as well as to solicit their participation in the overall program. Follow-up visits were conducted to ensure that the success of the program was shared with the officers. INDOT district employees were assigned to oversee their district program activities, including identification and crash report assignment, assessment, and submitting repair estimates to accounting, while a program coordinator assisted the districts with training, identification and managing their programs. Key stakeholders provided continuous review of implementation goals and milestones, and feedback and suggestions during program implementation.

2.4.
2.4.a. Data was collected through formal status reports. Monthly program reports were shared with customers as well as Executive and district staff to monitor and evaluate program progress. In addition, a steering committee was formed to address all phases of the development and implementation of the program. This committee used the monthly reports to analyze DamageWise successes, identify concerns, identify and prioritize tasks and persons responsible, and establish deadlines. For example, the DamageWise team evaluated the length of time between reported crashes and the invoice billing date to measure how changes to the data collection and invoice process affected overall billing time. Progress reports were given each week on the status of each task at steering committee meetings. Information gathered was analyzed using the DamageWise software, and planning and spreadsheet programs.

2.4.b. An Excel spreadsheet was used to log all accident reports that were submitted for billing purposes and cause and effect analysis. Reports prepared through INDOT’s Accounting system were linked to crash reports to record and monitor the number of accidents submitted and billed by each district. Districts check sheets were compared to each other to create friendly competition and encourage and hold staff accountable for assessing and submitting repair estimates for billing.

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The Deputy Commissioner of Finance’s measurement of satisfaction is directly related to the overall DamageWise program goal to increase the amount of money INDOT recoups for damaged right-of-way infrastructure. The annual increase in this amount meets the DC’s satisfaction expectation for this program.