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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



WILLIAM J. CASS, PE
ASSISTANT COMMISSIONER

August 14, 2015
Bureau of Materials & Research

Her Excellency, Governor Margaret Wood Hassan
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

1. Authorize the Department of Transportation to enter into a contract amendment (Contract #2009-017) with Pathway Services, Inc. (Vendor 137428) of Tulsa, Oklahoma to extend the vehicle warranty, software licensing, software escrow, Omnistar satellite subscription, and to provide Quality Control (QC) data services by increasing the total amount by \$209,386 (from \$1,450,900 to \$1,660,286), effective upon Governor and Council approval. 100% Federal Funds.
2. Further, authorize to amend the contract completion date from September 30, 2015 to September 30, 2017, effective upon Governor and Council approval.

Funds to support this request are anticipated to be available in the following accounts in State FY 2016 and State FY 2017 upon the availability and continued appropriation of funds in the future operating budget, with the ability to adjust encumbrances between State Fiscal Years through the Budget Office, if needed and justified.

	<u>FY 2016</u>	<u>FY 2017</u>
04-96-96-962515-2944		
SPR Planning		
046-500464 General Consultants	\$ 101,058	\$ 108,328

EXPLANATION

On June 30, 2009, the Governor and Council authorized Pathway Services, Inc. (Item #229; copy attached) in the amount of \$1,098,400 for the purchase of a pavement condition and transportation asset data collection vehicle, hardware, software and support services to provide data collection support to DOT's Pavement Management and Asset Management programs.

On June 22, 2011, the Governor and Council authorized an amendment to the contract (Item #374; copy attached) to increase the contract amount by \$164,000 to extend the vehicle warranty, cover software licensing and escrow fees and provide Quality Control (QC) data services. The amendment increased the total amount payable from \$1,098,400 to \$1,262,400. The contract completion date has also been subsequently amended and extended from September 30, 2011 to September 30, 2013.

On March 06, 2013, the Governor and Council authorized an amendment to the contract (Item #46; copy attached) to increase the contract amount by \$188,500 to extend the vehicle warranty, software licensing, software escrow, Omnistar satellite subscription and to provide Quality Control (QC) data services. The amendment

increased the total amount payable from \$1,262,400 to \$1,450,900. The contract completion date has also been subsequently amended and extended from September 30, 2013 to September 30, 2015.

The Department's Data Collection Vehicle (van) collects annual pavement condition data in support of the Pavement Management System (PMS) and to satisfy the Federal Highway Administration (FHWA) Highway Performance Monitoring System (HPMS) reporting requirements. The condition data will also be used to meet the anticipated MAP-21 submission requirements. The van is equipped with specialized sensors and equipment that has been customized by Pathway Services Inc. for this specific use. This amendment will extend processing of roadway cracking data, the vehicle warranty, and software-related services for two years.

The van captures high resolution images of the pavement surface. The images require a QC review to identify and rate the severity of the cracks in the pavement. The cracking data is then imported into the PMS and is reported to FHWA as part of HPMS and anticipated MAP-21 reporting. The cracking data is critical to the success of the PMS as the cracking type and severity is used to select the most cost effective road surface treatment. This amendment includes utilizing Pathway Services Inc. to QC the pavement images that will be collected in 2015 and 2016. The warranty covers all parts, labor, and travel costs to repair and/or replace the van sensors or equipment as needed. The warranty also includes an annual on-site equipment calibration and system check. This amendment extends the warranty by another two years.

The Pathview II software suite that was purchased with the vehicle allows the Department to process the data into a usable format, generate exports, and view the data collected by the van. The software is a licensed product and has been developed and customized to meet the Department's specific needs. The original contract included the software purchase and two years of licensing and software escrow fees and Contract Amendment #2009-017A and #2009-017B covered four additional years. This amendment includes the licensing and escrow fees for the next two years. The software escrow entitles the Department to a copy of the software source code should Pathway Services become defunct.

The van is equipped with an onboard GPS receiver which requires real time correction to achieve an acceptable level of accuracy. The real time correction is a subscription service. The original contract and the Contract Amendment #2009-017A and #2009-017B covered this service through the 2014 collection year. This amendment would extend this service to the 2017 collection year.

FY 2016 funding includes QC services for the 2015 data (\$32,043) and for 10/2015 through 09/2016, the warranty (\$61,765), software licensing and escrow (\$6,250), and the satellite subscription (\$1,000). FY 2017 funding includes QC services for the 2016 data (\$27,188) and for 10/2016 through 09/2017, the warranty (\$73,890), software licensing and escrow (\$6,250), and the satellite subscription (\$1,000).

The SPR funds being proposed for this purchase are specified by FHWA to be used in support of planning activities, which includes pavement and asset management. The project funding is 80% Federal with 20% State match. Turnpike Toll Credit is being utilized for match requirements, effectively using 100% Federal funds.

The contract has been approved by the Attorney General as to form and execution, and the Department has certified that the necessary funds are available. Copies of the fully executed contract are on file at the Secretary of State's Office and the Department of Administrative Service's Office, and subsequent to Governor and Council approval will be on file at the Department of Transportation.

We respectfully request your approval of this resolution.

Sincerely,



William Cass, PE
Assistant Commissioner



STATE OF NEW HAMPSHIRE
DEPARTMENT OF INFORMATION TECHNOLOGY

27 Hazen Dr., Concord, NH 03301
Fax: 603-271-1516 TDD Access: 1-800-735-2964
www.nh.gov/doit

Denis Goulet
Commissioner

August 12, 2015

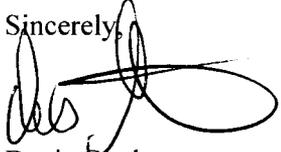
Christopher M. Waszczuk
Director of Project Development
State of New Hampshire
Department of Transportation
John O. Morton Bldg., 1 Hazen Drive
Concord, NH 03302-0483

Dear Director Waszczuk:

This letter represents formal notification that the Department of Information Technology (DoIT) has approved your agency's request to enter into a contract amendment with Pathway Services, Inc. of Tulsa, Oklahoma as described below and referenced as DoIT No. 2009-017C.

This is a contract amendment to provide DOT's Data Collection Vehicle with extended warranty support for: the data collection vehicle, data processing services, technical support and programming services for the software, Omnistar Satellite subscription services and escrow services for the software through September 30, 2017. This amendment increases the total contract value by \$209,386 from \$1,450,900 to 1,660,286.

A copy of this letter should accompany the Department of Transportation submission to the Governor and Executive Council for approval.

Sincerely,

Denis Goulet

DG/dcp
DoIT 2009-017C

cc: David Perry, IT Manager, DoIT BFA
Gail Hambleton, DoIT IT Leader, DOT

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
NHDOT DATA COLLECTION VEHICLE CONTRACT
CONTRACT 2009-017
CONTRACT AMENDMENT 2009-017C**

WHEREAS, pursuant to an agreement approved by Governor and Council, as a result of Contract #2009-017, on June 3, 2009, Item #229, Contract Amendment #2009-017A, on June 22, 2011, Item #374, and Contract Amendment #2009-017B, on March 6, 2013, Item #46 (hereinafter called the "Agreement"), Pathway Services Inc. (hereinafter referred to as the "Pathway"), agreed to supply certain services upon the terms and conditions specified in the Agreement and in consideration of payment by the Department of Transportation (hereinafter referred to as the "Department") certain sums as specified therein;

WHEREAS, pursuant to the Agreement Section 13.17, *Amendment*, and the provisions of the Agreement, the Agreement may be modified or amended only by a written instrument executed by the parties thereto and approved by the Governor and Council;

WHEREAS, Pathway and the Department have agreed to amend the Agreement in certain respects:

WHEREAS, the Department wishes to increase the Pathway Contract Price by \$209,386 increasing the total contract price from \$1,450,900 to \$1,660,286.

NOW THEREFORE, in consideration of the foregoing, and the covenants and conditions contained in the Agreement and set forth herein, the parties hereto do agree as follows:

The Contract Agreement – General Provisions is hereby amended as follows:

1. Amend Section 1.7 of the General Provisions of the Agreement to reflect the new Completion Date of September 30, 2017.

Amend Section 1.8 of the General Provisions of the Agreement by increasing the Price Limitation to \$1,660,286.

The Statement of Work is hereby amended as follows:

1. Amend Section 2.1 *Term* to reflect only the changes detailed below:

<p>Statement of Work Section 2.1 Term</p>	<p>Delete:</p> <p>The Contract shall take effect after full execution by the parties, and the receipt of required governmental approvals, including, but not limited to, Governor and Executive Council approval ("Effective Date").</p> <p>The Contract shall begin on the Effective Date and extend through September 30, 2015.</p> <p>Replace with:</p> <p>The Contract shall take effect after full execution by the parties, and the</p>
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NHDOT DATA COLLECTION VEHICLE CONTRACT
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	<p>receipt of required governmental approvals, including, but not limited to, Governor and Executive Council approval (“Effective Date”).</p> <p>The Contract shall begin on the Effective Date and extend through September 30, 2017.</p>
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Exhibit A: *Contract Deliverables*, of the Agreement is hereby amended as follows:

1. Amend Section 2.1 *Implementation Schedule – Activities/Deliverables/Milestones* to reflect the addition of new deliverables detailed below in Table 1:

Table 1:

Reference Number	Activity, Deliverable, or Milestone	Deliverable Type	Projected Delivery Date
40	Collection Vehicle Data Processing 2015 Deliverables – See Table 2 below.	Non-Software/Service	April 2016
41	Warranty Period – Year 7 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2015 – September 2016
42	Technical Support and Software Programming – Year 7 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2015 – September 2016
43	Pathview II Software Escrow – Year 7 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2015 – September 2016
44	Omnistar Satellite Subscription Service – 2015 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	May 2016
45	Collection Vehicle Data Processing 2016 Deliverables – See Table 3 below.	Non-Software/Service	April 2017
46	Warranty Period – Year 8 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2016 – September 2017
47	Technical Support and Software Programming – Year 8 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2016 – September 2017
48	Pathview II Software Escrow – Year 8 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2016 – September 2017

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49	Omnistar Satellite Subscription Service - 2016 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	June 2016 – May 2017
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2. Amend Section 5 *Data Collection Vehicle Deliverables* to reflect the addition of deliverables as detailed below in Table 2, Reference Number 7.17 *Collection Vehicle Data Processing 2015*.

Table 2:

Reference No. 7 – Data Collection Vehicle	
Reference Number	Activity, Deliverable, or Milestone
7.17	Collection Vehicle Data Processing 2015 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)
	7.17.1. Provide Quality Control (QC) services of approximately 1650 miles of cracking data from collection years 2015 using the NHDOT-specific PathView II suite, to be paid on a unit price basis of \$19.42 per mile.
	7.17.1.1. QC the cracking data by visually identifying, classifying, and correcting the pavement distress type, location, severity level, and length using:
	7.17.1.1.1. High-resolution digital images of the roadway and pavement surface synchronized to show the same road segment in both views and color-coded crack maps with the same scale as the roadway.
	7.17.1.1.2. Results obtained from AutoCrack and AutoClass processes.
	7.17.1.1.3. Distress severity as defined in Appendix A Revision 3 and Appendix B Revision 1 (attached).
	7.17.1.1.4. Sample distress severity rating images
	7.17.1.1.5. Hot keys (event keys) for data entry, lane location, seal condition, etc. with user-definable events
	7.17.1.2. The total miles of data to undergo QC is outlined as follows:
	7.17.1.2.1. QC the first three tenths (0.3) of each mile collected.
	7.17.1.2.2. If the total length of the roadway is less than 0.3 miles, the entire roadway length shall be QC'd.
	7.17.1.2.3. If the final section of roadway is less than 0.3 miles in length, the entire length shall be QC'd.
	7.17.1.2.4. The total collected miles associated with the 1650 miles requiring QC services is approximately 5,500.
	7.17.1.3. QC results shall be submitted to the State according to the following schedule for Quality Assurance (QA) review and final acceptance:

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	7.17.1.3.1. Pathway will QC the first ten percent (10%) of the data, approximately 165 miles, and submit to the State for QA review.
	7.17.1.3.2. The State will perform QA on the first 10% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.17.1.3.3. Upon acceptance by the State of the first 10%, Pathway will QC and submit the next thirty percent (30%), approximately 495 miles of the data, and submit to the State for QA review.
	7.17.1.3.4. The State will perform QA on the 30% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.17.1.3.5. Upon acceptance by the State, Pathway will QC and submit the next thirty percent (30%), approximately 495 miles of the data, and submit to the State for QA review.
	7.17.1.3.6. The State will perform QA on the 30% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.17.1.3.7. Upon acceptance by the State, Pathway will QC and submit the last thirty percent (30%), approximately 495 miles of the data, and submit to the State for QA review.
	7.17.1.3.8. The State will perform QA on the last 30% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.17.1.3.9. Comments shall be addressed and corrective actions undertaken by Pathway on all QA feedback comments within ten (10) days of receipt from the State.
	7.17.1.2.10. Payment will be made upon final acceptance of 100% of the data by the State.

3. Amend Section 5 *Data Collection Vehicle Deliverables* to reflect the addition of deliverables as detailed below in Table 3, Reference Number 7.18 *Collection Vehicle Data Processing 2016*.

Table 3:

Reference No. 7 – Data Collection Vehicle	
Reference Number	Activity, Deliverable, or Milestone
7.18	Collection Vehicle Data Processing 2016 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)
	7.18.1. Provide Quality Control (QC) services of approximately 1400 miles of cracking data from collection year 2016 using the NHDOT-specific PathView II suite, to be paid on a unit price basis of \$19.42 per mile.
	7.18.1.1. QC the cracking data by visually identifying, classifying, and correcting the pavement distress type, location, severity level, and length using:
	7.18.1.1.1. High-resolution digital images of the roadway and pavement surface synchronized to show the same road segment in both views and color-coded crack maps with the same scale as the roadway.

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	7.18.1.1.2. Results obtained from AutoCrack and AutoClass processes.
	7.18.1.1.3. Distress severity as defined in Appendix A Revision 3 and Appendix B Revision 1 (attached).
	7.18.1.1.4. Sample distress severity rating images
	7.18.1.1.5. Hot keys (event keys) for data entry, lane location, seal condition, etc. with user-definable events
	7.18.1.2. The total miles of data to undergo QC is outlined as follows:
	7.18.1.2.1. QC the first three tenths (0.3) of each mile collected.
	7.18.1.2.2. If the total length of the roadway is less than 0.3 miles, the entire roadway length shall be QC'd.
	7.18.1.2.3. If the final section of roadway is less than 0.3 miles in length, the entire length shall be QC'd.
	7.18.1.2.4. The total collected miles associated with the 1400 miles requiring QC services is approximately 4,700.
	7.18.1.3. QC results shall be submitted to the State according to the following schedule for Quality Assurance (QA) review and final acceptance:
	7.18.1.3.1. Pathway will QC the first ten percent (10%) of the data, approximately 140 miles, and submit to the State for QA review.
	7.18.1.3.2. The State will perform QA on the first 10% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.18.1.3.3. Upon acceptance by the State of the first 10%, Pathway will QC and submit the next thirty percent (30%), approximately 420 miles of the data, and submit to the State for QA review.
	7.18.1.3.4. The State will perform QA on the 30% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.18.1.3.5. Upon acceptance by the State, Pathway will QC and submit the next thirty percent (30%), approximately 420 miles of the data, and submit to the State for QA review.
	7.18.1.3.6. The State will perform QA on the 30% and return comments or acceptance to Pathway within ten (10) days of receipt of the data
	7.18.1.3.7. Upon acceptance by the State, Pathway will QC and submit the last thirty percent (30%), approximately 420 miles of the data, and submit to the State for QA review.
	7.18.1.3.8. The State will perform QA on the last 30% and return comments or acceptance to Pathway within ten (10) days of receipt of the data.
	7.18.1.3.9. Comments shall be addressed and corrective actions undertaken by Pathway on all QA feedback comments within ten (10) days of receipt from the State.

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	7.18.1.2.10. Payment will be made upon final acceptance of 100% of the data by the State.
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	7.20.1.2.10. Payment will be made upon final acceptance of 100% of the data by the State.
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Exhibit B: *Price and Payment Schedule*, of the Agreement is hereby amended as follows:

1. Amend Section 1.1 *Firm Fixed Price*, and Section 2 *TOTAL CONTRACT PRICE* to reflect only the changes detailed below:

Exhibit B Section 1.1 Firm Fixed Price	<p>Delete: This is a Firm Fixed Price (FFP) Contract totaling \$1,450,900 for the period between the Effective Date through September 30, 2015.</p> <p>Replace with: This is a Firm Fixed Price (FFP) Contract totaling \$1,660,286 for the period between the Effective Date through September 30, 2017.</p>
Exhibit B Section 2 TOTAL CONTRACT PRICE	<p>Delete: Notwithstanding any provision in the Contract to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments made by the State exceed \$1,450,900 ("Total Contract Price").</p> <p>Replace with: Notwithstanding any provision in the Contract to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments made by the State exceed \$1,660,286 ("Total Contract Price").</p>

2. Amend Section 1.1 *Firm Fixed Price*, Table 1: Activity, Deliverable, or Milestone Price and Payment Table, to reflect the addition of new deliverables as detailed below in Table 4.

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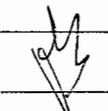
Table 4:

Table 1: Activity, Deliverable, or Milestone Price and Payment Table				
Reference Number	Activity, Deliverable, or Milestone	Deliverable Type	Projected Delivery Date	Payment Amount
40	Collection Vehicle Data Processing 2015 to be paid on a unit price basis (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software - Services	April 2016	\$ 32,043.00
41	Warranty Period – Year 7 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2015 – September 2016	\$ 61,765.00
42	Technical Support and Software Programming – Year 7 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2015 – September 2016	\$ 5,000.00
43	Pathview II Software Escrow – Year 7 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2015 – September 2016	\$ 1,250.00
44	Omnistar Satellite Subscription Service – 2015 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	May 2016	\$ 1,000.00
45	Collection Vehicle Data Processing 2016 to be paid on a unit price basis (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software - Services	April 2017	\$ 27,188.00
46	Warranty Period – Year 8 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2016 – September 2017	\$ 73,890.00
47	Technical Support and Software Programming – Year 8 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2016 – September 2017	\$ 5,000.00
48	Pathview II Software Escrow – Year 8 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	October 2016 – September 2017	\$ 1,250.00
49	Omnistar Satellite Subscription Service – 2016 (Reference Pathway Services Inc. Project Estimate No. 3066 dated 07/30/2015)	Non-Software	June 2016 – May 2017	\$ 1,000.00

STATE OF NEW HAMPSHIRE
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Pathway NHDOT Data Collection Vehicle Contract History

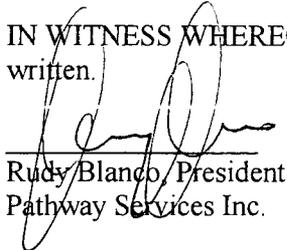
Contract and Amendment Number	Amendment Type	Effective Date	Contract Amount (Not to Exceed)
Contract #2009-017	Original Contract	June 3, 2009	\$1,098,400
Amendment #2009-017A	Amendment A	June 22, 2011	\$ 164,000
Amendment #2009-017B	Amendment B	March 6, 2013	\$ 188,500
Amendment #2009-017C	Amendment C	Upon G&C Approval	\$209,386
		CONTRACT TOTAL:	\$1,660,286



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Except as provided herein, all provisions of the Agreement shall remain in full force and effect. This modification shall take effect upon the approval date from the Governor and the Executive Council.

IN WITNESS WHEREOF, the parties have hereunto set their hands as of the day and year first above written.


Rudy Blanco, President
Pathway Services Inc.

Date: 8/14/15

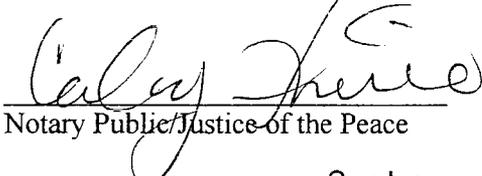
Corporate Signature Notarized:

STATE of Oklahoma

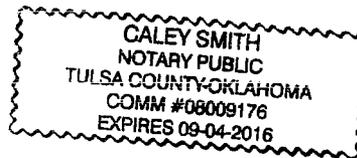
COUNTY of Tulsa

On this 14th day of August, 2015 before me, Caley Smith, the undersigned Officer Rudy Blanco, personally appeared and acknowledged her/himself to be the President of Pathway Services Inc., a corporation, and that she/he, as such President being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by her/himself as Rudy Blanco.

IN WITNESS WHEREOF I hereunto set my hand and official seal.

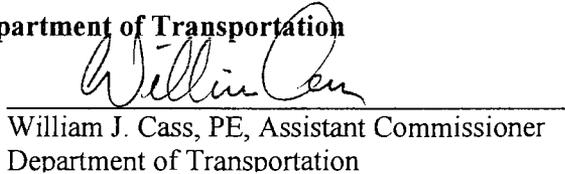

Notary Public/Justice of the Peace

(SEAL)



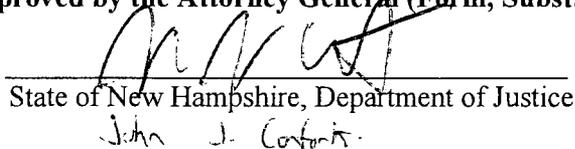
My Commission Expires: 9-4-16

Department of Transportation


William J. Cass, PE, Assistant Commissioner
Department of Transportation

Date: 8/27/15

Approved by the Attorney General (Form, Substance and Execution)


State of New Hampshire, Department of Justice
John J. Conforti

Date: 9/1/15

Approved by NH Governor and Council

Date: _____

APPENDIX A - Revision 3

Distress descriptions, recording and reporting requirements, and fieldnames [in brackets]:

CRACKING

- **Invalid Cracking:**

Any length of an image which is not adequate to use for crack identification and rating purposes shall be indicated with a flag. The total length of the flagged areas shall be summarized and reported for each segment.

- **Invalid Cracking:** Length of an image collected at a location such that distress is clearly visible in a perspective view that cannot be identified in the matching line scan view shall be marked entirely as invalid [**InvCrack**]

Within a given user defined section length (e.g., 0.1 miles/528 feet), record and report the percentage of the length with invalid cracking.

- **Transverse Cracking:**

A transverse crack is oriented between 80° and 100° from the pavement centerline and occurs as a single entity across one or more crack areas (wheelpath, miscellaneous), with no minimum length. Identified transverse cracks shall be categorized as one of the following:

- **Severity Level 1:** Crack width ≤ 6 mm [**TranSev1**]
- **Severity Level 2:** Crack width > 6 mm and ≤ 19 mm; may contain adjacent low severity random cracking [**TranSev2**]
- **Severity Level 3:** Crack width > 19 mm; may contain adjacent low to moderate severity random cracking [**TranSev3**]
- **Sealed:** any transverse crack that has been sealed. [**TranSeal**]

Within a given user defined section length (e.g., 0.1 miles/528 feet), record and report the length in feet of transverse cracks in each category.

- **Wheelpath Fatigue Cracking:**

Wheelpath Fatigue cracking is cracking in the wheelpath, as described in Figure 1, and not already identified as transverse cracks. Wheelpath cracking shall be reported separately for the left and right wheelpaths. These shall be categorized as one of the following:

- **Severity Level 1:** Crack width ≤ 3 mm or interconnected cracks with no developed pattern. [FatLWPSev1] & [FatRWPSev1]
- **Severity Level 2:** Crack width > 3 mm and ≤ 6 mm or interconnected cracks forming a pattern $< 50\%$ of the wheelpath width. [FatLWPSev2] & [FatRWPSev2]
- **Severity Level 3:** Crack width > 6 mm or interconnected cracks forming a pattern $\geq 50\%$ of the wheelpath width. [FatLWPSev3] & [FatRWPSev3]
- **Sealed:** Any cracking in the wheelpath that has been sealed. [FatLWPSeal] & [FatRWPSal]
- **Percent Not Cracked Total:** The percentage of length in each wheelpath with no cracking in this category and no invalid cracking. [FatLWPNoCrack] & [FatRWPNoCrack]

Within a given user defined section length (e.g., 0.1 miles/528 feet), record and report the length in feet of wheelpath cracks in each category. The summation of all cracking categories divided by the survey length (in feet) of the segment will be equal to 100% minus the percentage of invalid cracking. For areas with multiple severity levels the highest level will be reported.

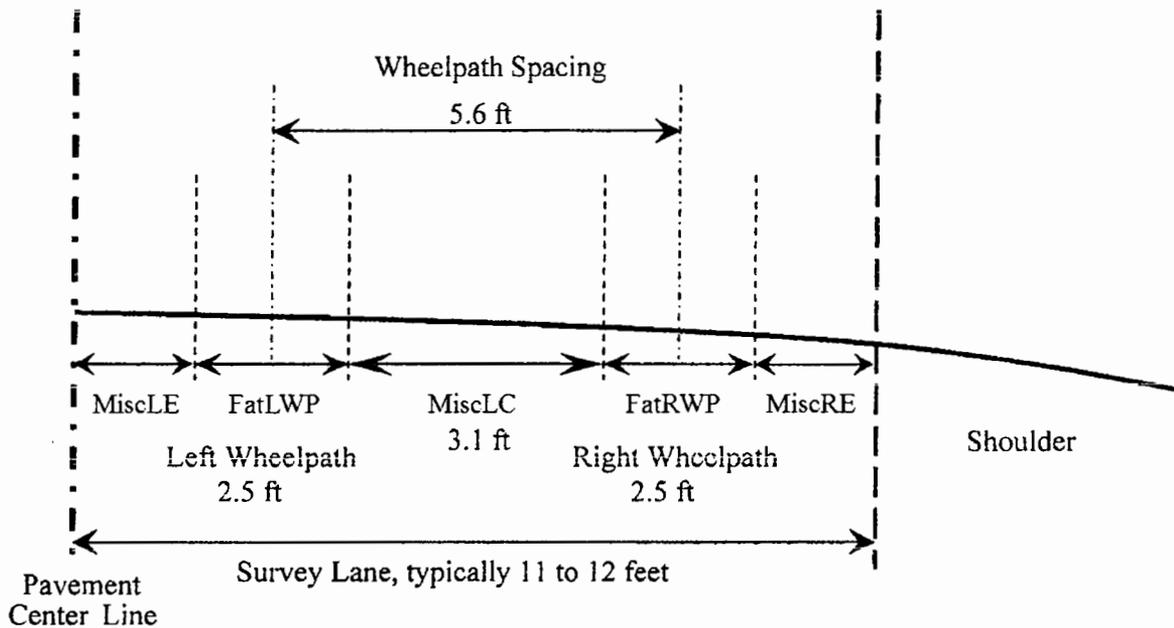
- **Miscellaneous Non-Wheelpath Cracking:**

Miscellaneous non-wheelpath cracks are those cracks in the areas outside, or between wheelpaths, as described in Figure 1, and not already identified as transverse cracks. Miscellaneous Non-Wheelpath cracking shall be reported separately for the left edge of lane, the lane center, and the right edge of lane. These shall be categorized as one of the following:

- **Severity Level 1:** Longitudinal Crack width ≤ 3 mm or few interconnected cracks with no developed pattern. [MiscLESev1], [MiscLCSev1], & [MiscRESev1]
- **Severity Level 2:** Longitudinal Crack width > 3 mm and ≤ 6 mm or interconnected cracks forming a pattern $< 50\%$ of the appropriate edge or lane center width. [MiscLESev2], [MiscLCSev2], & [MiscRESev2]

- **Severity Level 3:** Crack width > 6 mm or interconnected cracks forming a pattern $\geq 50\%$ of the appropriate edge or lane center width. [MiscLESev3], [MiscLCSev3], & [MiscRESev3]
- **Sealed:** Any cracking in a miscellaneous zone that has been sealed. [MiscLESeal], [MiscLCSeal], & [MiscRESeal]
- **Percent Not Cracked Total:** The percentage of length in each miscellaneous zone with no cracking in this category. [MiscLENoCrack] & [MiscLCNoCrack] & [MiscRENoCrack]

Within a given user defined section length (e.g., 0.1 miles/528 feet), record and report the length in feet in each category for the three locations. The summation of all cracking categories divided by the survey length (in feet) of the segment will be equal to 100% minus the percentage of invalid cracking. For areas with multiple severity levels the highest level will be reported.



NOTE: Width of MiscLE and MiscRE vary as the width of the survey lane varies.

Figure 1 - Wheelpath Spacing and Dimensions

RUT DEPTH

A rut is defined as a longitudinal surface depression in the wheelpath of a pavement surface.

Rut depth is the distance from the lowest measured point within a wheelpath to an imaginary line extending from the pavement elevation at the center of the lane to the pavement elevation at outermost (left or right) measurement; See Figure 2.

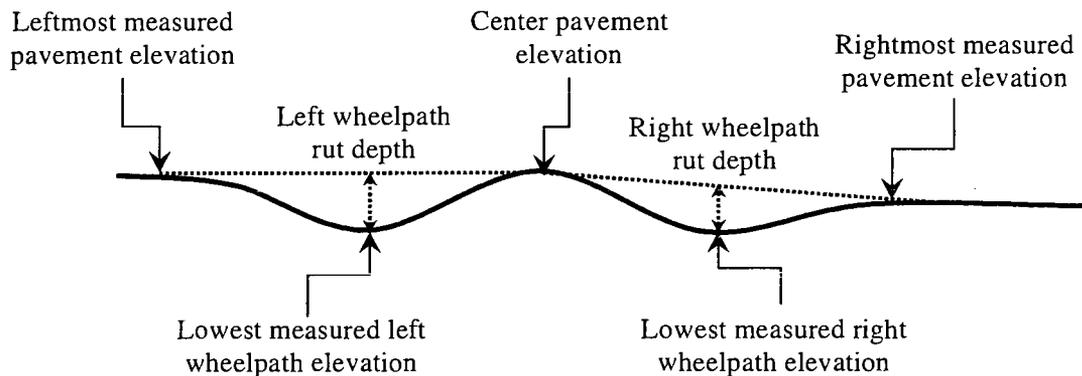


Figure 2 – Rut Depth Measurements

Recording and Reporting:

Rut depths shall be sampled in both wheelpaths of the survey lane. Measurements shall be made longitudinally at maximum intervals of 4 feet. Average left and right wheelpath depths [**RutAvgL**] & [**RutAvgR**] shall be recorded and reported for each user defined section length (e.g., 0.1 mile/528 feet). [**AvgRut**] is the average of the left and right wheelpath depth. The units shall be inches.

Maximum left and right wheelpath depths [**RutMaxL**] & [**RutMaxR**] shall be recorded and reported for each user defined section length (e.g., 0.1 mile/528 feet). The units shall be inches.

Any portion of the section for which valid rut data could not be collected shall be reported as percent length [**InvlRut**].

ROUGHNESS

The International Roughness Index (IRI) will be used to describe roughness. Measurements of profile shall be made in accordance with American Society for Testing and Materials (ASTM) Designation E950, Standard Test Method for Measuring the Longitudinal profile on Vehicular Traveled Surfaces with an Inertial Profiler. In instances of conflict, the procedures set forth herein shall take precedence.

Recording and Reporting:

The longitudinal profile points used for calculating the IRI shall have a longitudinal spacing not greater than 5.9 inches. The appropriate use of anti-aliasing filters and averaging to remove small wavelength content from the profile is left to the Vendor and equipment manufacturers.

Two IRI values shall be calculated, recorded, and reported for each user defined section length (e.g., 0.1 mile/528 feet): one in the left wheelpath [**IRIL**] and one in the right wheelpath [**IRIR**]. Additionally, an average of these two IRI values shall be recorded and reported [**AvgIRI**]. Each IRI shall be reported to the nearest inch per mile.

Any portion of the section for which valid roughness data could not be collected shall be reported as percent length [**InvldRide**].

IRI on bridges and at railroad crossings will be recorded and reported.

APPENDIX B – Revision 1

Data Structure – The required fields are described as follows; the Vendor may add additional fields and/or tables:

GENERAL DATA					
Field Name	Type	Width	Decimal	Unit	Field Description
SRI	Text	10	-	-	State Route Identifier used for location referencing
District	Integer	1	-	-	District that the section is located in
RoadName	Text	35	-	-	Name of road
StartMile	Double	-	3	miles	Mileage from beginning of road to start of section
EndMile	Double	-	3	miles	Mileage from beginning of road to end of section
TestDir	Text	1	-	-	I collected increasing, D collected decreasing; direction
PlannedLength	Double	-	3	miles	Planned section length as contained in GIS
SurveyLength	Double	-	3	miles	Measured section length as measured by DMI
Date	Date	-	-	mmdd yyyy	Date section was tested (to include century)
TestLane	Text	6	-	-	Test lane, used to identify Travel or Passing lane for interstate testing
Const	Integer	-	-	%	Percent length of section in construction area
Bridge	Integer	-	-	%	Percent length of section on bridge(s)
LaneDev	Integer	-	-	%	Percent length of section in lane deviation area
RRxing	Integer	-	-	%	Percent length from start of section to center of railroad crossing

ROUGHNESS DATA					
Field Name	Type	Width	Decimal	Unit	Field Description
IRIR	Double	-	2	in/mi	Average IRI; Right wheel path; Valid data only
IRIL	Double	-	2	in/mi	Average IRI; Left wheel path; Valid data only
AvgIRI	Double	-	2	in/mi	Average IRI; Both wheel paths; Valid data only
Invlid_Ride	Integer	-	-	%	Percent length of section with invalid IRI data

TRANSVERSE PROFILE AND RUT DEPTH DATA					
Field Name	Type	Width	Decimal	Unit	Field Description
RutAvgR	Integer	-	-	inches	Average rut depth; Right wheel path; Valid data only
RutAvgL	Integer	-	-	inches	Average rut depth; Left wheel path; Valid data only
AvgRut	Integer	-	-	inches	Average rut depth; Both wheel paths; Valid data only
RutMaxR	Integer	-	-	inches	Maximum rut depth; Right wheel path; Valid data only
RutMaxL	Integer	-	-	inches	Maximum rut depth; Left wheel path; Valid data only
Invlid_Rut	Integer	-	-	%	Percent length of section with invalid rut data

CRACKING DATA					
Field Name	Type	Width	Decimal	Unit	Field Description
FatLWPSev1	Double	-	2	feet	Length of severity level 1 fatigue cracks; Left Wheel Path
FatLWPSev2	Double	-	2	feet	Length of severity level 2 fatigue cracks; Left Wheel Path
FatLWPSev3	Double	-	2	feet	Length of severity level 3 fatigue cracks; Left Wheel Path
FatLWPSeal	Double	-	2	feet	Length of sealed fatigue cracks; Left Wheel Path
FatLWPNoCrack	Integer	-	-	%	Percent length of section with no cracks or invalid cracking; Left Wheel Path
FatRWPSsev1	Double	-	2	feet	Length of severity level 1 fatigue cracks; Right Wheel Path
FatRWPSsev2	Double	-	2	feet	Length of severity level 2 fatigue cracks; Right Wheel Path
FatRWPSsev3	Double	-	2	feet	Length of severity level 3 fatigue cracks; Right Wheel Path
FatRWPSseal	Double	-	2	feet	Length of sealed fatigue cracks; Right Wheel Path
FatRWPNoCrack	Integer	-	-	%	Percent length of section with no cracks or invalid cracking; Right Wheel Path

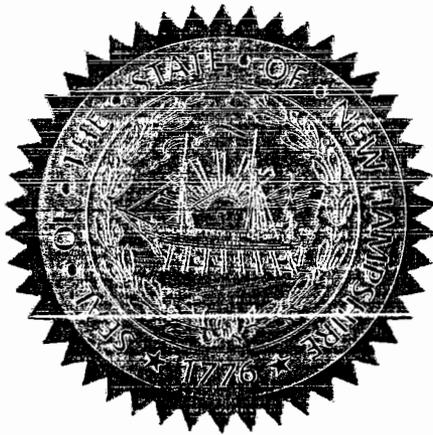
CRACKING DATA (cont.)					
Field Name	Type	Width	Decimal	Unit	Field Description
MiscLESev1	Double	-	2	feet	Length of severity level 1 miscellaneous cracks; Left Edge of Lane
MiscLESev2	Double	-	2	feet	Length of severity level 2 miscellaneous cracks; Left Edge of Lane
MiscLESev3	Double	-	2	feet	Length of severity level 3 miscellaneous cracks; Left Edge of Lane
MiscLESeal	Double	-	2	feet	Length of sealed miscellaneous cracks; Left Edge of Lane
MiscLENoCrack	Integer	-	-	%	Percent length of section with no cracks or invalid cracking; Left Edge of Lane
MiscLCSev1	Double	-	2	feet	Length of severity level 1 miscellaneous cracks; Lane Center
MiscLCSev2	Double	-	2	feet	Length of severity level 2 miscellaneous cracks; Lane Center
MiscLCSev3	Double	-	2	feet	Length of severity level 3 miscellaneous cracks; Lane Center
MiscLCSeal	Double	-	2	feet	Length of sealed Miscellaneous cracks; Lane Center
MiscLCNoCrack	Integer	-	-	%	Percent length of section with no cracks or invalid cracking; Lane Center
MiscRESev1	Double	-	2	feet	Length of severity level 1 miscellaneous cracks; Right Edge of Lane
MiscRESev2	Double	-	2	feet	Length of severity level 2 miscellaneous cracks; Right Edge of Lane
MiscRESev3	Double	-	2	feet	Length of severity level 3 miscellaneous cracks; Right Edge of Lane
MiscRESeal	Double	-	2	feet	Length of sealed miscellaneous cracks; Right Edge of Lane
MiscRENoCrack	Integer	-	-	%	Percent length of section with no cracks or invalid cracking; Right Edge of Lane
TranSev1	Double	-	2	feet	Length of severity level 1 transverse cracks in section
TranSev2	Double	-	2	feet	Length of severity level 2 transverse cracks in section
TranSev3	Double	-	2	feet	Length of severity level 3 transverse cracks in section
TranSeal	Double	-	2	feet	Length of sealed transverse cracks in section
InvCrack	Integer	-	-	%	Percent length of section with invalid crack data

GPS DATA					
Field Name	Type	Width	Decimal	Unit	Field Description
Longitude	Double	-	-	decimal degree	GPS Longitude coordinate at start of section
Latitude	Double	-	-	decimal degree	GPS Latitude coordinate at start of section
Northing	Double	-	7	feet	GPS Northing coordinate at start of section
Easting	Double	-	7	feet	GPS Easting coordinate at start of section
Zone	Integer	-	-	-	Zone (state plane coordinates)
Elevation	Double	-	3	feet	GPS Elevation at start of section (NGVD1929)
CrossSlope	Integer	-	-	degree	Cross-Slope of section
Curvature	Integer	-	-	degree	Roadway curvature of section
Grade	Integer	-	-	degree	Percent grade of section
Set	Integer	-	-	-	Set number used to collect the data
StartImage	Double	-	-	hh:mm:dd:ff	Time code for the start of the section
EndImage	Double	-	-	hh:mm:dd:ff	Time code for the end of the section

State of New Hampshire Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that Pathway Services Inc. doing business in New Hampshire as Pathway Services of Oklahoma, a(n) Oklahoma corporation, is authorized to transact business in New Hampshire and qualified on March 31, 2009. I further certify that all fees and annual reports required by the Secretary of State's office have been received.



In TESTIMONY WHEREOF, I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 2nd day of July, A.D. 2015

A handwritten signature in cursive script, appearing to read "William M. Gardner".

William M. Gardner
Secretary of State

Certificate of Vote

I, Lavonne Blanco, Clerk/Secretary of Pathway Services Inc., do hereby certify that:

- (1) I am the duly elected and acting Clerk/Secretary of Pathway Services Inc., a "C" corporation (State of incorporation);
- (2) I maintain and have custody and am familiar with the minute books of the Corporation;
- (3) I am duly authorized to issue certificates with respect to the contents of such books;
- (4) The following are true, accurate and complete copies of the resolutions adopted by the Board of Directors of the Corporation at a meeting of the said Board of Directors held on the 14th day of August, 2015, which meeting was duly held in accordance with Oklahoma (State of incorporation) law and the by-laws of the Corporation:

RESOLVED: That this Corporation enter into a contract with the State of New Hampshire, acting by and through the OIT of the Transportation Department, providing for the performance of certain IT Consulting Services, and that the President be and hereby is authorized and directed for and on behalf of this Corporation to enter into the said contract with the State and to take any and all such actions and to execute, acknowledge and deliver for and on behalf of this Corporation any and all documents, agreements and other instruments (and any amendments, revisions or modifications thereto) and he may deem necessary, desirable or appropriate to accomplish the same;

RESOLVED: That the signature of any officer of this Corporation affixed to any instrument or document in or contemplated by these resolutions shall be conclusive evidence of the authority of said officer to bind this Corporation thereby;

- (5) The foregoing resolutions have not been revoked, annulled, or amended in any manner whatsoever and remain in full force and effect as of the date hereof;
- (6) The following person(s) (has) (have) been duly elected to and now occupy the office(s) indicated below:

Rudy Blanco President

- (7) The corporation has no seal.

IN WITNESS WHEREOF, I have hereunto set my hand as the Clerk/Secretary of the Corporation
this 14th day of August, 2015.

Lavonne Blanco
Clerk/Secretary

STATE OF Oklahoma

COUNTY OF Tulsa

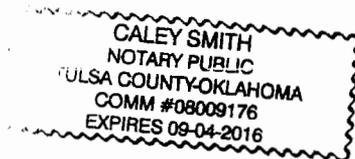
On this the 14th day of August, 2015, before me, Caley Smith, the undersigned
Officer, personally appeared Lavonne Blanco, who acknowledged her/himself to be
the Corp. Secretary, of Pathway Services Inc., a corporation,
and that she/he, as such Corp. Secretary being authorized to do so, executed the
foregoing instrument for the purposes therein contained, by signing the name of the corporation by
her/himself Pathway Services Inc.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Caley Smith
Notary Public/Justice of the Peace

My Commission Expires: 9-4-16

Official Seal:



**CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY)

07/06/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER THE ARROW GROUP 2720 N. Hemlock Ct Ste A Broken Arrow, OK 74012-1111 Premier-Consulting Partners	Phone: 918-258-6681	CONTACT NAME:
	Fax: 918-251-7893	PHONE (A/C, No, Ext):
		FAX (A/C, No):
		E-MAIL ADDRESS:
	INSURER(S) AFFORDING COVERAGE	
	INSURER A : Hartford Fire Ins Co	NAIC # 19682
	INSURER B : Travelers Property Casualty	25674
	INSURER C : Travelers Property Casualty	25674
	INSURER D :	
	INSURER E :	
	INSURER F :	

INSURED **Pathway Services, Inc.**
P O Box 472105
Tulsa, OK 74147

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> GENERAL LIABILITY			38SBAUG9783	09/05/2014	09/05/2015	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 10,000
							PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COMP/OP AGG \$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						\$
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						\$
3	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY			BA5E970394	06/12/2015	06/12/2016	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS		<input type="checkbox"/> SCHEDULED AUTOS				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS		<input type="checkbox"/> NON-OWNED AUTOS				PROPERTY DAMAGE (Per accident) \$
							\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB			38SBAUG9783	09/05/2014	09/05/2015	EACH OCCURRENCE \$ 1,000,000
	<input type="checkbox"/> EXCESS LIAB						AGGREGATE \$ 1,000,000
	<input type="checkbox"/> OCCUR						\$
	<input type="checkbox"/> CLAIMS-MADE						\$
	DED <input checked="" type="checkbox"/> RETENTION \$ 10,000						\$
B	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			HO-UB-5F99297-2-15	03/01/2015	03/01/2016	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER
	<input type="checkbox"/> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)		<input type="checkbox"/> Y/N				E.L. EACH ACCIDENT \$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	Professional Liab			ZPL-61M24689	02/03/2015	02/03/2016	Per Occ 1,000,000 Agg 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER	CANCELLATION
NEWHAM1	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
New Hampshire DOT Bureau of Materials & Research PO Box 483 5 Hazen Drive Concord, NH 03302-0483	AUTHORIZED REPRESENTATIVE <i>Dedra Hayes</i>

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



CHRISTOPHER D. CLEMENT SR.
COMMISSIONER

JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

January 28, 2013

Bureau of Materials & Research

Her Excellency, Governor Margaret Wood Hassan
and The Honorable Executive Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the New Hampshire Department of Transportation to amend the Department's Agreement Contract #2009-017 approved on June 3, 2009, as Item #229 with Pathway Services, Inc. of Tulsa, Oklahoma (Vendor Code #172330) by increasing the total amount by \$188,500 from \$1,262,400 to \$1,450,900 to extend the vehicle warranty, software licensing, software escrow, Omnistar satellite subscription, and to provide Quality Control (QC) data services, and to amend the contract completion date from September 30, 2013 to September 30, 2015. 100% Federal Funds.

Funding is available as follows for FY 2013 and is contingent upon the availability and continued appropriation of funds for FY 2014 and FY 2015.

	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Total</u>
04-96-96-962015-3022 SPR Planning Funds 046-500464 General Consultants	\$ 31,000	\$ 64,250	\$ 93,250	\$188,500

EXPLANATION

The Department's Data Collection Vehicle (van) collects annual pavement condition data in support of the Pavement Management System (PMS) and to satisfy the Federal Highway Administration (FHWA) Highway Performance Monitoring System (HPMS) reporting requirements. The van is equipped with specialized sensors and equipment that has been customized by Pathway Services Inc. for this specific use. The warranty covers all parts, labor, and travel costs to repair and/or replace the van sensors or equipment as needed. The warranty also includes an annual on-site equipment calibration and system check. The original bid proposals included costs for up to 6 years of vehicle warranty and software licensing. The original contract included two years of vehicle warranty and Contract Amendment #2009-017A, approved on June 22, 2011, as Item #374, covered two additional years. This amendment extends the warranty by another two years.

The Pathview II software suite that was purchased with the vehicle allows the Department to process the data into a usable format, generate exports, and view the data collected by the van. The software is a licensed product and has been developed and customized to meet the Department's specific needs. The original contract included the

software purchase and two years of licensing and software escrow fees and Contract Amendment #2009-017A covered two additional years. This amendment includes the licensing and escrow fees for the next two years. The software escrow entitles the Department to a copy of the software source code should Pathway Services become defunct.

The van captures high resolution images of the pavement surface. The images undergo a QC review to identify and rate the severity of the cracks in the pavement. The cracking data is then imported into the PMS and is reported to HPMS. The cracking data is critical to the success of the PMS as the cracking type and severity is used to select the most cost effective road surface treatment. Although NHDOT staff QC a portion of the images, the most cost efficient way to QC the remaining images is under contract with Pathway Services. The Contract Amendment #2009-017A included QC services for the 2009/2010 data collection cycle. This amendment includes utilizing Pathway Services to QC the pavement images that were collected in the 2011/2012 cycle and the images to be collected in the 2013/2014 cycle.

The van is equipped with an onboard GPS receiver which requires real time correction to achieve an acceptable level of accuracy. The real time correction is a subscription service. The original contract and the Contract Amendment #2009-017A included this subscription service for the 2009/2010 and 2011/2012 collection cycles. This amendment includes the subscription service for the 2013/2014 collection cycle.

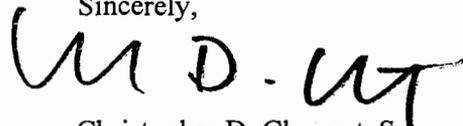
FY 2013 funding (\$31,000) includes QC services, that are only needed every other year, and the Omnistar subscription. FY 2014 funding (\$64,250) includes the vehicle warranty, software licensing and software escrow, and the Omnistar subscription. FY 2015 funding (\$93,250) includes the vehicle warranty, software licensing and software escrow, and QC services. The Omnistar subscription paid in FY 2014 extends through the end of May 2015.

The SPR funds being proposed for this purchase are specified by FHWA to be used in support of planning activities, which includes pavement and asset management. The project funding is 80% Federal with 20% State match. Turnpike Toll Credit is being utilized for match requirements, effectively using 100% Federal funds.

The agreement has been approved by the Attorney General as to form and execution. The Department of Information Technology (DoIT) has reviewed and approved the agreement. The NHDOT has verified that the necessary funds are available for FY 2013 through FY 2015. Copies of the fully executed agreement are on file at the Secretary of State's Office and the Department of Administrative Services. Subsequent to your approval, the agreement will be on file at the NHDOT.

We respectfully request your approval of this resolution.

Sincerely,

A handwritten signature in black ink, appearing to read "C. D. Clement, Sr.", written in a cursive style.

Christopher D. Clement, Sr.
Commissioner

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



GEORGE N. CAMPBELL, JR.
COMMISSIONER



JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

May 24, 2011

Bureau of Materials & Research

His Excellency, Governor John H. Lynch; and
The Honorable Executive Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the New Hampshire Department of Transportation (NHDOT) to amend the Department's Agreement (Contract #2009-017 approved on June 30, 2009 as Item #229) with Pathway Services, Inc. of Tulsa, Oklahoma (Vendor Code #137428) by increasing the total amount by \$164,000 from \$1,098,400 to \$1,262,400 to extend the vehicle warranty, cover software licensing and escrow fees, and provide Quality Control (QC) data services and to amend the completion date from September 30, 2011 to September 30, 2013. 100% Federal Funds.

Funding is available for FY 2011 as follows:

	<u>FY 2011</u>
04-96-96-962015-3022	
SPR Planning Funds	
046-500464 General Consultants	\$164,000

EXPLANATION

The Department's Data Collection Vehicle (van) collects annual pavement condition data in support of the Pavement Management System (PMS) and to satisfy the Federal Highway Administration (FHWA) Highway Performance Monitoring System (HPMS) reporting requirements. The van is equipped with specialized sensors and equipment that has been customized by Pathway Services Inc. for this specific use. The warranty covers all parts, labor, and travel costs to repair and/or replace the van sensors or equipment. The warranty also includes an annual on-site equipment calibration and system check. The original bid proposals included costs for up to 6 years of vehicle warranty and software licensing. The original contract included two years of vehicle warranty. This amendment extends the warranty by another two years. To date, the warranty has been used six times over the last two years which resulted in minimal downtime and impacts to the data collection effort. The annual calibration check has been performed both years. The benefits of the warranty for 2009 and 2010 far exceeded the purchase cost of the warranty itself. The van chassis is covered by the vehicle manufacturer's warranty.

The Pathview II software suite that was purchased with the vehicle allows the Department to post-process, generate exports, and view the data collected by the van. The software is a licensed product and has been developed and customized to meet the Department's specific needs. The original contract included the software

purchase and two years of licensing fees. This amendment includes the licensing fees for the next two years. The licensing fees cover the use of the software, any updates/bug fixes, and includes 50 hours of incidental programming to further develop, customize, and enhance the software to continue to meet the Department's needs. To date, the Pathview II software has been updated 21 times and the incidental programming hours have been utilized to develop an onscreen guardrail inventory tool that has been used to help the Department with implementing asset management. The amendment also includes two years of software escrow costs which would entitle the Department to a copy of the software source code should Pathway Services become defunct.

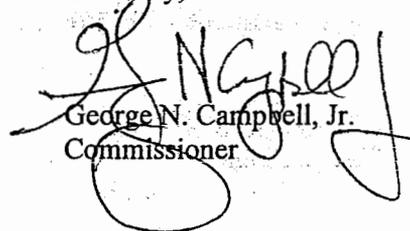
The van captures high resolution images of the pavement surface. These images are then post-processed by the Pathview II software to identify and rate the severity of the cracking. The images then need to be reviewed for Quality Control to remove false positives and rate cracks that may have been missed in order to achieve an acceptable level of accuracy. The cracking data is then imported into the PMS and is reported to HPMS. The cracking data is critical to the success of the PMS as the cracking type and severity is used to select the most cost effective road surface treatment. This amendment includes utilizing Pathway Services to QC the backlog of cracking data that was collected in 2009 and 2010. Pathway Services provides the most cost effective way to QC this backlog data.

The SPR funds being proposed for this purchase are specified by FHWA to be used in support of planning activities, which includes pavement and asset management.

The agreement has been approved by the Attorney General as to form and execution. The Department of Information Technology (DoIT) has reviewed and approved the agreement. The NHDOT has verified that the necessary funds are available for FY 2011. Copies of the fully executed agreement are on file at the Secretary of State's Office and the Department of Administrative Services. Subsequent to your approval, the agreement will be on file at the NHDOT.

We respectfully request your approval of this resolution.

Sincerely,



George N. Campbell, Jr.
Commissioner

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



GEORGE N. CAMPBELL, JR.
COMMISSIONER



JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

May 14, 2009

Bureau of Materials & Research

His Excellency, Governor John H. Lynch; and
The Honorable Executive Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the New Hampshire Department of Transportation (NHDOT) to enter into contract with Pathway Services, Inc. of Tulsa, Oklahoma (Vendor Code #137428) in the amount of \$1,098,400 for the purchase of a pavement condition and transportation asset data collection vehicle, hardware, software, and support services to provide data collection support to NHDOT's Pavement Management and Asset Management programs, from the date of Governor and Council approval through September 30, 2011. Funding for FY 2009 is 80% Federal and 20% highway funds; and for FY's 2010 and 2011 is 100% Federal.

Funding is available in SPR Planning as follows. Funding for FY 2010 and through FY 2011 is contingent upon availability and continued appropriation of funds.

ACCOUNT NUMBER	FY 2009	FY 2010	FY 2011
015-096-3022-030-0331	\$808,740	\$89,860	
015-096-3022-030-0312	\$31,500	\$8,500	
015-096-3022-030-0310	\$83,520	\$9,280	
015-096-3022-046-0464	\$13,500	\$1,500	
015-096-3022-024-0230		\$26,000	\$26,000
Total	\$937,260	\$135,140	\$26,000

EXPLANATION

The NHDOT is requesting to purchase an up-to-date data collection vehicle to support its Pavement Management program. The NHDOT's Pavement Management Section currently uses a 10-year-old data collection vehicle and equipment to collect pavement condition information from the state's 4,500-mile network of interstates, highways, and unnumbered roads. The vehicle has 160,000 miles and has reached the end of its useful service life. The vehicle data collection system is prone to malfunctions and has limited capabilities relative to the collection of other highway asset (guardrail, striping, signage, etc.) information.

The NHDOT currently invests over \$30 million per year in highway paving. In order to make appropriate and timely investments, the NHDOT actively maintains a pavement management program. The Federal Highway Administration (FHWA) strongly encourages states to maintain a viable Pavement Management System (as well as track other highway assets) and also uses this information nationwide for developing its program. The SPR

funds being proposed for this purchase are specified by FHWA to be used in support of planning and research activities, which includes pavement and asset management.

This contract involves the acquisition of the data collection vehicle including all data collection sensors/subsystems, onboard computers, calibration equipment, data post-processing workstations, and customized software application to distribute the data across the NHDOT computer network. The contract also includes 2-weeks of on-site training and software licensing fees, unlimited technical support, and vehicle warranty for a period of 2 years.

The Commissioner's office approved the selection process and subsequent request to begin the process of purchasing a new data collection vehicle in October 2007. After conducting a nationwide survey of state transportation agencies that utilize data collection vehicles, the NHDOT sent Requests for Proposals (RFP) to the following vendors on April 30, 2008:

- Dynatest Consulting, Inc. of Starke, Florida;
- Fugro-Roadware, Inc. of Paris, Ontario, Canada;
- International Cybernetics Corporation of Largo, Florida;
- Mandli Communications, Inc. of Madison, Wisconsin; and
- Pathway Services, Inc. of Tulsa, Oklahoma.

The selection process included the following aspects:

- Demonstrating the data collection vehicle;
- Demonstrating pavement and asset management software packages;
- Collecting data from seven test sections that were thought to be representative of the various pavement distresses and treatments in New Hampshire's network;
- Performing a final sales presentation to selection panel members; and
- Preparing a written proposal with cost estimate.

The proposal period concluded on July 30, 2008 with evaluation of the proposal and selection of a vendor. Proposals were evaluated by a 13-member panel comprised of the following representatives:

AGENCY	Position (Total Years of Experience)
NHDOT Bureau of Construction	District Construction Engineer (41 years)
NHDOT Bureau of Highway Design	Senior Design Supervisor (15 years)
NHDOT Bureau of Highway Maintenance	Utilities Engineer (11 years)
NHDOT Bureau of Materials & Research	Bureau Administrator (31 years)
	Pavement Management Section Chief (14 years)
	Data Collection Supervisor (14 years)
	Data Management Engineer (13 years)
	Pavement Management Engineer (25 years)
	Geotechnical Engineer (13 years)
NHDOT Bureau of Planning & Community Assistance	Bureau Administrator (17 years)
	HPMS Coordinator (8 years)
Department of Information Technology	Information Technology Leader (34 years)
Federal Highway Administration	Senior Bridge Designer (31 years)

Composite scoring criteria and summarized evaluation results are outlined below:



CATEGORY	Possible Points	Dynatest ⁽¹⁾	Fugro-Roadware	International Cybernetics	Mandli ⁽¹⁾	Pathway
Software Functionality and Ease of Integration	30	12	16	12	13	26
Data Repeatability, Data Accuracy and Ease of Calibration	25	15	17	7	14	21
Compliance with Specifications and Delivery Plan	20	9	15	9	11	18
Vendor Reliability and Reputation (Reference Check)	10	6	2	4	8	10
Subtotal Points	85	42	50	32	46	75
Cost of Vehicle, Hardware, and Software	10	3 \$979,529	5 \$1,112,170	7 \$1,079,447	8 \$952,100	10 \$922,900 ⁽²⁾
Cost of Extended Warranty and Technical Support ⁽³⁾	5	1 \$401,820	4 \$222,128	2 \$255,708	5 \$136,000	3 \$248,000
Subtotal Points	15	4	9	9	13	13
TOTAL POINTS	100	46 \$1,381,349	59 \$1,334,298	41 \$1,335,155	59 \$1,088,100	88 \$1,170,900
OVERALL PANEL RANKING		4th	2nd	5th	3rd	1st

1. Did not meet the specification requirements outlined in the RFP.
2. Contract total is \$1,098,400 which includes additional equipment required for asset management.
3. Not purchased as part of this contract. (Base Contract includes a 2 year warranty period)

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The panel scored and ranked Pathway Services, Inc. the highest of the five vendors. In addition to the summary above, the panel provided the following comments about Pathway:

- The demonstration vehicle quality and user friendliness rated superior to the others;
- The software rated easy to customize;
- The crack detection, asset extraction, and general viewing software rated the most comprehensive, most user friendly, and easiest to incorporate into DoIT's existing network;
- The proposed pavement imaging system has a higher degree of resolution resulting in better crack detection ability;
- The personnel rated to be those best suited to work with NHDOT personnel to cooperatively develop the data collection vehicle, supporting software, and network infrastructure; and
- The list of clients includes at least 18 state transportation agencies that purchased similar data collection vehicles or utilize their data collection services. These agencies highly recommended Pathway's work.

The agreement has been approved by the Attorney General as to form and execution. The NHDOT has verified that the necessary funds are available for FY 2009. Copies of the fully executed agreement are on file at the Secretary of State's Office and the Department of Administrative Services. Subsequent to your approval, the agreement will be on file at the NHDOT.

We respectfully request your approval of this resolution.

Sincerely,

George N. Campbell, Jr.
Commissioner