15th Quarterly Progress Report to the
FEDERAL HIGHWAY ADMINISTRATION
(FHWA)

On the Project
THE IMPACT OF WIDE-BASE TIRES ON PAVEMENT DAMAGE
DTFH61-11-C-00025

For the Period
October 1st to December 31st, 2014

Submitted by
Illinois Center for Transportation
University of Illinois at Urbana-Champaign

FEDERAL HIGHWAY ADMINISTRATION
QUARTERLY PROGRESS REPORT

FHWA Project DTFH61-11-C-00025 FY: 2014 Quarter: 15 October-December
Research Agent Illinois Center for Transportation
Principal Investigator Imad L. Al-Qadi

PHASE	RESEARCH TASK	2011									2012											2013											2014											ESTIMATED % COMPLETION
		A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
1	1.1. Comprehensive literature review and synthesis on past and current research																																												100
		20	60	90	100																																								
	1.2. Experimental plan and modeling framework																																											100
				50	60	80	100																																						
	1.3. Implementation and marketing plan																																											100
			10	50	70	80	100																																						
	1.4. Phase I report																																											100
				60	70	80	100																																						
	1.5. Conference call with panel																																											100
		0	50			100																																						
	1.6. Presentations to relevant conferences and symposiums																																											100
							50																																					
2	2.1. Prepare experimental equipment, test structures, and instrumentation																																												100
						0	0	0	0	0	10	30	40	45	50	60	70	85	90	95	100																								
	2.2. Conduct experiments, including material characterization and accelerated loading																																												95
							0	0	0	0	5	10	20	25	30	40	50	60	70	40	40	40	45	50	55	55	57	60	62	65	68	70	72	73	75	77	80	82	84	85	87	88	90	92	95	95
	2.3. Conduct modeling																																												97
						0	0	0	0	0	1	2	5	6	8	10	20	25	30	30	35	35	40	45	50	50	53	55	56	57	59	60	61	62	65	68	70	85	90	95	96	97	97	97	97	97
	2.4. Development of analysis tool																																												80
														0	0	0	0	5	5	10	15	15	20	25	35	40	42	45	46	48	49	51	52	52	55	58	60	62	65	70	75	77	80	85	90	90
	2.5. Delivery of draft Phase II report and analysis tool																																												30
																													0	0	0	0	0	0	0	0	0	0	0	0	10	20	30	40	50	50
	2.6. Present to relevant conferences and symposiums																																												50
	2.7. Prepare article and technical papers																																												0
	Estimated Progress (%)	1	3	7	8	10	11	11	11	11	13	15	19	21	23	27	33	38	43	41	40	38	42	45	49	50	51	53	54	56	57	58	59	60	62	63	65	71	73	76	78	81	83	85	88	88	85
	Planned Progress (%)	1	3	7	10	13	17	21	25	29	33	36	40	44	47	51	55	59	61	63	64	66	68	70	71	73	75	77	81	85	89	93	97	100	100	100	100	100	100	100	100	100	100	100	100	100	100

QUARTERLY PROGRESS REPORT

QUARTER 15

The Impact of Wide-Base Tires on Pavement Damage – A National Study

1. Work Performed

The following tasks were accomplished during this quarter:

- First draft of final report was finalized and is being internally reviewed. Even though it does not contain final data and results, this draft will facilitate preparation of the final report that will be submitted to the research panel.
- Laboratory testing of materials collected from UC-Davis, Florida, and Ohio has been finalized. The data and testing results have been compiled and will be submitted in a format agreed between the research panel and UIUC research team.
- Finite element re-runs were also performed during this quarter: 85% and 65% of thin and thick cases, respectively, were completed.

2. Work to Be Accomplished in the Next Quarter

- Re-runs of all analysis cases of thin and thick pavement.
- Neural network analysis and adjustment factors will be updated to account for the new results.
- The draft final report will be finalized.

3. Problems Encountered

- A small error was detected in the code, which consists of hundreds of lines: density values were in order of magnitude different. As a consequence, all finite element run were repeated to provide the research panel with an accurate report.

4. Current and Cumulative Expenditures

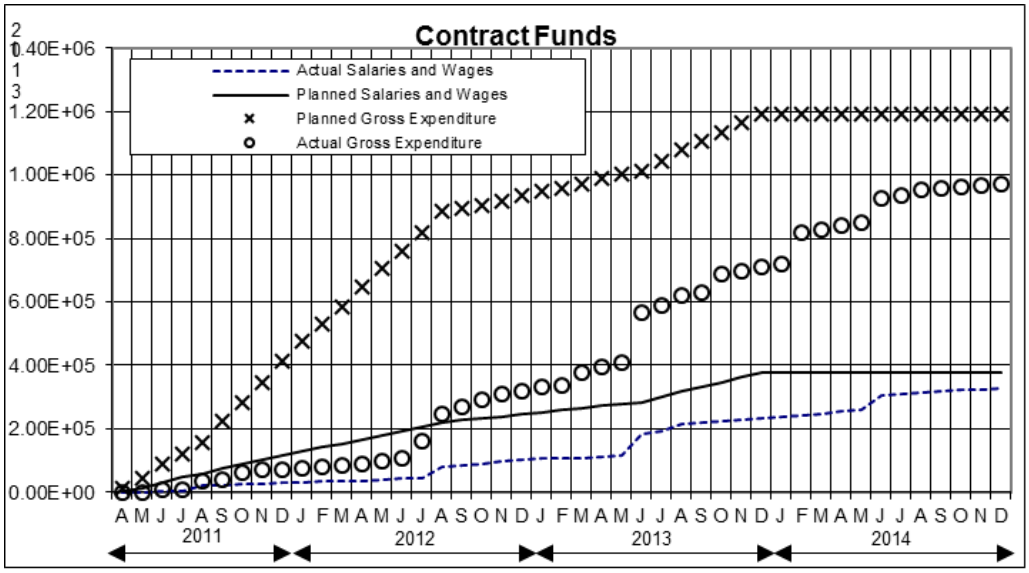

Figure 1. Project's expenditure.

5. Planned, Actual, and Cumulative Percentage of Effort

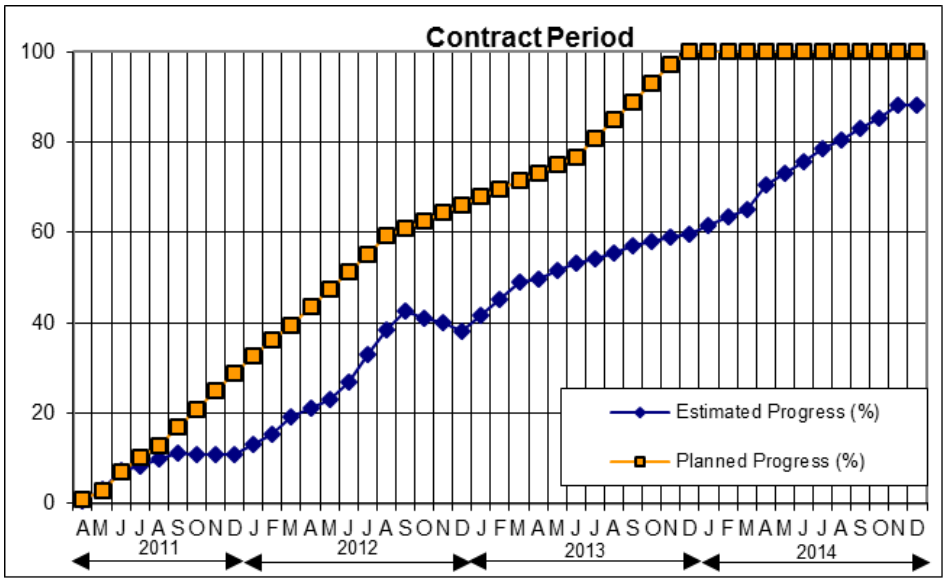

Figure 2. Project's progress.