MEMO

APPROVED
8/21/2023

TULSA COUNTY
PROCUREMENT
DEPARTMENT

DATE: August 16, 2023

FROM: Matney M. Ellis
Procurement Director

TO: Board of County Commissioners

SUBJECT: Agreement – FirstStep Management Techniques, LLC

Submitted for your approval and execution is the attached agreement between the Board of County Commissioners of Tulsa County on behalf of the Tulsa County Engineer and FirstStep Management Techniques, LLC for a Street Condition Assessment w/ 360-Degree Video, Sidewalk Inventory & Conditions, Street Striping Inventory & Conditions, Street Sign and Streetlight Initial Inventory, and Streetview Update as further described in the attached.

Respectfully submitted for your approval.

MME / llm

SUBMITTED FOR: The August 21, 2023 BOCC meeting agenda.

CMF# 20231448

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Proposal for Services – FirstStep Management Techniques
July 2023

Tulsa County Board of County Commissioners
on behalf of the Tulsa County Engineering Department
218 W 6th St, Ste 840
Tulsa, OK 74119

Re **Tulsa County Oklahoma**
Street Condition Assessment w/ 360-Degree Video
Sidewalk Inventory & Conditions
Street Striping Inventory & Conditions
Street Sign and Streetlight Initial Inventory
Streetview Update

We are pleased to coordinate with Tulsa County, Oklahoma to initiate FirstStep Management Techniques.

Solutions outlined in this proposal include Street Inventory and Condition Assessment, Sidewalk Inventory & Conditions, Street Striping Inventory & Conditions, Street Sign Inventory, and Streetlight Inventory. Each solution follows a process similar to our Pavement Management Technique, providing straightforward, useful, cost-effective data. Initial Goals include:

- Review the current Inventory of hard-surfaced streets under the authority of the County.
- Perform a comprehensive patrol and condition assessment of all inventoried streets.

Additional Goals may include:

- Develop one (1), three (3) and five (5) year active maintenance and action plans.
- Review Street Department current practices and techniques.
- Extend the functional life of hard-surfaced streets maintained by the County.

CMF# 20231448

1.0 Roadway / Pavement Inventory

1.1 Pavement Inventory

- Coordinate with the County to receive the best available map of all streets maintained.
- Using this map information, create an inventory and associated condition map information.

2.0 Pavement Management – Inventory Condition Assessment / Distress Patrol

2.1 Pavement Condition Assessment (Network-Level)

- Roadway pavements patrolled by trained inspectors using geolocated video cameras (1080p; 30fps)
- Visual, non-destructive assessment of facility pavements
- Pavement conditions are illustrated as:

- EXCELLENT
  - A pavement in condition EXCELLENT is in perfect condition
  - No corrective maintenance or preventive maintenance is recommended
  - If any distress is observed – will be localized in nature (see next page for distress descriptions)

- GOOD
  - Preventive maintenance may be recommended
  - Corrective maintenance is typically not recommended
  - Pavement distress is limited to oxidation, weathering and minor climate related damage
  - Surface distress (if present) is typically low severity and low density (<5%)
  - Structural distress (if present) is both localized and low density (<5%)

- FAIR
  - Preventive maintenance may be recommended
  - Corrective maintenance may be recommended
  - A variety of pavement distresses may be present
  - Structural distress may be localized as well as global
  - Global Structural damage is low severity / low density

- CRITICAL
  - A pavement in condition CRITICAL is likely to be LOST (and require reconstruction) within 2 years
  - A variety of pavement distresses may be present
  - Surface and Structural distresses are typically global in nature
  - A combination of corrective and preventive maintenance may be recommended
- LOST
  - A LOST pavement requires major M&R (Maintenance and Repair/Reconstruction)
  - Shallow, Deep, and/or Full-Depth Reconstruction may be recommended

2.2 Pavement Distress Assessment (Network Level Assessment)

Observed pavement attributes and distress are illustrated as follows:

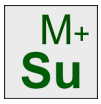
- 

- Pothole 01 and 

- Pothole 02
  - Observed Pothole 01 is of higher importance than observed Pothole 02
  - Pothole 01 is a **Major Pothole** and is typically structural in nature
  - Pothole 02 is a minor pothole and may consist of edge conditions / small popouts

- 

- Surface Distress, Low Density
  - Climate (non-structural) related distress including:
    Surface Cracking, Longitudinal and Transverse Cracking, Block Cracking, Edge Cracking
    Severe Weathering, Raveling, Bleeding, Scaling (PCC), Durability Cracking (PCC)
  - Low Density surface distress may be addressed by hand-application of crack seal (not mass-crack treatment)

- 

- Surface Distress, Medium-High Density
  - Climate (non-structural) related distress including:
    Surface Cracking, Longitudinal and Transverse Cracking, Block Cracking, Edge Cracking
    Severe Weathering, Raveling, Bleeding, Scaling (PCC), Durability Cracking (PCC)
  - Higher density of surface cracking may be better suited to mass-crack treatments rather than hand-applications

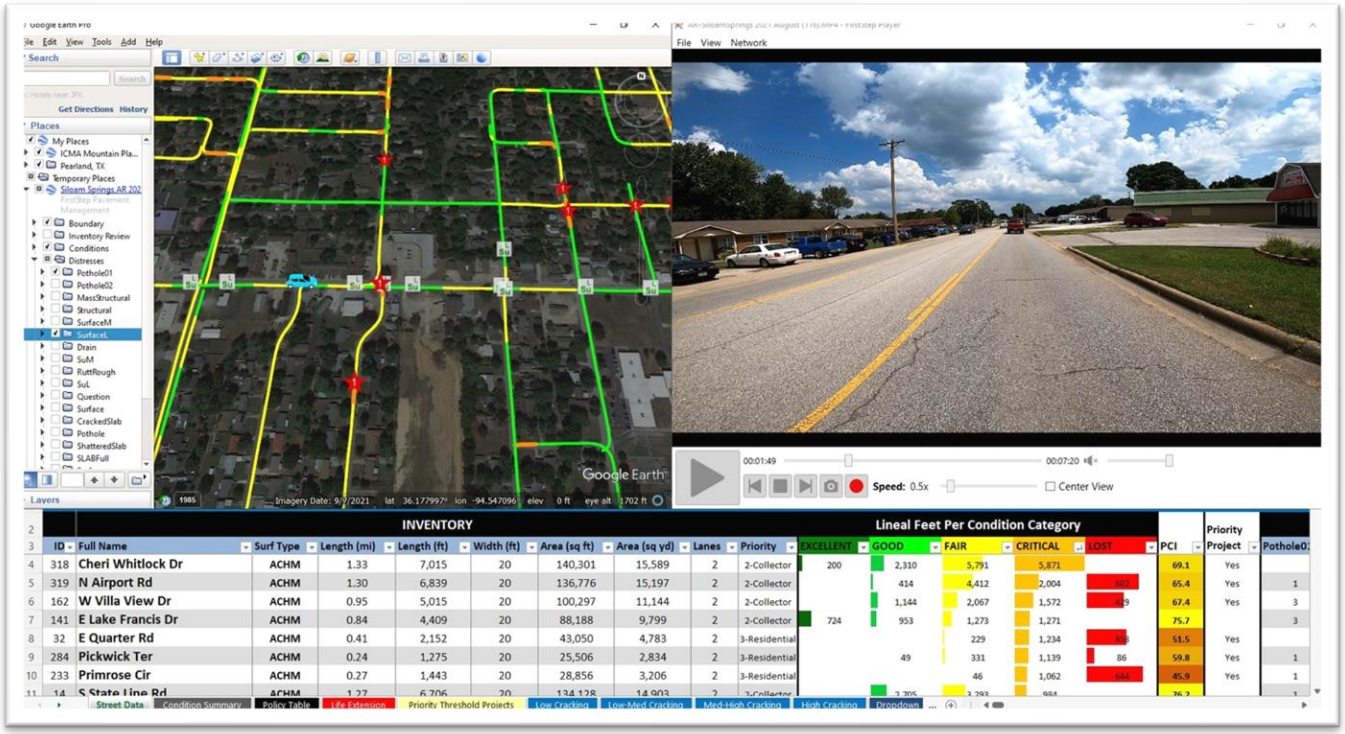
- 
- Structural Distress and 
- Mass Structural Distress
  - Evidence of structural/durability distress present
  - Depth of structural damage (shallow, deep) is not indicated
  - Distresses include Alligator Cracking, Rutting (High Severity), Depression (High Severity), Utility Cuts

- 
- Drainage / Water Issue
  - Observed drainage issues present on the pavement surface – may be a variety of causes
  - Depression, rutting, drainage (or lack of drainage), etc

2.3 Reporting – Dynamic Roadway Condition Map

Figure 1 – Dynamic Condition Map with Road Condition and Distress Toggle Buttons

2.4 Geolocated Video, Road Book, Project Planner



ID	Full Name	Surf Type	Length (mi)	Length (ft)	Width (ft)	Area (sq ft)	Area (sq yd)	Lanes	Priority	EXCELLENT	GOOD	FAIR	CRITICAL	LOST	PCI	Priority Project	Pothole01
318	Cheri Whitlock Dr	ACHM	1.33	7,015	20	140,301	15,589	2	2-Collector	200	2,310	5,791	5,871		69.1	Yes	
319	N Airport Rd	ACHM	1.30	6,839	20	136,776	15,197	2	2-Collector		414	4,412	2,004		65.4	Yes	1
162	W Villa View Dr	ACHM	0.95	5,015	20	100,297	11,144	2	2-Collector		1,144	2,067	1,572		67.4	Yes	3
141	E Lake Francis Dr	ACHM	0.84	4,409	20	88,188	9,799	2	2-Collector	724	953	1,273	1,271		75.7		3
32	E Quarter Rd	ACHM	0.41	2,152	20	43,050	4,783	2	3-Residential			229	1,234		51.5	Yes	
284	Pickwick Ter	ACHM	0.24	1,275	20	25,506	2,834	2	3-Residential		49	331	1,139	86	59.8	Yes	1
233	Primrose Cir	ACHM	0.27	1,443	20	28,856	3,206	2	3-Residential			46	1,062		45.9	Yes	1
14	S State Line Rd	ACHM	1.22	6,706	20	134,128	14,903	2	2-Collector								

Figure 2 - Condition Map with Video (1080p / 30fps) and Project Planner

3.0 Sidewalk Inventory and Condition Patrol

3.1 Sidewalk Inventory

- Receive (if available) existing sidewalk data (construction history, work/maintenance/cost history, etc).
- Develop the Initial Inventory of Existing Sidewalks maintained by Tulsa County.
    - Identify existing, hard-surfaced, publicly maintained sidewalks.
    - Identify existing painted crosswalks, multi-use paths, and footpaths.
- The primary goal is to identify and illustrate the total linear feet of sidewalk the County Currently Maintains.
- The initial Sidewalk Inventory is a simple, single-line inventory.
- The initial Sidewalk Inventory does not include sidewalk widths, ramps, slope, etc. – these items may be identified and evaluated as an additional service after the initial sidewalk inventory is complete.

Figure 3-Initial Sidewalk Inventory

3.2 Sidewalk Connections – Crosswalk Inventory

- Locate and Identify existing, observed Crosswalks.

Figure 4 - Sidewalk Crosswalks

3.3 Sidewalk Connections – Missing Sections

- Locate and identify proposed sidewalk connections – typically small sections of sidewalks that will connect larger sections of the Existing Sidewalk Network.
    - Sections identified in developing neighborhoods (neighborhoods under active construction) may not be illustrated as these sections likely will be constructed with neighborhood build-out.

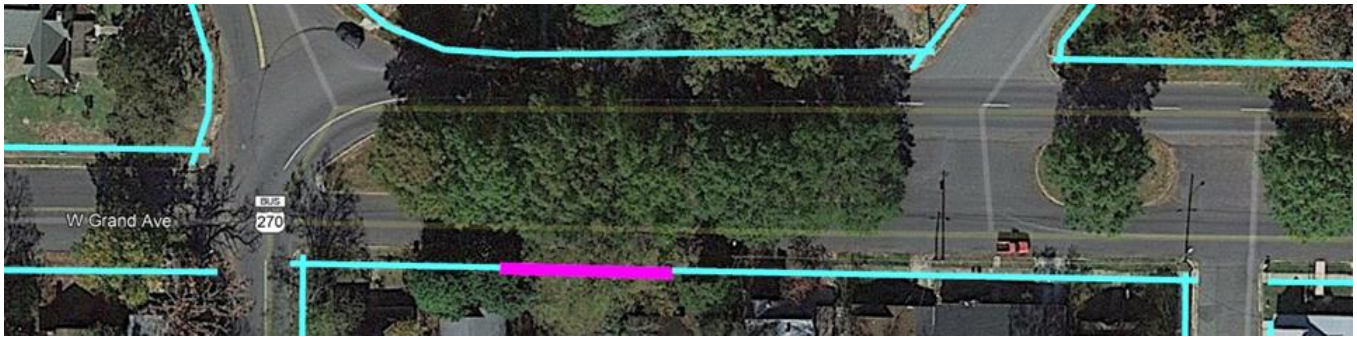


Figure 5 - Proposed Sidewalk Connection

3.4 Sidewalk Connections – Footpaths

- Locate and identify existing footpaths – typically sections where an observed footpath has been created by the existing user groups.

Figure 6 - Existing Footpath

3.5 Sidewalk Patrol – 360-Degree Video

- Using the Sidewalk Inventory, we will drive all streets adjacent to sidewalks with a 360-Degree Camera.
- 360-Degree Video data will be available to the County and used to update Google Street View imagery.

Figure 7 - 360 Degree Video Collection

4.0 Sidewalk Condition and Distress

4.1 Initial Sidewalk Inventory is Completed

4.2 Sidewalk Condition and Distress Assessment

- Will collect and make available 360-Degree Video of all streets lined with County Maintained Sidewalks.
- Sidewalk Condition and Distress Review illustrates the general sidewalk conditions and distresses, allowing the user to quickly review and investigate specific areas of concern.

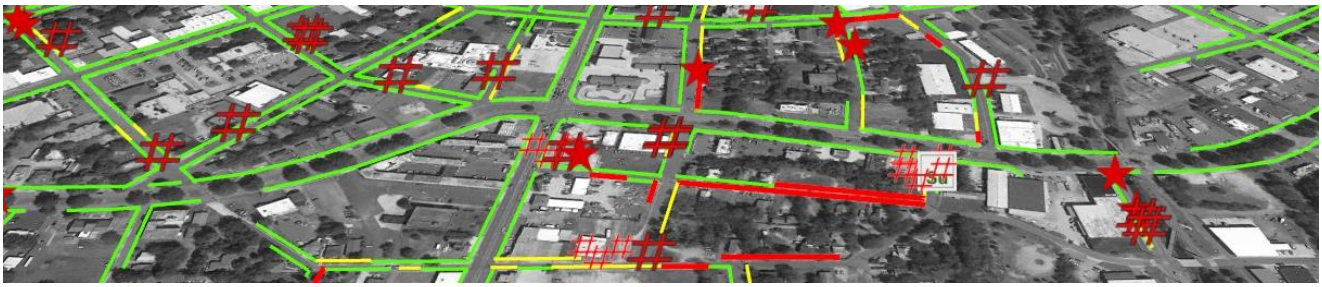


Figure 8 - Sidewalk Conditions and Distresses

2.3 Sidewalk Conditions

- GOOD
  - Sidewalk network in this area is complete and intact.
  - Preventive maintenance may be recommended.
  - Corrective maintenance is not required unless localized.
- FAIR
  - Sidewalk network in this area is showing signs of wear, but is still intact.
  - Preventive or Corrective maintenance may be recommended.
  - A variety of sidewalk distresses may be present.
  - Structural distress may be localized as well as global.
- LOST
  - Sidewalk network in this area is badly damaged and may not be intact.
  - A LOST section of sidewalk requires major M&R (Maintenance and Repair/Reconstruction).

3.3 Sidewalk Distress – <u>Observed</u> Sidewalk attributes and distress are illustrated as:

-  - Attention Suggested  -Hazard (Most Important), Attention Required
  - Observed area within the sidewalk network requires attention.
  - Typically a section of sidewalk that exhibits significant damage
-  - Structural Distress and  - Mass Structural Distress
  - Evidence of structural/durability distress present, Observed heaving.
  - Depth of structural damage (shallow, deep) is not indicated.
  - Distresses include shattered slab, alligator cracking, Rutting (High Severity), Depression, Utility Cuts.
-  - Surface Distress – Low, Medium, to High Density
  - Climate (non-structural) related distress including:
    Surface Cracking, Longitudinal and Transverse Cracking, Block Cracking, Edge Cracking
    Severe Weathering, Raveling, Bleeding, Scaling (PCC), Durability Cracking (PCC).
-  - Drainage / Water Issue
  - Observed drainage issues present on or around the sidewalk surface – may be a variety of causes.
  - Depression, water leak, springwater, drainage (or lack of drainage), roof drains, etc.

5.0 Street Striping Inventory and Condition Patrol

- Develop an Inventory of Existing Pavement Striping on Maintained Streets and Roadways.
- The goal is to illustrate the location and conditions of maintained Pavement Striping.
- The initial Striping Inventory and Conditions are a simple, single-line inventory.
- For street sections containing multiple sets of striping, conditions illustrate the worst conditions.

Figure 9 - Street Striping Inventory & Condition Patrol Map

- Similar to the Pavement Management Technique, Striping Condition Lines have geolocated Video.
- Striping Condition Lines will drive two-lane roadways in one direction.

Figure 10 - Geolocated Video, Stripe in 'GOOD' Condition

Figure 11 - Geolocated Video, Stripe in 'FAIR' Condition

Figure 12 - Geolocated Video, Stripe in 'LOST' Condition

6.0 Initial Street Sign Inventory

- Develop an Initial Inventory of maintained Street Signs.
- The goal is to identify and illustrate all observed Street Signs.
- We will make an effort to provide a clear, online photo of each observed Street Sign.

Figure 13 - Initial Street Sign Inventory

- Many (many) signs will be located and labeled.

- Select and Keep only the signs useful for your asset management solution.

- Additional options available as additional services after the initial inventory is complete.
  - Sign Condition, Obstruction Study, Intersection Review.
  - Sign Network Review, Sign Priority, Custom Attributes.
  - MUTCD Compliance

	A	C	E	F	G	H	I	J	K	M	N	O	P	Q	R
1	Sign Id	Road Id	Direction	Road Name	Sign Type	Sign Typ_1	Size	Maintai	Active	Category I	Category D	Latitud	Longitu	Backgr	Letter
2	10	8		11TH ST	M1-6	BLUE ROUTE MARKER	18" X 24"	Y	ACTIVE	12	GUIDE	33.74293	-86.1515	BLUE	YELLOW
3	20	8	S	11TH ST	R2-1	SPEED LIMIT	VARIES	Y	ACTIVE	1	REGULATORY	33.7433	-86.1515	WHITE	BLACK
4	30	8		11TH ST	D3	GREEN ROUTE MARKER	18" X 6"	Y	ACTIVE	12	GUIDE	33.74391	-86.1514	GREEN	WHITE
5	40	8	S	11TH ST	D3	GREEN ROUTE MARKER	18" X 6"	Y	ACTIVE	12	GUIDE	33.74589	-86.1513	GREEN	WHITE
6	50	8	S	11TH ST	D3	GREEN ROUTE MARKER	18" X 6"	Y	ACTIVE	12	GUIDE	33.74512	-86.1513	GREEN	WHITE
7	60	8	N	11TH ST	D3	GREEN ROUTE MARKER	18" X 6"	Y	ACTIVE	12	GUIDE	33.74385	-86.1516	GREEN	WHITE
8	70	37	SE	19TH ST S	R2-1	SPEED LIMIT	VARIES	N	ACTIVE	1	REGULATORY	33.56199	-86.2718	WHITE	BLACK
9	80	37	SE	19TH ST S	R2-1	SPEED LIMIT	VARIES	N	ACTIVE	1	REGULATORY	33.56284	-86.2722	WHITE	BLACK

Figure 14 - Sign Data Attribute Table

7.0 Compensation

Tulsa County	Method	Fee
Street Conditions and Distress	**Lump Sum**	**$53,000.00**
Sidewalk Inventory & Conditions	**Lump Sum**	**$6,500.00**
Street Stripe Inventory & Conditions	**Lump Sum**	**$9,500.00**
	TOTAL:	**$69,000.00**
Street Signs and Streetlights Initial Inventory	**Unit Price**	**$4.95**

*Based on an inventory of (approx.) 680 centerline miles of maintained roads.

If selected, Street Signs and Streetlights will be invoiced based on the number of client approved items.
The fee for Street Signs & Streetlights Initial Inventory **will not exceed $25,000.00** without client approval.

8.0 Additional Services

Additional Services may be incorporated into your Asset Management Plan.

- Code Compliance / Urban Blight
- Enhanced Site Assessments, Patrols and Reports
  - Curb and Gutter Inventory and Conditions
  - Sidewalk Inventory and Conditions
  - Street Surface Type Assessment
  - Drainage / Ditch Patrol
  - Storm Sewer / Sanitary Sewer Patrol
  - Night Patrol
  - Perimeter Fences and Exterior Drives
  - Building / Facility Patrol
- Custom Patrols / User-Defined Patrols
- Additional site visits at the request of the owner

9.0 Method of Payment

The method of payment is anticipated to be lump sum with net 30-day terms.

10.0 Deliverables

Standard deliverables include the following:

1. One (1) large, color hard copy suitable for presentation of each selected solution:
   - Sidewalk Inventory and Condition Wall Map
   - Street Striping Inventory and Condition Wall Map
   - Street Sign Inventory Wall Map

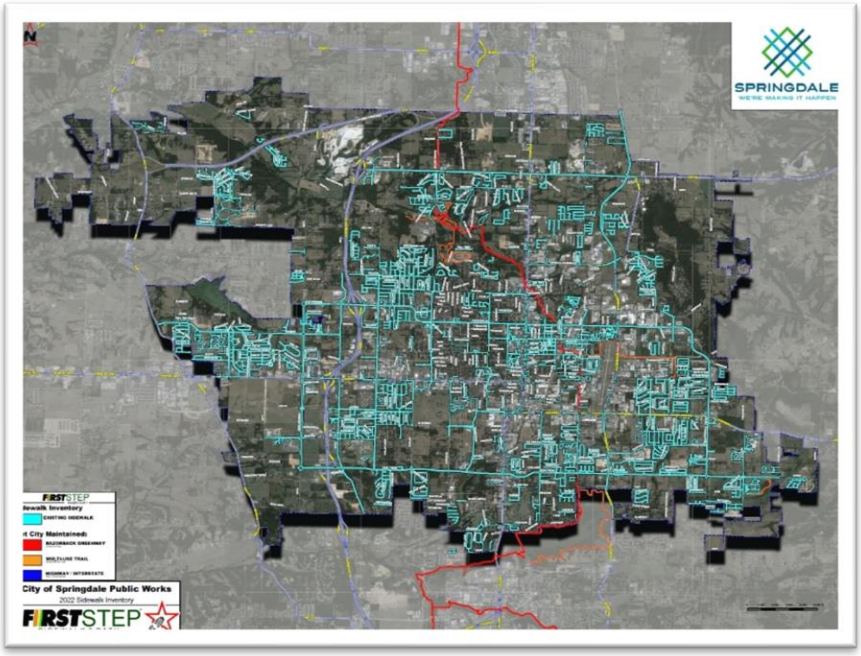


Figure 15 - Large Wall Map (ARCH 'E')

2. Three (3) 8.5”x11” color, bound Inventory, Condition and Distress Books for each selected solution:
   - Sidewalk Inventory and Condition Distress Book
   - Street Striping Inventory and Condition Distress Book
   - Street Sign Inventory Wall Map

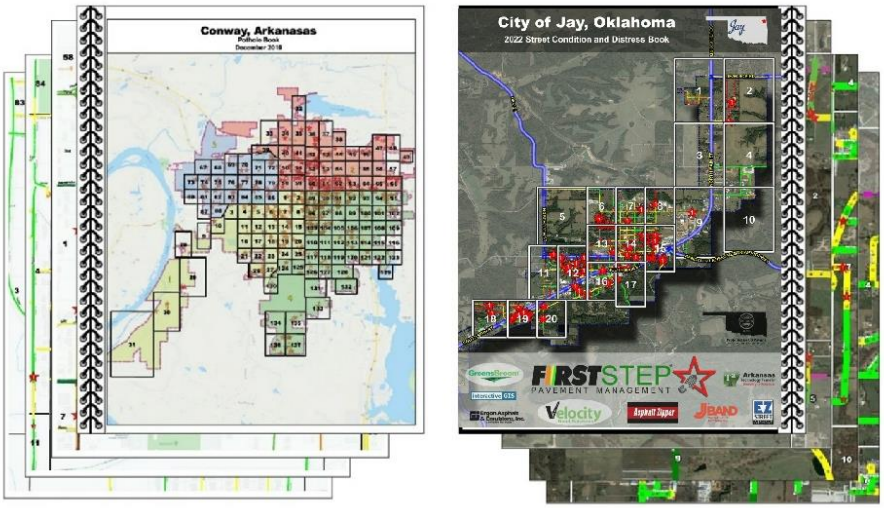


Figure 16 - Distress Books, Custom Reports

3. Full-Sized, Electronic Copies of the Wall Maps and Books (PDFs) for additional printing.
4. Unrestricted electronic copies of produced data and applicable workbooks (Google Earth .KMZ, Excel, etc).
5. Account set-up and login credentials to FirstStep Online providing web-access to:
   - Street and Roadway Condition Data.
   - Sidewalk Inventory and Condition Data.
   - Street Striping Inventory and Condition Data.
   - Street Sign Inventory Data.
   - Smart Video Data with click-and-play functionality.
6. For GIS resources, Shapefiles, JSON, and other common file types are available at No Additional Cost.

We appreciate the opportunity to be of service in the development of your asset management solutions.

Please indicate your acceptance of the terms, scope of work and fee by signing, scanning and returning. A facsimile signature is sufficient to indicate your understanding of the proposed agreement. If you have any questions or concerns, please do not hesitate to call. This proposal is valid for 120 days from receipt. Additionally, the proposal may become null and void 12 months from the date of acceptance by the client, if the work has not been authorized to begin within that time.

Sincerely,

Michael G. Morgan
Owner

Agreed to and accepted this date:

8/10/2023
Date

Signature

Michael G. Morgan
Printed Name

Owner
Title / Authorizing Agent

Agreed to and accepted this date:

8/21/2023
Date

Signature

Kelly Dunkerley
Printed Name

Chairman, Tulsa County Board of County Commissioners
Title / Authorizing Agent

ATTEST:

Michael Willis, Tulsa County Clerk

APPROVED AS TO FORM:

Assistant District Attorney