

2010 State Damage Prevention Program Grants Final Report
Funding Opportunity Number: DTPH56-10-SN-0001
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Project Title: Utility Notification Center of Colorado State Damage Prevention

Date Submitted: March 31, 2011

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Specific Objective(s) of the Agreement

[Cut and paste from Article II, Section 2.03 of your agreement.]

Section 2.03 Specific Objective(s) of the Agreement

Under this grant agreement, the UNCC will:

- Foster Support and Partnership with Stakeholders;
- Support Public Awareness and Education;
- Implement the Damage Prevention Compliance Program; and
- Review the Effectiveness of Damage Prevention Programs.

Workscope

[Cut and paste from Article III. Workscope of your agreement.]

Article III. Workscope

Under the terms of this grant agreement, the Grantee will address the following elements listed in 49 USC §60134 through the actions it has specified in its Application.

- Element (2): A process for fostering and ensuring the support and partnership of stakeholders, including excavators, operators, locators, designers, and local government in all phases of the program.
- Element (5): A process for fostering and ensuring active participation by all stakeholders in public education for damage prevention activities.
- Element (7): Enforcement of State damage prevention laws and regulations for all aspects of the damage prevention process, including public education and the use of civil penalties for violations assessable by the appropriate State authority.
- Element (9): A process for review and analysis of the effectiveness of each program element, including a means for implementing improvements identified by such program reviews.

Note: Each element in the Specific Objectives aligns with a respective element in the Workscope. Further reference to accomplishments, completions and remaining plans will reference only the Specific Objectives.

Accomplishments for this period (Item 1 under Article IX, Section 9.01 Progress Report: “A comparison of actual accomplishments to the objectives established for the period.”)

[How are you progressing on each of the items/elements provided in the “Specific Objectives” and “Workscope”? Start with an overall description followed by item-by-item or element-by-element detail if possible.]

A) Progress Overview

Colorado 811 is pleased with the progress we have made in 2010 with our damage prevention efforts defined in the 2010 PHMSA State Damage Prevention Grant (Grant). Although we have had some delay in developing the *LifeRay* web portal infrastructure and some modules of the DPPortal, we are confident that the modules defined in the grant from 2008-2010 will be completed by summer 2011. The underlying structure of the DPPortal is functional and implemented. The DP Non-Compliance module and letter writing capability has also been implemented. From January to March 2011, we developed a model user community and our initial Damage Prevention Council (DPC) user communities will begin a pilot project with the DP Non-Compliance module in spring 2011. Additional information regarding the status of the Non Compliance module and the other three DP Portal modules is provided under Objective 3 and 4.

The Damage Prevention Action Team (DPAT) was established in 2008 and continues to provide strong industry leadership and innovative public awareness programs. The DPAT is a group of about 50 representative industry stakeholders in Colorado that meets twice each year. This group’s purpose is to discuss, develop and coordinate statewide public awareness and education efforts funded through the Grant. The group also shares information and reviews the progress made during the year on these and other programs. The Colorado 811 Executive Director, Grant Forum Facilitator, Colorado 811 Public Relations Administrator, and the DPAT Chairman serve as the group’s leadership, provide the Grant program and finance administration and meet with the DPCs throughout the year.

Each DPC is also allocated a share of the Grant funds to support local (single or multiple county level) 811 public awareness, public school education, and stakeholder education programs. These programs have proven to be both innovative and successful at raising public awareness (as measured annually by the level of incoming tickets in relation to construction activity) and reducing the level of facility damages (as measured annually by damages per 1,000 incoming tickets). At the fall DPAT meeting (1 of 2 per year), industry stakeholders and DPCs that have made significant progress or implemented innovative programs are recognized for their efforts. This recognition program has been quite popular with the stakeholders.

Finally, with the analysis from the Colorado Damage Data Report© (published annually since 2001) and the Colorado Damage Prevention County Report Cards© (published annually since 2007), we have been able to measure and identify the areas of the state where significant progress has been made as well as those areas that need improvement in awareness and damage prevention. Each of the 64 counties in Colorado is graded on three industry metrics that have been developed over the past three years and given an overall damage prevention grade. We had plans to add a fourth DP Activity metric in 2010, but delay in the development of the DPPortal prohibited the completion of this objective in 2010. By looking at past data, we have been able to produce county report cards dating back to 2004 (for a total of six years). Stakeholders as well as DPCs can review the report

card to identify the progress they are making in 1) public awareness, 2) damage prevention, and 3) damage incident reporting (via *CGA Virtual Private Damage Information Reporting Tool* (VPDIRT)). With this information, we have also developed several statistical tests in 2010 that both demonstrate and validate that progress has been made in public awareness and damage prevention and that those counties with a DPC are performing at higher awareness and prevention levels than the counties without a DPC. We have worked diligently over the past three years to develop these report card metrics and statistical tests and are pleased that they support our statement that we have made significant progress with the assistance of the PHMSA Grant since 2008. A review of the statistical information described in the 2010 Mid-Term Progress Report is under provided under “*Quantifiable Metrics*”.

Most of the relevant information that Colorado 811 needs to report is prepared and described in 2010 Mid-Term Progress Report. The annual Facility Damage Data are available from VPDIRT after March 31 for the prior year (2009 in the case of the 2010 Mid-Term Report). At this moment, 2010 damage data are not available for analysis. As such, the rest of this report has two goals:

- 1) Review the progress made in the first part of 2010 and update new accomplishments made for all objectives since the 2010 Mid-Term Progress Report.
- 2) Provide a brief review of the important “*Quantifiable Metrics*” described in the 2010 Mid-Term Progress Report so as not to be too repetitive.

Each of the four 2010 objectives is reviewed next. Each review includes:

- 1) a brief explanation of the objective,
- 2) a summary status and list of tasks requiring work in 2011 to complete,
- 3) a review of the budget, expense, variance, and facilitator hours for that objective.

Objective 1) Foster Support and Partnership with Stakeholders

The DPAT met in March 2010 in Trinidad, Colorado to review Grant funding and approve spring and summer public awareness activities. Approximately 70 industry stakeholders from around the state attended the 2 day meeting, including One-Call administrators, facility owners, excavators, locators, Colorado Public Utilities Commission officials, and first responders. Discussion included:

- Programs and funding for Damage Prevention Awareness Week in April 2010
- Promotional planning and funding for 811 Day in August 2010
- Programs and funding for DPC public awareness activities through August 2010
- Funding for development of the Dig Town model to support public education around the state in 2010
- Funding for creation and support of an 811 school education program in 2010
- Progress on the DPPortal under development since 2008
- Discussion of the new Damage Prevention Non-Compliance module for the DPPortal
- Discussion of the new Damage Prevention Report Card module for the DPPortal
- Discussion of the new Damage Prevention Activity module for the DPPortal

Each DPC reviewed awareness and education activities from the winter months (2009-2010). A number of the DPCs discussed the innovative methods (non-Grant funding) used to raise funds for supporting expanded DPC activities. Some of these included:

- Annual support fees from DPC participating stakeholders
- DP special program fees (primarily from pipeline operator support of RP1162 activities)
- Fees for stakeholder booths at damage prevention education events
- Stakeholder advertising fees on clipboards
- Participant and sponsorship fees from industry golf tournaments

The DPAT also met in October 2010 in Golden, Colorado to discuss 2011 awareness and education programs and review the request for 2011 grant funding. Approximately 50 industry stakeholders from around the state attended the 2 day meeting, including One-Call administrators, facility owners, excavators, and locators. Discussion included:

- Programs and funding for Damage Prevention Awareness Week in April 2011
- A demonstration of the Dig Town model for public education
- Review of the Coloring Book developed for 811 school education program in fall 2010
- A demonstration of the Damage Prevention Non-Compliance module for the DPPortal

One of our specific goals was to initiate another two DPCs in the state. We met this goal with the formation of three new DPCs in SE Colorado, the Montrose Area, and the Summit Area. With the three new DPCs, Colorado now has fourteen DPCs; representing 36 of the 64 counties, 89.1% of the state population, 87.6% of the annual incoming ticket count and 90.3% of the annual facility damage count.

The Forum Facilitator has tracked and administered the Grant funding, helped coordinate the DPAT meetings, and met with the DPCs around the state. In addition, the Forum Facilitator has designed the DP effectiveness review process, designed the DP compliance program process, and designed the DP Report Cards and DP Activities modules for integration into the DPPortal.

375 Facilitator work hours were budgeted with a total of 383 hours expended through December 2010 along with the preparation of the final report due March 31, 2011.

STATUS: This task is COMPLETE.

Grant Budget Review

The following contract expenses were incurred with associated funding from Grant:

	Budget	Expense	Hours	Variance
Grant Administration	6,600.	4,400.00	55.00	-2,200.00
DPAT Support-Grant Reports	5,000.	5,000.00	64.25	140.00
DPAT Support	6,380.	8,320.00	112.00	1,940.00
Facilitator Travel	5,000.	1,584.37		-3,415.63

Note: the Travel Expense variance was returned to PHMSA 12/31/2010

Note: the Facilitator Expense variance was applied to other objectives

The following expenses were incurred with associated funding from Grant:

DPAT Expense	2,500.	2,013.64		-486.36
811 Table Skirts		807.44		
DPAT Logo Design (1/2)		650.00		
DPAT Conference Room Rental		556.20		
DPAT Stakeholder Awards	250.	972.53		712.53

Note: the DPAT Expense variances were applied to other related expenses

Objective 2) Support Public Awareness and Education

The DPAT organized a statewide TV and Radio advertising campaign for Damage Prevention Month in April 2010. Additional advertising and school education activities were planned for 811 Day in August 2010. The education component also included the construction of a “Dig Town” underground facility model by several facility owners from the western slope. This model will be used for education safety demonstrations for both stakeholder and public education events. Finally, the DPCs organized many promotional events throughout the year in their local communities.

The following activities were performed with associated funding from Grant:

Support for Damage Prevention Awareness Month in April 2010	
811 Statewide TV and radio advertising campaign	20,000.00
Support for 811 Education Day in August 2010, School Safety	
811 Radio advertising and Safe Digging posters	1,056.46
811 TV Advertising - CGA “Day in the Dark Video”	1,180.00
811 Grade School Activity Books	3,461.35
Dig Town Education Model – parts and supplies	2,000.00
DPAT/DPC 811 Logo Design (1/2)	650.00
Support for DPC Public Awareness Programs	
811 TV advertising	724.18
811 Newspaper advertising	543.60
811 Video advertising in hardware stores	1,652.65
811 Yard Sign community advertising	2,276.14
811 Street Banner advertising	542.02
811 Public promotional items	1,578.29
811 Stakeholder promotional items for meetings	2,346.14

STATUS: This task is COMPLETE.

Grant Budget Review

The following activities were performed with associated funding from Grant:
(this table summarizes the expenses listed above)

	Budget	Expense	Variance
811 DP Awareness Month	20,000.	20,000.00	0.00
DPC Education	8,350.	8,347.81	-2.19
DPC 811 Awareness-Local	9,900.	9,666.02	-233.98

Note: the Advertising Expense variances were applied to other related expenses

Objective 3) Implement the Damage Prevention Non-Compliance Program

The DP Non-Compliance Program process will provide a process and web based mechanism to allow any stakeholder to report incident information on any other non-compliant stakeholder to a DPC. The non-compliant party will then be contacted (a letter via email or mail), informed of legal implications defined under the law and offered relevant educational services. The incident information will be stored in a statewide database and all follow-up activity on the incident will be logged. The Colorado 811 Non-Compliance Administrator and the DPC Non-Compliance Administrator will be involved in follow-up and tracking activity for each incident. Non-Compliance incident reports will be available by date and county as well as to identify repeat offenders across time and geography. Each DPC will initiate stakeholder contact and provide damage prevention educational services.

Currently, Colorado Law defines two non-compliant stakeholder activities:

1. A facility owner/operator has not registered and is not a member of the One-Call organization.
2. A stakeholder is excavating without having properly requested a facility locate.

STATUS:

The following tasks have been completed:

- o A statewide compliance process has been defined and documented
- o A data collection specification has been defined
- o The application has been designed and implemented on the DPPortal

The following tasks have been started and will be completed in 2011:

- o Pilot test the DP Non-Compliance module with a DPC (Spring 2011)
- o Roll-out/train DP Non-Compliance process and software to all DPCs (through 2011)

Grant Budget Review

The following contract expenses were incurred with associated funding from Grant:

	Budget	Expense	Hours	Variance
Forum Facilitator	3,510.00	3,840.00	48.00	330.00
Portal Developers	6,000.00	6,000.00		0.00

Note: the Facilitator Expense variance was applied to other objectives

Objective 4) Review the Effectiveness of Damage Prevention Programs

4A) Define and improve the Colorado damage prevention review and analysis process

Our damage prevention review process has been defined over the past three years and allows us to review local and statewide progress on an annual basis at a county level. Analysis of valid data forms the cornerstone of the review process. This data is provided by both the excavators and facility owners and originates in the *Norfield One-Call Ticketing System* (Ticket System) and VPDIRT. The DPCs are the focal point of the damage prevention programs and the annual improvement process. Without them, we would not have the manpower resources to implement both the public and stakeholder damage prevention awareness and education programs.

If the DPCs are in fact effective at increasing public awareness and improving damage prevention at the local level, then the critical question remains whether continued financial support of damage prevention programs for the DPCs is a worthwhile and desired outcome of the three year PHMSA Grant project.

The purpose of the effectiveness review and evaluation then is to determine if both awareness and damage prevention are improving and if the DPCs are contributing to that improvement.

The damage prevention effectiveness review and evaluation process includes the following tasks:

Data Collection and Analysis Phase

1. Collect incoming ticket data at the county level from the Ticket System
2. Collect facility damage data at the county level from VPDIRT
3. Collect demographic data at the county level from government sources
4. Produce and publish the Annual Colorado Damage Prevention Report
5. Share Colorado Damage Report with stakeholders
6. Produce and publish the Annual Colorado County DP Report Cards

Data Evaluation Phase

7. Evaluate the effectiveness of public awareness efforts, as measured by the *Damage Prevention Awareness Metric*, in counties with an active DPC versus those counties with no DPC. Through the use of statistical tests, quantify the effectiveness of establishing and supporting DPCs to raise public awareness levels.

Establishing and supporting DPCs is effective if a statistically significant number of counties with an active DPC are above the median *DP Awareness Metric* each year.

8. Evaluate the effectiveness of damage prevention efforts, as measured by the *Damage Prevention Metric*, in counties with an active DPC versus those counties with no DPC. Through the use of statistical tests, quantify the effectiveness of establishing and supporting DPCs to improve damage prevention.

Establishing and supporting DPCs is effective if a statistically significant number of counties with an active DPC are below a historical threshold *Damage Prevention Metric* each year.

9. Evaluate the effectiveness of damage prevention efforts, as measured by the *Damage Prevention Metric*, in all counties. Through the use of statistical tests, quantify the effectiveness of damage prevention efforts by determining if the *Damage Prevention Metric* has improved over multiple years.

Damage prevention efforts are effective if the *Damage Prevention Metric* decreases over time.

Feedback and Improvement Phase

10. Review Colorado County DP Report Cards and effectiveness measures with each DPC for relevant counties.
11. Assist each DPC with creating public awareness, public education and stakeholder education programs.
12. Assist each DPC with funding public awareness, public education and stakeholder education programs.
13. Contact facility owners who have not submitted a damage report via VPDIRT Report Audit function

The preliminary metrics determined from the Data Analysis Phase were defined and discussed in the 2010 Mid-Term Progress Report, “Quantifiable Metrics” section. As this task was complete in August 2010, only a brief summary follows.

STATUS: This task is complete.

Budget Review

The following contract expenses were incurred with associated funding from Grant:

	Budget	Expense	Hours	Variance
Effectiveness & Evaluation	\$5,000.00	5,300.00	66.25	300.00

Note: the Facilitator Expense variance was applied to other objectives

4B) [Integrate the County Damage Prevention Report Card Module into the DPPortal.](#)

The DP Report Card Module will provide web based access to the County DP Report Cards as well as the One-Call and demographic data used to compile them.

The following tasks have been completed:

- Simplify the grading process and grading algorithms
- Determine County Report Card metrics and grades for all counties from 2004 through 2009 using the same grading algorithm for each year
- Convert County DP Report Cards to individual “pdf” files
- Design and compile a county data file that can be fed to a DPPortal staging area
- Post County DP Report Cards and county data files to document repository on DPPortal for each DPC community

STATUS: This task is complete.

Budget Review

The following contract expenses were incurred with associated funding from Grant:

	Budget	Expense	Hours	Variance
Forum Facilitator	1,755	1,760.00	22.00	5.00
DPPortal Developers	12,000	6,000.00		0

Note: the Facilitator Expense variance was applied to other objectives

4C) Integrate the County Damage Prevention Activity Module into the DPPortal.

The DP Activity was originally planned to be a software module on the DPPortal. The developers determined that the function can be accomplished via the Calendar and Scheduling portlets available within the *LifeRay* structure they implemented. This function will allow each DPC to schedule and report information about each public awareness or stakeholder education activity they sponsor. Information collected will include date, time, location, activity type, attendance and cost. The information will be utilized as a grading component for the DP Report Cards in future years.

STATUS:

The following tasks have been completed:

- A preliminary data collection process and specification has been defined
- 2008 and 2009 DPC Activity data has been manually collected
- Inclusion of standard Calendar and Scheduling portlets into PDPortal

The following tasks have been started and should be complete by June 2011:

- Collection of 2010 DPC Activity data (June 2011)
- Modify the Calendar and Scheduling portlets to meet the functional needs defined (June 2011)

Budget Review

The following contract expenses were incurred with associated funding from Grant:

	Budget	Expense	Hours	Variance
Forum Facilitator	1,755.	1,240.00	15.50	-515.00
Portal Developers	6,000.	6,000.00		0.

Note: the Facilitator Expense variance was applied to other objectives

Quantifiable Metrics/Measures of Effectiveness (Item 2 under Article IX, Section 9.01 Project Report: “Where the output of the project can be quantified, a computation of the cost per unit of output.”)

[This is difficult to explain across the board, but we’re trying to get a gauge for how effective this grant work is in improving your program. If your grant is more data oriented, you likely had some sort of metrics in mind to improve upon. If so, what were those metrics and how is the data looking now compared to when the program started? If you’re doing something along the lines of enforcement that involves incident review, how many cases have you been able to review/close and/or fines collected compared to before the grant work? If you pitched something more along the lines of public awareness, to how many stakeholders have you been able to reach? Even if you don’t have the metrics fully defined, put whatever you can here.]

A) Overview of Quantifiable Measures of Effectiveness

As this section was discussed in detail in the 2010 Mid-Term Progress Report, I will only summarize the important findings. The information has not changed and the 2010 VPDIRT Damage Data will not be available for analysis and review until after April 2011.

As defined under *Objective 4) Review the Effectiveness of Damage Prevention Programs, Data Evaluation Phase*, we defined three quantifiable measures of effectiveness that are repeated below for quick reference:

Data Evaluation Phase

7. Evaluate the effectiveness of public awareness efforts, as measured by the *Damage Prevention Awareness Metric*, in counties with an active DPC versus those counties with no DPC. Through the use of statistical tests, quantify the effectiveness of establishing and supporting DPCs to raise public awareness levels.

Establishing and supporting DPCs is effective if a statistically significant number of counties with an active DPC are above the median *DP Awareness Metric* each year.

8. Evaluate the effectiveness of damage prevention efforts, as measured by the *Damage Prevention Metric*, in counties with an active DPC versus those counties with no DPC. Through the use of statistical tests, quantify the effectiveness of establishing and supporting DPCs to improve damage prevention.

Establishing and supporting DPCs is effective if a statistically significant number of counties with an active DPC are below a historical threshold *Damage Prevention Metric* each year.

9. Evaluate the effectiveness of damage prevention efforts, as measured by the *Damage Prevention Metric*, in all counties. Through the use of statistical tests, quantify the effectiveness of damage prevention efforts by determining if the *Damage Prevention Metric* has improved over multiple years.

Damage prevention efforts are effective if the *Damage Prevention Metric* decreases over time.

B) Summary Review of important trends in related economic, incoming ticket and damage

DEMOGRAPHICS									
Land Area:	104,093 Square Miles							%Change	%Change
	2003	2004	2005	2006	2007	2008	2009	2004-2009	2007-2009
Population:	4,585,803	4,649,267	4,713,246	4,807,199	4,895,355	4,987,285	5,074,114	9.1%	3.7%
Population Density:	44.1	44.7	45.3	46.2	47.0	47.9	48.7	9.1%	3.7%
Net Migration:	24,315	26,412	30,126	54,784	54,686	49,843	29,531	11.8%	-46.0%
Building Permits:	39,569	46,499	45,891	38,343	29,454	18,998	9,355	-79.9%	-68.2%
ONE-CALL DATA									
Incoming Tickets:	750,994	752,161	748,817	706,168	634,630	547,732	470,716	-37.4%	-25.8%
Counties w/ Reported Damages:	56	56	52	56	56	51	55		
DIRT Facility Damages:	13,540	10,573	9,371	8,947	6,358	4,900	3,192	-69.8%	-49.8%
Telecommunications Damages	6,425	5,216	4,639	4,144	3,195	2,602	1,911	-63.4%	-40.2%
Natural Gas Damages	4,489	2,627	2,435	2,939	2,185	1,521	768	-70.8%	-64.9%
Electric Damages	1,666	1,561	790	1,497	635	472	231	-85.2%	-63.6%
Cable TV Damages	847	1,079	1,434	258	235	226	200	-81.5%	-14.9%
Water Damages	90	84	53	89	77	62	40	-52.4%	-48.1%
Sewer Damages	19	5	17	16	21	6	17		
Other Damages	4	1	3	4	10	11	25		
DAMAGE METRIC									
Damages / 1,000 Tickets:	18.0	14.1	12.5	12.7	10.0	8.9	6.8	-51.8%	-32.3%
Telecom Damages / 1,000 Tickets	8.6	6.9	6.2	5.9	5.0	4.8	4.1	-41.5%	-19.4%
Nat Gas Damages / 1,000 Tickets	6.0	3.5	3.3	4.2	3.4	2.8	1.6	-53.3%	-52.6%
Electric Damages / 1,000 Tickets	2.2	2.1	1.1	2.1	1.0	0.9	0.5	-76.4%	-51.0%
Cable TV Damages / 1,000 Tickets	1.1	1.4	1.9	0.4	0.4	0.4	0.4	-70.4%	14.7%
Water Damages / 1,000 Tickets	0.12	0.11	0.07	0.13	0.12	0.11	0.08	-23.9%	-30.0%
Sewer Damages / 1,000 Tickets	0.03	0.01	0.02	0.02	0.03	0.01	0.04		
Other Damages / 1,000 Tickets	0.01	0.00	0.00	0.01	0.02	0.02	0.05		

The following six multi-year trends stand out in the data:

- 1) State population has been steadily increasing
- 2) Building permits have been decreasing since 2004, dropping 79.9%
- 3) Incoming tickets have been decreasing since 2004, dropping 37.4%
- 4) Facility damages have been decreasing since 2003, dropping 69.8% since 2004
- 5) The Damage Metric has been decreasing since 2003, dropping 51.8% since 2004
- 6) In most cases, the two year %change from 2007-2009 makes up the majority of the change since 2004

There are four general conclusions that can be drawn from these multi-year trends:

- 1) Incoming tickets have decreased at a much slower rate (about one-half the rate) than construction activity, as measured by building permit data. This is a positive trend and may indicate that the general awareness level has in fact increased over time. Of course, it may also indicate that building construction companies were not requesting an appropriate level of tickets for the amount of excavation involved.
- 2) **Facility damages have decreased at a much faster rate (about twice the rate) than incoming tickets have decreased.** It is always a good result when damages decrease, but if they are not decreasing at a faster rate than tickets are decreasing, progress has not been made. **This result is a positive trend that points to a driving force that has improved damage prevention efforts by stakeholders.**
- 3) The Damage Metric (facility damages / 1,000 incoming tickets) has decreased over time. Since this is a ratio of two industry measures, either of the measures could be impacting the decrease in the ratio. In this case, both measures have decreased, and since the numerator decreased at a faster rate than the denominator decreased, the ratio decreased. **This is a**

positive trend that points to a driving force that has improved damage prevention efforts by stakeholders.

- 4) Since PHMSA provided grant funding in 2008 and 2009 for public awareness and stakeholder education, the rate of improvement for most of the measures has increased significantly. We view this as a positive recent trend, though it is limited to two years.

C) Quantifiable Measures of Effectiveness

The 1st and 2nd Quantifiable Measures of Effectiveness identified (Data Evaluation Phase-Item #7 and #8 on pages 8 and 11) were assessed based upon the group of 64 counties in Colorado and the existence of an active DPC in the county. Since the Grant funding supported public awareness and stakeholder education activities sponsored by the DPCs, it is useful to determine if supporting the DPCs produced results in counties where DPCs were active. Generally then, if the counties with an active DPC demonstrate, through an appropriate measure, a higher level of awareness and damage prevention than counties without an active DPC, then supporting DPCs to produce these results was both worthwhile and desirable and the programs were effective. The statistical test for effectiveness uses *Contingency Tables* and the *Chi-square Independence of Variables Test*. The test of independence of variables was used to determine whether two variables are independent of or related to each other.

For example, if there are 64 counties and the level of public awareness can be measured by some method, then do those counties with a DPC have a higher level of public awareness than those counties without a DPC? Put another way, is a high level of public awareness in a county independent of having an active DPC in the county, or is it dependant upon having an active DPC in the county? This test helps to answer that question. Note that the test does not prove that the DPC is responsible for the higher level of public awareness, only that on average those counties with an active DPC have a higher level of public awareness than those counties without an active DPC. It is left to further verification to determine if appropriate and sufficient activities occurred that might have had an impact on the level of public awareness. But by definition of the question, we specified that the DPCs were in fact active in the county. Tracking DP Activities in future years will support the claim to our satisfaction.

The 3rd Quantifiable Measure of Effectiveness identified (Data Evaluation Phase-Item #9 on pages 8 and 11) was assessed based upon the group of 64 counties in Colorado and the change in the Damage Prevention Metric from 2004 to 2009. It is useful to determine if the decrease in the damage level over this period was a random fluctuation or a statistically significant decrease. Generally then, if the Damage Metric decreases it would be useful to know what helped to cause the decrease. The test for effectiveness uses the *t-Test of the Difference Between Two Means for Dependant Samples*, which will establish if the average Damage Prevention Metric changed significantly over the time period.

More detailed information on the statistical tests and how they are performed is provided in the 2010 Mid-Term Progress Report.

C1) Effectiveness of Public Awareness Efforts – Impact of DPCs

Effectiveness is measured by having a statistically significant number of counties with active DPCs above the median Public Awareness Metric (the value in the exact middle of the 64 counties). The test of the effectiveness utilized four groupings of sixteen counties each and identified the number of counties with an active DPC in each group. The lower two groups are below the median metric and the upper two groups are above the median metric.

The conclusion of the statistical test, with a Confidence Level of 99.5%, is that there is enough evidence to support the claim statement that counties with an active DPC have higher levels of public awareness than counties without an active DPC. Therefore, creating and supporting DPCs and public awareness programs is an effective method of improving damage prevention awareness.

A visual inspection of the number of counties with DPCs in each group in 2009 provides an intuitive sense that this statement is true. The *Chi-square Independence of Variables Test* just confirms that the actual data supports the claim. A similar test of the county data in 2004 reached the same conclusion, lending reinforcement to the validity of the test and the conclusion.

More detailed information on the statistical test and the data used to perform the test is provided in the 2010 Mid-Term Progress Report under this section title.

Effectiveness of Damage Prevention Efforts – Impact of DPCs

Effectiveness is measured by having a statistically significant number of counties with active DPCs below the historical Damage Weighted Average Damage Prevention Metric (a value established in 2004). The 2004 metric is used as a reference to show improvement over time. The test of the effectiveness utilized three categories of 13, 25, and 26 counties each and identified the number of counties with an active DPC in each category. The first category is above or worse than the reference average damage metric and the other two categories are below or better than the reference average damage metric.

The conclusion of the statistical test, with a Confidence Level of 90.0%, is that there is enough evidence to support the claim statement that counties with an active DPC have better (lower than the historical reference metric) levels of damage prevention than counties without an active DPC. Therefore, creating and supporting DPCs and public awareness programs is an effective method of improving damage prevention.

A visual inspection of the number of counties with DPCs in each group in 2009 provides an intuitive sense that this statement is true. The *Chi-square Independence of Variables Test* just confirms that the actual data supports the claim. A similar test of the county data in 2004 reached the same conclusion, lending reinforcement to the validity of the test and the conclusion.

More detailed information on the statistical test and the data used to perform the test is provided in the 2010 Mid-Term Progress Report under this section title.

Effectiveness of Damage Prevention Efforts – Improvement in Damage Metric

Effectiveness is measured by having a statistically significant decrease in the Damage Prevention Metric from 2004 to 2009 for each county. Whether a county had a DPC or not is not part of the test. The test of the effectiveness utilized the difference in the Damage Prevention Metric from 2004 to 2009 for each county. The test then determine if the average resulting change was significantly different from no change based upon the group size and metric dispersion of the group of counties.

The conclusion of the statistical test, with a Confidence Level of 99.0%, is that there is enough evidence to support the claim statement that the Damage Prevention Metric is significantly lower in 2009 than it was in 2004. Therefore, we can assume that something has changed with the attitudes and habits of stakeholders in enough counties in Colorado to cause the positive change in damage prevention and a statistically significant reduction in the Damage Prevention Metric overall. The natural question to ask is whether creating and supporting DPCs and public awareness programs was the primary cause of this change. The prior two tests addressed this question.

A visual inspection of the number of counties with DPCs in each group in 2009 provides an intuitive sense that this statement is true. The *t-Test of the Difference Between two Means* just confirms that the actual data supports the claim, lending reinforcement to the validity of the test and the conclusion.

More detailed information on the statistical test and the data used to perform the test is provided in the 2010 Mid-Term Progress Report under this section title.

Issues, Problems or Challenges (Item 3 under Article IX, Section 9.01 Project Report: “The reasons for slippage if established objectives were not met. “)

[If the project is progressing on schedule, simply state that there are no issues, problems or challenge to report. If there have been delays for any reason, explain what they are and how that may impact the grant work. For instance, with some States, even after an agreement is in place, it has to be sent back to the Governor’s office for approval, which takes more time than originally anticipated. Even if work begins right away after the agreement is in place, other delays can be caused by personnel changes or simply having a better understanding of the effort required once the work is underway.]

We are pleased with the progress we have made on the four objectives in 2010. Two of the objectives are not complete:

Objective 3) Implement the Damage Prevention Non-Compliance Program

Objective will be completed during 2011. All that remains is a pilot test with a DPC and then rollout to all other DPCs.

Objective 4d) Integrate the County Damage Prevention Activity Module into the DPPortal

Objective will be completed by June 2011. We are waiting for each DPC to turn in their DP Activity as well as final modifications to the calendaring and scheduling web portlets.

There was a variance of \$3,415.63 in the Facilitator Travel budget of \$5,000.

The variance was returned to PHMSA on 12/31/2010. We decided that it was unnecessary to travel to all the DPCs to review the Damage Report and Damage Report Cards. This review was performed at the fall 2010 DPAT meeting. The time (Facilitator hours) allocated for this travel was instead used to define a process to evaluate the effectiveness of the programs supported by the grant and to perform the evaluation. The results of the evaluation were included in the 2010 Mid-Term Progress Report.

There are no other issues, problems or challenge to report

Final Financial Status Report

[Per the instructions in Article IX, Section 9.03 of your agreement (included below), the financial status report should go to the Agreement Administrator (AA). For this section of the progress report, simply state “The Final Financial Report has been sent as a separate attachment to the AA.”. However, if there are any issues with the Financial Status Report or additional explanation is needed, please provide that information here. If there are any delays for whatever reasons, these should be communicated to the AA and AOTR in advance.

From Article IX, Section 9.03 of your agreement: “During the performance of the grant, the Grantee must submit a Final Financial Status Report, Standard Form 425 (SF-425), to report the status of funds. In addition to SF-425, the Grantee should provide the break down of costs for each object class category (Personnel, Fringe Benefits, Travel, Equipment, Supplies, Contractual, Other, and Indirect Charges). This report must be submitted to the AA in electronic form via e-mail no later than [refer to your agreement for date.]”]

The Final Financial Report has been sent as a separate attachment to the AA

Requests of the AOTR and/or PHMSA

[In most cases, any questions or actions requested of the AOTR and PHMSA (such as grant modifications in anyway) should have been addressed in advance of filing the report. If this is the case, simply state “No actions requested at this time” or explain any actions that are currently in process. However, if something has come up recently, or if you haven’t been able to discuss with the AOTR yet, please describe here.]

No actions requested at this time