City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 5H

SUBJECT: **AWARD CONTRACT FOR THE 2024 PAVEMENT MANAGEMENT SERVICES AND PEDESTRIAN CURB RAMP INVENTORY**

DATE: **JUNE 4, 2024**

PRESENTED BY: **KURT KOWAR, PUBLIC WORKS DEPARTMENT**

SUMMARY:
Staff recommends sole source approval of the 2024 Pavement Management Services and Pedestrian Curb Ramp Inventory contract with International Cybernetics Company, LP dba IMS Infrastructure Management Services for the amount of $43,875 for the pavement management assessment and analysis and $50,769 for the pedestrian curb ramp inventory plus a 10% contingency in the amount of $9,500. The total contract value is $104,144.

2024 PAVEMENT MANAGEMENT SERVICES
Every three years, an evaluation of all city-maintained pavement street segments is conducted in Louisville for use in development of the 6-year pavement management program. International Cybernetics Company, LP dba IMS Infrastructure Management Services (IMS) has conducted this survey for the City in 2015, 2018, and 2021; for consistency with previous surveys, staff recommends utilizing the same company to complete the 2024 survey to avoid any discrepancies with the analysis and equipment used. IMS will facilitate the incorporation of the survey data into Lucity, the Public Works asset management software, which is used to generate the 6-year pavement maintenance program.

This work being approved supports the ongoing Pavement Management Program by providing updated pavement assessment and condition data for use in modeling for the 6-year pavement maintenance program. The data will also allow the City to understand the current condition of the City's street network using a pavement condition index. This data will also help the City show FEMA how the streets have degraded in the Marshall Fire area compared to the rest of the City in hopes of gaining more funding from FEMA for the street damages.

PEDESTRIAN CURB RAMP INVENTORY
As a part of the annual resurfacing work, concrete repairs are completed as needed on all streets included in the street resurfacing annual project. The concrete repairs include repair and replacement of curb ramps to ensure compliance with the Americans with Disabilities Act (ADA). In order to better budget for these annual concrete repairs and to ensure compliance with the ADA, a one-time inventory of the existing curb ramps city-wide is recommended by staff. One of the ADA requirements is for the City to prepare and maintain an ADA Transition Plan, which includes a self-evaluation process to document existing facilities for the current state of compliance. As these facilities, which include sidewalks and curb ramps, are repaired or reconstructed, this inventory is updated to document compliance with ADA requirements for these facilities.

Staff recommends IMS to complete this inventory because parts of the work will be conducted at the same time as the pavement management assessment, which will reduce the costs of this effort.

This work being approved supports the Pavement Management Program by compiling an inventory of the existing curb ramps city-wide to ensure compliance with ADA at these locations.

FISCAL IMPACT:
The costs of the 2024 Pavement Management Services and Pedestrian Curb Ramp Inventory will come from the Pavement Management fund.

Projected Funding

Description	Account	Budget Amount
2024 Pavement Management	301312-660012	$6,536,000

Projected Expenses

Description	Amount
2024 Street Resurfacing Base Bid and 10% Contingency (Previous Award)	($2,450,453)
2024 Concrete Base Bid and 15% Contingency (Previous Award)	($1,390,051)
2024 & 2025 Geotechnical Testing Services and 10% Contingency (Previous Award)	($152,900)
2024 Pavement Management Services and Curb Ramp Inventory (This Communication)	**($94,644)**
2024 Pavement Management Services and Curb Ramp Inventory 10% Contingency (This Communication)	**($9,500)**
2024 Miscellaneous Asphalt and Concrete and 10% Contingency (Previous Award)	($348,052)
Heritage 2 Slurry and 10% Slurry Contingency (Previous Award)	($179,568)
On-Call Field Inspection Services (Previous Award)	($30,000)
Total Expenses:	**($4,655,168)**
Remaining Funds:	**$1,880,832**

Total Contract Summary

Description	Account	Amount
Pavement Management	301312-660012	$94,644
Pavement Management (Contingency)	301312-660012	$9,500
	Total Contract:	**$104,144**

PROGRAM/SUB-PROGRAM:
The recommended contract supports the Transportation-Infrastructure Maintenance goal of providing a safe, well-maintained effective and efficient multimodal transportation system at a reasonable cost.

STAFF RECOMMENDATION:
Staff recommends approval and award of the 2024 Pavement Management Services and Pedestrian Curb Ramp Inventory contract with International Cybernetics Company, LP dba IMS Infrastructure Management Services for $94,644 plus a 10% contingency in the amount of $9,500 for a total authorized amount of $104,144 and authorize the Mayor, City Manager, Public Works Director, and City Clerk to sign and execute contract documents on behalf of the City.

ATTACHMENT(S):
1. International Cybernetics Company, LP dba IMS Infrastructure Management Services Contract

STRATEGIC PLAN IMPACT:

☒	**Financial Stewardship & Asset Management**	☒	**Reliable Core Services**
☒	**Vibrant Economic Climate**	☒	**Quality Programs & Amenities**
☐	**Engaged Community**	☐	**Healthy Workforce**
☐	**Supportive Technology**	☐	**Collaborative Regional Partner**

INDEPENDENT CONTRACTOR AGREEMENT
BY AND BETWEEN THE CITY OF LOUISVILLE
AND INTERNATIONAL CYBERNETICS COMPANY, LP DBA IMS INFRASTRUCTURE MANAGEMENT SERVICES
FOR PAVEMENT MANAGEMENT AND CURB RAMP INVENTORY SERVICES

1.0 PARTIES

This INDEPENDENT CONTRACTOR AGREEMENT (this "Agreement") is made and entered into this _____ day of _____, 2024 (the "Effective Date"), by and between the **City of Louisville**, a Colorado home rule municipal corporation, hereinafter referred to as the "City", and International Cybernetics Company, LP dba IMS Infrastructure Management Services, a Delaware Limited Partnership, hereinafter referred to as the "Contractor".

2.0 RECITALS AND PURPOSE

2.1 The City desires to engage the Contractor for the purpose of providing Pavement Management and Curb Ramp Inventory Services as further set forth in the Contractor's Scope of Services (which services are hereinafter referred to as the "Services").

2.2 The Contractor represents that it has the special expertise, qualifications and background necessary to complete the Services.

3.0 SCOPE OF SERVICES

The Contractor agrees to provide the City with the specific Services and to perform the specific tasks, duties and responsibilities set forth in Scope of Services attached hereto as Exhibit "A" and incorporated herein by reference. Contractor shall furnish all tools, labor, and supplies in such quantities and of the proper quality as are necessary to professionally and timely perform the Services. Contractor acknowledges that this Agreement does not grant any exclusive privilege or right to supply Services to the City.

4.0 COMPENSATION

4.1 The City shall pay the Contractor for Services under this Agreement a total not to exceed the amounts set forth in Exhibit "A" attached hereto and incorporated herein by this reference. For Services compensated at hourly or per unit rates, or on a per-task basis, such rates or costs per task shall not exceed the amounts set forth in Exhibit A. The City shall not pay mileage and other reimbursable expenses (such as meals, parking, travel expenses, necessary memberships, etc.), unless such expenses are (1) clearly set forth in the Scope of Services, and (2) necessary for performance of the Services ("Pre-Approved Expenses"). The foregoing amounts of compensation shall be inclusive of all costs of whatsoever nature associated with the Contractor's efforts, including but not limited to salaries, benefits, overhead, administration, profits, expenses, and outside Contractor fees. The Scope of Services and payment therefor shall only be changed by a properly authorized amendment to this Agreement. No City employee has the authority to bind the City with regard to any payment for any Services which exceeds the amount payable under the terms of this Agreement.

4.2 The Contractor shall submit monthly an invoice to the City for Services rendered and a detailed expense report for Pre-Approved Expenses incurred during the previous month.

The invoice shall document the Services provided during the preceding month, identifying by work category and subcategory the work and tasks performed and such other information as may be required by the City. The Contractor shall provide such additional backup documentation as may be required by the City. The City shall pay the invoice within thirty (30) days of receipt unless the Services or the documentation therefor are unsatisfactory. Payments made after thirty (30) days may be assessed an interest charge of one percent (1%) per month unless the delay in payment resulted from unsatisfactory work or documentation therefor.

5.0 PROJECT REPRESENTATION

5.1 The City designates Mary Hamann as the responsible City staff to provide direction to the Contractor during the conduct of the Services. The Contractor shall comply with the directions given by Mary Hamann and such person's designees.

5.2 The Contractor designates Jim Tourek as its project manager and as the principal in charge who shall be providing the Services under this Agreement. Should any of the representatives be replaced, particularly Jim Tourek, and such replacement require the City or the Contractor to undertake additional reevaluations, coordination, orientations, etc., the Contractor shall be fully responsible for all such additional costs and services.

6.0 TERM

6.1 The term of this Agreement shall be from the Effective Date to February 28, 2025, unless sooner terminated pursuant to Section 13, below. The Contractor's Services under this Agreement shall commence on the Effective Date and Contractor shall proceed with diligence and promptness so that the Services are completed in a timely fashion consistent with the City's requirements.

6.2 Nothing in this Agreement is intended or shall be deemed or construed as creating any multiple-fiscal year direct or indirect debt or financial obligation on the part of the City within the meaning of Colorado Constitution Article X, Section 20 or any other constitutional or statutory provision. All financial obligations of the City under this Agreement are subject to annual budgeting and appropriation by the Louisville City Council, in its sole discretion. Notwithstanding anything in this Agreement to the contrary, in the event of non-appropriation, this Agreement shall terminate effective December 31 of the then-current fiscal year.

7.0 INSURANCE

7.1 The Contractor agrees to procure and maintain, at its own cost, the policies of insurance set forth in Subsections 7.1.1 through 7.1.4. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Agreement by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types. The coverages required below shall be procured and maintained with forms and insurers acceptable to the City. All coverages shall be continuously maintained from the date of commencement of Services hereunder. The required coverages are:

7.1.1 Workers' Compensation insurance as required by the Labor Code of the State of Colorado and Employers Liability Insurance. Evidence of qualified self-insured status may be substituted.

7.1.2 General Liability insurance with minimum combined single limits of $1,000,000 each occurrence and $2,000,000 aggregate. The policy shall include the City of Louisville, its officers and its employees, as additional insureds, with primary coverage as respects the City of Louisville, its officers and its employees, and shall contain a severability of interests provision.

7.1.3 Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than $400,000 per person in any one occurrence and $1,000,000 for two or more persons in any one occurrence, and auto property damage insurance of at least $50,000 per occurrence, with respect to each of Contractor's owned, hired or non-owned vehicles assigned to or used in performance of the Services. If the Contractor has no owned automobiles, the requirements of this paragraph shall be met by each officer or employee of the Contractor providing services to the City of Louisville under this contract.

7.2 The Contractor's general liability insurance and automobile liability and physical damage insurance shall be endorsed to include the City, and its elected and appointed officers and employees, as additional insureds, unless the City in its sole discretion waives such requirement. Every policy required above shall be primary insurance, and any insurance carried by the City, its officers, or its employees, shall be excess and not contributory insurance to that provided by the Contractor. Such policies shall contain a severability of interests provision. The Contractor shall be solely responsible for any deductible losses under each of the policies required above.

7.3 Certificates of insurance shall be provided by the Contractor as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be subject to review and approval by the City. No required coverage shall be cancelled, terminated, or materially changed until at least 30 days prior written notice has been given to the City. The City reserves the right to request and receive a certified copy of any policy and any endorsement thereto.

7.4 Failure on the part of the Contractor to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of contract upon which the City may immediately terminate this Agreement, or at its discretion may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by the City shall be repaid by Contractor to the City upon demand, or the City may offset the cost of the premiums against any monies due to Contractor from the City.

7.5 The parties understand and agree that the City is relying on and does not waive or intend to waive by any provision of this contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, § 24-10-101 et seq., C.R.S., as from time to time amended, or otherwise available to the City, its officers, or its employees.

8.0 INDEMNIFICATION

To the fullest extent permitted by law, the Contractor agrees to indemnify and hold harmless the City, and its elected and appointed officers and its employees, from and against all liability, claims, and demands, on account of any injury, loss, or damage, which arise out of or are connected with the Services hereunder, if such injury, loss, or damage is caused by the negligent act, omission, or other fault of the Contractor or any subcontractor of the Contractor, or any officer, employee, or agent of the Contractor or any subcontractor, or any other person for whom Contractor is responsible. The Contractor shall investigate, handle, respond to, and provide defense for and defend against any such liability, claims, and demands. The Contractor shall further bear all other costs and expenses incurred by the City or Contractor and related to any such liability, claims and demands, including but not limited to court costs, expert witness fees and attorneys' fees if the court determines that these incurred costs and expenses are related to such negligent acts, errors, and omissions or other fault of the Contractor. The City shall be entitled to its costs and attorneys' fees incurred in any action to enforce the provisions of this Section 8.0. The Contractor's indemnification obligation shall not be construed to extend to any injury, loss, or damage which is caused by the act, omission, or other fault of the City.

9.0 QUALITY OF WORK

Contractor's Services shall be performed in accordance with the highest professional workmanship and service standards in the field to the satisfaction of the City.

10.0 INDEPENDENT CONTRACTOR

It is the expressed intent of the parties that the Contractor is an independent contractor and not the agent, employee, or servant of the City, and that:

10.1. **CONTRACTOR SHALL SATISFY ALL TAX AND OTHER GOVERNMENTALLY IMPOSED RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, PAYMENT OF STATE, FEDERAL AND SOCIAL SECURITY TAXES, UNEMPLOYMENT TAXES, WORKERS' COMPENSATION, AND SELF-EMPLOYMENT TAXES. NO STATE, FEDERAL, OR LOCAL TAXES OF ANY KIND SHALL BE WITHHELD OR PAID BY THE CITY.**

10.2. **CONTRACTOR IS NOT ENTITLED TO WORKERS' COMPENSATION BENEFITS EXCEPT AS MAY BE PROVIDED BY THE INDEPENDENT CONTRACTOR NOR TO UNEMPLOYMENT INSURANCE BENEFITS UNLESS UNEMPLOYMENT COMPENSATION COVERAGE IS PROVIDED BY THE INDEPENDENT CONTRACTOR OR SOME ENTITY OTHER THAN THE CITY.**

10.3. Contractor does not have the authority to act for the City, or to bind the City in any respect whatsoever, or to incur any debts or liabilities in the name of or on behalf of the City.

10.4. Contractor has and retains control of and supervision over the performance of Contractor's obligations hereunder and control over any persons employed by Contractor for performing the Services hereunder.

10.5. The City will not provide training or instruction to Contractor or any of its employees regarding the performance of the Services hereunder.

10.6. Neither the Contractor nor any of its officers or employees will receive benefits of any type from the City.

10.7. Contractor represents that it is engaged in providing similar services to other clients and/or the general public and is not required to work exclusively for the City.

10.8. All Services are to be performed solely at the risk of Contractor and Contractor shall take all precautions necessary for the proper and sole performance thereof.

10.9. Contractor will not combine its business operations in any way with the City's business operations and each party shall maintain their operations as separate and distinct.

11.0 ASSIGNMENT

Contractor shall not assign or delegate this Agreement or any portion thereof, or any monies due to or become due hereunder without the City's prior written consent.

12.0 DEFAULT

Each and every term and condition hereof shall be deemed to be a material element of this Agreement. In the event either party should fail or refuse to perform according to the terms of this Agreement, such party may be declared in default.

13.0 TERMINATION

13.1 This Agreement may be terminated by either party for material breach or default of this Agreement by the other party not caused by any action or omission of the other party by giving the other party written notice at least thirty (30) days in advance of the termination date. Termination pursuant to this subsection shall not prevent either party from exercising any other legal remedies which may be available to it.

13.2 In addition to the foregoing, this Agreement may be terminated by the City for its convenience and without cause of any nature by giving written notice at least fifteen (15) days in advance of the termination date. In the event of such termination, the Contractor will be paid for the reasonable value of the Services rendered to the date of termination, not to exceed a pro-rated daily rate, for the Services rendered to the date of termination, and upon such payment, all obligations of the City to the Contractor under this Agreement will cease. Termination pursuant to this Subsection shall not prevent either party from exercising any other legal remedies which may be available to it.

14.0 INSPECTION AND AUDIT

The City and its duly authorized representatives shall have access to any books, documents, papers, and records of the Contractor that are related to this Agreement for the purpose of making audits, examinations, excerpts, and transcriptions.

15.0 DOCUMENTS

All computer input and output, analyses, plans, documents photographic images, tests, maps, surveys, electronic files, and written material of any kind generated in the performance of this Agreement or developed for the City in performance of the Services are and shall remain the sole

and exclusive property of the City. All such materials shall be promptly provided to the City upon request therefor and at the time of termination of this Agreement, without further charge or expense to the City and in hardcopy or an electronic format acceptable to the City, or both, as the City shall determine. Contractor shall not provide copies of any such material to any other party without the prior written consent of the City. Contractor shall not use or disclose confidential information of the City for purposes unrelated to performance of this Agreement without the City's written consent.

16.0 ENFORCEMENT

16.1 In the event that suit is brought upon this Agreement to enforce its terms, the parties shall each bear and be responsible for their own attorneys' fees and court costs.

16.2 This Agreement shall be deemed entered into in Boulder County, Colorado, and shall be governed by and interpreted under the laws of the State of Colorado. Any action arising out of, in connection with, or relating to this Agreement shall be filed in the courts of Boulder County or the federal district court for the District of Colorado, and in no other court. Contractor hereby waives its right to challenge the personal jurisdiction of the courts of Boulder County and the federal district court for the District of Colorado over it. Colorado law shall apply to the construction and enforcement of this Agreement.

17.0 COMPLIANCE WITH LAWS

Contractor shall be solely responsible for compliance with all applicable federal, state, and local laws, including the ordinances, resolutions, rules, and regulations of the City; for payment of all applicable taxes; and obtaining and keeping in force all applicable permits and approvals.

18.0 INTEGRATION AND AMENDMENT

This Agreement represents the entire Agreement between the parties and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the parties.

19.0 NOTICES

All notices required or permitted under this Agreement shall be in writing and shall be given by hand delivery, by United States first class mail, postage prepaid, registered, or certified, return receipt requested, by national overnight carrier, or by email transmission, addressed to the party for whom it is intended at the following address:

If to the City:

City of Louisville
Attn: Mary Hamann
749 Main Street
Louisville, CO 80027
email: mhamann@louisvilleco.gov

If to the Contractor:

International Cybernetics Company, LP dba IMS Infrastructure Management Services
Attn: Jim Tourek
10630 75th Street
Largo, FL 33777
email: jtourek@icc-ims.com

Except for notices by email transmission, any notice required or permitted under this Agreement shall be effective when received as indicated on the delivery receipt, if by hand delivery or overnight carrier; on the United States mail return receipt, if by United States mail. Notices by email transmission shall be effective on transmission, so long as no message of error or non-receipt is received by the party giving notice. Either party may by similar notice given, change the address to which future notices or other communications shall be sent.

20.0 EQUAL OPPORTUNITY EMPLOYER

a) Contractor will not discriminate against any employee or applicant for employment because of age 40 and over, race, sex, color, religion, national origin, disability, genetic information, sexual orientation, veteran status, or any other applicable status protected by state or local law. Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to any status set forth in the preceding sentence. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice to be provided by an agency of the federal government, setting forth the provisions of the Equal Opportunity Laws.

b) Contractor shall be in compliance with the applicable provisions of the American with Disabilities Act as enacted and from time to time amended and any other applicable federal, state, or local laws and regulations. A signed, written certificate stating compliance with the Americans with Disabilities Act may be requested at any time during the life of this Agreement or any renewal thereof.

21.0 NO THIRD PARTY BENEFICIARIES

It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to City and Contractor, and nothing contained in this Agreement shall give or allow any such claim or right of action by any other third party on such Agreement. It is the express intention of the parties that any person other than City or Contractor receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

22.0 SUBCONTRACTORS

Contractor may utilize subcontractors identified in its qualifications submittal to assist with non-specialized works as necessary to complete projects. Contractor will submit any proposed subcontractor and the description of its services to the City for approval. The City will not work directly with subcontractors.

23.0 AUTHORITY TO BIND

Each of the persons signing below on behalf of any party hereby represents and warrants that such person is signing with full and complete authority to bind the party on whose behalf of whom such person is signing, to each and every term of this Agreement.

In witness whereof, the parties have executed this Agreement to be effective as of the day and year first above written.

CITY OF LOUISVILLE

By:_____
Mayor

Attest:_____
City Clerk

CONTRACTOR: 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: 2024.05.21 12:57:47 -04'00'

By: John Till
Title: CFO

Exhibit A – Scope of Services

[See Following Page(s)]

Quote for Professional Services

Pavement Management Program Update

Mary K. Hamann, PE, Civil Engineer III
City of Louisville, Colorado

March 26, 2024

IMS Infrastructure Management Services, LP
Jim Tourek, West & South Region Client Services Mgr.

IMS Today and Our History with Louisville

IMS Infrastructure Management Services, LP is pleased to submit a quotation to update the City's pavement management program. IMS is an industry leader with 38 years of pavement and asset management experience. Since our founding in 1985, we have provided similar services to more than 1,000 municipalities across the United States. **Collectively, the IMS engineering team brings more than 350 years of pavement and asset management experience to the table.**

IMS brings significant regional experience and expertise to meet the City's pavement condition assessment, right-of-way asset, and software integration. As we understand, the City of Louisville currently maintains approximately **100 centerline miles** of roadway. IMS has performed objective pavement data collection for **similar Colorado agencies** such as Arapahoe County, *Aurora, Boulder County, Centennial, Denver, Eagle, Eagle County, Fort Collins, Fort Morgan, Lakewood, Littleton,* ***Louisville****, Longmont, Northglenn, Routt County, Steamboat Springs, and many others in Colorado.*

Members of the IMS Engineering, Technical and Sales Teams at our December 2022 in-service meeting week.

Similar to the previous projects and to ensure adequate coverage across the network, the Road Surface Tester (RST) will survey the arterial, collector and residential roadways in both directions, resulting in a **survey mileage of an IMS estimated 145 miles**. The RST is equipped with a Laser Crack Measuring System 2 (LCMS-2) that is the most technologically advanced data collection equipment available in the industry.

The prior IMS-City of Louisville collaborative projects (2015, 2018, 2021) were completed using the same Lucity software that's proposed for 2024. This included a network level pavement assessment, a multi-year analysis once IMS collaborated with city staff to set-up the operating parameters, a written report, as well as a web map and imagery.

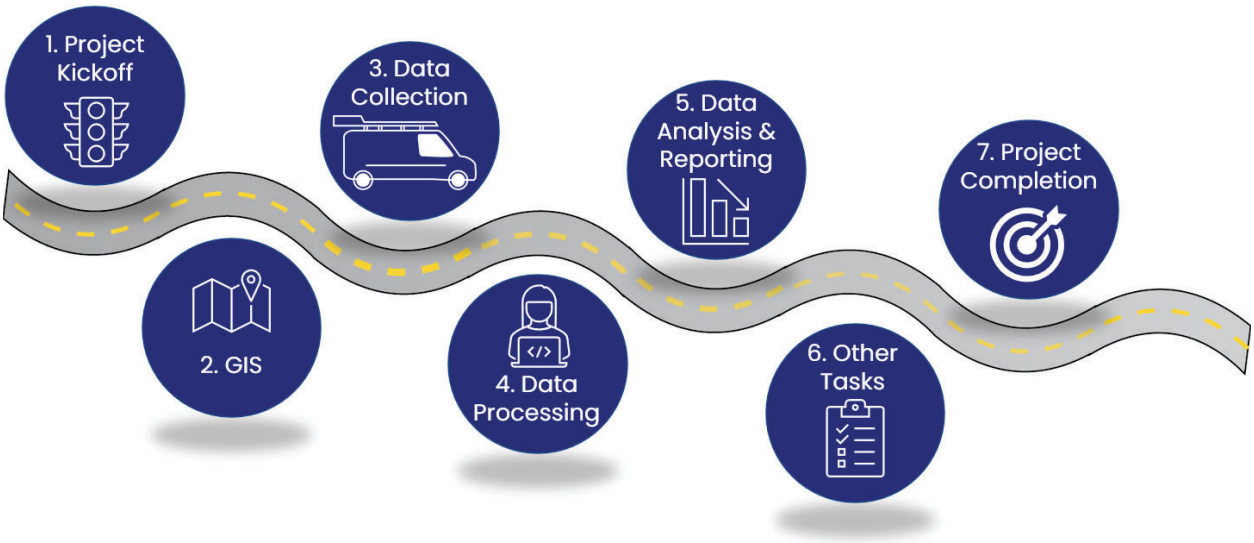
We have added six pavement engineers and nine GIS analysts to our team along with five state-of-the-art Road Surface Testers (RST) equipped with the latest 3D Laser Crack Measurement System (LCMS-2) technology. We have also added Fast Falling Weight Deflectometer (FastFWD) pavement structural testing equipment along with mobile Lidar technology for asset inventories and ADA sidewalk and ramp compliance surveys. The combination of our larger technical team and fleet of testing equipment provides IMS with greater capacity and redundancy for completing larger projects in a timelier manner.

We are confident that IMS will be the ideal partner to ensure that the City achieves its project goals, given our past successful work with the City, our significant regional experience, and our possession of the largest fleet of advanced pavement data collection systems in the United States.

Project Overview

Scope of Work

The IMS project approach for pavement condition and asset inventory projects typically follows the seven steps shown in the graphic below. In this section, we detail the specific tasks and milestones that will be required for the successful completion of this project.



IMS assigns seasoned pavement engineers as the project managers for all our projects. We believe it is imperative that the project manager have the requisite technical and domain knowledge – as well as practical project management experience – to lead the team. Our project management process is based on thorough planning, proactive management of schedules, and constant communication. The result of effective project management is higher quality with respect to project deliverables and satisfied stakeholders.

Kickoff Meeting

IMS has standardized a project approach based upon our 38 years of pavement management experience and the subsequent lessons learned after performing hundreds of projects. Detailed conversations with our clients allow us to tailor a solution to the specific needs of an individual municipality.

A prerequisite for a successful project is an initial project meeting with the City team members and the IMS team. This early communication is critical to ensuring that we are fully aligned with the City's overall vision for this project as well as the specific data needs for the City. Through this project initiation process, we will prepare the project plan for overall implementation. The plan includes:

- Contacts and stakeholders
- Measurable tasks and milestones
- Project approach and specific data collection methods
- Allocation of resources, including personnel and equipment
- Deliverables and schedule
- Performance and schedule risks

We will ensure that the plan remains current with any further data needs. Our Project Initiation Form and GIS Setup Form are part of our process, where the outcome will include a final project plan and an

approved schedule in collaboration with the City's staff and stakeholders. This plan is established before any data collection begins. Project requirements are incorporated in the two project success documents. The project success documents ensure transparency and act as a reference point to ensure all stakeholders are accounted for and involved.

Quality Management Plan (QMP)

Based on discussions with the City during the project initiation and kickoff meetings, IMS will develop a project-specific version of our standard QMP for this project. The plan will address the following:

Phase 1. Project Planning – Before Data Collection

- Project team and schedule
- Equipment calibration and control sites
- Rater calibration

Phase 2. Project Execution – During Collection & Processing

- Fast-tracked data collection, processing, and reporting
- Production data collection and processing
- Routine equipment inspection and calibration

Phase 3. Data Delivery – Post Data Processing

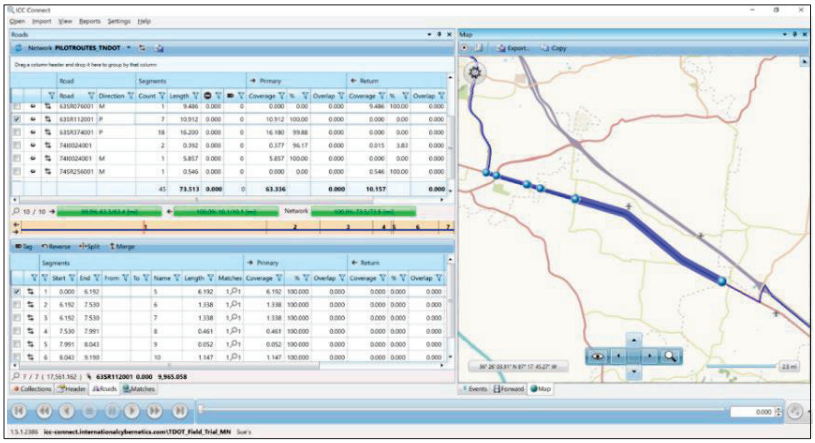
- City acceptance and corrective action procedures
- Final data review
- Database delivery and technical memo

IMS' standard Quality Management Plan (QMP) document that is customized for each project.

New to the IMS Project Workflow: Our engineering team has worked extensively to improve the AI and data processing algorithms of the LCMS-2 technology. This has resulted in more repeatability, improved automation (quality and speed), and better data. Our stated goals are to continuously improve and build upon the tools at our disposal to deliver the best data to our clients.

GIS Survey Mapping & Network Referencing

Data collection is unique in every jurisdiction, varying by network complexity, the mix of urban and rural roadways, type of terrain, schedule constraints, and most notably, the analysis and data delivery requirements. To facilitate a standard approach that yields deliverables tailored to our clients' needs, **we developed our Unify™ Software Suite that includes Drive™ for data collection, Connect™ for data processing, and Inform™ for online visualization.** This comprehensive software relies on street centerline GIS data provided by



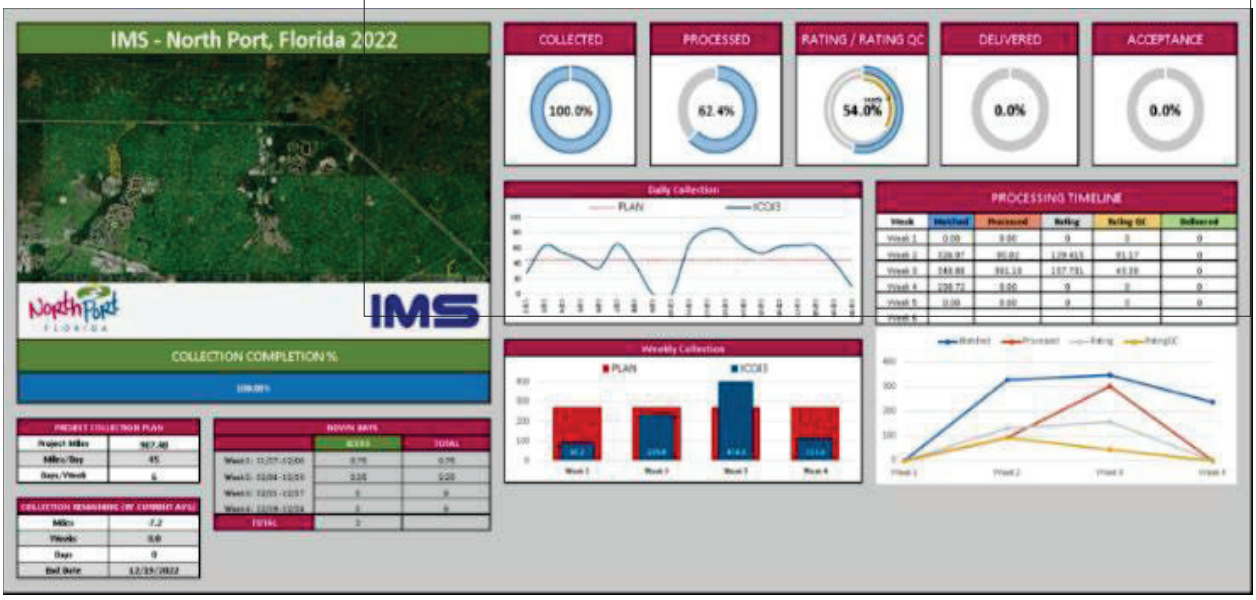
Sample road network loaded into Connect™ software

the City to build all successive processes, which include calibration, collection, processing, analysis, and reporting. The Unify™ Suite eliminates the need to use numerous scripts and transformations to produce the geodatabase and tabular deliverables.

Our technical team will review City-provided roadway network files (expected in an Esri GIS file format) that define the routes to be collected. The GIS will be reviewed against any existing pavement database street segments and roadways. If discrepancies arise, they will be noted and discussed for resolution

with the City before the start of data collection. The finalized roadway network will be loaded into the Drive™ software, which defines the pavement network segmentation and attribution to be collected and delivered, minimizing routing problems and location errors.

Sample reporting dashboard showing data collection and processing progress



The GIS files will include attributes such as road section ID, street name, street type, beginning description, ending description, start reference, and end reference for each segment.

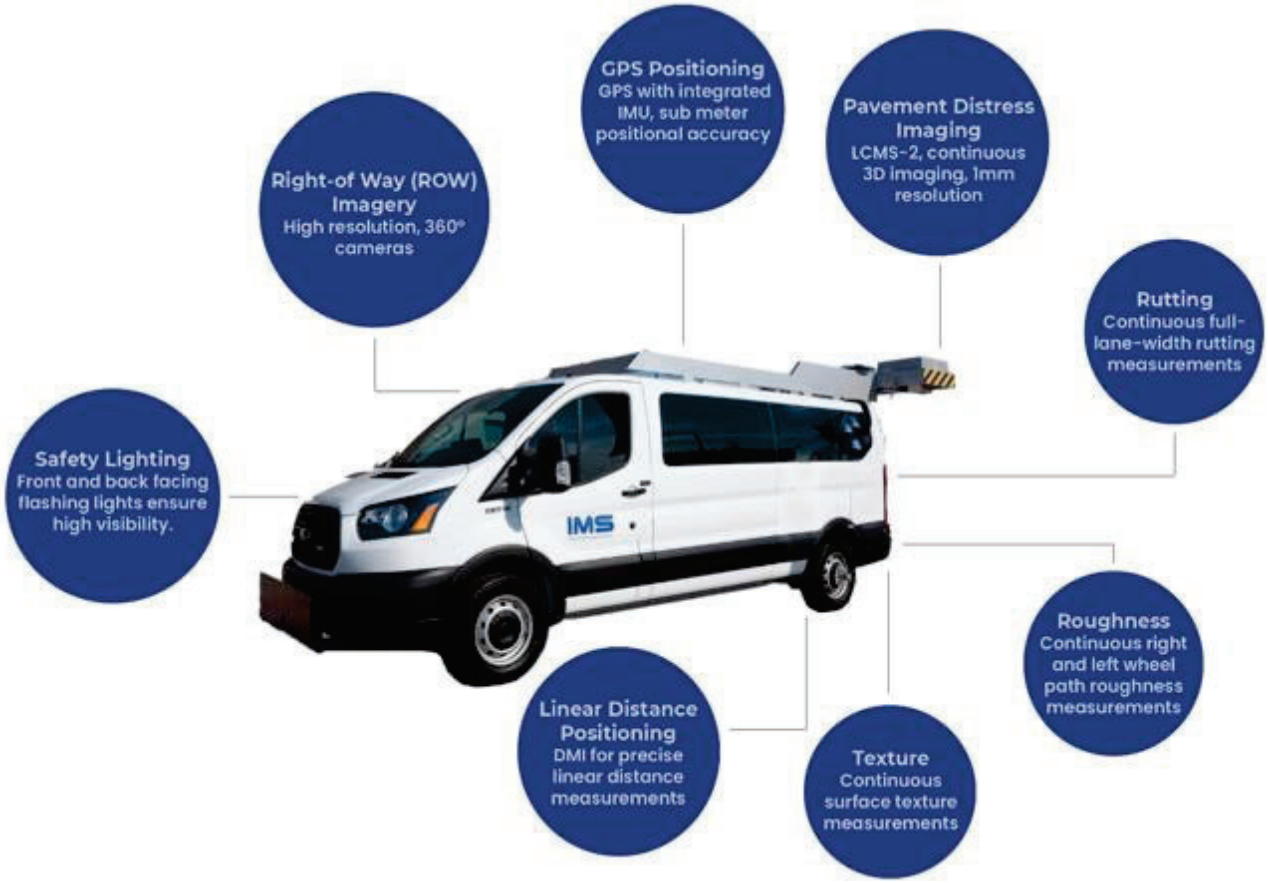
Our Unify™ software automatically extracts data from the various sensors on the data collection vehicle and combines it with location information and imagery. The Unify™ Suite workflow provides easy field data collection using the Drive™ software onboard each RST, which seamlessly transfers collected data to Connect™ for spatial analysis and processing. Unify™ software provides our clients with a perfect match between their existing GIS and the resulting condition data and allows us to configure our data deliverable in many formats that are compatible with all pavement management software, GIS, and other management systems.

Connect™ enables daily progress tracking. The field crew will upload the day's collection for office-based data analysts to match against the network for location and completeness. For larger projects, it is customary practice to divide the network into smaller, more manageable segments, such as council districts or maintenance areas.

Pavement Condition Survey

Our two-person field crews will collect both outward facing and downward facing pavement imagery, using one of our RSTs equipped with LCMS-2 3D pavement imaging technology. Pavement surface distresses including load cracking, block cracking, rutting, raveling, reflective cracking, loss of section, bleeding, edge distress, and patched areas as well as right-of-way imagery will be collected on a segment-by-segment basis, with each distress being captured by type, extent, and severity. The data and imagery that is collected is then linked to the City's existing GIS data.

The LCMS-2 system is the highest resolution 3D pavement scanning technology available. Each LCMS-2 system relies on two downward-facing, high-resolution 3D cameras. Combined, the two 3D cameras capture continuous downward imagery for more than a standard lane width. The cameras are coupled with downward-facing lasers that provide constant and consistent illumination of the pavement surface regardless of ambient lighting conditions. The impacts of shadows from trees, buildings, or simply overcast sky conditions are eliminated by the laser illumination.

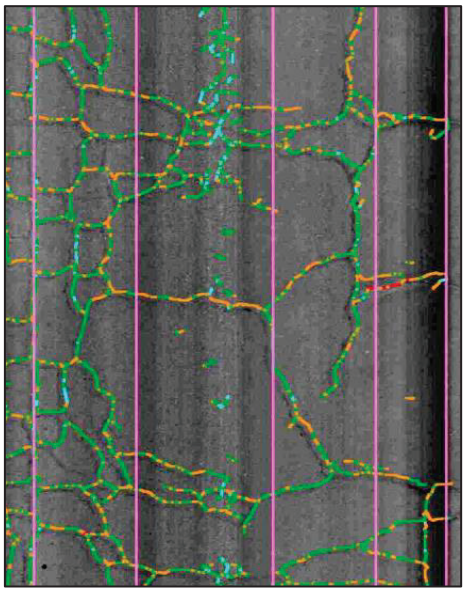


IMS Road Surface Tester (RST) equipped with Laser Crack Measurement System (LCMS-2)
(Note: IMS has five RST LCMS-2 equipped systems dedicated to municipal pavement management.)

The 3D cameras can detect one-millimeter-wide cracks and full-lane-width rutting, as required by ASTM D6433, on the pavement surface at speeds up to 65 mph. Due to the versatility of the LCMS-2 technology, the automated pavement condition survey will be performed at posted speeds, and traffic control will not be necessary for the data collection effort. Pavement data collection and imagery surveys are expected to progress at a rate of between 35 and 50 miles per day for the City.

The IMS team then processes the collected data using a combination of advanced analytical tools and rigorous, manual QC/QA performed by IMS' certified Pavement Condition Index (PCI) raters to determine accurate and repeatable PCI values for each roadway segment. Furthermore, we deliver our PCI ratings and supporting data (distress information, rutting, and IRI values) in both spreadsheet and GIS formats for easy review. The data that we provide may be used immediately for decision making or be imported into any pavement management system. During data collection, IMS implements routines that are performed each day of data collection to ensure data consistency. These include:

- Equipment is calibrated, and daily reports are completed.
- All sensors are continually monitored to ensure they are receiving data within specifications.
- The Crew Chief and operator manually monitor the HD digital images, GPS, distress recorder, roughness measurements, and rutting data.
- Each street is noted on the inventory and map, as well as through GPS and assignment of the RST van number.
- Production is tracked and records of coverage are documented.
- A corrective action plan is followed, as necessary.
- All data is backed up and sent to the IMS main office for processing.



LCMS-2 cracking data in QC/QA review stage.

ASTM D6433 Pavement Condition Evaluation

During and following the data collection effort, our team will evaluate all collected pavement imagery and surface measurements to arrive at Pavement Condition Index (PCI) values. This is a six-step process that includes the following tasks:

1. **RoadInspect™ Pavement Distress Detection** – Cracks, rutting, and other pavement distresses are automatically detected in both the 2D and 3D pavement images. IRI values are also calculated at this time. *(Note: The RoadInspect™ software was developed by Pavemetrics, the firm that manufactures the LCMS-2 technology.)*
2. **IMS Pavement Distress Classification** – Pavement distresses detected by the RoadInspect™ software are then classified by type (e.g., alligator cracking, bleeding, edge cracking, etc.) and severity (e.g., low, medium, or high) based on predefined criteria (e.g., ASTM D6433). IMS has created a suite of custom tools that include rule-based algorithms in conjunction with artificial intelligence to accurately classify pavement distresses.
3. **IMS PCI Calculation** – Pavement distress data is imported into IMS' PCI calculation software, and PCI values are determined for each roadway segment using a scale from zero (0) to one hundred (100) as defined in ASTM D6433.
4. **IMS Quality Control (QC)** –The IMS project manager then does a review of the data and works with the QC team lead to address any issues that may be identified.
5. **IMS Quality Assurance (QA)** – The IMS project QA Manager independently reviews the rated data and works with our Project Manager and QC team to correct any issues observed.
6. **Client QA** – The IMS Project Manager reviews the findings of the pavement condition data with City staff before beginning any analysis activities. IMS will present the pavement condition data in a Client Review Spreadsheet (CRS) along with maps illustrating pavement conditions for the client to independently review.

Rutting and Roughness

IMS' LCMS-2 systems detect rutting on asphalt roadways using laser measurements of transverse profiles that are collected continuously as the vans drive at normal traffic speed. With more than 4,000 measurement points collected per transverse profile and sub-millimeter vertical accuracy, the LCMS-2 can define transverse profiles with a high level of precision, accuracy, and repeatability.

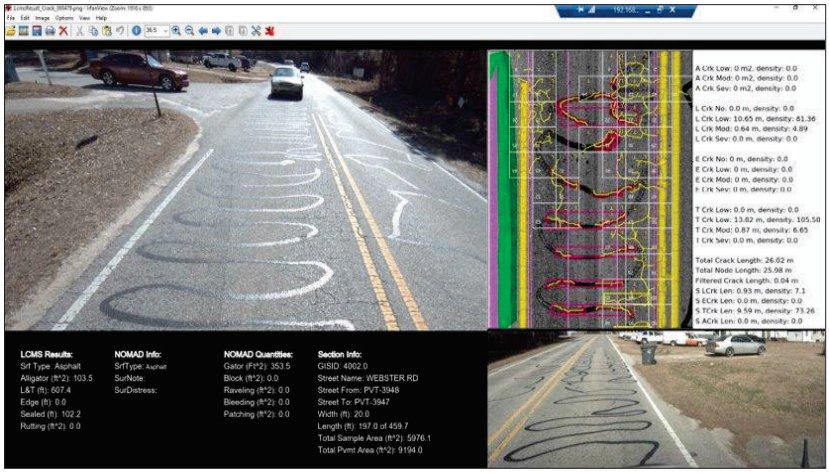
Once all the transverse profiles are collected for a roadway, IMS uses the Brazilian Method, which is an industry standard method, to determine the rut area and the deepest (or maximum) rut depth for the profiles. These values, as well as width of rut and color coding, can be seen in the LCMS-2 laser image to the right. Red represents high severity rutting, while orange represents moderate severity rutting. The severities are determined based on maximum rut depth thresholds that are specified in ASTM D6433.

Pavement roughness is evaluated by measuring the accumulated difference in the vertical displacement of a road surface, independent of chassis response, over a prescribed road length (longitudinal profile). This roughness is typically reported via the International Roughness Index (IRI). IRI data is calculated in real time from continuous longitudinal profile data collected by the LCMS-2's 3D profile device. To determine the road profile, data is simultaneously obtained from three devices: a pulse transducer-based distance-measuring instrument (DMI), high-speed 3D laser sensors operating at 112 MHz, and an accelerometer in compliance with ASTM E 950. The LCMS-2 unit conforms to a Class I profiling device, and it can also "pause" over non-valid roadway sections such as localized maintenance activities, railroad crossings, speed bumps, and brick inlays and not affect the IRI value.

Quality Control and Quality Assurance

IMS has developed a unique approach to pavement condition assessments by coupling manual review of distress data with automated algorithms. This more rigorous QC/QA process ensures that the automated distress detection and classification algorithms that we use work correctly. Our Pavement Engineering team fully understands the capabilities and limitations of the state-of-the-art LCMS-2 technologies and sophisticated algorithms that we employ, and our QC/QA steps are extremely important in ensuring the success of the project.

The IMS QC/QA process is comprehensive and makes use of field observations, automated data processing tools, manual data review by our QC team, independent review by our QA manager, and lastly, final review by the City. There are QC/QA checks at each stage of the project to ensure data quality before the data is moved into the next steps.

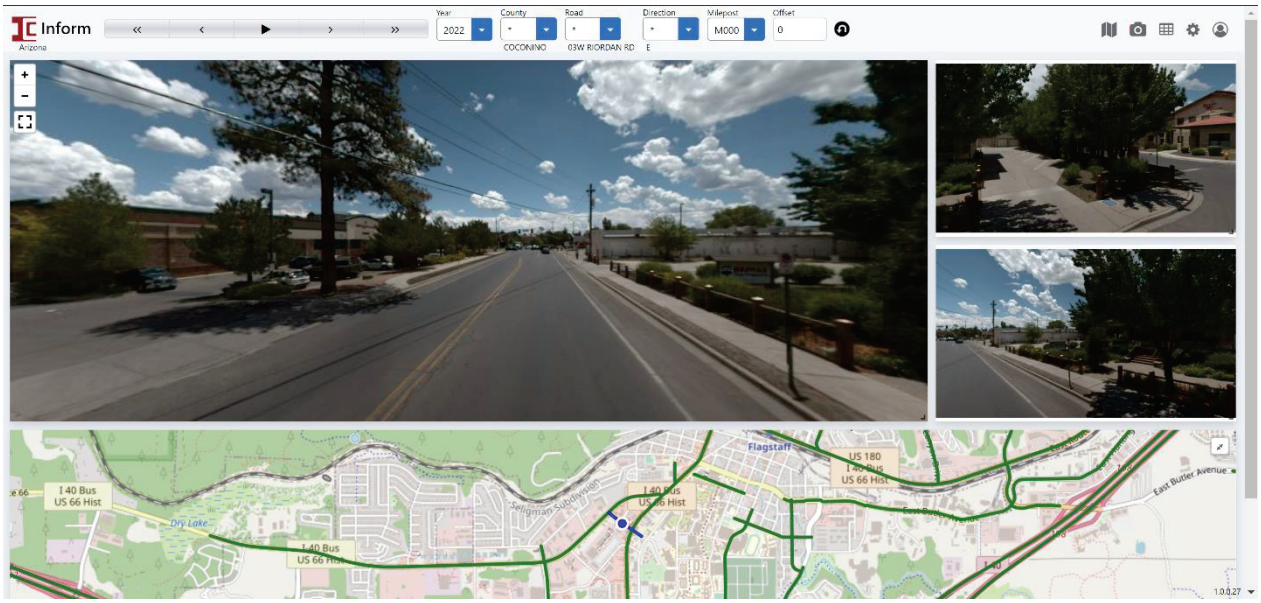


New QA Tool! *IMS QC/QA interface for manually reviewing automated distress detection and classification results.*

Machine learning and artificial intelligence have made leaps and bounds in speeding up distress identification. And when supplemented with trained pavement raters, field staff, and expert engineers, they establish high data confidence and integrity. The final quality assurance performed by City personnel will ensure that the City has confidence in and takes ownership of the condition data.

Inform Software – GIS Survey Mapping & Network Referencing

Data collection is unique in every jurisdiction. To facilitate a standard approach that yields deliverables tailored to our clients' needs, **we developed our Unify™ Software Suite that includes Drive™ for data collection, Connect™ for data processing, and Inform™ for online visualization.** Our comprehensive software suite relies on street centerline GIS data provided by the City to build all successive processes, which include calibration, collection, processing, analysis, and reporting.



Features:

- Play forward and reverse; step by image
- Easy search using map
- Drop-down lookup using any locators like District, City, Route, Direction, Milepost, etc.
- Go back in time: multiple cycles of data
- Panoramic 360-degree image view with pan/tilt/zoom controls
- U-turn button
- Tabular data
- Detail and summary charts

We will review the City's road network GIS files that define the extents of the survey and compare them against existing pavement database street segments. If discrepancies exist, they will be noted and reviewed with the City before data collection begins. We will load the finalized road network into Drive™, which defines the pavement network segmentation and attribution to be collected, minimizing routing problems and location errors. The GIS files will include attributes such as road section ID, street name, street type, beginning and ending descriptions, and start and end references for each segment. Data collection will then take place using one of our road surface testers (RSTs). Upon completion of data collection, Connect™ is used to automatically extract data from the sensors on the RST and combine it with location information and imagery. The output from Connect™ will be uploaded to Inform™ for convenient visualization.

Year 1 from project completion is included; subsequent years (if desired will have a hosting+ fee.

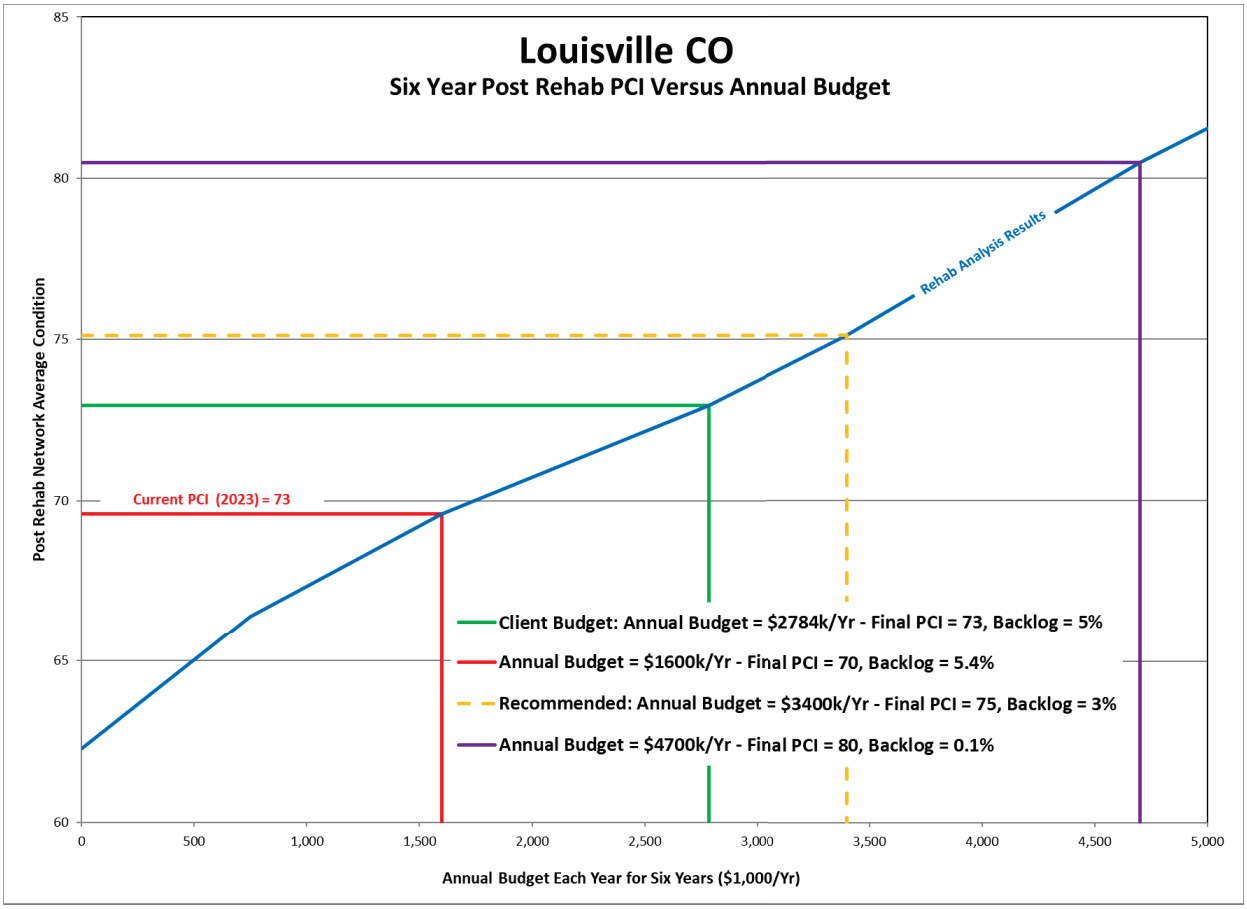
Analysis for the 2024 Project

Once the QC/QA process has been completed, our project team will deliver a Client Review Spreadsheet (CRS). This spreadsheet includes the pavement inventory, life-cycle cost estimates, and the familiar graphs and charts to understand the health of the network. This information will provide quality data, based on sound engineering principles, and realistic budgets for the City staff to utilize in their project selections and internal analyses.

Once the City reviews the PCI data, the Project Manager will set up a meeting with City staff to discuss the analysis requirements and identify additional budget scenarios to prepare. At a minimum, the following pavement management scenarios have been recommended, based on the simplified approach to this project:

- Annual funding required to maintain existing pavement conditions.
- Funding required to maintain an average PCI of 65 over the next 5 years.
- Funding allocation for asphalt overlay and/or surface treatments to maintain an average PCI of 70 over the next 5 years.
- PCI for the network if current funding levels remain the same for the next 5 years.
- Recommended pavement strategies for the various budget scenarios investigated.

We look forward to collaborating with the City staff to ensure that the pavement management program addresses the needs and priorities of the stakeholders involved. Assuming the City will request utilizing the **Lucity software**, similar to what the City of Louisville – 2021-22 (see graph, below) has used for their multi-year analysis. As with most projects, we plan to run budget scenarios and develop paving projects with our streamlined approach utilizing the referenced IMS solution.



Capacity to Perform Work

IMS employs 49 full-time staff, including 8 pavement engineers – five of whom hold PhD degrees in pavement engineering, 10 GIS analysts and technicians, nine independently, OCTA certified ASTM D6433 pavement raters, and 15 trained and experienced field technicians. Together, we complete over 100 pavement and asset management projects annually. We stand second to none in our ability to establish cost-effective pavement management programs for large and small agencies alike, and our team has earned a reputation for excellence over the course of thousands of projects for municipal clients across the United States. Our multi-disciplinary team, led by pavement engineers, has the experience and expertise to assist our clients with full-service pavement and asset management services, software needs assessments, and custom implementations.

Key personnel identified for the project will be assigned to the City for the duration of the project. Our team is accustomed to working on multiple projects at a time, and we adjust resources on a routine basis to ensure that we have the staff and equipment required to meet project milestones.

Proposed Project Schedule

This is a representation of our proposed schedule for the 2024 City of Louisville project, which reflects our improved project workflow. The field surveys are expected to progress at approximately 35 miles per day, and account for an estimated 4-5 days of testing.

Proposed Schedule of *7-Months Post-Survey*		
Assumes a NTP is issued **May 31st, 2024** – *Data Collection is Weather Dependent*		
Task	**Description**	**Estimated Milestone**
1	Executed Agreement/NTP	If by late-May 2024:
2	GIS Acquisition and Validation	June 2024
3	Kick-off with Review Map Iterations and Approval	June 2024
4	RST LCMS-2 Pavement Surveys (145 Test-Miles): * 6-week after GIS verified and Executed Contract	* July 2024
8	QC/QA for Data Collected	August-Oct. 2024
6	Deliver Pavement Condition Data/Client Review Spreadsheet	Late-October 2024
7	Draft Analysis Development & Client Comments	November 2024
8	Final Analysis, Draft & Written Report	December 2024
Opt.	*Right-of-Way Assets, IMS Dashboard, Council Presentation*	*By December 2024*

Fee Proposal

The detailed budget presented on the next page is based on the IMS work plan and deliverables. It represents a realistic budget to complete the work, and we are confident we can maintain an on-time, on-budget assignment. IMS is proposing to survey all City-maintained major roads in both directions and all locals in one direction to ensure a sufficient representative sample. Please review our assumptions below and the optional services on the following page:

Louisville, CO: 2024 Base Scope of Services
IMS Pavement Management Assessment & Analysis

Task	Activity	Quant	Units	Unit Rate	Total
	Project Initiation				
1	Project Initiation	1	LS	$2,500.00	$2,500.00
2	Network Referencing & GIS Linkage	100	CL-Mi	$7.50	$750.00
3	Network Inventory Checks & Survey Map Development	100	CL-Mi	$2.50	$250.00
	Field Surveys				
4	RST Mobilization/Calibration	1	LS	$2,925.00	$2,925.00
5	RST Field Data Collection **(2-pass All Major Roads & 1-pass Locals)**	145	T-Mi	$105.00	$15,225.00
6	Annual Fee: Downward-Outward Images in Inform **(Web Based; No Crack Display)**			**Included in Base Activities (Yr. 1)**	
	a. Data Fee for Hosting			**Included in Base Activities (Yr. 1)**	
	Data Management				
7	Data QA/QC, Processing, Format, & Supply **(Excel; File Geodatabase; KML)**	145	T-Mi	$25.00	$3,625.00
8	Pavement Data Load (Existing Lucity Database)	1	LS	$6,750.00	$6,750.00
9	Update Lucity Operating Parameters	1	LS	$2,250.00	$2,250.00
10	Lucity 5-Year Pavement Analysis & Budget Development	1	LS	$4,500.00	$4,500.00
11	Standard IMS Draft Written Report	1	LS	$2,500.00	$2,500.00
	a. Standard IMS Final Written Report	1	LS	$500.00	$500.00
12	Project Management	1	LS	$2,100.00	$2,100.00
				Project Total:	**$43,875.00**

Assumptions

1. Test miles are calculated based on the number of centerline miles and whether they will require one pass collection, or two pass collection based the number of lanes. We have assumed 2-pass collection for all arterial, collector, and 1-pass of local roadways.
2. Prior to kickoff meeting, agency will provide IMS with:
    1. Primary POC, secondary POC and other stakeholder contact information.
    2. Preliminary centerline GIS (i.e., geodatabase).
3. Data collection relies heavily on up to date and topologically sound GIS centerline information.
4. Pavement data collection is dependent on the agency's approval of the GIS maps representing the street inventory to be surveyed.
5. Pavement data collection is weather dependent and assumes one mobilization to the area. Data cannot be collected if the pavement is wet or if the temperatures are below 32 F or above 95 F.
6. Agency will actively participate in submission review and provide comments within a period of time that the agency and IMS will agree to during the kickoff meeting. The current proposed schedule assumes a two-week review period for draft deliverable submissions.

The following tasks highlights several value-added services that IMS could provide in conjunction with the pavement condition assessment:

Louisville, CO: IMS Additional Optional Services

IMS Pavement Management Assessment & Analysis

Value-Added Service Activities:

12	LCMS-2 RST Automated Field Data Collection **(Additional Streets per test mile)**		**1**	per T-MI	$140.00	$140.00
13	Annual Fee: Downward & Outward Images as Selected in Inform Continuous Intervals		1	LS/YR	$2,000.00	$2,000.00
	a. Data Fee for Hosting **(Web Based; No Crack Display)**	Year 2+	145	T-Mi/YR	$1.20	$174.00
						$2,174.00
12	a. IMS Web-Story Map - Years 2 & 3 Annual Updates of Rehabs; Update		2	YR-EA	$1,500.00	$3,000.00
13	FastFWD (Deflection) Mobilization		1	LS	$2,500.00	$2,500.00
	a. Deflection Testing **(55.5 CL Mi. 2-pass & 54 CL Mi. 1-pass Testing: 500' spacing)**		165	T-Mi	$150.00	$24,750.00
	b. Data Analysis of Deflection Testing		1	LS	$2,250.00	$2,250.00
	c. Deflection Traffic Control **(provided by City, IMS Est. 0-64 Hrs.)**		0	HR	$135.00	$0.00
						$29,500.00
14	Annual Fee: Downward Images in Inform Continuous Intervals **(Web Based; No Crack Display)**		1	**EA YR**	$4,000.00	$4,000.00
	a. Data Fee for Hosting		145	T-Mi	$2.00	$290.00
	Right of Way Assets **(GPS & Camera Config.: Select Once w/Any Asset Below)**		145	T-Mi	$1.00	$145.00
	a. Sidewalk Database Development		145	T-Mi	$22.00	$3,190.00
	b. Curb Ramp Database Development		145	T-Mi	$30.00	$4,350.00
	c. Sign & Support Database Development		145	T-Mi	$75.00	$10,875.00
	d. Pavement Markings & Striping Database Development		145	T-Mi	$50.00	$7,250.00
	e. Curb & Gutter Database Development		145	T-Mi	$22.00	$3,190.00
	f. Traffic Signals/ Flashers. Controllers Database Development		145	T-Mi	$25.00	$3,625.00
	g. Street Lights Database Development		145	T-Mi	$45.00	$6,525.00
	h. Drop Inlets Database Development		145	T-Mi	$22.00	$3,190.00
	i. Drivepads Database Development		145	T-Mi	$22.00	$3,190.00
	j. Bridges Database Development		145	T-Mi	$25.00	$3,625.00
	k. Street Furniture Database Development		145	T-Mi	$25.00	$3,625.00
	l. Cattle Guards Database Development		145	T-Mi	$22.00	$3,190.00
	m. Speed Humps Database Development		145	T-Mi	$25.00	$3,625.00
	n. Guardrails & Roadside Pedestrian Fence Database Development		145	T-Mi	$22.00	$3,190.00
	o. Catch Basins/ Drainage Inlets Database Development		145	T-Mi	$22.00	$3,190.00
	p. Culverts & Ditches Database Development		145	T-Mi	$22.00	$3,190.00
	q. Cabinets Database Development		145	T-Mi	$22.00	$3,190.00
	r. Utility Poles Database Development		145	T-Mi	$45.00	$6,525.00
	s. Fire Hydrants Database Development		145	T-Mi	$22.00	$3,190.00
	t. Medians Database Development		145	T-Mi	$22.00	$3,190.00
	u. Valves Database Development		145	T-Mi	$32.00	$4,640.00
	v. Manhole Covers Database Development		145	T-Mi	$25.00	$3,625.00
	w. Trees Database Development		145	T-Mi	$55.00	$7,975.00
15	IMS Web-Story Map of County's Pavement Condition **(for External Portal)**		1	EA	$7,500.00	$7,500.00
	a. Years 2 & 3 Annual Updates of Rehabs; Update		3	EA	$2,000.00	$6,000.00
16	IMS Web-Dashboard of County's Pavement Condition **(for Internal Staff)**		1	EA	$5,500.00	$5,500.00
	a. Years 2 & 3 Annual Updates of Rehabs; Update		3	EA	$2,000.00	$6,000.00
17	County Commission Presentation - Virtual		1	EA	$3,500.00	$3,500.00
	a. Add for an Onsite County Commission Presentation		1	EA	$2,000.00	$2,000.00
18	Non-Standard Written Report **(Min. 8-Hours; beyond at Hourly Rate)**		8	HR	$150.00	$1,200.00
19	Additional or Specialty Maps for Reporting **(Beyond Typical 2 Sets)**		1	EA	$175.00	$175.00
20	Additional Hard Copies of the Final Report **(>3 Sets Included)**		1	EA	$200.00	$200.00
21	Functional Class Review		16	HR	$175.00	$2,800.00
22	GIS Clean-up Services		6	HR	$175.00	$1,050.00

Thank you for your continued interest in working with the IMS team. We value developing and maintaining long-term partnerships with our clients. We will strive to remain an asset and extension of the City of Louisville staff and team. If any questions arise, please do not hesitate to contact me at **(480) 741-1847** or jtourek@imsanalysis.com.

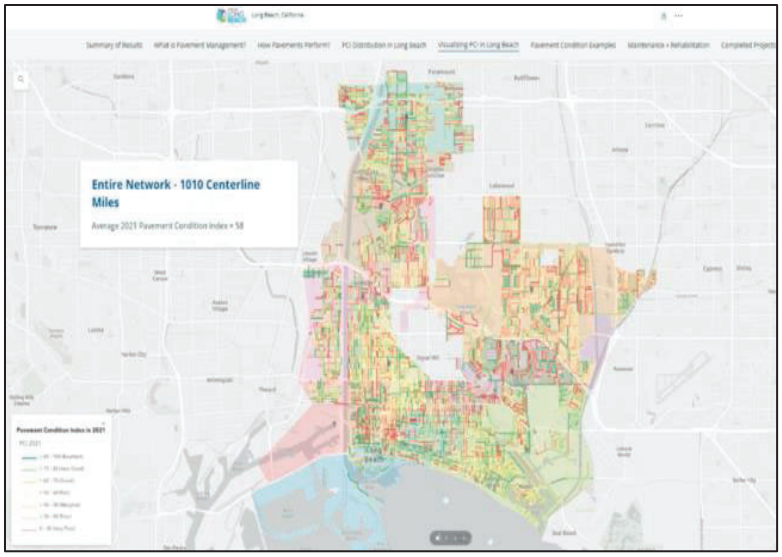
IMS Infrastructure Management Services, LP

Jim Tourek, Client Services Manager

Pgs. 13 – 14 highlighted some additional services captured above:

Optional: Esri Story Map

IMS is an Esri Authorized Business Partner and an early adopter of Esri technologies. The partnership between IMS and Esri makes unparalleled industry and subject matter expertise available to our clients. Our team of GIS experts are focused on building easy-to-use and easy-to-maintain web-based, geocentric story maps and dashboards to serve not only our clients, but also their constituents. These tools provide a dynamic way to present complicated information visually. Many agencies are already using Esri software and ArcGIS Online, and we look for ways to leverage that existing licensing, subscriptions, and infrastructure to elevate the data we are delivering. We have built story maps for clients to help explain to citizens how a pavement survey works, how the analysis is performed, and how the maintenance and rehabilitation budgets are distributed to maximize the use of scarce funding. In addition to the story maps, we have also deployed agency-focused dashboards to enable managers to easily review the planned work, existing and forecasted conditions, and funding impacts on a map.



IMS interactive Esri GIS story map: City of Long Beach, CA

Project Highlight: Long Beach, CA
Link to live story map: Long Beach Story Map

IMS is working with the City of Long Beach, CA to web-enable their pavement management plan to engage citizens in the pavement management process. To facilitate this activity, IMS has authored and deployed an Esri Story Map that shares complex engineering information in an easy to understand public-facing framework. A second, password protected configuration as a dashboard exists that allows City engineers to access additional information and data.

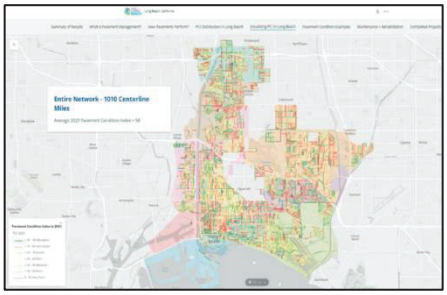
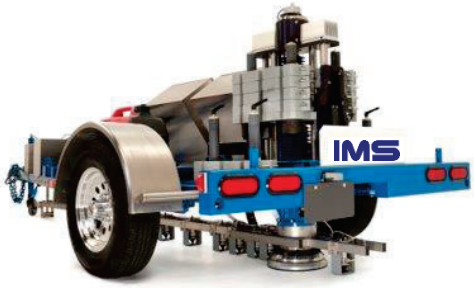
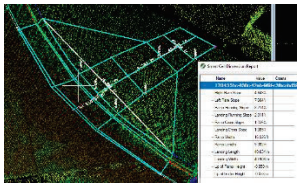
Deliverables

The following products can be delivered to the City:

- Report summarizing the findings of the pavement condition survey
- Client Review Spreadsheet (CRS) with inventory, charts, and graphs
- Esri geodatabase containing updated pavement information including distress information
- Signs geodatabase and multiple views of imagery along with a viewing tool.

Additional Value-Added Services

On the following page, the table presents additional services that the IMS Team can provide for this project. We have performed these services for agencies in Arizona and across the United States to assist agencies in better managing their pavement, sidewalk, and asset inventories.

Technology	Value Added	Photo
Right of Way Asset Collection	Imagery collected during the RST survey can be used to build ROW asset inventories and condition assessments for signs, signposts, curb and gutter, sidewalks, ramps, striping, and many other assets. A subconsultant will be added to the team if this is selected.	
Story Map and/ or Dashboard	IMS is an Esri Authorized Business Partner and an early adopter of Esri technologies. The partnership between IMS and Esri makes unparalleled industry and subject matter expertise available to our clients. Our team of GIS experts are focused on building easy-to-use and easy-to-maintain web-based, geocentric story maps and dashboards to serve not only our clients, but also their constituents. Link to a live story map: Long Beach Story Map	 *IMS interactive Esri GIS story map:*
Fast Falling Weight Deflectometer (FastFWD)	Deployed for measuring pavement structural capacity and pavement layer stiffness values. This information is combined with pavement distress data to better predict future performance and fine-tune rehab activities. This is frequently used to determine when overlays are no longer effective, and reconstruction is needed.	
Sidewalk Surface Tester (SST)	Deployed 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 provide agencies with comprehensive sidewalk condition data that may be used in combination with Lidar sidewalk ramp data to develop detailed ADA transition plans.	
Mobile LiDAR for Sidewalk Ramp Assessments	Deployed to supplement right-of-way inventory surveys by creating a three-dimensional point cloud from which measurements can be extracted. The integrated Ladybug 5+ camera captures high-resolution spherical imagery at defined intervals.	 

Infrastructure Management Services
Powered by ICC

IMS Infrastructure Management Services
10630 75th Street North
Largo, Florida 33777
(727) 547-0696
www.imsanalysis.com

March 26, 2024

Mary K. Hamann, PE | Civil Engineer III
City of Louisville
749 Main St.
Louisville, CO 80027

Re.: Proposal for Professional Services – Pedestrian Curb Ramp Assessment

Mary,

IMS Infrastructure Management Services is pleased to submit our quotation in response to the City of Louisville's recent request.

IMS brings significant regional experience and expertise to meet the City's pedestrian curb ramp condition and ADA compliance assessment. IMS has completed similar projects for Fort Worth, Dallas, and Baytown, TX. In addition, we have completed similar projects for Atlanta, GA; Fontana, Porterville, and Upland, CA; Bremerton, WA; North Lauderdale, and Deltona, FL; with we are currently under contract with Moreno Valley, Morgan Hill, Corona, CA; Prince George's County, MD; Davie, New Smyrna Beach, and St. Lucie County, FL.

The fee proposal presented herein is based on the City's estimated:

- 1,300 pedestrian curb ramps

Deliverables will include:

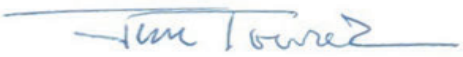
- Geodatabase, containing collected pedestrian curb ramp data.
- Network level maintenance recommendations based on the City's current practices for:
    - Pedestrian curb ramps

Our successful project approach is centered on four principles:

- **Commitment to working closely with City staff.** We understand that every community is unique. Our services are customized to meet your specific needs, ensuring a tailored approach to your infrastructure challenges. We work alongside your staff to ensure all project goals are met or exceeded using the most cost-effective assessment and management methods.
- **High-quality support focused on accurate data and informed decisions.** We believe in the power of objective and repeatable data. Our analyses are rooted in accuracy, ensuring that you have the information needed to make the best decisions for your community.
- **End-to-end solutions.** We have invested in providing professional services powered by end-to-end software solutions, enabling you to make informed decisions with ease.
- **Think outside the box to maximize your return on investment.** We have encountered many issues that similarly sized agencies face and understand the importance of high-quality curb ramp and asset condition data to plan for and justify necessary funding. When you choose IMS, you gain a dedicated partner. Our support backed by decades of proven experience results in better outcomes and often translates into direct program cost savings.

Thank you again for the opportunity to speak with you about our services. Please don't hesitate to reach out with any questions you may have or if I can further assist. I can be contacted by phone at **(480) 741-1847** or by email at jtourek@imsanalysis.com.

Best regards,
International Cybernetics Company, LP dba
IMS Infrastructure Management Services



Jim Tourek
Client Services Manager

Firm Overview

Founded in 1985, IMS has operated continuously as the premier municipal pavement and right of way (ROW) asset management firm in the United States and Canada. IMS was the first firm to bring automated pavement evaluation to the North American market, and we have kept that innovative mindset by continuing to implement state-of-the-art data collection and processing technologies. In May of 2022, IMS merged with International Cybernetics Company, LP. ICC manufactures precision pavement testing equipment. The combination of IMS and ICC yields decades of experience with pavement engineering and analysis, software development, automated data collection equipment manufacturing, and ROW mapping.

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

- ROW asset inventory development using 360-degree imagery and mobile lidar.
- Data visualization services using dashboards, Story Maps, and web applications built on GIS.

Esri Bronze Partnership

Our engineers and data processing team members are well versed in GIS. It is an essential skill given our reliance on georeferenced data for data collection, processing, reporting, and visualization. As an Esri Bronze Partner, IMS uses Esri desktop software and ArcGIS Online – software that many agencies are already using. We look for ways to leverage our clients' existing licensing, subscriptions, and infrastructure to elevate the data we deliver. IMS has built Story Maps for clients to help explain to agency staff and constituents how a curb ramp condition survey is performed, what the data means and how the data enhances an agency's ADA Transition Plan.

FIRM QUALIFICATIONS

- **38 years of experience** helping cities and counties assess, analyze, and manage pavements and ROW assets, **with successful project delivery for more than 1,000 municipalities** in that time.
- **Project teams led by Professional Pavement/Infrastructure Engineers**
- **87 employees** across the United States and Canada**, including 10 engineers – five possessing PhDs**
- Extensive experience with more than **15 pavement and asset management systems**, including, AgileAssets, Cartegraph OMS, Cityworks, Lucity, PAVER, StreetLogix, StreetSaver, VUEWorks, and others.
- **Largest fleet of second-generation Sidewalk Surface Tester (SST) systems dedicated to municipal sidewalk management in the United States**
- Streamlined collection, processing, and data visualization using our Unify™ software suite.

Project Approach

As an innovator in pedestrian curb ramp assessments, we offer several solutions to meet our clients' diverse needs and optional services to add value to their projects. We look for ways to incorporate asset inventory development with traditional curb ramp data collection projects to both reduce budget impacts and provide economy of scale.

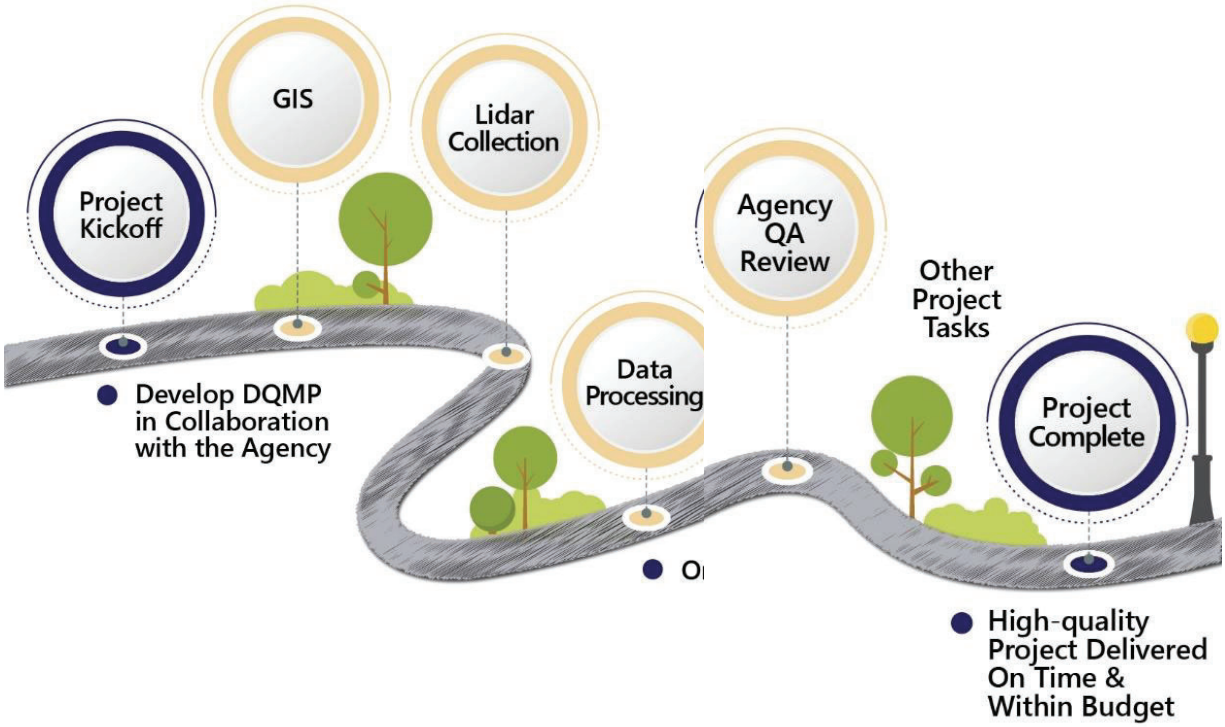
Our unique curb ramp assessment approach delivers the following benefits:

- Flexible industry standard data outputs (Excel, Access, shape files, geodatabase, and KML/KMZ).
- Value-added services to streamline the decision-making process for ramp management for the benefit of an ADA Transition Plan.

IMS continuously improves the quality of data collection on curb ramps for our clients' ADA transition planning. Today, we offer multiple solutions for accurate ramp slope measurements, including Lidar data collection and point cloud extraction, the approach that is being proposed within.

Project Approach

IMS has standardized a project approach based upon our four decades of pavement, curb ramp, and asset inventory management experience and subsequent lessons learned. Our approach to the agency's curb ramps assessment project will follow the seven steps shown in the figure below. In this section, we detail the specific tasks that are required for successful project completion.



Scope of Work

Task 1: Project Initiation and Kickoff Meeting

We will schedule a kickoff meeting to confirm all details of the project with you and the project stakeholders. Based on discussions with you during the project initiation and kickoff meetings, we will develop a project-specific version of our standard Quality Management Plan (QMP) for the project. The QMP will address all quality control (QC) and quality assurance (QA) aspects of project planning and execution as well as data collection, QC monitoring, QA, and delivery.

A critical component of project preparation is ensuring the Master Asset List (MAL) is understood and accepted before the project begins. The MAL acts as a data dictionary and gives full transparency into what curb ramp attribute data can be expected to be included in the final curb ramp database. It also includes all assumptions made about each attribute domain and type, so any subjectivity during rating can be understood clearly. We will ensure that the plan, including the MAL, remains current with any further data needs. This ensures transparency and acts as a reference point for all stakeholders involved with the project.

Task 2: GIS Linkage and Survey Mapping

Shortly after the kickoff meeting, our GIS experts will review the agency provided curb ramp network files (expected in an Esri GIS file format) that define the routes to be collected. Together we will make any necessary updates to your data to create an accurate inventory of the route network to be surveyed. The finalized route network will be loaded into our Drive™ software, which defines the network segmentation and attribution to be collected and delivered, minimizing routing problems and location errors. The GIS files will include attributes such as curb ramp section ID, street name, street type, beginning description, ending description, start reference, and end reference for each segment.

Task 3: Data Collection

We will deploy the appropriate data collection technologies to meet the project goals and objectives. The most common technologies that we deploy include our mobile Lidar systems.

Mobile Lidar for Pedestrian Curb Ramps

To collect pedestrian curb ramp measurements, we will deploy our mobile lidar system. Collected lidar data will be processed in Microstation using IMS' custom "smart cell" technology to extract pertinent ramp ADA measurements, such as slopes, cross slopes, turning areas, and other attributes.

Task 4: Data Processing and Curb Ramp Data Extraction

Once the survey is complete, the curb ramp distress locations will be reported in a GIS database. The data that we provide may be used immediately for decision making or be imported into any pavement management software or incorporated into an ADA Transition Plan for additional analysis and reporting.

Task 5: Signature Multi-step QC/QA Review

IMS has developed a unique approach to curb ramp surveys by coupling the power of automated algorithms with the manual review of distress data. Our team has an expert understanding of the capabilities and limitations of the data collection technologies and the sophisticated algorithms that we employ. This rigorous QC/QA process provides an added measure of confidence that the automated distress detection and classification algorithms have performed accurately.

Our signature QC/QA process is comprehensive and makes use of field observations, automated data processing tools, manual data review by our QC team, independent review by our QA manager, and lastly your final review and approval.

Task 6: 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 included in the final report. This workshop style meeting is an opportunity to clarify any final questions and to discuss other ways in which IMS can support your curb ramp management program in the future.

Price Estimate

The following estimate was prepared using preliminary information and base services.

Lidar-based Pedestrian Curb Ramp Condition and ADA Survey

Louisville, CO: Curb Ramps Base Scope of Services

IMS 2024 Curb Ramp Detailed Assessment: Estimated 1,200 Ramps

LiDAR - Pedestrian Ramp ADA Compliance Survey

Task	Activity	Qty	Units	Unit Rate	Discount	Total
	Project Initiation					
L-1	Project Initiation & Kickoff	1	LS	$2,500.00		$2,500.00
L-2	Curb Ramp Network Referencing & GIS Survey Prep	199	T-Mi	$27.50		$5,472.50
L-3	Master Asset List Development	1	LS	$2,500.00		$2,500.00
	Field Surveys					
L-4	Lidar Mounted Unit Mobilization/Calibration	1	LS	$2,925.00		$2,925.00
L-5	Lidar ADA Pedestrian Ramp Field Data Collection **(99.5 CL Miles, 2-pass All)**	199	T-Mi	$60.00		$11,940.00
	Data Management					
L-6	Ramp Data Processing and QC/QA	1,300	EST. # Ramps	$12.00		$15,600.00
L-7	Process & Deliver Ladybug ROW imagery	1	LS	$7,500.00		$7,500.00
L-8	Aggregate Condition Data into Final Geodatabase	1	LS	$2,331.50		$2,331.50
				Curb Ramp ADA Survey Total:		**$50,769.00**