RESOLUTION NO. 14-2025

A RESOLUTION OF THE CITY COUNCIL OF CLINTON, MISSOURI (CITY) APPROVING AN AGREEMENT BETWEEN THE CITY OF CLINTON AND IMS INFRASTRUCTURE MANAGEMENT SERVICES (IMS).

WHEREAS, the City of Clinton desires to develop a data-driven roadway maintenance and rehabilitation plan; and

WHEREAS, North Central Texas Council of Governments solicited bids from qualified vendors for pavement analysis and related services, resulting in cooperative purchasing agreement # 2022-063 with IMS Infrastructure Management Services, offered through TXShare; and

WHEREAS, the City is authorized to utilize cooperative government purchase contracts, per City Code Sec. 2-274(a)(4);

NOW THEREFORE BE IT HEREBY RESOLVED BY THE CITY COUNCIL OF CLINTON, MISSOURI AS FOLLOWS:

Section 1. The Agreement with IMS Infrastructure Management Services, in the amount of $70,300, is hereby approved.

Section 2. The Mayor is hereby authorized to execute said Agreement on behalf of the City of Clinton.

Read and passed this 1ST day of July, 2025.

Carla Moberly

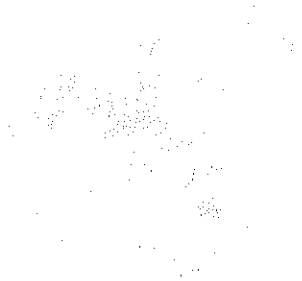
Carla Moberly, Mayor

ATTEST

Wendee Seaton

Wendee Seaton, City Clerk

THE CITY OF CLINTON MISSOURI
GREAT PEOPLE, BY NATURE



County, Missouri is proper venue for any action pertaining to the interpretation or enforcement of any provision within or services performed under this agreement.

14. **Certification of Lawful Presence / Work Authorization** - IMS will complete the required certifications of lawful presence and, if the contract is to exceed $5,000.00, shall complete and return the Work Authorization Certification attached hereto. IMS shall indemnify and hold harmless the City and its officials, agents and employees from all costs and liabilities incurred as a result of IMS's failure, or failure of its employees, agents or Subcontractors, to comply with Section 285.530 RSMo regarding unauthorized aliens, Section 208.009 RSMo regarding contracts with public entities, Section 292.675 RSMo regarding OSHA training for Public Works, to the extent the same are applicable during the term of this Agreement. Attached hereto are certifications of compliance required.

15. **Nature of Relationship** - IMS herein is an independent party and shall not act as an agent for the City, nor shall IMS be deemed to be an employee of the City for any purposes whatsoever. IMS shall not enter into any agreement or incur any obligations on the City's behalf or commit the City in any manner.

16. **Miscellaneous** - This agreement constitutes the entire agreement of the parties superseding all prior negotiations, written or verbal, and may only be amended by signed writing executed by the parties through their authorized representatives hereunder.

17. **Ownership of Plans and Documents** - Records. In addition to City's ownership rights under Section 4, field notes, original drawings, and logs are and shall remain, the property of IMS.

IMS shall furnish to the City copies of all reports, maps, and other documents, as outlined in the Proposal, which were developed in the course of work for the City and for which compensation has been received by IMS.

18. **Conflict of Interest** - IMS hereby covenants that at the time of the submission of any proposal and the execution of this Agreement it has no other contractual or employment relationships which would create any actual or perceived conflict of interest with the City. IMS further agrees that during the term of this Agreement neither IMS nor any of its employees shall acquire any other contractual relationships which create such a conflict. IMS shall complete the required Conflict of Interest Form attached hereto and shall have an affirmative duty to update said form if there are any changes to the answers provided therein during the term of this Agreement.

IMS considered an additional service beyond the scope of services approved by the City unless rendition of that service and expense thereof has been authorized in writing by the City in advance of performance of such service. Any additional services performed by IMS prior to such authorization by the City shall be deemed a part of basic services for work performed under a City approved proposal for services governed by this agreement, whether enumerated in this agreement or not, for which IMS shall be entitled to no additional compensation.

11. **City Authorization** -When the term City is used in this agreement, it shall mean the government of the City of Clinton, Missouri or the City of Clinton City Council, as the context requires. Authorization by the City shall mean written instruction from the City Council or the City Administrator, or their designee. It is further understood and agreed that no person or party is authorized to bind the City to any proposed agreement for services under the auspices of this agreement without having obtained the prior approval of the City of Clinton City Council or City Administrator, or their designee. In this regard, it is understood and agreed that IMS shall not be entitled to rely upon verbal representations by any agent or employee of the City in deviation to the terms and conditions of this agreement, or as authorization for compensation for services except as may be approved by the City Council or City Administrator in writing. When the term City's representative is used, it shall mean the City Administrator or their designee as specified in writing.

12. **Period of Services and Termination** – The period of performance under this agreement shall be one (1) year from the contract execution date. The City may and reserves the right to terminate this agreement at any time with or without cause by giving IMS written notice of termination. Upon receipt of such notice, IMS shall discontinue all services in connection with the performance of services authorized under this agreement or City approved proposal for services and City shall upon invoice remit payment for all authorized services completed up to the date of termination notice. Upon payment of this invoice, IMS shall deliver any and all work product including drawings, plans, and specifications, or other documents, prepared as instruments of service, whether complete or in progress. It is further agreed that if services are terminated IMS shall be compensated for all services rendered through the date of termination not to exceed the amount authorized for services through the date of termination. If the City questions the extent of work on a final invoice, IMS shall give the City the opportunity to review and evaluate all work upon which the invoice is based in the offices of IMS prior to payment. This agreement or work performed under the provisions of this agreement may also be terminated by IMS upon not less than seven-days written notice in the event the City shall substantially fail to perform in accordance with the terms and conditions of this agreement, through no fault of IMS. In the event of termination by IMS, the other provisions concerning termination contained in this paragraph shall be applicable.

13. **Governing Law** - This agreement shall be governed by the laws of the state of Missouri and it is agreed that this agreement is made in Henry County, Missouri and that Henry

IMS or its employees in the amount of at least $1,000,000.00 per occurrence or $2,000,000.00 aggregate.

6.7 **Public Liability and Property Damage** - Claims for damages because of damage to any property, building, or structure on or adjacent to the City's premises, or the injury to or destruction of property resulting from IMS's services in the amount of at least $517,306.00 per person and $3,448,710.00 per occurrence, or such amounts as are annually listed as the governmental sovereign immunity waiver in section 537.610 RSMo, as annually adjusted.

Certificates of Insurance acceptable to the City shall be filed with the City prior to the commencement of any work assigned under this Agreement. These certificates shall contain a provision that coverage afforded under the policies will not be cancelled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the City, and shall name the City as an additional insured by endorsement.

7. **Indemnification** - Failure of IMS to obtain or maintain such insurance during this contract, or to provide proper proofs thereof upon request of the City, shall not diminish, waive or otherwise reduce IMS's obligations to maintain such insurance coverage and IMS shall indemnify and hold the City and all its personnel harmless from and against any and all claims, damages, losses and expenses, including reasonable attorney's fees and litigation costs, arising out of or resulting from the performance of services, provided that any such claim, damage, loss or expenses, is caused in whole or in part by the negligent act, omission and or liability of IMS, its agents or employees. Further, IMS shall hold City harmless from any failure by IMS to complete their work in compliance with all applicable local, state and federal regulations.

8. **Delegation and Subcontracting** - Unless otherwise proposed and approved in IMS's proposal for services, IMS shall not delegate or subcontract any work to be performed by IMS under this agreement to any other person, business or entity without the express advance written approval of the City for such delegation or subcontract work.

9. **Records and Samples** - To the extent not otherwise transferred to the City's possession, IMS agrees to retain and provide the City with reasonable access to all work product, records, papers and other documents involving transactions and work related to or performed under this agreement for a period of three (3) years after this agreement expires. When services involve testing or sampling, IMS agrees to either retain all test products or samples collected by or submitted to IMS, or return same to the City as mutually agreed upon. In absence of agreement, IMS shall not dispose of test samples or products without notice to or consent by the City or the City's representative.

10. **Additional Services** - No compensation shall be paid for any service rendered by

IMS will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all of its employees providing work under this Agreement and other persons who may be affected thereby, all the provided services and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto.

6. **General Insurance Requirements** - IMS shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of, or result from IMS's work, whether such execution be by IMS, any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone whose acts any of them may be liable:

6.1 **Workers Compensation** - Claims under workmen's compensation, disability benefit and other similar employee benefit acts in amounts required by law. In case any class of employees engaged in hazardous work under this Agreement is not protected under the workmen's compensation statute, IMS shall provide adequate and suitable insurance for the protection of its employees not otherwise protected.

6.2 **Bodily Injury** - Claims for damages because of bodily injury, occupational sickness or disease, or death of employees in the amounts required by law.

6.3 **Personal Injury** - Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by IMS, or (2) by any other person.

6.4 **Third Person Bodily Injury** - Claims for damages because of bodily injury, sickness or disease, or death of any person other than employees in the amount of at least $517,306.00 per person and $3,448,710.00 per occurrence, or such amounts as are annually listed as the governmental sovereign immunity waiver in section 537.610 RSMo, as annually adjusted.

6.5 **Automobile Coverage** - Claims for damages because of injuries to persons and property arising out of the operation of the following in the execution of projects:

a) IMS's own automobiles and trucks,
b) Hired automobiles and trucks, and
c) Automobiles and trucks now owned by IMS.

The insurance shall cover the use of the above mentioned automobiles and trucks during the term of this Agreement. The minimum amounts of such insurance shall be the same as required for Public Liability and Property Damage Insurance.

6.6 **Professional Liability** - Claims for damages resulting from errors or omissions of

shall be responsive to any request for estimated or maximum completion times for work with the same or greater level of specificity required by the request for proposal unless otherwise specified in a specific proposal.

1.3 **Compensation** - Each proposal for services shall state the basis of compensation.

1.4 **Signatures** - IMS proposals for services under this agreement shall be signed and dated by IMS or an authorized representative of IMS.

2. **Compensation** - In consideration for IMS's provision of services under this agreement, the City agrees to compensate IMS for services rendered in accordance set forth in the proposal for the project for which compensation is sought. No increases in the rates and charges set forth in the proposal shall be permitted without the written authorization of the City. Payments shall be made within thirty (30) days of receipt of invoice by the City. Periodic invoices shall not exceed the amounts permitted in IMS's proposal approved by the City. When periodic requests for payment are made, they shall only reflect charges for work already complete. The City reserves the right to withhold payment for inadequately documented invoices until documentation is received. The City further reserves the right to withhold payments for unperformed work or work not performed on a timely basis in accordance with IMS's proposal when delays in performance of services are not attributable to the City, or as a result of a billing dispute between the City and IMS. No penalty shall be assessed to City for such amounts withheld until after any dispute is resolved in IMS's favor.

3. **City Responsibilities** - City agrees to furnish IMS with all current and available information for each task or project assigned to IMS, along with any information necessitated by changes in work or services initiated by the City which may affect services rendered hereunder. IMS shall notify City of all information it may require from City, sufficiently in advance so as to avoid delay of the work to be completed by IMS.

4. **Coordination of Work and Work Product** - IMS shall coordinate all work with the City's designated representative for each task or project assigned to IMS and submit to the City's representative all work product in written or graphic form (and in electronic form if requested) as applicable or required. Notwithstanding IMS's right to ownership under Section 17, all reports, surveys, test data, memoranda, samples, plans, specifications, and other documents or materials submitted by or to the City shall also be considered the property of the City. All project work products shall be provided in accordance with the Proposal.

5. **Protection of Work, Property and Persons** - To the extent IMS's work will require any field work, testing, sampling or otherwise, the requirements of this Section shall apply to IMS's personnel on site. IMS will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with their services provided under this Agreement.

PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT dated this ____ day of _____, 2025, by and between the City of Clinton, (herein "City") and IMS Infrastructure Management Services (herein "IMS").

IN CONSIDERATION OF the performance of the services rendered under this Agreement and payment for such services, the parties agree to the following:

1. **Services** - As authorized by the City in writing, IMS shall provide the City professional services for the benefit of the City as set forth in the specific Proposal submitted by IMS and accepted by City, and IMS shall provide the City, as applicable, with the services, reports, studies, and other work outlined. IMS agrees to provide all such services in a timely manner as established by the City in writing for each assigned project, or in the absence of the designation, within a reasonable time after receipt of City directives. IMS agrees to provide services by and through qualified personnel under standards and conditions generally accepted by professionals in the field or occupations for which services are provided. Services shall be provided based only upon the Scope of Services described or by any additional proposals provided to IMS by the City or City's representative, or a written proposal for services which is approved by the City in writing. No work shall be performed nor shall compensation be paid for IMS work performed without a City approved written proposal for professional services. Proposals for additional services shall be in written form and shall be specifically responsive to the criteria provided by the City. All work performed by IMS, based upon City approved proposals submitted by IMS, shall be subject to the terms and conditions of this agreement unless otherwise specifically agreed upon by the City and IMS in writing. All proposals for work submitted by IMS to the City for work shall at a minimum contain the following:

1.1 **Scope of Services** - Each proposal for services shall contain a detailed description of work to be performed by IMS. When the City provides IMS with a written and/or graphic request for proposal, IMS's proposal shall be responsive to the request with the same or greater level of specificity required by the request for proposal. IMS shall specifically identify services which are included as basic services and those services which are excluded from basic services in the proposal. Services which IMS does not identify as excluded from basic services under the proposal and which are necessary for successful completion of the work in the judgment of the City shall be presumed to be a part of basic services under the proposal. If a request for proposal requires IMS to provide optional services, IMS's proposal shall respond to the options requested, or provide reasons why IMS cannot provide or respond to the request for optional services.

1.2 **Time for Completion** - Each proposal for services shall contain the estimated time to complete each task or item of work to be performed by IMS under the proposal. When the City provides IMS with a written and/or graphic request for proposal, IMS's proposal

IN WITNESS WHEREOF, the parties have executed this agreement by their duly authorized signatories effective the date and year first-above written.

IMS INFRASTRUCTURE MANAGEMENT SERVICES

John Till Digitally signed by John Till DN: cn=John Till, c=US, o=ICC-IMS, ou=ICC-IMS, email=jtill@icc-ims.com Date: 2025.07.19 06:24:15 -04'00'

BY: John Till

Position with firm: CFO

DATE: July 19, 2025

CITY OF CLINTON, MISSOURI

Carla Moberly

Carla Moberly, Mayor

DATE:

ATTEST:

Wendee Seaton

Wendee Seaton, City Clerk

AFFIDAVIT
(Only Required for Individual Bidder Certification Option #2)

State of Missouri)
) SS
County of _____)

I, the undersigned, being at least eighteen years of age, swear upon my oath that I am either a United States citizen or am classified by the United States government as being lawfully admitted for permanent residence.

_____ _____
Date Signature

_____ _____
Social Security Number Printed Name
or Other Federal I.D. Number

On the date above written _____ appeared before me and swore that the facts contained in the foregoing affidavit are true according to his/her best knowledge, information and belief.

_____
Notary Public

My Commission Expires:

WORK AUTHORIZATION CERTIFICATION
PURSUANT TO 285.530 RSMo
(FOR ALL AGREEMENTS IN EXCESS OF $5,000.00)

County of _____)
) SS
State of _____)

My name is _____. I am an authorized agent of _____ _____(Bidder). This business is enrolled and participates in a federal work authorization program for all employees working in connection with services provided to the City. This business does not knowingly employ any person that is an unauthorized alien in connection with the services being provided. Documentation of participation in a federal work authorization program is attached hereto.

Furthermore, all Subcontractors working on this contract shall affirmatively state in writing in their contracts that they are not in violation of Section 285.530.1, shall not thereafter be in violation and submit a sworn affidavit under penalty of perjury that all employees are lawfully present in the United States.

_____
Affiant Date

_____
Printed Name

Subscribed and sworn to before me this ___ day of _____, 20___.

_____
Notary Public

CONFLICT OF INTEREST FORM

PROJECT: _____

RESPONSIBLE CITY EMPLOYEE: _____

RESPONSIBLE OR SUPERVISING CITY CONSULTANT: _____

1. Have you or any employee or person holding an ownership interest in the company proposing to provide goods or services to the City of Clinton been involved in any of the following with the City of Clinton, its employees, elected officials or any responsible consultant identified above?

	Yes	No
Sale, purchase or exchange of property	_____	_____
Receiving or furnishing goods or services	_____	_____
Transfer or receipt of income, assets or funds	_____	_____
Maintenance of bank balances, book balances or other accounts for benefit of another?	_____	_____

2. Have you or any employee or person holding an ownership interest in the company proposing to provide goods or services to the City of Clinton been indebted to the City, any employee of the City or its elected officials or its responsible consultants in the last twenty-four months? If yes, explain.

_____

_____

_____

3. List all business transactions or relationships that you or any employee or person holding an ownership interest in the company proposing to provide goods or services to the City of Clinton has had with any employee of the City, its elected official or its responsible consultants in the last twenty-four months.

_____

_____

_____

4. List all gifts valued in excess of $10.00 offered or accepted by any employee or person holding an ownership interest in the company proposing to provide goods or services to the City of Clinton

either to or from any employee, elected official or its responsible consultants in the last twenty-four months.

_____

_____

_____

By executing this disclosure form, the undersigned personally, and on behalf of the proposing business entity verifies that the information contained herein is truthful and accurate and will remain truthful and accurate throughout all business transactions with the City of Clinton.

_____ Date: _____

by: _____

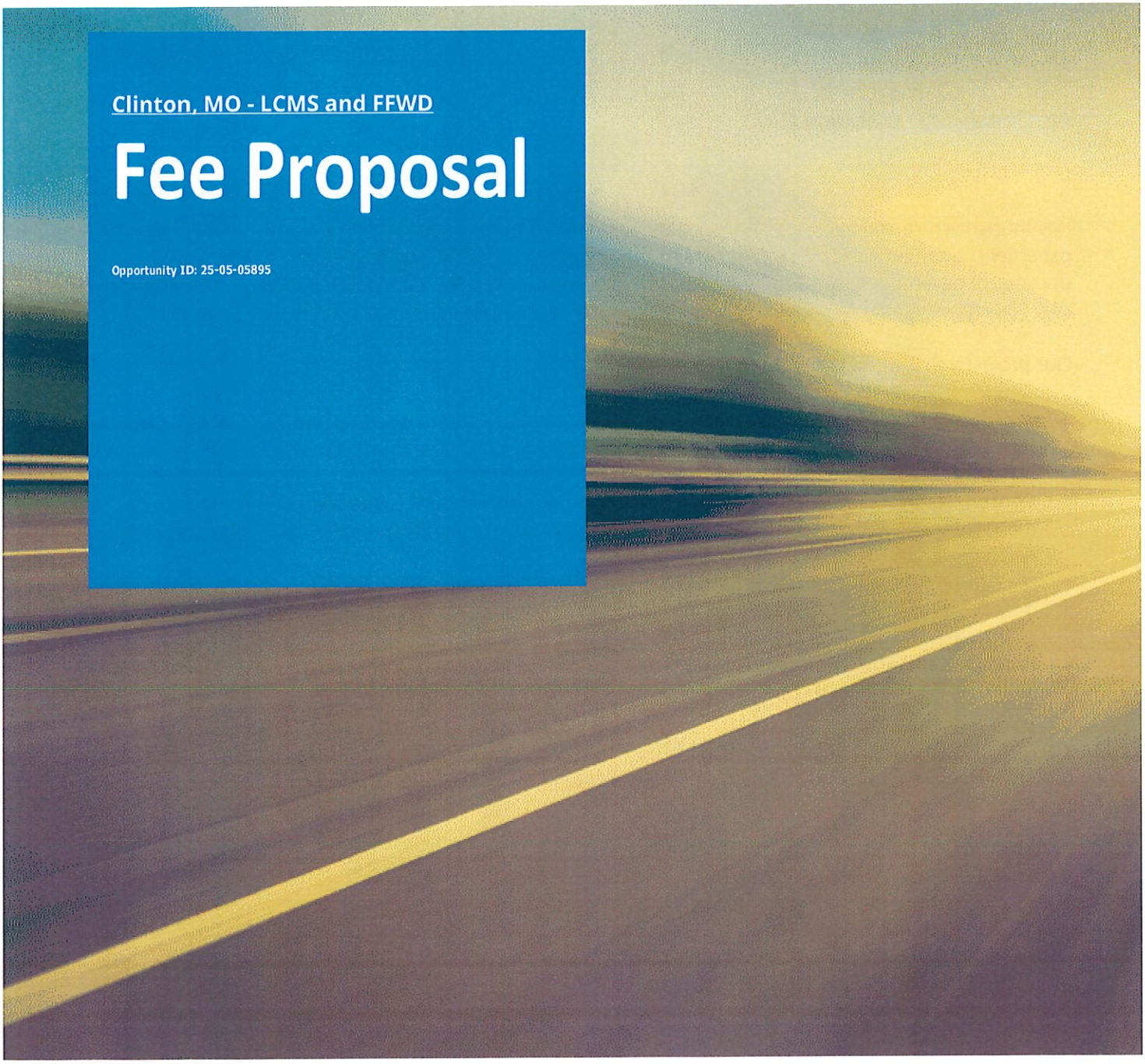
STATE OF MISSOURI)
) SS
COUNTY OF HENRY)

On this ____ day of _____, 20__, before me, appeared _____, to me personally known, who being duly sworn, did swear that the matters contained herein are true to his/her best knowledge and belief.

IN WITNESS WHEREOF, I have placed my hand and notarial seal the day and year last above written.

_____
NOTARY PUBLIC

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Clinton, MO - LCMS and FFWD

Fee Proposal

Opportunity ID: 25-05-05895

10630 75th Street
Largo, FL 33777

+1 727-547-0696

www.icc-ims.com

6/24/2025

City of Clinton, MO
Christy Maggi, City Administrator
Email: cmaggi@cityofclintonmo.com
Phone: (660) 885-6121

Re: Clinton, MO - LCMS and FFWD

Dear Christy,

IMS Infrastructure Management Services (IMS) is pleased to present this Fee Proposal for a roadway pavement condition survey including structural testing for Clinton, MO. As an industry leader with five decades of pavement and asset management experience, we enable data-driven decision-making, ensuring that your agency's maintenance and rehabilitation funding results in the highest return on investment.

Our project approach is based on four principles:

- **Starting with the end in mind.** We are committed to understanding your agency's goals and objectives for this project. We work with our clients to meet all project goals and provide high-quality deliverables on time and within budget.
- **Confident, informed decision-making.** Accurate data provides the foundation for pavement management analyses, which identify the most appropriate maintenance or rehabilitation activity for each roadway pavement.
- **Maximizing return on investment.** When you choose IMS, you gain a dedicated partner. Backed by decades of experience, our support results in better outcomes and translates to enhanced funding justification and more strategic allocation of existing funding.
- **Providing smart, end-to-end solutions.** We provide professional services powered by end-to-end software, enabling your agency to review and visualize data confidently and easily.

We look forward to delivering this project successfully. Please do not hesitate to contact me with any additional questions at (813) 469-2087 or by email at jtill@icc-ims.com.

Best Regards,
IMS Infrastructure Management Services

John Till, Chief Financial & Revenue Officer

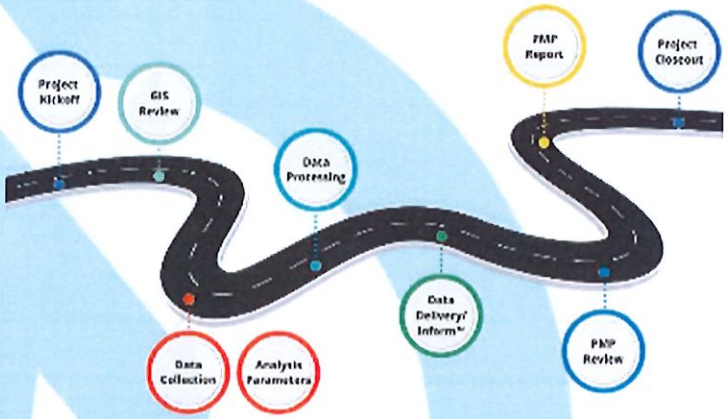
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Project Overview

The primary objective of this project is to collect 80 test miles of roadway condition data and 80 of roadway structural integrity data. To ensure adequate coverage across the roadway network, we survey roads with greater than three lanes in both directions and all remaining roads in one direction. Our project roadmap, shown in the figure below, has evolved over the years and reflects our team's collective experience of successfully delivering thousands of similar projects. (*See Appendix A for more details on each step in our project roadmap.)*



The pavement condition survey will be performed with an IrisPRO Pave™ data collection system. The IrisPRO Pave™ collects georeferenced, high-resolution 3D imagery of the pavement surface, spherical right-of-way imagery, and longitudinal and transverse profile measurements.

Collected data are processed to quantify the type, severity, and quantity of pavement surface distresses, including cracking and rutting. Pavement roughness values are reported following the International Roughness Index (IRI) method. Processed data are delivered in both an Excel spreadsheet and a geodatabase. Roadway imagery is published to our Inform™ online data visualization platform for easy review and reference by agency staff.

Our data collection approach provides 100% coverage of all collected lanes, 100% rating of all pavement (no sampling), and no reliance on field operators/crew to perform manual rating or supplemented with "windshield surveys." This approach meets stringent industry standards (ASTM and AASHTO) and state DOT reporting requirements. We are the only vendor bringing our fifty-year legacy of state DOT pavement condition survey experience, quality, accuracy, and repeatability to municipal agencies.

The structural survey will be performed with a Fast-Falling Weight Deflectometer (FastFWD).

Deliverables (Roadway Condition Survey)

01 **Roadway Pavement Condition Data**
Reported in an Excel spreadsheet and a geodatabase.

02 **Easy Street Analysis (ESA) of Roadway Pavements**

- Easy Street Analysis (ESA) pavement management spreadsheet
- Customizable prioritization and deferred cost analysis (refer to **ESA Overview** for specified customizations and optional value add enhancements)
- ESA training session (two hours) via Teams

03 **Five (5) Year, Network-Level Pavement Management Plan via ESA**

04 **Inform™ Online Data Viewer**
Enables convenient, browser-based viewing of collected data and imagery. *(Note: 90 days of hosting for unlimited agency users is included from the time of implementation.)*

05 **Additional Value-Added Services**
If applicable, based on our discussions with you, this Fee Proposal includes information and pricing on additional value-added services, described in more detail below.

Deliverables (Structural Testing)

Core deliverable – *the expected format you will receive our data in based on requested data processing options*

01	**Structural Pavement Assessment Data** Reported in an Excel spreadsheet and a geodatabase* **Unless otherwise specified in fee breakdown (e.g., raw data or other format).*

Deliverable Options – *if chosen/applicable, will be distinctly listed as separate line items in the fee schedule*

A	**Structural Number Effective (SNeff)** Represents the overall current effective structural rating of the pavement
B	**Structural Number Required (SNreq)** Represents the *required* structural number based on average daily traffic (ADT) analysis. This requires providing ADT data to us for analysis.
C	**Color Coded GIS Map – Based on Structural Index (SI) (PDF)** A color coded map to visually display the structural index based on the results/scoring from collected and processed FastFWD data.
D	**Additional Consulting/Customized Reporting** Consulting or customized reporting options are available. We will ensure a scoping meeting has occurred to properly scope and price the deliverable. Any additional consulting or customized deliverables will be represented separately in the fee schedule.

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Fee Proposal

Clinton, MO - LCMS

(Note: The final fee and scope of work depends on confirmation of test miles to be surveyed and analysis and reporting requirements.)

Fee Proposal – Pavement Condition					
Name	Qty.	Units	Price	Disc.	Total Price
Project Setup and Kickoff	1	Lump Sum	$4,000.00		**$4,000.00**
Project Management	1	Lump Sum	$2,500.00		**$2,500.00**
GIS Review and Survey Extents Verification	1	Centerline Miles	$2,000.00		**$2,000.00**
Intensive GIS/Linework Cleanup	1	Lump Sum	$1,250.00		**$1,250.00**
Mobilization/Calibration	1	Lump Sum	$3,900.00		**$3,900.00**
Field Data Collection - IrisPRO Pave	80	Test Miles	$115.00		**$9,200.00**
Field Data Collection of Parking Lots- IrisPRO Pave	1	Lump Sum	$5,000.00		**$5,000.00**
Data Processing: Enhanced ASTM D6433 (Including QC/QA) - According to Standard Data Dictionary	80	Test Miles	$30.00		**$2,400.00**
Data Processing: Parking Lots - ASTM D6433 (Including QC/QA) - According to Standard Data Dictionary	1	Lump Sum	$500.00		**$500.00**
Condition Data Delivery (Standard Geodatabase/Tabular Format Only)	1	Lump Sum	$500.00		**$500.00**
Easy Street Analysis (ESA) Pavement Management Plan/Analysis - Draft	1	Lump Sum	$8,500.00		**$8,500.00**
Parking Lot Management Plan via Easy Street Analysis (ESA)	1	Lump Sum	$2,000.00		**$2,000.00**
Draft Pavement Management Report	1	Lump Sum	$2,400.00		**$2,400.00**
Final Pavement Management Report and Analysis Results	1	Lump Sum	$500.00		**$500.00**
Inform - <400 lane miles- 90 Day Free Trial (Price reflects annual fee if opt in after trial)	1	Per Year	$2,000.00	100%	**$0.00**
Inform Web Hosting- 90 Day Free Trial (Price reflects annual fee if opt in after trial)	80	Per year per mile	$1.20	100%	**$0.00**
			Total Price:	**$44,650.00**	

Fee Proposal FWD					
Name	Qty.	Units	Price	Disc.	Total Price
Mobilization/Calibration (FFWD)	1	Lump Sum	$3,900.00		**$3,900.00**
Field Data Collection - Fast Falling Weight Deflectometer (FFWD) - DAY RATE	3	Per Day	$3,750.00		**$11,250.00**
Field Data Collection - Fast Falling Weight Deflectometer (FFWD) – Parking Lots	1	Lump Sum	$4,750.00		**$4,750.00**
Data Processing: Standard FFWD (Including QC/QA)	1	Lump Sum	$1,750.00		**$1,750.00**
Calculate Structural Number (SNeff)	1	Lump Sum	$1,000.00		**$1,000.00**
Calculate Structural Number Required (SNreq) Based on ADT and Provide Structural Index	1	Lump Sum	$2,000.00		**$2,000.00**
Color Coded GIS Map - Based on Structural Index (SI) (PDF)	1	Lump Sum	$1,000.00		**$1,000.00**
			Total Price:		**$25,650.00**

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Service Category #1: Pavement Data Collection										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 700+ Lane Miles	Include ?	Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost
1	Automatically and continuously measure pavement cracking, texture, rutting and geometrics. Equipment used for rut measurement shall be capable of measuring both wheel track ruts simultaneously.	Lane Mile[1]		$140.00	$115.00	$100.00	X	80	$140.00	$11,200
2	Collect pavement surface distress and structural condition information through automated means for all Participant-owned roadways.	Lane Mile[1]		$1.00	$1.00	$1.00	X	80	$1.00	$80
3	Provide a customized digital condition rating system to collect user defined severity/extent based pavement distresses and pertinent roadway attributes to accommodate a standardized approach to collecting data	Lump Sum	$2,500.00				X			$2,500
4	Collect dual-wheel path roughness data to International Roughness Index standards.	Lane Mile[1]		$1.00	$1.00	$1.00	X	80	$1.00	$80
5	Collect pavement performance information that includes rutting using a minimum of seven (7) sensors (include pricing for nine (9) sensors as well), fatigue cracking, transverse cracking using a minimum of four (4) sensors, and longitudinal cracking	Lane Mile[1]		$1.00	$1.00	$1.00	X	80	$1.00	$80

Service Category #2: Assest Inventory										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 700+ Lane Miles	Include ?	Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost
19 & 57	Perform Parking Lot Pavement Condition Assessment (Thru-Travel Lanes) w/ Inventory, Attribute, & Geodatabase Development	Square Yard	$7,500.00	$0.20	$0.20	$0.20	x	100000	$0.20	$27,500

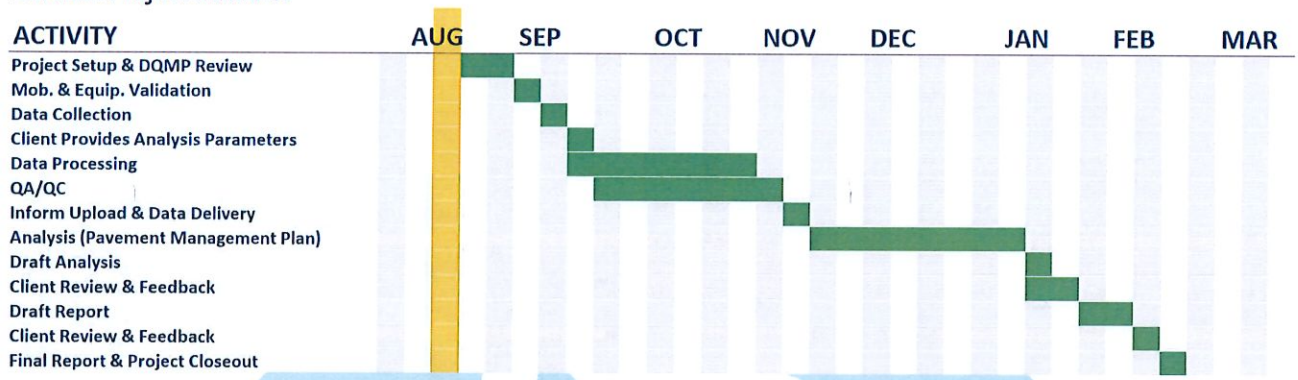
Service Category #3: Pavement Management Analysis										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 700+ Lane Miles	Include ?	Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost
21	Calculate the International Roughness Index (IRI) for each road segment in accordance with ASTM E1926. Provide results compatible with the Participant's GIS database, if applicable.	Lane Mile[1]		$1.00	$1.00	$1.00	x	80	$1.00	$80
22	Calculate a Pavement Condition Index (PCI) score for each road segment using an approved pavement management system and in accordance with ASTM D6433 or ASTM E2303. Provide results compatible with the Participant's GIS database, if applicable.	Lane Mile[1]		$20.00	$15.00	$12.00	x	80	$20.00	$1,600
23	With input from Participant's staff, devise a weighing system taking into account PCI, IRI, average daily traffic for thoroughfares (traffic count raw data provided by Participant), public safety emergency routes, and apply this 0-100 numeric index to the roadway information collected for the entire jurisdiction. Provide results compatible with the Participant's GIS database, if applicable. **Cost includes base cost plus lane mile unit cost.**	Lane Mile[1]	$2,000.00	$0.00	$1.00	$1.00	x	80	$0.00	$2,000
24	Estimate the annual budget required to meet the long-term goals regarding desired pavement condition levels. **Cost includes base cost plus lane mile unit cost.**	Each Participant	$4,500.00	$0.00	$1.00	$1.00	x	80	$0.00	$4,500
25	Create a five year and ten year pavement rehabilitation plan with input from Participant's staff. **Cost includes base cost plus lane mile unit cost.**	Each Participant	$3,000.00	$0.00	$1.00	$1.00	x	80	$0.00	$3,000

Service Category #4: Electronic Products										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 700+ Lane Miles	Include ?	Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost
28	Roadway information that shall be collected and provided to the Participant at a minimum includes items a. through l. in Exhibit B	Lane Mile[1]		$5.00	$3.00	$2.00	x	80	$5.00	$400
30	Load assessment data for all Participant-maintained pavements into a pavement management system required by local government Participant(s), if applicable. (Example: MicroPaver). The assessment data shall include visual observations, photographs and measurements collected by instrumentation. **Cost includes base cost plus lane mile unit cost.**	Each Participant	$3,500.00	$5.00	$4.00	$3.00	x	80	$5.00	$3,900
32	Provide to the Participant the pavement condition data in a pavement management system database approved by Participant. Coordinate with the Participant's IT department to provide pavement condition data in a format compatible with the Participant's Environmental Systems Research Institute (ESRI) GIS database, if applicable. **Cost includes base cost plus lane mile unit cost**	Each Participant	$1,500.00	$10.00	$8.00	$5.00	x	80	$10.00	$2,300
33	Provide asset management tools or systems (not just collection) (i.e., 15-year plan about how to fix or repair assets). **Cost includes base cost plus lane mile unit cost.**	Each Participant	$2,500.00	$0.00	$0.00	$0.00	x	80	$0.00	$2,500

Service Category #6: GIS Related Services										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 700+ Lane Miles	Include ?	Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost
37	GIS Clean-Up Services	Each Participant	$115 per Hour							$1,250

Service Category #7: Value Added Services										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 700+ Lane Miles	Include ?	Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost
40	Full Written Final Report- Firm shall prepare and submit a written project report summarizing the work performed, dates of collection, methodology, and results.	Each Participant	$3,500.00				x			$3,500
0	Referral Client Discount	Each Participant	-$56,820.00				x		-$56,820.00	-$56,820
0.0	Inform Web-Hosted Viewer (90 Days Trial/Free	Each Participant	$2,000.00				x	+1120/Mo	$2,036.00	$0
						IMS TOTAL				$70,300

Services Project Schedule



Note: Project schedule above assumes a notice to proceed in July 2025 and serves as a guide for typical project duration. Mobilization for data collection normally begins within 4-6 weeks of notice to proceed.

Company Profile



IMS Infrastructure Management Services – now powered by International Cybernetics Company (ICC) – has revolutionized roadway infrastructure management since 1975. With the 2022 merger of IMS and ICC, the IMS team of infrastructure consultants is now backed by ICC's industry-leading data acquisition technologies. We take pride in having one of the industry's largest fleets of advanced pavement, sidewalk, and right-of-way asset data collection systems.

Over the past five years, we have made a $5 million investment in enhancing our Unify™ software suite, solidifying our position as an industry leader in providing fully integrated, end-to-end data collection, processing, and visualization tools. Our advanced systems – combined with our rigorous approach to quality control – empower us to generate unparalleled data quality while setting the industry benchmark for the fastest turnaround time. The actions that we have taken over the past five years illustrate our continued commitment to improving data quality while simultaneously reducing data collection costs for our clients.

We offer the following pavement management services:

- Automated and semi-automated pavement condition assessments.
- Non-destructive pavement testing and analysis.
- Pavement management system implementation and training.
- Pavement management plan development and presentation.

In addition to pavement management services, IMS offers complementary services such as:

- Right-of-way asset inventory development using 360-degree imagery and mobile Lidar.
- Sidewalk and Americans with Disabilities (ADA)/PROWAG non-compliance surveys.
- Data visualization services using dashboards, StoryMaps, and web applications built on GIS.

Welcome to the new era of infrastructure management, where consulting services are powered by advanced technologies. ***Together, IMS – now powered by ICC – are paving the way forward!***

Industry-Leading Technologies

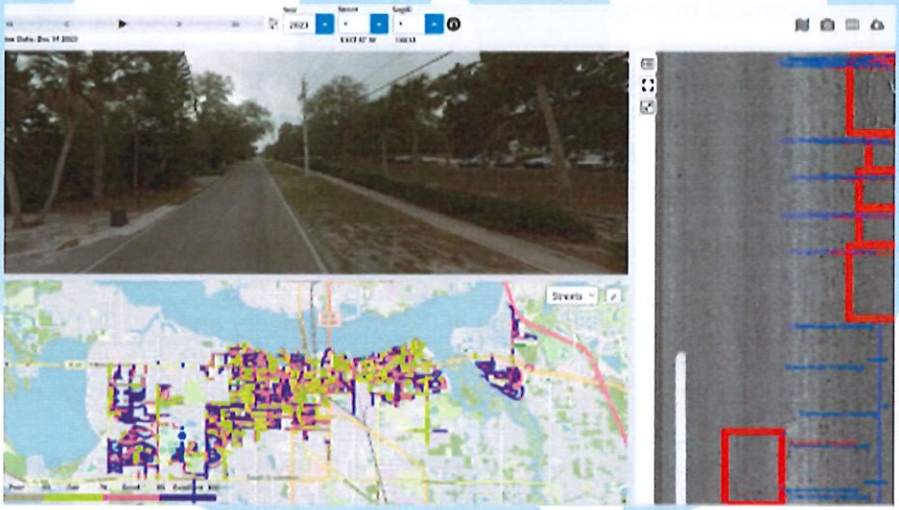
IrisPRO Pave™

The pavement condition survey will be performed using an IrisPRO Pave™ data collection system. The IrisPRO Pave™ is equipped with industry-leading data acquisition technologies, including an inertial profiler, a second-generation Laser Crack Measurement System (LCMS-2), a FLIR Ladybug5+ 30MP 360-degree camera, and an iXBlue A7 or OxTS INS with DGPS.



Inform™ Online Data Viewer

The Inform™ data viewer is an easy-to-use, browser-based, cloud-hosted tool for reviewing pavement condition data and associated imagery. Inform™ presents the data in a map-based environment, enabling agencies to review all collected pavement data, including cracking, rutting, and roughness. The Inform™ viewer is fast, intuitive, and reduces the need for field visits. Inform™ provides color coded roads by condition values like PCI, PSCI, Roughness (IRI), Rutting Index and more. This allows for insights at a glance and effective reporting to decision makers.



"Inform has not only met but also surpassed our expectations. It is quick, exceptionally responsive, requires no IT involvement, and is incredibly user-friendly for individuals of all levels."

– Robert Bush, Program Manager, Arizona DOT

Fast-Falling Weight Deflectometer (FastFWD)

The FastFWD enables agencies to identify issues in the subgrade, sub-base, and base layers, in addition to the surface layer, providing a comprehensive view of pavement health.

Subsurface distress investigations are a valuable tool to assess the structural health of a roadway. The FastFWD provides several key indices, including:

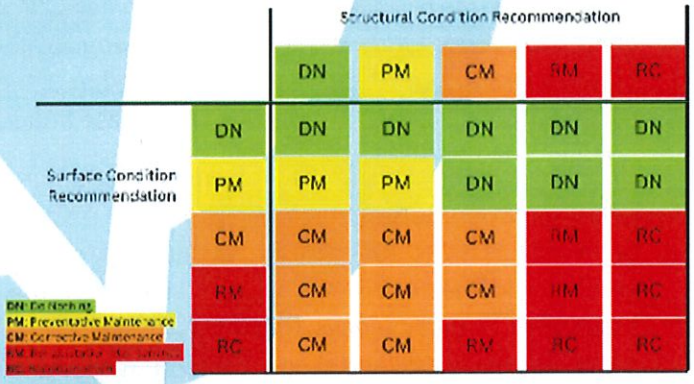
- Effective Structural Number (SNeff)
- Surface Curvature Index (SCI)
- Elastic Modulus (stiffness) of
    - Subgrade
    - Sub-base or base
    - Asphalt or Concrete
- Structural Index (SI)



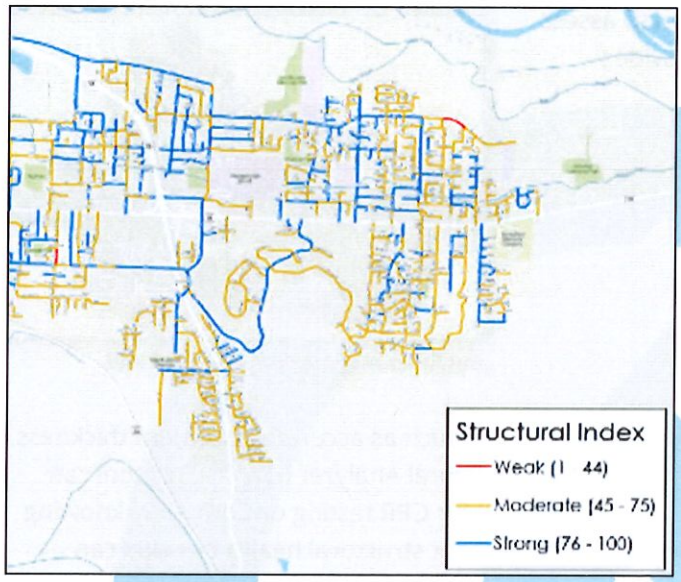
Fast Falling Weight Deflectometer (FastFWD)

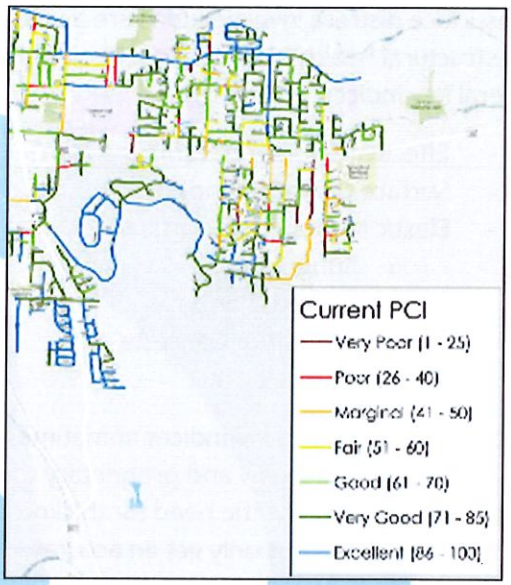
Since obtaining the above indices sometimes require addition inputs such as accurate pavement thickness, IMS has developed a new and proprietary tool called Intelligent Structural Analyzer (**ISA**™). This tool can calculate SNeff without the need for thickness, eliminating the need for GPR testing or Coring. By knowing the SNeff, agencies not only get an accurate estimate of their pavement structural health but also can design the exact pavement thickness required for reconstruction or overlay, down to decimal-level accuracy.

Another use case of structural testing is optimizing pavement management decisions. The matrix below, originally proposed by the Virginia Department of Transportation (VDOT), highlights the importance of combining structural and surface condition assessments, such as PCI or PCR. Relying solely on one metric can lead to suboptimal decisions. For example, if surface conditions are poor (e.g., PCI near 0), a Pavement Management System (PMS) might recommend full reconstruction (RC). However, structural testing may reveal that reconstruction is unnecessary, and corrective maintenance (CM) could suffice. Combining these metrics enables agencies to implement the **right solution, at the right time, in the right location**, delivering on the promise of holistic pavement management.



An example of the final deliverables is shown below, featuring a map that highlights locations categorized as having Weak, Moderate, or Strong structural condition. By overlaying structural testing results with surface condition data, the map provides a holistic view of the roadway network, as demonstrated below.





Deflection testing is performed using a Fast FWD, in accordance with ASTM D4694-09 (2020) standards for paved roadways. The IMS team can conduct a structural assessment of all designated roadways. Deflection testing is usually completed at least once in each direction in every street segment (every 300 - 500 feet) along the outside lanes of the roadway. A series of geophones records deflection readings for each section of pavement tested. These readings are used to determine the pavement strength, load transfer capabilities, and identify properties of the base and sub-grade.

Upon completion of the deflection survey a structural analysis is performed. FastFWDs apply a known load to the pavement and measure the pavement response to the load. The structural adequacy of a street is expressed as a 0 to 100 score with several key ranges: roadways with a Structural Index greater than 75 are generally deemed to be structurally adequate for the loading and may be treated with lightweight surface treatments or thin overlays; those between 50 and 75 typically reflect streets that require additional pavement thickness; and scores below 50 typically require reconstruction and increased base and pavement thickness.

By using this data-driven approach, maintenance, and rehabilitation efforts are more accurately targeted, enhancing the overall efficiency of your pavement management program.

Easy Street Analysis (ESA) Overview of Pavement Management Plan and Included Deliverables

ESA integrates the core analysis capabilities of the most powerful pavement management systems within a familiar Microsoft® Excel environment. It is a pavement management tool designed to provide agencies with easy access to pavement condition data and analysis results. It is often used to enhance the use of traditional licensed-based software.

ESA was engineered as a simple solution that eliminates the need for users to become pavement management software experts before they can leverage their survey results. ESA is an interactive spreadsheet that contains deterioration curves, functional classes, pavement types, pavement strength rating, city-specific rehabilitation methods and costs, associated rehab resets, budget information, and other city-specific parameters. Our interactive ESA spreadsheet is fully customizable to the needs of our clients and programmed to develop multi-year M&R plans built around practical prioritization techniques and financial optimization, typically as cost of deferral analyses. Results can be visualized using both ESRI GIS software and Excel-based mapping tools. IMS has deployed ESA successfully on hundreds of government agencies across North America.

ESA offers the following key scenarios for analysis:

- Annual funding required to maintain current pavement conditions.
- Annual funding required to maintain the current network backlog.
- Funding projections needed to achieve and sustain a target PCI over the next five years.
- Funding projections needed to achieve and sustain a target backlog over the next five years.
- Minimum funding level required to avoid falling below control PCI limit.
- Minimum funding level required to avoid falling below control backlog limit.
- Future network performance predictions, including the network average PCI and segment level PCI, if current funding levels remain unchanged over five years.
- Strategic rehabilitation recommendations for pavement treatments based on the current budget.

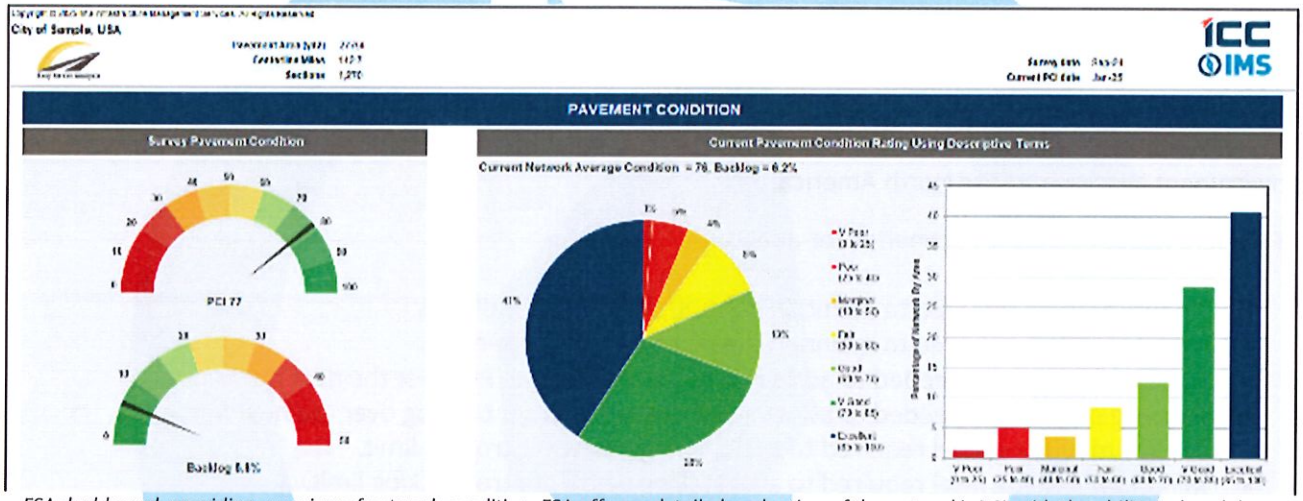
For the pavement analysis results to be practically useful to the agency, IMS endeavors to work closely with every client agency to select appropriate parameters. The IMS pavement engineer will work with the client to select and define the analysis parameters. These include:

- Analysis period (standard is 5 years)
- Road maintenance budget (one value in $/YR; can vary over the years)
- Rehab types and unit rates (in $/SY)
- Completed work (rehab type and rehab date for any work done after survey but before analysis start date), provided in a GIS-compatible format (shapefile, geodatabase, or list of GISIDs)
- Planned work (rehab type and rehab date for any work to be done after analysis start date; e.g., CIP, future work etc.), provided in a GIS-compatible format (shapefile, geodatabase, or list of GISIDs)
- Project groupings by proximity, functional classes, pavement types, and similar conditions (PCI spread of 20 and PCI below 40)

- *If structural testing using the Fast-Falling Weight Deflectometer (FFWD) is involved: traffic data (AADT, %Trucks, and/or ESALs), provided in a GIS-compatible format (shapefile, geodatabase, or list of GISIDs). Default traffic count will be used if requested data is one of the specified formats.

Additional parameters and customizations are possible and can be discussed with the pavement engineer during the analysis initiation. IMS pricing includes up to 2 iterations (back-and-forths) of the analysis. Additional iterations or parameters will incur an additional cost. Also, any analysis parameter inputs such as completed or planned work lists provided in non-GIS or non-digital formats will incur an extra cost.

The following snapshots showcase some of the highlights of ESA:



ESA dashboard, providing overview of network condition. ESA offers a detailed evaluation of the network's PCI, with the ability to breakdown analyses by pavement type, functional classes, and index, delivering valuable insights into the overall network condition. The distribution of network area by pavement type and functional classes is displayed.

Network Analysis Summary - Five Year Rehab Plan Development

Current PCI Date: 1/1/2025 | Annual Budget Increase (%/yr): 0.00 | % of Budget Dedicated to Surface Treatments: 0

Analysis Start Date: 1/1/2025 (MM/DD/YYYY) | Unit Rate Inflation (%/yr): 0.00

Refresh

Run ESA

Agency Budget

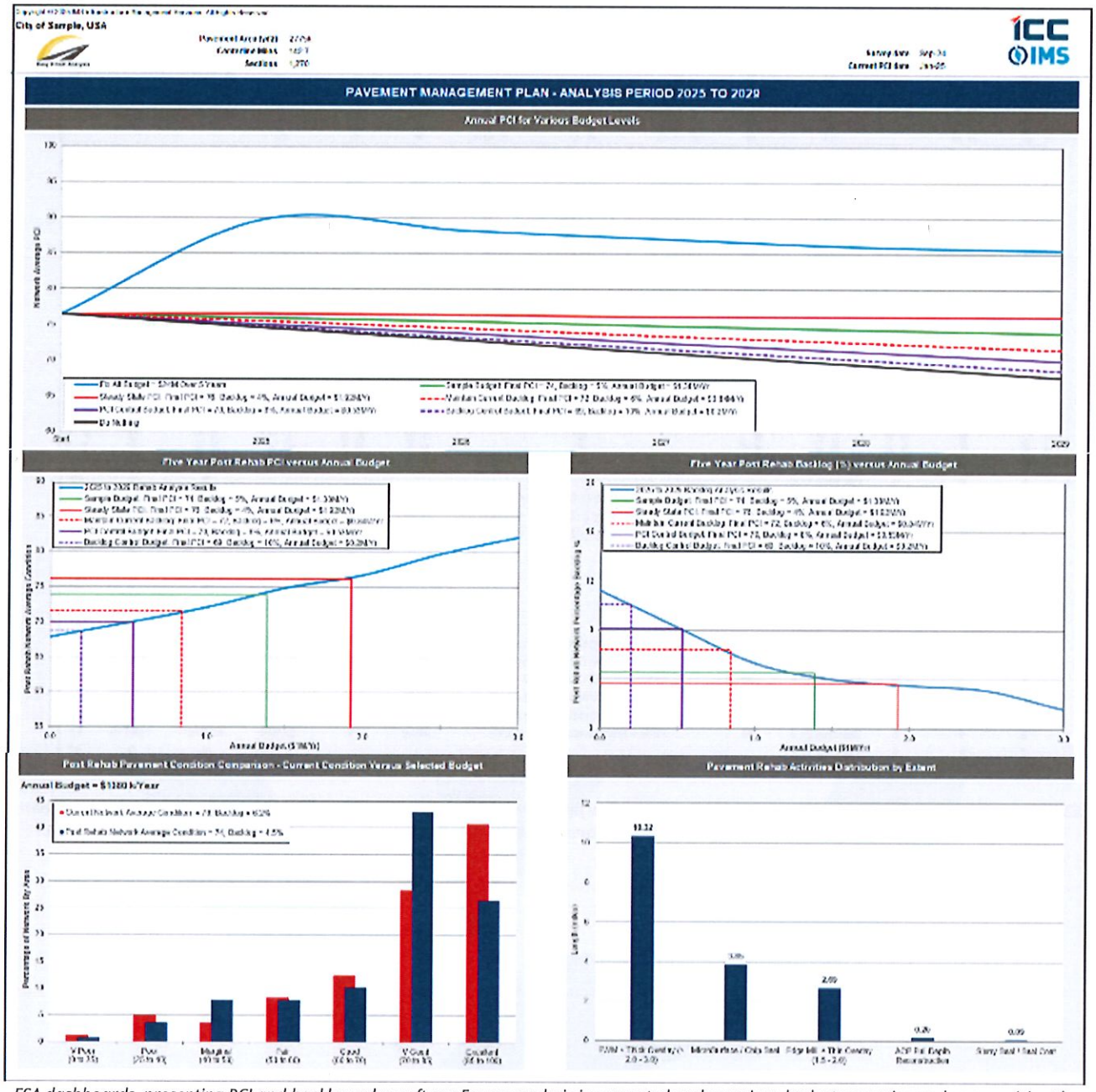
Inventory and Rehab Plan

Program Year	Annual Budget ($)		Calendar Year	Block Count	Annual Expenditure ($)	Pavement Costs ($)	Peripheral Concrete Costs ($)	Miles (mi)	PCI	Backlog (%)
Avg:	1,380,000	1,380	2024	1,270	19,006,510	19,006,510	0	142.7	76	6.2
1	1,380,000		2025	25	1,379,910	1,379,910	0	3.7	76	
2	1,380,000		2026	30	1,379,402	1,379,402	0	3.9	75	
3	1,380,000		2027	20	1,379,960	1,379,960	0	2.6	75	
4	1,380,000		2028	31	1,379,804	1,379,804	0	3.2	74	
5	1,380,000		2029	30	1,379,919	1,379,919	0	3.8	74	4.5
			Totals:	136	6,898,995	6,898,995	0	17.1		

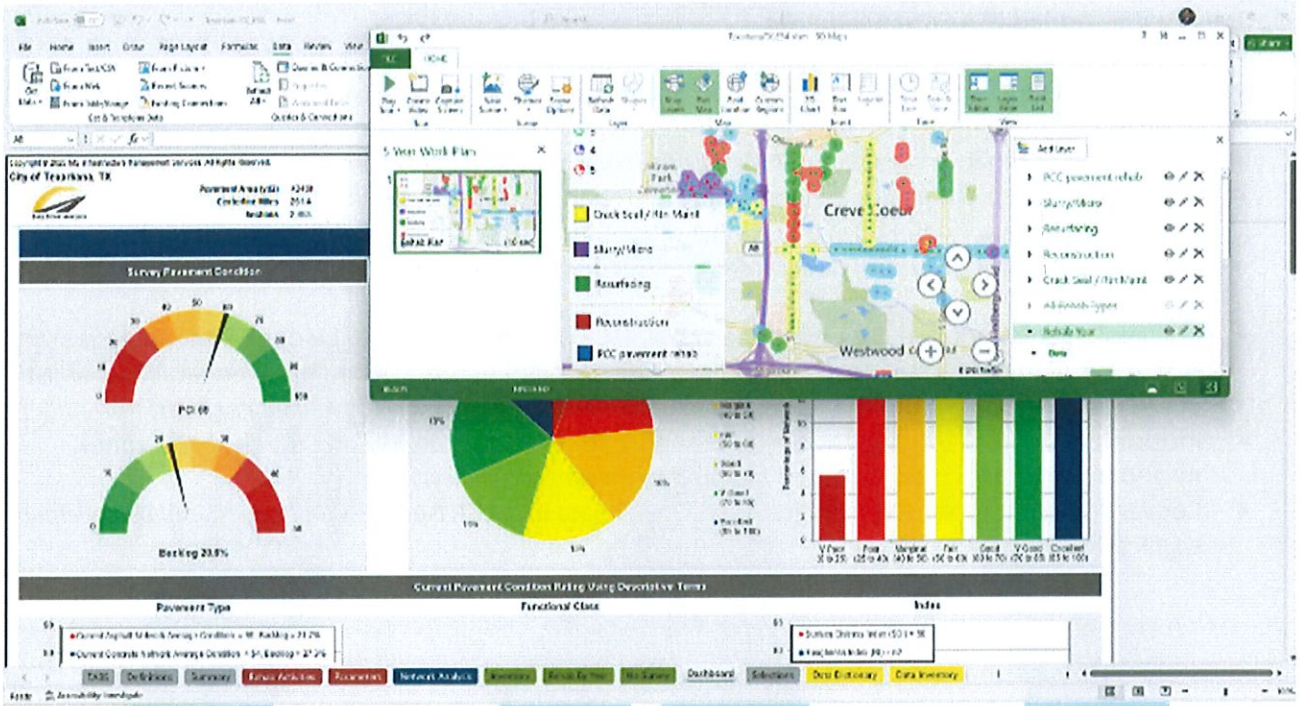
Easy Street Analysis

Need Year	Committed Year	Year of First Selection	Segment Rehab Results	Rehab Activity Code	Rehab Activity	Avg Unit Rate ($/yd2)	Segment Peripheral Concrete Costs ($)	Segment Pavement Cost ($)	Segment Total Cost ($)	Project Cost ($)	Five Year Post Rehab PCI
4	0	0	Fall Thru Yr 4						0	0	79
4	0	4	Selected Yr 4	56	FWM + Thick Overlay (> 2.0 - 3.0) + Strctrl Ptch	29.00	0	73,863	73,863	169,302	94
4	0	4	Selected Yr 4	56	FWM + Thick Overlay (> 2.0 - 3.0) + Strctrl Ptch	29.00	0	49,880	49,880	169,302	94
4	0	4	Selected Yr 4	56	FWM + Thick Overlay (> 2.0 - 3.0) + Strctrl Ptch	29.00	0	45,559	45,559	169,302	94
6	0	0	Not Selected						0	0	84
1	0	0	Fall Thru Yr 1						0	0	52
3	0	0	Fall Thru Yr 3						0	0	42
3	0	0	Fall Thru Yr 3						0	0	45
3	0	0	Fall Thru Yr 3						0	0	44
4	0	5	Selected Yr 5	30	Edge Mill + Thin Overlay (1.5 - 2.0)	15.25	0	31,293	31,293	258,107	92
4	0	5	Selected Yr 5	30	Edge Mill + Thin Overlay (1.5 - 2.0)	15.25	0	57,813	57,813	258,107	92
4	0	5	Selected Yr 5	30	Edge Mill + Thin Overlay (1.5 - 2.0)	15.25	0	169,001	169,001	258,107	92
3	0	3	Selected Yr 3	50	FWM + Thick Overlay (> 2.0 - 3.0)	27.00	0	41,526	41,526	149,715	91
3	0	3	Selected Yr 3	50	FWM + Thick Overlay (> 2.0 - 3.0)	27.00	0	48,519	48,519	149,715	91
3	0	3	Selected Yr 3	50	FWM + Thick Overlay (> 2.0 - 3.0)	27.00	0	59,670	59,670	149,715	91
2	0	0	Fall Thru Yr 2						0	0	37
2	0	0	Fall Thru Yr 2						0	0	41

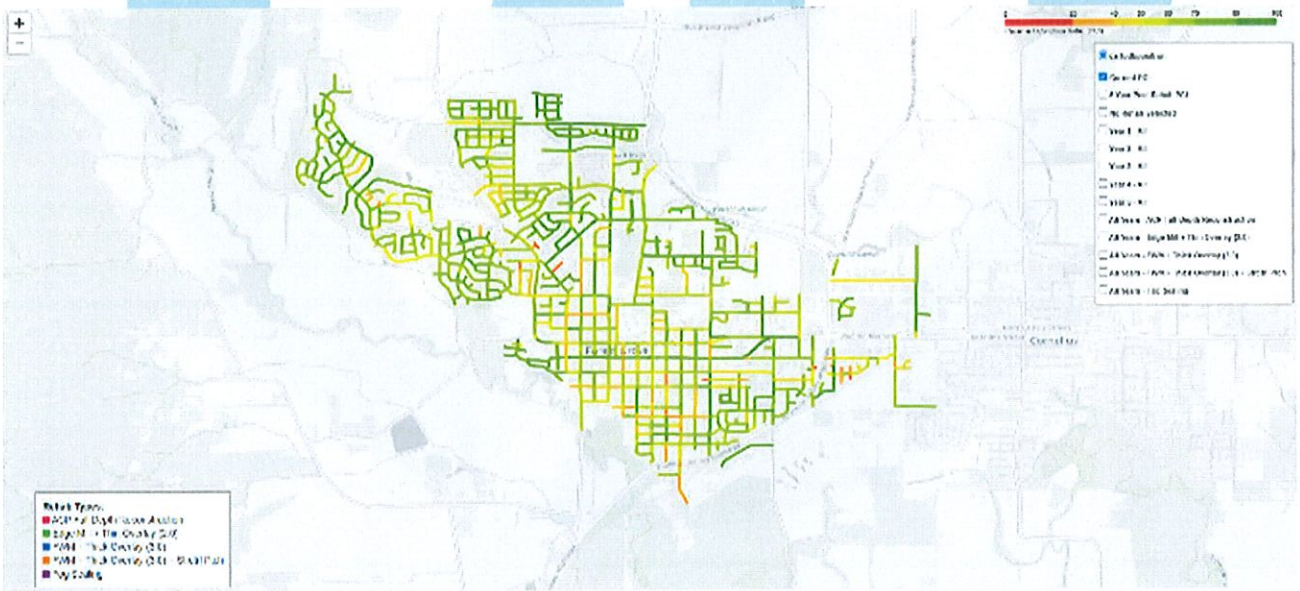
ESA has a straightforward design with simplified buttons to allow for agile review of recommended solutions for selected segments. The total budget and annual breakdown of each year of the respective analysis and network-level evolution of PCI and backlog are summarized.



ESA dashboards, presenting PCI and backlog values after a 5-year analysis is generated under various budget scenarios and summarizing the recommended rehabilitation activities by extent.



ESA contains embedded GIS maps, allowing users to open GIS maps within the Excel interface.



ESA viewer, provides a map-based view of the pavement condition before and after applying recommended treatments. Various options can be accessed and filtered from this view. Clicking any segment on the map displays detailed information such as GISID, PCI, year, and more.

Optional Value-Added ESA Enhancements

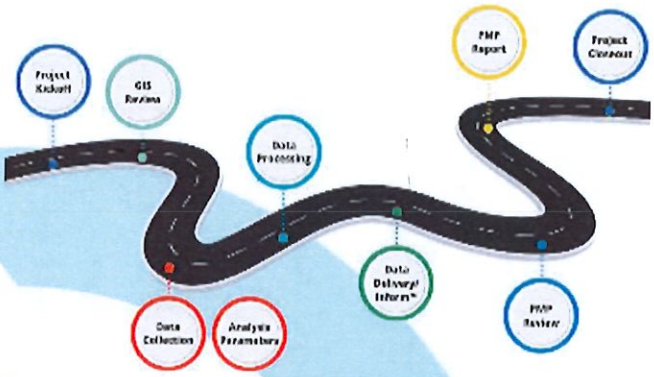
- Increase analysis period from 5 years to 10 years (ESA fee is multiplied by two (2))
- Additional budget breakdowns, other than one value in $/YR *(specific scoping required by pavement engineer)*
- Conversion of rehab unit rates to $/SY *(specific scoping required by pavement engineer)*
- Conversion of completed work (rehab type and rehab date for any work done after survey but before analysis start date) from any format other than a GIS-compatible format (shapefile, geodatabase or list of GISIDs) to an acceptable format for ESA *(specific scoping required by pavement engineer)*
- Conversion of planned work (rehab type and rehab date for any work to be done after analysis start date e.g., CIP, future work etc.), provided in a GIS-compatible format (shapefile, geodatabase, or list of GISIDs) to an acceptable format for ESA *(specific scoping required by pavement engineer)*
- Inclusion of project groupings by any other approach such as groupings by subdivisions, zones, neighborhoods, etc. *(specific scoping required by pavement engineer)*
- Conversion of traffic data for integration of FFWD data into ESA *(specific scoping required by pavement engineer)*

APPENDIX

Appendix A – Typical Project Roadmap

Step 1: Project Kickoff

The IMS project manager schedules a kickoff meeting with your agency's project team to review the project scope, schedule, and fee. The IMS project manager ensures that the IMS team and agency stakeholders clearly understand the goals and objectives of the project.



Step 2: GIS Linkage and Survey Map Development

Following the kickoff meeting, IMS' GIS team reviews the agency's roadway network and verifies the roadways to be collected. The agreed-upon roadway network is loaded into ICC Drive™ software, which defines the pavement network segmentation and attribution to be collected and delivered.

Step 3: Data Collection

The pavement condition survey is performed with an ICC IrisPRO Pave™ data collection system. Georeferenced, high-resolution 3D imagery of the pavement surface, spherical right-of-way imagery, and longitudinal and transverse profile measurements are collected. The structural testing survey is performed with a FastFWD, deployed separately from the IrisPRO Pave.

Step 4: Data Processing

The collected data are processed using ICC Connect™ software to quantify the type, severity, and quantity of pavement surface distresses, including cracking and rutting. Pavement roughness values are reported using the International Roughness Index (IRI) method. Structural testing data is processed, delivered and incorporated based on client requirements as reflected in the fee schedule. Structural data is incorporated into ESA for pavement management planning purposes.

Step 5: Multi-step QC/QA IMS has developed a unique approach to pavement condition surveys by coupling the power of automated algorithms with manual review of distress data by trained and certified pavement raters. All data is manually reviewed by our QC team, then reviewed by our QA manager, and lastly, submitted to the agency for final review and acceptance. This rigorous QC/QA process provides an added measure of confidence that the pavement condition data is accurate.



Step 6: Data Analysis & Reports

- **Comprehensive Analysis**
  Our data analysis is thorough and tailored to provide insights that drive decision-making.
- **Detailed Reporting**
  We deliver comprehensive reports that are clear, concise, and customized to your reporting standards.

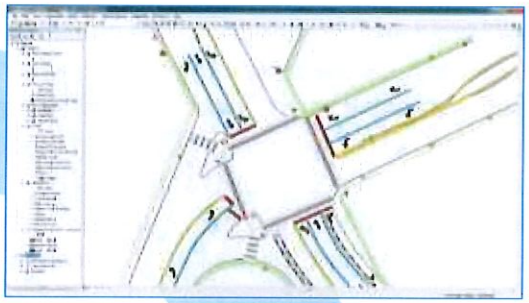
Step 7: Project Closeout

Project deliverables will be sent to you for final approval and acceptance. Once accepted, we will facilitate a final project close-out meeting with you, where we will present our findings and recommendations. This workshop-style meeting is an opportunity to clarify any final questions and discuss other ways IMS can support your pavement management program in the future.

Appendix B – Additional Value-Added Services

Right of Way (ROW) Asset Collection (e.g., signs, markings, curb, and gutter, etc.)

Imagery collected during the pavement condition survey can be used to build ROW asset inventories and condition assessments for signs, sign supports, curb and gutter, sidewalks and multi-use trails, pedestrian curb ramps, pavement markings and striping, traffic signals, trees, and many others. Our ability to leverage the high resolution 360-degree imagery already collected makes this a frequently used add on service by our clients.



Web-based GIS Visualization via StoryMaps and Dashboards

Easy-to-use and easy-to-maintain web-based, geocentric StoryMaps and Dashboards can be built to serve not only internal staff but also constituents. These tools provide a dynamic way to present complicated information visually. StoryMaps and Dashboards may be configured for use within the agency for coordinating projects across departments or for presentation to the public to promote transparency and trust.



Inform™ Web Based Viewing Software, Including Thematic Maps

IMS offers a convenient, web-based tool for reviewing pavement condition data and associated imagery. Our cloud-hosted visualization and analysis software Inform™ enables agencies to review collected pavement and asset data. The software is fast, intuitive, and is the simplest way to make valuable photolog images available to every user. **Ninety (90) days of complimentary hosting is included with all IMS projects.** Competitive pricing for data hosting in year two and beyond is available upon request.



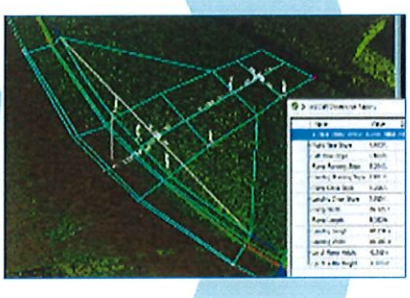
IMS
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Sidewalk, Trail, and Parking Lot Surveys with a Sidewalk Surface Tester (SST)



We deploy our Sidewalk Surface Testers (SST) for capturing sidewalk inventory and condition data, SSTs may also be deployed to collect data for narrow alleys, parking lots, bike paths, and multi-use trails. SST surveys yield comprehensive sidewalk condition data that may be used in combination with lidar pedestrian curb ramp data to develop detailed ADA non-compliance identification. With the evolving PROWAG requirements, it is critical for agencies to have a plan in place for routinely assessing the condition of and proactively maintaining their pedestrian walkways.

Mobile Lidar for Pedestrian Curb Ramp Assessments



Mobile Lidar is deployed to supplement ROW inventory surveys by creating a 3D point cloud from which measurements can be extracted. Our mobile lidar system (a Riegl VMQ-1HA) collects 1.2 million points per second, resulting in extremely dense point clouds. The integrated Ladybug 5+ camera captures high-resolution spherical imagery at defined intervals. Using the lidar point cloud, IMS can efficiently take detailed measurements of pedestrian curb ramps to identify non-compliance.

Roadway Friction Testing



Friction testing is a critical element of roadway safety inspections. Adequate friction can help reduce accidents and save lives. In the last five years alone, we have successfully completed over 200 friction testing projects. The friction of the pavement surface is measured in accordance with ASTM E274 and incorporates a ribbed tire in accordance with ASTM E501 for studies of the left wheel path at each site.

In-Person (or Virtual) Council Presentations



IMS is often asked to develop and deliver a council presentation to educate council members and the public on the concepts of pavement management and the results of the surveys, health of the roadway network and recommendations as a value-added service. We work collaboratively with agency staff to develop highly focused presentations that layout the existing state of the agency's roadways and the funding required to meet the agency's goals and objectives.

Customized Written Reports and Specialty Maps



IMS will prepare all project documentation, including a draft and final summary report of the findings and conclusions as part of the project. Additional analyses and specialty maps may be added to the final report to enhance the ability of the agency to communicate existing pavement conditions, forecasted conditions, and M&R needs and priorities.

Appendix C – Enhanced ASTM D6433 Data Dictionary

The following pages outline the standard measurements that will be reported from our collected and processed data for roadways. We refer to this as a data dictionary, to clearly outline to our clients all data points we will be collecting and reporting data for. While this is the most typical data dictionary for municipal/county agencies, we can offer modifications to this. We additionally offer data dictionaries for other standards, such as ASTM E3303, FHWA LTPP, and more.

Column	Field Name	Units	Pavement Type	Format	Dec	Example Value	Description
A	SegmentID			xxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxx		Wilson Ave	Road name as per the client provided network GIS
C	Primary_Direction_Collection			xxxxx		TRUE	True where collection matches digitized direction of GIS, False where collected opposite.
D	Direction			x		N	Predominant direction of travel, N/E/S/W based upon average heading value of the segment.
E	PavementType			xxxxx		ASP	Predominant pavement type observed over reporting interval
F	StartChain	Miles		x.xxx	3	2.653	Start chainage as defined for segment by the shp file
G	EndChain	Miles		x.xxx	3	2.751	End chainage as defined for segment by the shp file
H	Length	Feet		xxx	1	517.1	Chainage Length of the Segment in feet
I	ROWImagePath			xxxxxxxxx		M:/Raw/Images/image1.jpg	This is the internal path to the first image of each segment
J	ASP_Percent	%	Flexible	xx.x	1	95.7	Percentage of segment that is ASP and not affected by any Event Flags
K	ASP_Area	Square Feet	Flexible	xx.x	1	5762	Total accessible pavement area that is ASP and not affected by any Event Flags
L	Other_Percent	%	Other	xx.x	1	96.6	Percentage of segment that is Other and not affected by any Event Flags
M	JCP_Percent	%	Rigid	xx.x	1	4.3	Percentage of segment that is JCP and not affected by any Event Flags
N	JCP_Area	Square Feet	Rigid	xx.x	1	291.2	Total accessible pavement area that is JCP and not affected by any Event Flags
O	Valid_Percent	%		xx.x	1	88.9	Percentage of the segment length containing valid data and not affected by any Event Flags
P	EventFlag					Bridge	Flag indicating presence of either Construction, Bridge, Railroad etc for which the data is invalidated
Q	AssessableLength	Feet		xx.x	1	439.8	Assessable pavement length captured from IrisPRO Pave not affected by any Event Flags
R	AssessableWidth	Feet		xx.x	1	13.1	Assessable pavement width captured from IrisPRO Pave not affected by any Event Flags
S	AssessableArea	Square Feet		xx.x	1	5762	Assessable pavement area captured from IrisPRO Pave not affected by any Event Flags

Column	Field Name	Units	Pavement Type	Format	Dec	Example Value	Description
A	SegmentID			xxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxx		Wilson Ave	Road name as per the client provided network GIS
C	Primary_Direction_Collection			xxxxxx		TRUE	True where collection matches digitized direction of GIS, False where collected opposite.
T	Speed	mph		xx.x	1	75.4	Average speed of collection through segment
U	MinSpeed	mph		xx.x	1	35.8	Minimum speed of collection through segment
V	MaxSpeed	mph		xx.x	1	90.7	Maximum speed of collection through segment
W	IRI_Left	in/mi		xxx.x	1	222.8	Lane left IRI where speed is greater than 12.5mph (Average); capped at 500
X	IRI_Right	in/mi		xxx.x	1	205.8	Lane right IRI where speed is greater than 12.5mph (Average); capped at 500
Y	IRI_Avg	in/mi		xxx.x	1	214.3	Lane average IRI where speed is greater than 12.5mph; capped at 500
Z	IRI_PercentInvalid	%		xx.x	1	13.3	Percentage of segment where IRI has been invalidated due to low speed or Event Flags
AA	Rutting_Left	Inches	Flexible	x.xx	2	0.17	Left wheelpath rut depth (Average)
AB	Rutting_Right	Inches	Flexible	x.xx	2	0.19	Right wheelpath rut depth (Average)
AC	Alligator_Low	Square Feet	Flexible	xx.x	1	23.5	Total area of low severity Alligator Cracking as defined by ASTM D6433
AD	Alligator_Mod	Square Feet	Flexible	xx.x	1	27.9	Total area of moderate severity Alligator Cracking as defined by ASTM D6433
AE	Alligator_High	Square Feet	Flexible	xx.x	1	12.2	Total area of high severity Alligator Cracking as defined by ASTM D6433
AF	LongTrans_Low	Feet	Flexible	xx.x	1	23.5	Total length of low severity Longitudinal & Transverse Cracking as defined by ASTM D6433
AG	LongTrans_Mod	Feet	Flexible	xx.x	1	27.9	Total length of moderate severity Longitudinal & Transverse Cracking as defined by ASTM D6433
AH	LongTrans_High	Feet	Flexible	xx.x	1	12.2	Total length of high severity Longitudinal & Transverse Cracking as defined by ASTM D6433
AI	PatchingUtilityCuts_Low	Square Feet	Flexible	xx.x	1	23.5	Total area of low severity Patching & Utility Cuts as defined by ASTM D6433
AJ	PatchingUtilityCuts_Mod	Square Feet	Flexible	xx.x	1	27.9	Total area of moderate severity Patching & Utility Cuts as defined by ASTM D6433

Column	Field Name	Units	Pavement Type	Format	Dec	Example Value	Description
A	SegmentID			xxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxx		Wilson Ave	Road name as per the client provided network GIS
C	Primary_Direction_Collection			xxxxxx		TRUE	True where collection matches digitized direction of GIS, False where collected opposite.
AK	PatchingUtilityCuts_High	Square Feet	Flexible	xx.x	1	12.2	Total area of high severity Patching & Utility Cuts as defined by ASTM D6433
AL	Pothole_Low		Flexible	x	0	10	Count of low severity Potholes as defined by ASTM D6433
AM	Pothole_Mod		Flexible	x	0	6	Count of moderate severity Potholes as defined by ASTM D6433
AN	Pothole_High		Flexible	x	0	3	Count of high severity Potholes as defined by ASTM D6433
AO	Raveling_Mod	Square Feet	Flexible	xx.x	1	27.9	Total area of moderate severity Raveling as defined by ASTM D6433
AP	Raveling_High	Square Feet	Flexible	xx.x	1	12.2	Total area of high severity Raveling as defined by ASTM D6433
AQ	Rutting_Low	Square Feet	Flexible	xx.x	1	27.9	Total area of low severity Rutting as defined by ASTM D6433
AR	Rutting_Mod	Square Feet	Flexible	xx.x	1	12.2	Total area of moderate severity Rutting as defined by ASTM D6433
AS	Rutting_High	Square Feet	Flexible	xx.x	1	23.5	Total area of high severity Rutting as defined by ASTM D6433
AT	CornerBreak_Low		Rigid	xx	0	10	Count of low severity Corner Break as defined by ASTM D6433
AU	CornerBreak_Mod		Rigid	xx	0	6	Count of moderate severity Corner Break as defined by ASTM D6433
AV	CornerBreak_High		Rigid	xx	0	3	Count of high severity Corner Break as defined by ASTM D6433
AW	DividedSlab_Low		Rigid	xx	0	10	Count of low severity Divided Slab as defined by ASTM D6433
AX	DividedSlab_Mod		Rigid	xx	0	6	Count of moderate severity Divided Slab as defined by ASTM D6433
AY	DividedSlab_High		Rigid	xx	0	3	Count of high severity Divided Slab as defined by ASTM D6433
AZ	Faulting_Low		Rigid	xx	0	10	Count of low severity Faulting as defined by ASTM D6433
BA	Faulting_Mod		Rigid	xx	0	6	Count of moderate severity Faulting as defined by ASTM D6433
BB	Faulting_High		Rigid	xx	0	3	Count of high severity Faulting as defined by ASTM D6433
BC	Linear_Low		Rigid	xx	0	10	Count of low severity Linear Cracking as defined by ASTM D6433
BD	Linear_Mod		Rigid	xx	0	6	Count of moderate severity Linear Cracking as defined by ASTM D6433

Column	Field Name	Units	Pavement Type	Format	Dec	Example Value	Description
A	SegmentID			xxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxx		Wilson Ave	Road name as per the client provided network GIS
C	Primary_Direction_Collection			xxxxx		TRUE	True where collection matches digitized direction of GIS, False where collected opposite.
BE	Linear_High		Rigid	xx	0	3	Count of high severity Linear Cracking as defined by ASTM D6433
BF	Patching_Large_UtilityCuts_Low		Rigid	xx	0	10	Count of low severity Patching (Large) & Utility Cuts as defined by ASTM D6433
BG	Patching_Large_UtilityCuts_Mod		Rigid	xx	0	6	Count of moderate severity Patching (Large) & Utility Cuts as defined by ASTM D6433
BH	Patching_Large_UtilityCuts_High		Rigid	xx	0	3	Count of high severity Patching (Large) & Utility Cuts as defined by ASTM D6433
BI	Patching_Small_Low		Rigid	xx	0	10	Count of low severity Patching (Small) as defined by ASTM D6433
BJ	Patching_Small_Mod		Rigid	xx	0	6	Count of moderate severity Patching (Small) as defined by ASTM D6433
BK	Patching_Small_High		Rigid	xx	0	3	Count of high severity Patching (Small)as defined by ASTM D6433
BL	CornerSpalling_Low		Rigid	xx	0	6	Count of low severity Corner Spalling as defined by ASTM D6433
BM	CornerSpalling_Mod		Rigid	xx	0	3	Count of moderate severity Corner Spalling as defined by ASTM D6433
BN	CornerSpalling_High		Rigid	xx	0	10	Count of high severity Corner Spalling as defined by ASTM D6433
BO	SlabCount		Rigid	xx	0	5	Count of slabs within the segment, not affected by any Event Flags
BP	PCI			xx	0	85	Pavement Condition Index (PCI)
BQ	PSCM		Flexible	x.xxx	3	0.15	ASTM Pavement Surface Cracking Metric (Crack Length * Crack Width / Interval Area) as defined by ASTM E3303
BR	PSCI		Flexible	xx.x	1	97.5	ASTM Pavement Surface Cracking Index as defined by ASTM E3303
BS	PSCPRM		Flexible	x.xxx	3	0.234	Pavement Surface Cracking, Potholes and Repair Metric is a variation of the PSCM which also includes patches, potholes and sealed cracks
BT	PSCPRI		Flexible	xx.x	1	92.4	Pavement Surface Cracking, Potholes and Repair Index is a variation of the PSCI which also includes patches, potholes and sealed cracks
BU	Start_Coords__LAT_	Decimal Degrees		xx.xxxxxxx	8	27.88503861	Latitude at start of segment in decimal degrees (WGS84)

Column	Field Name	Units	Pavement Type	Format	Dec	Example Value	Description
A	SegmentID			xxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxx		Wilson Ave	Road name as per the client provided network GIS
C	Primary_Direction_Collection			xxxxx		TRUE	True where collection matches digitized direction of GIS, False where collected opposite.
BV	Start_Coords__LON_	Decimal Degrees		xx.xxxxxxx	8	-82.4893195	Longitude at start of segment in decimal degrees (WGS84)
BW	End_Coords__LAT_	Decimal Degrees		xx.xxxxxxx	8	27.8841875	Latitude at end of segment in decimal degrees (WGS84)
BX	End_Coords__LON_	Decimal Degrees		xx.xxxxxxx	8	-82.489277	Longitude at end of segment in decimal degrees (WGS84)
BY	SurveyDate	Date		mm/dd/yyyy		12/21/2023	Date of data collection.