Attachment A

10630 75th Street
Largo, FL 33777

+1 727-547-0696

www.icc-ims.com

THIS CONTRACT AGREEMENT ("Contract") is entered into on by and between:

International Cybernetics Company, LP (ICC) d/b/a IMS Infrastructure Management Services ("Consultant") with its principal office at 10630 75th Street, Largo, FL 33777, Phone: 727-547-0696 and Keller, TX with its principal offices at , Keller, TX Phone: 817.743.4400 ("Client"). Consultant and Client may hereinafter be referred to collectively as the "Parties."

RECITALS

WHEREAS, Consultant agrees to fulfill and perform the work as set forth under Scope of Work (**Fee Proposal**), and Client agrees to fulfill its obligations, including providing information required for project setup and compensating the Consultant as set forth under pricing (**Fee Proposal**);

NOW, THEREFORE, the Parties hereto, intending to be legally bound, do hereby agree that the project overview and Pricing below accurately reflect the work to be performed and the price to be paid; and

The Parties accept the standard terms and conditions of sale as described in the attached (Appendix **D**); and

The Parties agree that any modifications to the scope of work or pricing will be agreed to in writing and explicitly acknowledged by both Parties in order to be binding, and

The Parties agree that any agency, current or future, within the same state shall be allowed to participate in this agreement during the life of the contract, even if it is not listed amongst the solicitation participants. While this clause in no way commits an Agency to purchase from Agency's awarded contractor, nor does it guarantee any additional orders will result, it does allow Agencies, at their discretion, to make use of Agency's competitive process (provided said process satisfies their own procurement guidelines) and purchase directly from the awarded contractor. All purchases made by other Agencies shall be understood to be transactions between that Agency and the awarded vendor; the Agency shall not be responsible for any such purchases.

IN WITNESS WHEREOF, this Contract is entered into as of the day and year written above. The Client and Consultant hereby represent and warrant to each other that each of the signers below have the right, power, legal capacity, and authority to enter into and bind the corresponding organization to perform its obligations under this Contract, and that the signature and execution of this Contract has been duly authorized.

Reference Project Overview for scope of work and fees, a total of **$95,430.00**.

International Cybernetics Company, LP d/b/a IMS Infrastructure Management Services	City of Keller, TX
Date: _____	Date: _____
By: _____	By: _____
Printed Name: _____	Printed Name: _____
Title: _____	Title: _____

11/19/2025

City of Keller, Texas
Alonzo Liñán, PE, Director of Public Works
Email: alinan@cityofkeller.com
Phone: (817) 743-4081

Re: Keller-TX [2026 PCI into ESA, plus ROW (TX Share)]

Dear Alonzo,

IMS Infrastructure Management Services (IMS) is pleased to present this fee proposal and SOW for a roadway pavement condition survey for Keller. 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 +6239809357 or by email at jtourek@icc-ims.com.

Best regards,

International Cybernetics Company, LP d/b/a
IMS Infrastructure Management Services

Jim Tourek, Client Services Manager

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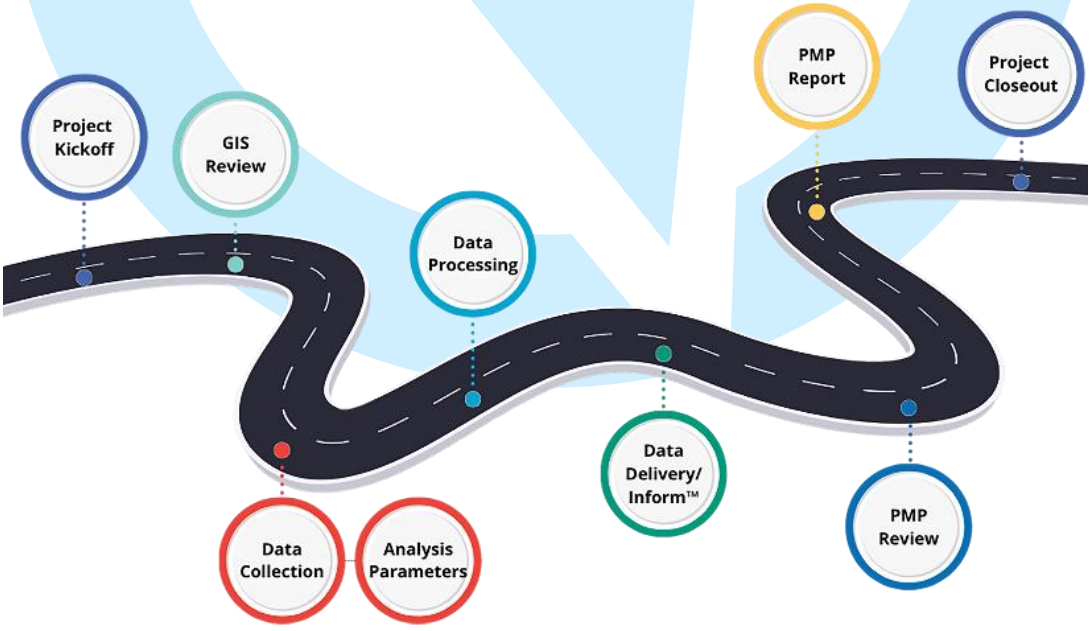
Project Overview

The primary objective of this project is to collect the stated **278 test miles of roadway, including an estimated 12 miles of alleys, and the 6 miles of parking lots from the 2019 survey** condition data. To ensure adequate coverage across the roadway network, we survey major roads, typically arterials and collectors in both directions (+/-42 centerline miles) and all remaining roads in one direction (locals, alleys, parking lots +/-194 CL miles). 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.



Deliverables

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 **for new/first-time instances only**.)*

05

Additional Value-Added Services

If applicable, based on our discussions with you, this budgetary estimate includes information and pricing on additional value-added services, described in more detail below.

Statement of Participation/Compliance with TXShare/Pavement Analysis Services Offerings:

Participating entities can choose from a variety of menu options within pavement analysis services, including digital image collection, ADA ramp location and configuration, Pavement Condition Index (PCI) scores, budget estimates, and training.

Contract Administrator: Charlie Oberrender, CPPB **AGREEMENT #: 2022-063**
Purchasing Agent, Office: (817) 695-9289 Cell: (281) 610-8914
coberrender@nctcog.org

Term End Date: 11/30/2028 https://txshare.org/available-contracts/pavement-analysis-services/infrastructure-management-services-inc

TX Share Rates shown on the following page:

IMS Fee Proposal – TX Share Rates = $95,430.00 & Discounted <$2,741.20>

Keller-TX [2026 PCI into ESA (TX Share)]

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	278	$115.00	$31,970
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	278	$1.00	$278
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	278	$1.00	$278
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	278	$1.00	$278
6	Perform friction testing	Lane Mile[1]	(OR: see below)	$195.00	$160.00	$150.00		278		$0
7	Measure lane striping reflectivity quality	Lane Mile[1]		$50.00	$50.00	$50.00		278		$0
Service Category #3: Pavement Management Analysis										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	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	278	$1.00	$278
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 E3303. Provide results compatible with the Participant's GIS database, if applicable.	Lane Mile[1]		$20.00	$15.00	$12.00	x	278	$15.00	$4,170
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	278	$1.00	$2,278
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	278	$1.00	$4,778
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	278	$1.00	$3,278
26	Recommend the computer hardware and software needed for successful implementation, potentially including recommendations for licenses of pavement management system software and other geodatabase software as needed.	Each Participant	$1,500.00							$0
27	Train Participant staff and provide assistance to the Public Works and IT Department as needed for the use of data collected through the fully automated system. **(20 person maximum per class)**	Day	$3,500.00							$0
Service Category #4: Electronic Products										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	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 i. in Exhibit B	Lane Mile[1]		$5.00	$3.00	$2.00	x	278	$3.00	$834
29	Collect digital images at 25-foot intervals of the road surface condition and link to a geodatabase (minimum forward facing imagery).	Lane Mile[1]		$15.00	$10.00	$5.00		278		$0
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	278	$4.00	$4,612
31	Implement map module so that pavement condition and other data can be integrated, displayed, and accessed through the map interface in a format consistent with the Participant's horizontal and vertical control network system, if applicable. **Cost includes base cost plus lane mile unit cost.**	Each Participant	$7,000.00	$0.00	$5.00	$5.00		278		$0
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	278	$8.00	$3,724
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	278	$0.00	$2,500
Service Category #7: Value Added Services										
			Provide Price Per Tiered Group					A	B	C=AxB
Activity #	Activity Description	Unit	Unit Base Cost ($)	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
0.0	Existing IMS Client Discount	Each Participant	-$2,741.20				x		-$2,741.20	-$2,741.20
0.4	Sign & Supports - Combined - Discounted Rate	Lane Mile[1]		$75.00	$75.00	$75.00	x	278	$75.00	$20,850
0.4	Pavement Markings - Point	Lane Mile[1]		$17.00	$17.00	$17.00	x	278	$17.00	$4,726
0.4	Pavement Striping - Linear	Lane Mile[1]		$26.40	$26.40	$26.40	x	278	$26.40	$7,339.20
0.4	Inform Web-Hosted Viewer (90 Days Trial/Free	Each Participant	$2,000.00				x	Year 1 Included	$2,480.00	$0
						IMS TOTAL				**$95,430.00**

Fee Proposal – IMS Format

Keller-TX [2026 PCI into ESA, plus ROW (TX Share)]

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

Fee Proposal					
Name	Qty.	Units	Price	Disc.	Total Price
Project Setup and Kickoff	1	Lump Sum	$3,300.00		**$3,300.00**
Project Management	1	Lump Sum	$2,299.80		**$2,229.80**
GIS Review and Survey Extents Verification	236	Centerline Miles	$15.00		**$3,540.00**
Mobilization/Calibration	1	Lump Sum	$2,925.00		**$2,925.00**
Field Data Collection with 6 Miles of Parking Lots - IrisPRO Pave	266	Test Miles	$92.00		**$24,472.00**
Field Data Collection - IrisPRO Pave – ALLEYS (Estimated 12 Miles)	1	Lump Sum	$3,000.00		**$3,000.00**
Data Processing: Alley Condition Rating (Including QC/QA) - According to Standard Data Dictionary	1	Lump Sum	$500.00		**$500.00**
Data Processing: Enhanced ASTM D6433 (Including QC/QA) - According to Standard Data Dictionary	266	Test Miles	$33.00		**$8,778.00**
Condition Data Delivery (Standard Geodatabase/Tabular Format Only)	1	Lump Sum	$1,300.00		**$1,300.00**
Year to Year Data Comparisons - Prior Data Collected by ICC-IMS > 3 Years Ago (QC/QA Team)	266	Test Miles	$7.50	100%	**$0.00**
Easy Street Analysis (ESA) Pavement Management Plan/Analysis - Draft	1	Lump Sum	$9,500.00		**$9,500.00**
Draft Pavement Management Report	1	Lump Sum	$2,400.00		**$2,400.00**
Final Pavement Mgt. Report and Analysis Results	1	Lump Sum	$500.00		**$500.00**
Inform - <400 miles: 1-Year Included, Includes Data Hosting	1	Lump Sum	$2,480.00	100%	**$0.00**
			Sub-Total:		**$62,514.80**

Sign & Supports Combined Rate	278	Test Miles	$75.00		**$20,850.00**
Asset Inv: Pavement Markings - Point	278	Test Miles	$17.00		**$4,726.00**
Asset Inv: Pavement Striping - Linear	278	Test Miles	$26.40		**$7,339.20**
			Total Price:		**$95,430.00**

Optional Value-Added Service Fees/Rates

Annual Inform - <400 miles: Including Data Hosting	1	Per Year, after 1st Yr. Included	$2,480.00		**$2,480.00**

Optional Value-Added Service Activities - Cost Estimates				
Name	**Qty.**	**Units**	**Price**	**Total Price**
FastFWD Structural Testing - Recommended 2-Pass Test for Major Roads				
a. Mobilization/Calibration (FFWD)	1	Lump Sum	$2,925.00	$ 2,925.00
b. Field Data Collection - Fast Falling Weight Deflectometer (FFWD)	83	Test Miles	$ 150.00	$ 12,450.00
c. Traffic Control for Deflection Testing (if applicable/necessary - roads over 40MPH)	0	Hours	$ 200.00	$ -
d. Data Processing: Standard FFWD (Including QC/QA)	83	Lump Sum	$ 34.10	$ 2,830.00
e. Structural Testing (FWD) Incorporated into ESA Deliverable to Determine Structural Index	83	Test Miles	$ -	$ -
			Total FWD	**$ 18,205.00**
g. Optional - Color Coded GIS Map - Based on Structural Index (SI) (PDF)	1	Lump Sum	$ 1,500.00	$ 1,500.00
Right of Way (ROW) Asset Extraction - *Using Standard Data Dictionary Attributes*				
Crosswalks	278	Test Miles	$ 13.60	$ 3,780.80
Curb & Gutter	278	Test Miles	$ 17.60	$ 4,892.80
Curb Markings	278	Test Miles	$ 17.00	$ 4,726.00
Drainage Ditches	278	Test Miles	$ 17.60	$ 4,892.80
Drainage Structures (Inlets)	278	Test Miles	$ 27.20	$ 7,561.60
Driveway Aprons	278	Test Miles	$ 34.00	$ 9,452.00
Fence	278	Test Miles	$ 17.60	$ 4,892.80
Fire Hydrants	278	Test Miles	$ 17.00	$ 4,726.00
Guardrail/Guiderail	278	Test Miles	$ 17.60	$ 4,892.80
Landscaping	278	Test Miles	$ 44.00	$ 12,232.00
Manhole Covers	278	Test Miles	$ 23.80	$ 6,616.40
Pavement Striping - Linear	278	Test Miles	$ 26.40	$ 7,339.20
Pavement Markings - Point	278	Test Miles	$ 17.00	$ 4,726.00
Retaining Walls	278	Test Miles	$ 17.60	$ 4,892.80
Pedestrian Curb Ramps	278	Test Miles	$ 20.80	$ 5,782.40
Sidewalks	278	Test Miles	$ 17.60	$ 4,892.80
Signs	278	Test Miles	$ 57.80	$ 16,068.40
Sign & Supports - Combined - Discounted Rate	278	Test Miles	$ 75.00	$ 20,850.00
Sound/Noise Barriers	278	Test Miles	$ 17.60	$ 4,892.80
Street Furniture	278	Test Miles	$ 27.20	$ 7,561.60
Street Lights	278	Test Miles	$ 40.80	$ 11,342.40
Traffic Signals and Flashers	278	Test Miles	$ 23.80	$ 6,616.40
Trees	278	Test Miles	$ 51.00	$ 14,178.00
Utility Poles	278	Test Miles	$ 40.80	$ 11,342.40
Valves	278	Test Miles	$ 34.00	$ 9,452.00
Pavement Management as a Service (PMaaS) - Standard - *Annual subscription, ongoing PMP updates*	1	Lump Sum	$ 10,500.00	$ 10,500.00
Pavement Management as a Service (PMaaS) - Expert - *Annual subscription, ongoing PMP updates*	1	Lump Sum	$ 16,000.00	$ 16,000.00
Pavement Story Map for External Viewers, Standard, With Hosting for 1 year	1	Lump Sum	$ 7,500.00	$ 7,500.00
a. Years 2 - 4 Annual Updates of Rehabs; + *hosting fees of $1.20 per mile (if applicable)*	3	Lump Sum	$ 2,000.00	$ 6,000.00
Pavement Condition Dashboard for Client Internal Viewing, Standard, With Hosting for 1 year	1	Lump Sum	$ 5,500.00	$ 5,500.00
a. Years 2 - 4 Annual Updates of Rehabs; + *hosting fees of $1.20 per mile (if applicable)*	3	Lump Sum	$ 2,000.00	$ 6,000.00
City Council Presentation - Virtual	1	Lump Sum	$ 3,500.00	$ 3,500.00
a. Add for an Onsite Presentation	1	Lump Sum	$ 2,500.00	$ 2,500.00
Non-Standard Written Report (Min. 8-Hours; beyond at Hourly Rate)	8	Hours	$ 189.00	$ 1,512.00
Additional or Specialty Maps for Reporting (In Addition to Maps in Standard Report)	1	Lump Sum	$ 750.00	$ 750.00
Additional Printed/Hard Copies of the Standard Final Report	2	Lump Sum	$ 500.00	$ 1,000.00
Sidewalk Condition Survey via Sidewalk-Surface Tester (SST) Data Collection	(Available Upon Request)			
Pedestrian Curb Ramp Non-Compliance Survey & Analysis via Mobile Lidar Data Collection	(Available Upon Request)			
Easy Street Analysis (ESA) - Pavement Management Plan/Analysis	Included in Base Activities (ESA)			
a. "ESA - Easy Street Analysis" Pavement Management Spreadsheet Software				
b. Customizable Prioritization & Cost-Benefit Analysis				
c. Unlimited Access - Training Library				
d. Online ESA Spreadsheet Training via Teams				

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!***

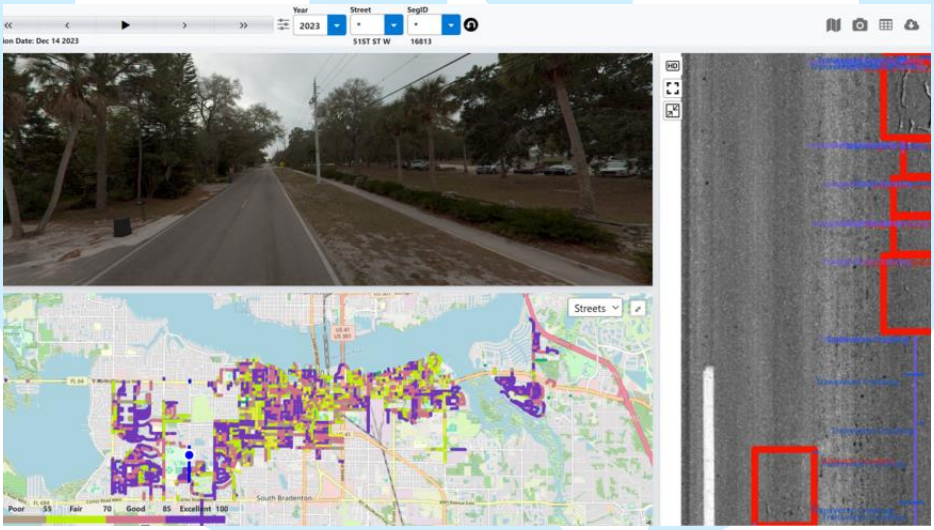
Industry-Leading Technologies

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

Easy Street Analysis (ESA) Overview

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.

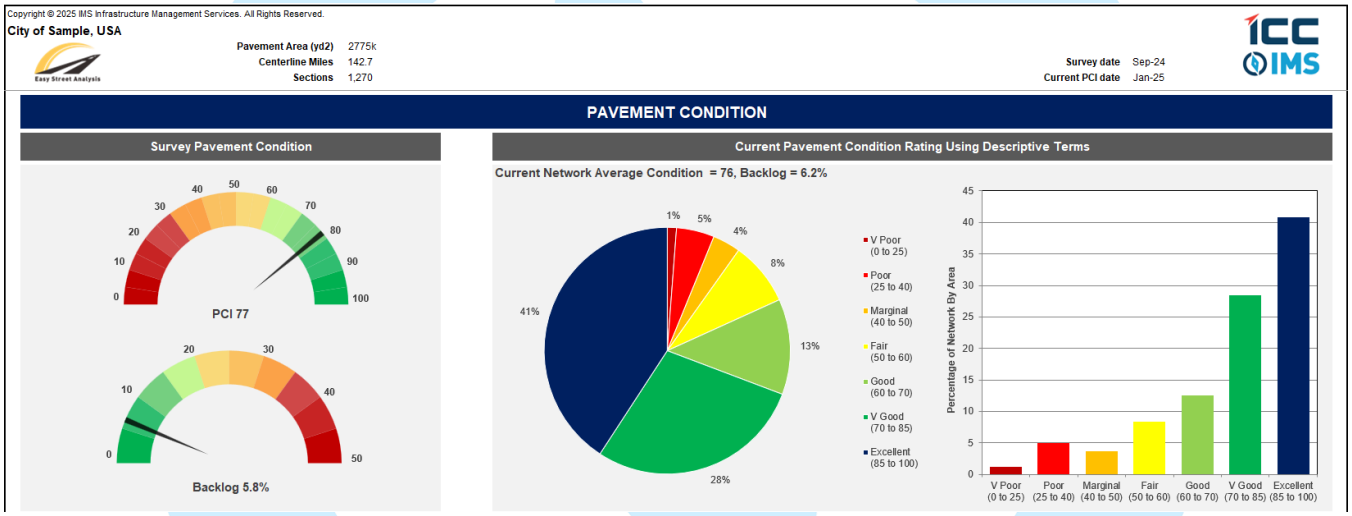
For the pavement analysis results to be practically useful to the agency, IMS endeavors to work closely with every client agency to select appropriate parameters. The IMS pavement engineer will work with the client to select and define the analysis parameters. These include:

- 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

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		

Refresh

Run ESA

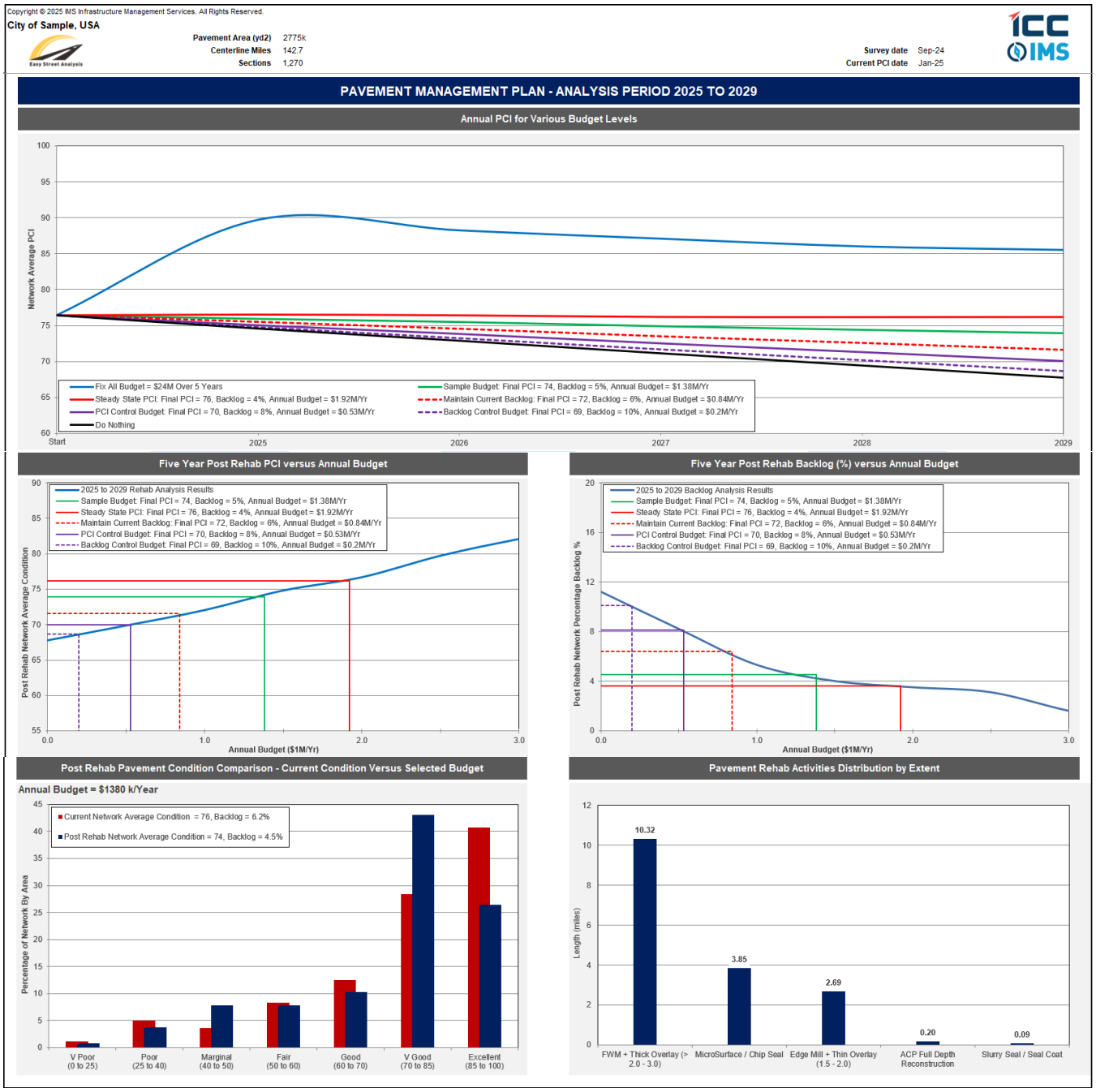
Agency Budget

Inventory and Rehab Plan

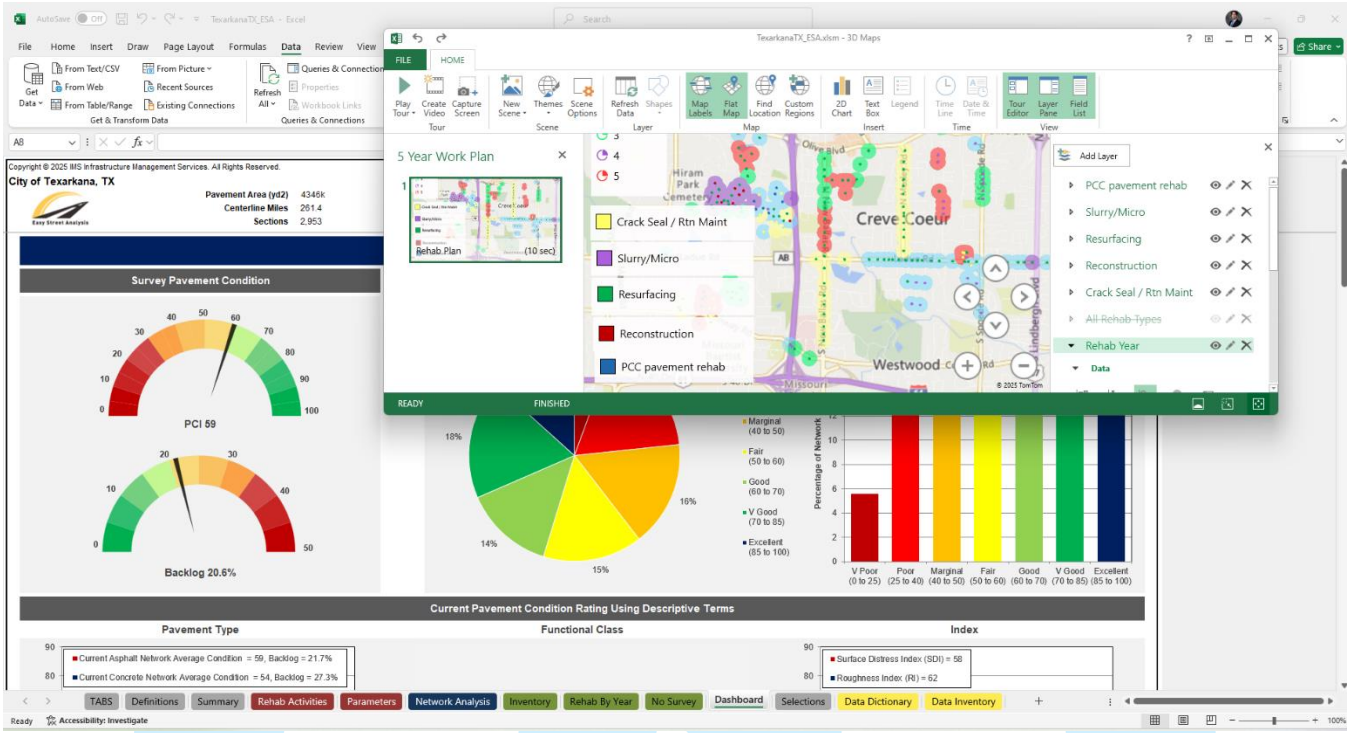
Easy Street Analysis

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

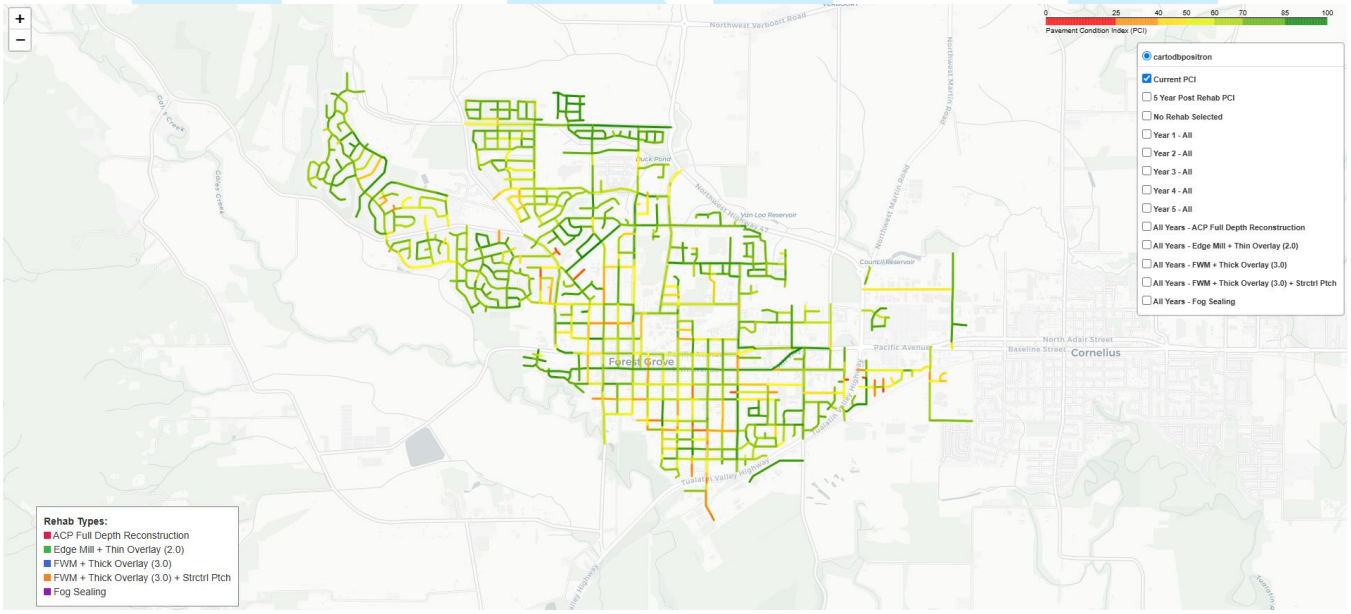
ESA has a straightforward design with simplified buttons to allow for agile review of recommended solutions for selected segments. The total budget and annual breakdown of each year of the respective analysis and network-level evolution of PCI and backlog are summarized.



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

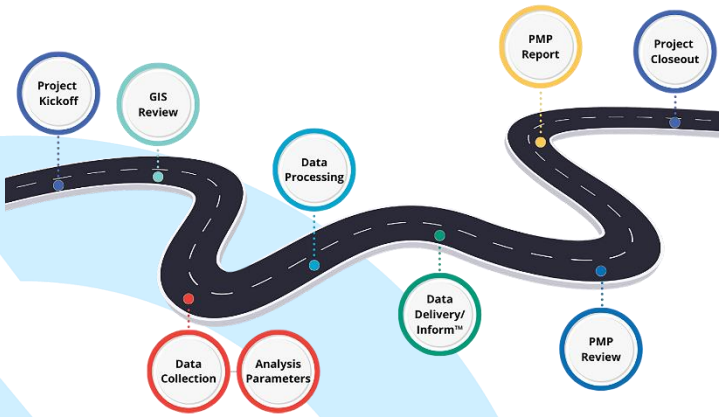
- Increase analysis period from 5 years to 10 years (ESA fee is multiplied by two (2))
- Additional budget breakdowns, other than one value in $/YR *(specific scoping required by pavement engineer)*
- Conversion of rehab unit rates to $/SY *(specific scoping required by pavement engineer)*
- Conversion 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)*
- Client GIS 1-to-1 synchronization with ESA via one of our trusted partners, NewEdge.
- ESA Viewer - Full GIS Map, Allows for Client Updating of Map Scenarios from 5-Year Plan *(Priced as a $2,000 one-time cost add-on; a lightweight software installation is required that allows for regeneration of maps of your pavement management plan. As part of the core ESA deliverable, a map is generated. ESA Viewer allows for unlimited map refreshing if you make updates to the plan. Allows for viewing in any current web browser).*

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.

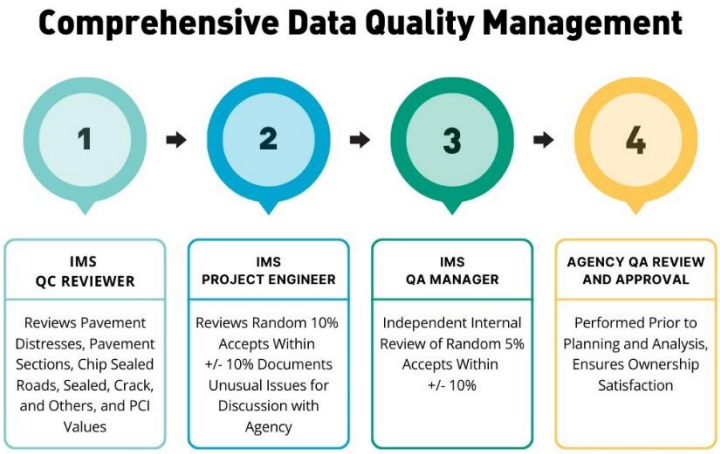
Step 3: Data Collection

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.

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.

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.

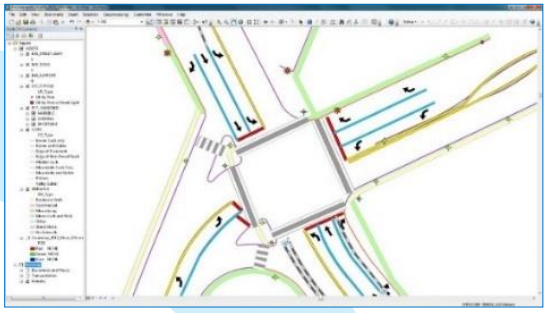
Step 7: Project Closeout

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

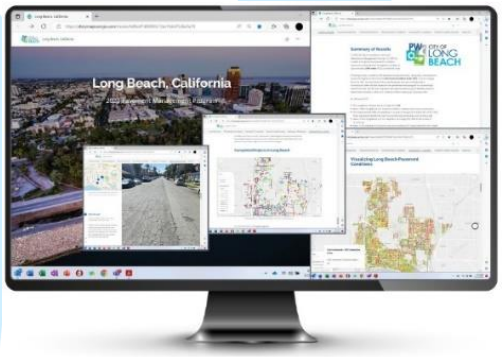
Right of Way (ROW) Asset Collection (e.g., signs, markings, curb, and gutter, etc.)

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.



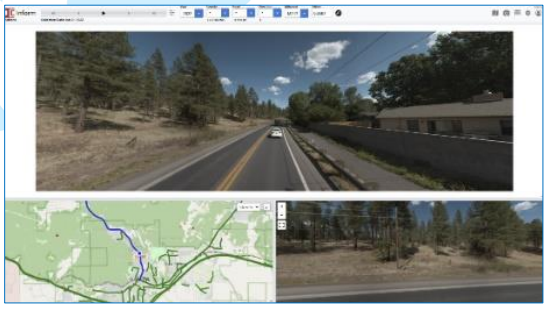
Web-based GIS Visualization via StoryMaps and Dashboards

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.



Structural Testing with a Fast-Falling Weight Deflectometer (FastFWD)

IMS offers additional pavement testing techniques to enhance decision-making and project prioritization.

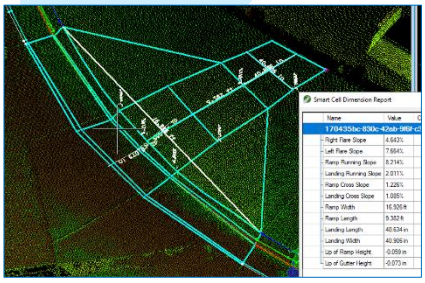
The FastFWD applies a dynamic load to the pavement surface to measure structural capacity and pavement layer stiffness values.

We integrate the structural index (SI) as a component of each roadway's final PCI to help you better predict future performance and fine-tune rehabilitation activities, such as determining when to reconstruct vs. mill and overlay.

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			xxxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxxx		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.
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			xxxxxxxxxx		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			xxxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxxx		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			xxxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxxx		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			xxxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxxx		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.
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.xxxxxxxx	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			xxxxxxxxxx		6539	Unique Segment ID as per the client provided network GIS
B	Road			xxxxxxxxxx		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.
BV	Start_Coords__LON_	Decimal Degrees		xx.xxxxxxxx	8	-82.4893195	Longitude at start of segment in decimal degrees (WGS84)
BW	End_Coords__LAT_	Decimal Degrees		xx.xxxxxxxx	8	27.8841875	Latitude at end of segment in decimal degrees (WGS84)
BX	End_Coords__LON_	Decimal Degrees		xx.xxxxxxxx	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.

Appendix D ñ Terms & Conditions

1. DEFINITIONS
   a. In these Terms and Conditions of Sale, “Consultant” means International Cybernetics Company, LP and IMS Infrastructure Management Services and, if related to service work within the country of Canada, International Cybernetics Canada, Inc.; and
   b. Client” means the person, firm, organization, or corporation by whom the purchase order is given.
   c. “Services” means data collection, processing, analysis, consulting, training, and similar activities performed by Consultant for the Client.

2. THE CONTRACT
   a. All purchase orders must be received in writing and are accepted subject to these Terms and Conditions of Sale. No terms or conditions put forward by Client and no representations, warranties, guarantees or other statements not contained in Consultant's quotation or acknowledgement of order nor otherwise expressly agreed in writing by Consultant shall be binding on Consultant.
   b. The Contract shall become effective only upon the date of acceptance of Client's order. Such acceptance will be by a mutually executed contract (including the one attached hereto), task order, notice to proceed, and all necessary Client-provided deliverables to allow the Consultant to perform on contract, such as road network definition (GIS), analysis parameters, etc., or upon the date of fulfilment of all conditions stipulated in the Contract (the “Effective Date”).
   c. No alteration or variation to the Contract shall apply unless agreed in writing by both parties. However, Consultant reserves the right to effect minor modifications and/or improvements to the final deliverables of services before delivery provided that the performance of the Services is not adversely affected.
   d. The Client, having taken full note of the characteristics of the services sold by Consultant, particularly on the basis of the indications provided in documentation, catalogues and, where applicable, during presentations given by Consultant, has satisfied itself as to the suitability of the Services for its own needs. Where it has not contacted Consultant for any additional details prior to the acceptance of the order, the Client acknowledges that it has been adequately informed.

3. VALIDITY OF QUOTATION AND PRICES
   a. Unless previously withdrawn, Consultant's quotation is open for acceptance within the period stated therein or, when no period is so stated, within sixty (60) days after its date.
   b. Prices are firm for delivery within the period stated in Consultant's quotation and are exclusive of (i) Sales Tax and (ii) any similar and other taxes, duties, levies or other like charges arising outside the State of Florida in connection with the performance of the Contract.

4. PAYMENT
   a. Payment shall be made according to the Consultant’s standard payment terms, unless defined otherwise in the Contract. The “Effective Date” shall in no case be earlier than the date on which the first payment is received by Consultant. Standard payment terms for Services are monthly progress payments based on services rendered during the month at the unit prices defined in the Contract. Invoices for Services will be dated on or before the last day of each month.
   b. Payment shall be made: (i) in full without set-off, counterclaim or withholding of any kind (save where and to the extent that this cannot by law be excluded); and (ii) in the currency of Consultant's order confirmation within thirty days of date of invoice unless otherwise specified by Consultant’s finance department.
   c. Without prejudice to Consultant's other rights, Consultant reserves the right to: (i) charge interest on any overdue sums at 1% per month during the period of delay; (ii) suspend performance of the Contract (including withholding shipment) in the event that Client fails or in Consultant’s reasonable opinion it appears that Client is likely to fail to make payment when due under the Contract or any other contract; and (iii) at any time require such reasonable security for payment as Consultant may deem reasonable.

5. DELIVERY PERIOD
   a. Unless otherwise stated in Consultant's order confirmation, all periods stated for delivery or completion are measured from the Effective Date and are to be treated as estimates only, not involving any contractual obligations or liability.
   b. Delivery of Services within the estimated timeframe depends upon the Consultant’s existing project commitments, fleet schedule, resource availability, access to the roads to be collected, and good weather (dry roads, temperatures above freezing). Any delays due to these variables may affect the delivery/completion period but shall not affect the Contract Price.
   c. Assumes assets to be collected are in the public right-of-way and unobscured from the line-of-sight of the data collection vehicle’s cameras (ex: no significant vegetation or overgrowth, damaged, or vehicle obstruction). On two-lane roads, the 360-degree camera will capture assets in the direction of travel, and the 360-degree camera will capture the assets in the opposite direction. Therefore, only one pass will be required on these streets. Streets with more than two lanes may require additional passes depending on the number of lanes or division of lanes by median island.
   d. If Consultant is delayed in or prevented from performing any of its obligations under the Contract due to the acts or omissions of Client or its agents (including but not limited to failure to provide specifications, working drawings, road network definition (GIS), analysis parameters, and/or such other information as Consultant reasonably requires to proceed expeditiously with its obligations under the Contract), the delivery/completion period and the Contract Price shall both be adjusted accordingly.
   e. If delivery of Services is delayed due to any act or omission of Client, having been notified that Consultant is awaiting the completion of Client’s obligations, Consultant shall be entitled to place the project on hold and cease further work on the project until such time that the obligations are met. Upon placing the project on hold, the Consultant shall be entitled to invoice Client for all work completed to date including for partially-completed data collection, processing, or analysis and for undelivered data.
   f. To ensure timely project execution and success, both Client and Consultant understand that all questions and information requests related to this project from the Client to the Consultant are to be responded to within three (3) business days and the acceptance and/or feedback of any deliverables provided to Client from Consultant is to occur within ten (10) business days.

6. FORCE MAJEURE
   a. Force Majeure of any kind, unforeseeable production, traffic or shipping disturbances, war, acts of terrorism, fire, floods, unforeseeable shortages of labor, utilities or raw materials and supplies, strikes, lockouts, pandemics, acts of government, restrictions on travel, and any other hindrances beyond the control of the party obliged to perform which diminish, delay or prevent production, shipment, acceptance or use of the Services or provided data, or make it an unreasonable proposition, shall relieve the party from its obligation to supply or take delivery, as the case may be, as long as and to the extent that the hindrance prevails.
   b. If, as a results of the hindrance, planned in-person or on-site visits by Consultant staff for installation, implementation, training, or meetings are prevented or become impractical, Consultant shall be relieved from such contract requirements. Consultant shall also provide any implementation or training services, and attend meetings, virtually or online to the maximum extent possible to satisfy the intent of the contract.

7. WARRANTY
   a. Consultant warrants to Client that it will perform the services in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. Consultant makes no other warranties or guarantees, expressed or implied, relating to the Services, and Consultant disclaims any implied warranties or warranties Imposed by law, including warranties of merchantability and fitness for a particular purpose.

8. NON-SOLICITATION
   a. During execution of this contract and for a period of two (2) years following the Delivery Date, the Client will not, directly or indirectly, whether through an owner, partner, shareholder, consultant, agent, employee, co-venturer or otherwise, or through any other "person" (which, for purposes of this subsection, shall mean an individual, a corporation, a partnership, an association, a joint-stock company, a trust, any unincorporated organization, or a government or political subdivision thereof), hire or attempt to hire any active employee or contractor of the Consultant or any affiliate of the Consultant, assist in such hiring by any other person, or encourage any such employee to terminate his relationship with the Consultant or any affiliate of the Consultant.

9. LIMITATION OF LIABILITY

a. Supplier's maximum aggregate liability for any and all losses, liabilities, expenses (including legal expenses), damages, claims or actions incurred under or in connection with a specific order or a particular blanket order issued, arising in or by virtue of breach of contract, tort (including negligence), misrepresentation, breach of statutory duty, strict liability, infringement of intellectual property rights or otherwise, shall in no circumstances exceed a sum equal to the total price of the order in question.

10. STATUTORY AND OTHER REGULATIONS
    a. If Consultant's obligations under the Contract shall be increased or reduced by reason of the making or amendment after the date of Consultant's quotation of any law or any order, regulation or bylaw having the force of law that shall affect the performance of Consultant's obligations under the Contract, the Contract Price and delivery period shall be adjusted accordingly and/or performance of the Contract suspended or terminated, as appropriate.

11. COOPERATIVE STATEMENT
    a. This Agreement shall be for the use of the Town. In addition, political subdivisions (Counties, Cities, Towns, etc.), nonprofit organizations and public health institutions may in its discretion participate (piggyback) on this Agreement if CONSULTANT agrees to do so.

12. COMPLIANCE WITH LAWS
    a. Client agrees that all applicable import, export control and sanctions laws, regulations, orders and requirements, as they may be amended from time to time, including without limitation those of the United States, Canada, the European Union and the jurisdictions in which Consultant and Client are established or from which items may be supplied, and the requirements of any licenses, authorizations, general licenses or license exceptions relating thereto will apply to its receipt and use of services or software provided.
    b. Client agrees furthermore that it shall not engage in any activity that would expose the Consultant to a risk of penalties under laws and regulations of any relevant jurisdiction prohibiting improper payments, including but not limited to bribes, to officials of any government or of any agency, instrumentality or political subdivision thereof, to political parties or political party officials or candidates for public office, or to any employee of any customer or supplier. Client agrees to comply with all appropriate legal, ethical and compliance requirements.

13. DEFAULT, INSOLVENCY AND CANCELLATION
    a. Consultant shall be entitled, without prejudice to any other rights it may have, to cancel the Contract forthwith, wholly or partly, by notice in writing to Client, if (i) Client is in default of any of its obligations under the Contract and fails, within 30 (thirty) days of the date of Consultant's notification in writing of the existence of the default, either to rectify such default if it is reasonably capable of being rectified within such period or, if the default is not reasonably capable of being rectified within such period, to take action to remedy the default or (ii) on the occurrence of an Insolvency Event in relation to Client. In the event of cancellation, Client shall be responsible for all payments to the Consultant for any deliveries completed and milestones met up to the date of termination.
    b. Client shall be entitled, without prejudice to any other rights it may have, to cancel the Contract forthwith, wholly or partly, by notice in writing to Consultant, if (i) Consultant is in default of any of its obligations under the Contract and fails, within 30 (thirty) days of the date of Client's notification in writing of the existence of the default, either to rectify such default if it is reasonably capable of being rectified within such period or, if the default is not reasonably capable of being rectified within such period, to take action to remedy the default or (ii) on the occurrence of an Insolvency Event in relation to Consultant. In the event of cancellation, Client shall be responsible for all payments to the Consultant for any deliveries completed and milestones met up to the date of termination.
    c. Insolvency Event" in relation to Client means any of the following: (i) a meeting of creditors of Client being held or an arrangement or composition with or for the benefit of its creditors being proposed by or in relation to Client; (ii) a chargeholder, receiver, administrative receiver or similar person taking possession of or being appointed over or any distress, execution or other process being levied or enforced (and not being discharged within seven days) on the whole or a material part of the assets of Client; (iii) Client ceasing to carry on business or being unable to pay its debts; (iv) Client or its directors or the holder of a qualifying floating charge giving notice of their intention to appoint, or making an application to the court for the appointment of , an administrator; (v) a petition being presented (and not being discharged within 28 days) or a resolution being passed or an order being made for the administration or the winding-up, bankruptcy or dissolution of Client; or (vi) the happening in relation to Client of an event analogous to any of the above in any jurisdiction in which it is incorporated or resident or in which it carries on business or has assets. Consultant shall be entitled to recover from Client or Client's representative all costs and damages incurred by Consultant as a result of such cancellation, including a reasonable allowance for overheads and profit (including but not limited to loss of prospective profits and overheads).

14. DATA RETENTION
    a. This section defines the Consultant's data retention policy for Services projects. The data collected by the IrisPRO Pave takes up over 6 GB per mile (Raw) and 3 GB per mile (Processed). Data storage costs are significant for this volume of data. Therefore, Consultant has implemented a data retention policy to clarify its standard operating procedure.
    b. Definitions
        i. "Raw data" - Sensor data collected by the collection vehicle that is saved in proprietary formats and cannot be used directly. This includes .drive files, PGR files, and FIS files.
        ii. "Processed data" - Data that has been transformed into usable formats by the Connect software. This includes CSV, XLSX, SHP, GDB, and JPG files.
        iii. "Data Acceptance" – Client acceptance of delivered data and confirmation that deliverables meet the project requirements.
    c. Policy
        i. Consultant will provide a quotation for hosting of any collected data for any duration upon request.
        ii. Consultant will retain Raw data for 3 months beyond Data Acceptance, unless the client confirms in writing that Consultant should store the data longer and confirms that client will pay for the additional hosting costs. Beyond this time, Consultant may delete the Raw data without further notice. After the Raw data has been deleted, reprocessing of the sensor data will not be possible. For example, crack detection cannot be run with different settings, and new image views cannot be extracted from the Ladybug camera.
        iii. Consultant will retain Processed data for 15 months beyond Data Acceptance, unless the client confirms in writing that Consultant should store the data longer and confirms that client will pay for the additional hosting costs. This timeframe allows Consultant to perform year-to-year analysis and comparisons provided that the same roads are collected annually. Beyond this time, Consultant may delete the Processed data without further notice. After the Processed data has been deleted, year-to-year analysis and comparisons will be limited to data review only.

15. MISCELLANEOUS
    a. No waiver by either party with respect to any breach or default or of any right or remedy and no course of dealing, shall be deemed to constitute a continuing waiver of any other breach or default or of any other right or remedy, unless such waiver be expressed in writing and signed by the party to be bound.
    b. If any clause, sub-clause or other provision of the Contract is invalid under any statute or rule of law, such provision, to that extent only, shall be deemed to be omitted without affecting the validity of the remainder of the Contract.
    c. Client shall not be entitled to assign its rights or obligations hereunder without the prior written consent of Consultant.
    d. Consultant enters into the Contract as principal. Client agrees to look only to Consultant for due performance of the Contract.
    e. The Contract shall in all respects be construed in accordance with the laws of the local jurisdiction in which the services are provided and the Client is physically based. All disputes arising out of the Contract shall be subject to the exclusive jurisdiction of the courts of the local jurisdiction/state as defined above.
    f. The headings to the Clauses and paragraphs of the Contract are for guidance only and shall not affect the interpretation thereof.
    g. All notices and claims in connection with the Contract must be delivered in writing.
    h. Unless mentioned to the contrary in writing, the Client authorizes Consultant to cite its name in its business references, websites, and social media.