RESOLUTION 21-46A

A RESOLUTION OF THE SOUTH WEBER CITY COUNCIL APPROVING STREETSCAN SERVICE AGREEMENT

WHEREAS, the city needs to assess the condition of the streets and currently uses a program IworQ which measures in years of Remaining Service Life (RSL); and

WHEREAS, for a more accurate picture a better system is needed; and

WHEREAS; staff researched companies offering pavement condition index (PCI) for an absolute measurement system and selected StreetScan; and

WHEREAS, Council approved this purchase in the budget and the cost falls under the allotted amount;

NOW THEREFORE BE IT RESOLVED by the Council of South Weber City, Davis County, State of Utah, as follows:

Section 1. Approval: The StreetScan Service Agreement is hereby approved at the price of $43,390.

Section 2: **Repealer Clause**: All ordinances or resolutions or parts thereof, which are in conflict herewith, are hereby repealed.

PASSED AND ADOPTED by the City Council of South Weber, Davis County, on the 28th day of September 2021.

Roll call vote is as follows:		
Council Member Winsor	FOR	AGAINST
Council Member Petty	FOR	AGAINST
Council Member Soderquist	FOR	AGAINST
Council Member Alberts	FOR	AGAINST
Council Member Halverson	FOR	AGAINST

SOUTH WEBER CITY * 1938 * 1971 * DAVIS COUNTY, UTAH * OFFICIAL SEAL

Jo Sjoblom, Mayor **Attest:** Lisa Smith, Recorder

EXHIBIT 1

STREETSCAN SERVICE AGREEMENT

AGREEMENT FOR SERVICES
BY AND BETWEEN

STREETSCAN, INC.
AND

South Weber City, UT

THIS AGREEMENT is made this 14th day of September 2021, by and between the South Weber City, UT, with offices at 1600 E South Weber Dr, South Weber City, UT 84405 hereinafter called the MUNICIPALITY and STREETSCAN, INC., with offices at 603 Salem Street, Wakefield, MA 01880, hereinafter called STREETSCAN (together the "PARTIES").

WITNESSETH, for the consideration hereinafter set forth, the parties hereto agree as follows:

ARTICLE 1 - ENGAGEMENT OF STREETSCAN

The MUNICIPALITY hereby engages STREETSCAN, and STREETSCAN hereby accepts the engagement to perform certain pavement inspection and management services for the MUNICIPALITY.

ARTICLE 2 - SCOPE OF SERVICES

The Scope of Services will be performed in accordance with STREETSCAN'S proposal to the MUNICIPALITY submitted the 14th day of September 2021 (herein referred to as the "PROJECT") attached hereto as Exhibit C and showing a list of purchased services in the Sales Order attached hereto as Exhibit B.

This AGREEMENT represents the full and complete agreement between the PARTIES. Terms and conditions may be changed, or additional terms added only by written amendment to this AGREEMENT signed by both PARTIES.

ARTICLE 3 - RESPONSIBILITIES OF THE MUNICIPALITY

The MUNICIPALITY, without cost to STREETSCAN, shall do the following in a timely manner so as not to delay the services of STREETSCAN:

3.1 Designate in writing a person to act as the MUNICIPALITY's representative with respect to work to be performed under this AGREEMENT, such person to have complete authority to transmit instructions, receive information, interpret, and define the MUNICIPALITY's policies and decisions with respect to materials, equipment elements and systems pertinent to the work covered by this AGREEMENT.

3.2 The MUNICIPALITY's representative will coordinate with officials and other MUNICIPALITY employees who have knowledge of pertinent conditions and will confer

with STREETSCAN regarding both general and special considerations relating to the PROJECT.

3.3 Assist STREETSCAN by placing at STREETSCAN'S disposal all available information pertinent to the PROJECT or requested by STREETSCAN including previous reports and other historical data relative to design or construction of the roadways in the MUNICIPALITY.

3.4 Arrange for access to and make all provisions for STREETSCAN to enter upon public and private lands as required for STREETSCAN to perform its work under this AGREEMENT. If the selected service contains sidewalks the MUNICIPALITY is responsible for clear access. Objects such as debris, trash, trash cans, etc. have to be removed for clear access as it will affect the quality of the service.

3.5 Furnish STREETSCAN all needed topographic, property, boundary and right-of-way maps. Data provided in standard GIS file formats are preferred.

We require a target road GIS layer with segmentation, either from the client or from the State DOT. If neither is available, we can create it from a list of target roads from intersection to intersection or as otherwise directed, charging STREETSCAN's standard engineering billing rates attached hereto as Exhibit A. If MUNICIPALITY requests a different segmentation after the processing has begun, results will be delayed, and STREETSCAN will charge engineering rate for implementing the segmentation change.

STREETSCAN will use MUNICIPALITY's pavement maintenance methods and pricing for the pavement maintenance plan, if it is provided by the end of the data collection. Otherwise we'll use our default pavement maintenance methods and pricing. Subsequent changes are billed at STREETSCAN's standard engineering billing rates.

3.6 Cooperate with and assist STREETSCAN in all additional work that is mutually agreed upon.

3.7 Pay STREETSCAN for work performed in accordance with the terms specified herein.

ARTICLE 4 - TIME OF PROJECT

STREETSCAN will initiate work under this AGREEMENT following formal acceptance of this AGREEMENT by the MUNICIPALITY. STREETSCAN agrees to provide services described herein in a timely manner. The PARTIES recognize that the services being provided by STREETSCAN are subject to impact by weather, labor, fire, construction, and technological issues that may cause delays during the pavement inspection period. STREETSCAN agrees to use its best efforts to avoid delays.

ARTICLE 5 - PAYMENTS TO STREETSCAN

Unless the Fees and Reconciliation set forth in Article 5.1 and 5.2 below are made on behalf of MUNICIPALITY by a third party, Articles 5.3, 5.4 and 5.5 below shall be applicable:

5.1 Fees. For services performed under this AGREEMENT, the MUNICIPALITY agrees to pay STREETSCAN the total amount set forth in the Sales Order attached hereto as Exhibit B, subject to the revisions directed by paragraph 5.2, based on those services selected by the MUNICIPALITY as set forth in the Sales Order after review of the proposal.

5.2 Reconciliation. The parties hereby acknowledge that the total amount set forth in Exhibit B may be subject to adjustment based on the actual quantities surveyed, which will not be known until STREETSCAN'S field work is complete. MUNICIPALITY agrees to pay for all services set forth in Exhibit B based on the actual quantities surveyed, whether more or less than set forth above or estimated in the proposal.

5.3 Monthly Payment. Fees for this PROJECT shall be billed monthly as they accrue based upon the services performed or other agreed upon milestones. The MUNICIPALITY agrees to make payment to STREETSCAN upon receipt of the monthly invoice.

5.4 Remedies. If the MUNICIPALITY fails to make any payment due STREETSCAN for services and expenses within thirty (30) days after receipt of STREETSCAN's statement therefor, STREETSCAN may, after giving seven (7) days' written notice to the MUNICIPALITY, suspend services under this AGREEMENT. Unless payment is received by STREETSCAN within seven (7) days of the date of the notice, the suspension shall take effect without further notice. In the event of a suspension of services, STREETSCAN shall have no liability to the MUNICIPALITY for delay or damage caused the MUNICIPALITY because of such suspension of services.

5.5 Costs of Collection. The MUNICIPALITY agrees to pay all collection related costs that STREETSCAN incurs enforcing the terms of this AGREEMENT, including attorney's fees.

ARTICLE 6 - GENERAL PROVISIONS

6.1 Standard of Care

The services provided by STREETSCAN shall be performed in accordance with generally accepted professional practice consistent with that degree of skill and care ordinarily exercised by similar professionals performing similar services under the same or similar circumstances and conditions. STREETSCAN makes no other representations or warranties, whether expressed or implied, with respect to the services rendered hereunder.

6.2 Risk Allocation/Limitation of Liability

6.2.1 STREETSCAN is not responsible for any delay, disruption or liabilities caused by the failure or the inability of any state, federal, local, or other authority to review or take other appropriate action on a timely basis with respect to services performed by STREETSCAN under this AGREEMENT.

6.2.2 STREETSCAN shall be liable only to the extent that its gross negligence is the proximate cause of any injury or damage to the MUNICIPALITY. In the event that STREETSCAN is adjudicated or otherwise found to be jointly negligent, STREETSCAN'S liability shall be limited to the proportion or degree of its actual negligence, and recovery against STREETSCAN shall be limited to STREETSCAN'S percentage share of the joint negligence as applied against the total amount recoverable.

6.3 Dispute Resolution

This Agreement shall be deemed to have been made in Massachusetts and the validity, interpretation and performance of this Agreement shall be governed by and construed in accordance with the substantive law of Massachusetts, excluding, however, such laws as pertain to conflicts of law. STREETSCAN and the MUNICIPALITY forever renounce and waive their right to a trial by jury with respect to any demand, claim or counterclaim arising under this Agreement. Except for claims for injunctive relief, STREETSCAN and the MUNICIPALITY agree that all other claims, disputes and controversies between them arising under this Agreement shall be finally resolved by binding arbitration conducted by the American Arbitration Association, or such other person or arbitration service as the parties mutually agreed upon. Either STREETSCAN or the MUNICIPALITY may demand arbitration by providing the other party 10 days' notice that notifying party is filing for arbitration. All arbitration proceedings will take place in Boston, Massachusetts. The arbitrator(s) may grant compensatory damages and costs to the prevailing party (but not punitive or exemplary damages) and that the costs of arbitration shall be borne equally by STREETSCAN and the MUNICIPALITY, except that STREETSCAN and the MUNICIPALITY shall bear their own attorneys' fees. This right to arbitration will not preclude or affect in any manner the rights of STREETSCAN to equitable relief hereunder.

6.4 Governing Law

The AGREEMENT shall be governed by and interpreted in accordance with the laws of the Commonwealth of Massachusetts.

6.5 Comprehensive General Liability Insurance

STREETSCAN shall secure and maintain, for the duration of this PROJECT, the following Comprehensive General Liability Insurance policy or policies at no cost to the MUNICIPALITY.

With respect to the operations STREETSCAN performs STREETSCAN shall carry:

Comprehensive General Liability Insurance providing a combined single limit of One

Million Dollars ($1,000,000) for bodily injuries, death, and property damage to others with a Two Million Dollars ($2,000,000) General Aggregate.

6.6 Automobile Liability Insurance

STREETSCAN shall secure and maintain for the duration of this PROJECT, Automobile Liability Insurance covering the operation of all motor vehicles, including those hired or borrowed, used by STREETSCAN in connection with this AGREEMENT, in the following amount:

6.6.1 Not less than Five Hundred Thousand Dollars ($500,000) for all damages arising out of bodily injuries to or death of one person and subject to that limit for each person, a total limit of Five Hundred Thousand Dollars ($500,000) for all damages arising out of bodily injuries to or death of two or more persons in any one accident or occurrence, and

6.6.2 Not less than One Million Dollars ($1,000,000) for all damages arising out of injury to or destruction of property in any one accident or occurrence.

6.7 Workers Compensation Insurance Coverage

6.7.1 STREETSCAN shall maintain statutory Worker's Compensation insurance coverage for all of it employees at the PROJECT as required by the Commonwealth of Massachusetts.

6.7.2 If the MUNICIPALITY is located outside of the Commonwealth of Massachusetts, STREETSCAN agrees to obtain statutory Worker's Compensation insurance coverage for all of its employees at the PROJECT, if any, as required by the laws of the state where the work is performed.

6.8 Non-Discrimination In Employment – STREETSCAN

STREETSCAN agrees and certifies that in providing the services described herein, it shall not discriminate against any employee or applicant because of race, color, religion, age, sex, sexual orientation, or national origin. STREETSCAN further agrees to be bound by and abide by any and all applicable governmental regulations pertaining to non-discrimination.

6.9 Precedence

These Terms and Conditions shall take precedence over any inconsistent or contradictory provisions contained in any proposal, contract, purchase order, requisition, notice to proceed, or like document regarding STREETSCAN'S services.

6.10 Severability

If any of these Standard Terms and Conditions shall be finally determined to be invalid or unenforceable in whole or part, the remaining provisions hereof shall remain in full force and effect ,and be binding upon the parties hereto. The parties agree to reform this AGREEMENT to replace any such invalid or unenforceable provision with a valid enforceable provision that comes as close as possible to the intention of the stricken provision.

6.11 Survival

ARTICLE 6 shall survive the completion of services under this AGREEMENT and the termination of this AGREEMENT for any cause.

6.12 Force Majeure

Neither MUNICIPALITY nor STREETSCAN shall be considered in default in the performance of its obligations hereunder if such obligations were prevented or delayed by any cause beyond the reasonable control of the party which include, but are not limited to acts of God, labor disputes, or civil unrest.

The party affected by force majeure shall inform the other parties in writing regarding the particulars of the event of force majeure, and shall, within fifteen (15) days from the occurrence of such event, provide a report to the other parties explaining the reason for which the obligations cannot be performed in whole or in part and delayed performance is necessary and the proposed remedy.

ARTICLE 7 - TERMINATION

7.1 Subject to the terms set forth in Article 5.4 above, the obligation to provide further services under this AGREEMENT may be terminated by either party upon thirty days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.

7.2 If the PROJECT is suspended or abandoned in whole or in part for more than three months, STREETSCAN shall be compensated for all services performed prior to receipt of written notice from the MUNICIPALITY of such suspension or abandonment, together with other direct costs then due and all Termination Expenses as defined in Paragraph 7.3. If the PROJECT is resumed after being suspended for more than three months, the PARTIES agree that STREETSCAN'S compensation shall be adjusted to the market rates for the services selected by the MUNICIPALITY at the time the PROJECT is resumed.

7.3 In the event of termination by the MUNICIPALITY under Paragraph 7.1 upon the completion of any phase of the PROJECT, progress payments due STREETSCAN for services rendered through such phase constitute payment for such services. In the event of any such termination, STREETSCAN will be paid for all unpaid services and unpaid other direct costs, plus all Termination Expenses. Termination Expenses means additional other direct costs directly attributable to termination, which, if termination is at the

MUNICIPALITY'S convenience, shall include an amount computed as 10 percent of total compensation for the PROJECT earned by STREETSCAN to the date of termination.

ARTICLE 8 - OWNERSHIP AND USE OF DOCUMENTS

8.1 During the pendency of the PROJECT, the MUNICIPALITY shall have access to STREETSCAN'S work product from the PROJECT and use of STREETSCAN software in order to utilize and understand the date. Such work product is not intended or represented to be suitable for reuse by the MUNICIPALITY or others on extensions of the PROJECT or on any other PROJECT. Any reuse or alteration without written verification or adaptation by STREETSCAN for the specific purpose intended shall be at the MUNICIPALITY'S sole risk and without liability or legal exposure to STREETSCAN, and the MUNICIPALITY shall indemnify and hold STREETSCAN harmless from all claims, damages, losses and expenses, including reasonable attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation shall entitle STREETSCAN to further compensation at rates to be agreed upon by the MUNICIPALITY and STREETSCAN.

8.2 Notwithstanding the MUNICIPALITY'S right to use and access the data, the parties agree that STREETSCAN retains the ownership of all raw data and expressly agree that STREETSCAN may re-use this data, including using this data for research, further development of their algorithms, and other commercial purposes.

8.3 Following delivery of final results, MUNICIPALITY will be able to access all results for a period of one year from the date of delivery. STREETSCAN agrees to maintain the MUNICIPALITY'S web-based portal for their access and will maintain a backup version of the data onsite and through cloud-based services. MUNICIPALITY'S initial license for this access is active for 1 year and sold with the initial proposal.

8.4 At the conclusion of the one-year period referenced in 8.3, MUNICIPALITY has the option to renew its access subscription on an annual basis. Renewals are good for one (1) year and must be paid in a one-time payment made at the beginning of the renewal term. STREETSCAN reserves the right to withhold access pending receipt of the renewal payment. Renewal pricing is based on the surveyed lane miles and is subject to adjustment for inflation based on the most recent annual Consumer Price Index for All Urban Consumers (CPI-U) in the Salt Lake City area. Any and all renewals will be handled by the execution of an additional subscription agreement. The renewal period will not begin until payment is received by STREETSCAN. Renewals may be made as long as the MUNICIPALITY desires access to the data. Non-payment of the renewal notice, once the renewal has begun, will lead to removal of the web-based portal from STREETSCAN'S server and termination of MUNICIPALITY'S access to their data.

ARTICLE 9 – CONFIDENTIALITY

MUNICIPALITY agrees not to disclose any of STREETSCAN'S confidential or proprietary information to any person unless requested in writing from STREETSCAN and

approved in writing by STREETSCAN, and agrees to bind its employees, officers, and agents to this same obligation.

ARTICLE 10 – SOLE REMEDY

Notwithstanding anything to the contrary contained herein, MUNICIPALITY and STREETSCAN agree that their sole and exclusive claim, demand, suit, judgment, or remedy against each other shall be asserted against each other's corporate entity and not against each other's shareholders, directors, officers, or employees.

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT the day and year first above written.

ACCEPTED FOR STREETSCAN, INC.	South Weber City, UT
By Its Jon-Erik Dillon	By: DocuSigned by: David J. Larson 051A8FAC8557468...
Jon-Erik Dillon, CEO	David J. Larson, City Manager

EXHIBIT A

StreetScan 2021 Hourly Rates	Rates
Sr. Engineer/Professional Engineer	$ 175
Sr. Implementation Project Manager	$ 150
Computer Engineer	$ 150
R&D Engineer	$ 150
Project Manager	$ 100
GIS Technician	$ 85
Field Engineer	$ 80
Driver	$ 60
Field Technician	$ 60
QC Technician	$ 45

SALES ORDER | PAVEMENT SERVICES

Sales Order Number	JD-PMT-44453
Municipality	South Weber City, UT
Sales Rep	Jon-Erik Dillon
Agreement for Services Date	Tuesday, September 14, 2021

StreetScan

PAVEMENT MANAGEMENT

	SERVICES INCLUDED	CENTERLINE MILES	$/mi	TOTAL
Pavement Management Services	ScanCar Data Collection Data Processing Data Delivery	28 mi	$160	$4,480
Mobilization & Setup Cost		<fixed>		$1,000
TOTAL				**$5,480**
TOTAL PAVEMENT SERVICES SELECTED				**$5,480**

PAYMENT TERMS

UPON COMPLETION OF	PROGRESS PAYMENT	OF FEES FOR	NET PAYMENT
ScanCar Data Collection	100%	Mobilization & Setup Cost	$1,000
ScanCar Data Collection	50%	Pavement Management Services	$2,240
Data Processing	40%	Pavement Management Services	$1,792
Data Delivery	10%	Pavement Management Services	$448
TOTAL PAVEMENT SERVICES SELECTED			**$5,480**

ACCEPTED FOR:
STREETSCAN INC

Jon-Erik Dillon

Jon-Erik Dillon, CEO

Date: Sept. 14th 2021

ACCEPTED BY:
South Weber City, UT

DocuSigned by:
David J. Larson
051A8FAC8557468...

Date: 9/29/2021 | 11:10 AM MDT

2020-01-01
2025-12-31

SALES ORDER | SIDEWALK SERVICES

Sales Order Number	JD-SWT-44453
Municipality	South Weber City, UT
Sales Rep	Jon-Erik Dillon
Agreement for Services Date	Tuesday, September 14, 2021

StreetScan

SIDEWALK MANAGEMENT

	SERVICES INCLUDED	SIDEWALK MILES	$/mi	TOTAL
Sidewalk Management Services	ScanCart Data Collection Data Processing Data Delivery	46 mi	$210	$9,660
Mobilization & Setup Cost		<fixed>		$1,500
TOTAL				**$11,160**
TOTAL SIDEWALK SERVICES SELECTED				**$11,160**

PAYMENT TERMS

UPON COMPLETION OF	PROGRESS PAYMENT	OF SERVICE	PAYMENT AMOUNT
ScanCart Data Collection	100%	Mobilization & Setup Cost	$1,500
ScanCart Data Collection	50%	Sidewalk Management Services	$4,830
Data Processing	40%	Sidewalk Management Services	$3,864
Data Delivery	10%	Sidewalk Management Services	$966
TOTAL SIDEWALK SERVICES SELECTED			**$11,160**

ACCEPTED FOR:
STREETSCAN INC

Jon-Erik Dillon

Jon-Erik Dillon, CEO

Date: Sept. 14th 2021

ACCEPTED BY:
South Weber City, UT

DocuSigned by:
David J. Larson
051A8FAC8557468...

Date: 9/29/2021 | 11:10 AM MDT

SALES ORDER | STREETLOGIX SERVICES

Sales Order Number	JD-SLX-44453
Municipality	South Weber City, UT
Sales Rep	Jon-Erik Dillon
Agreement for Services Date	Tuesday, September 14, 2021

STREETLOGIX				
	SERVICES INCLUDED	POPULATION		TOTAL
ASSET MANAGEMENT MODULE	Annual Software License	7,800		$2,500
Implementation Services (One-Time)		<fixed>		$1,500
WORK ORDER MODULE	Annual Software License	7,800		$9,000
Implementation Services (One-Time)		<fixed>		$7,500
CITIZEN ENGAGEMENT MODULE	Annual Software License	7,800		$3,000
Implementation Services (One-Time)		<fixed>		$2,500
TOTAL				**$26,000**
Jones & Associates Discount	**Fixed**	**1**	**($1,250)**	**($1,250)**
Data Hosting & Support	Fixed	1	$2,000	$2,000
TOTAL - A LA CARTE Services				**$2,000**
TOTAL STREETLOGIX SERVICES SELECTED				**$26,750**

PAYMENT TERMS

UPON COMPLETION OF	PROGRESS PAYMENT	OF SERVICE	PAYMENT AMOUNT
Execution of License Agreement	100%	ASSET MANAGEMENT MODULE	$2,500
Execution of License Agreement	100%	WORK ORDER MODULE	$9,000
Execution of License Agreement	100%	CITIZEN ENGAGEMENT MODULE	$3,000
Software Implementation	100%	ASSET MANAGEMENT MODULE	$1,500
Software Implementation	100%	WORK ORDER MODULE	$7,500
Software Implementation	100%	CITIZEN ENGAGEMENT MODULE	$2,500
Data Hosting & Support	100%	Data Hosting & Support (net J&A Discount of $1,250)	$750
TOTAL STREETLOGIX SERVICES SELECTED			**$26,750**

ACCEPTED FOR:
STREETSCAN INC

Jon-Erik Dillon

Jon-Erik Dillon, CEO

Date: Sept. 14th 2021

ACCEPTED BY:
South Weber City, UT

DocuSigned by:
David J. Larson
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Date: 9/29/2021 | 11:10 AM MDT

StreetScan

Automated Asset Management Proposal

South Weber City, UT

September 14, 2021

Proposal for the City of South Weber UT

Prepared for:

Mark McCrae, City Treasurer
David Larson, City Manager

South Weber, UT

1600 E. South Weber Drive

South Weber, UT 84405

801.479.3177

Prepared by:

StreetScan Inc.

603 Salem Street

Wakefield, MA 01880

617.399.8236

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Automated Asset Management Proposal
South Weber, UT

September 14, 2021

Mark McCrae
City Treasurer
David Larson
City Manager
1600 E. South Weber Dr.
South Weber, UT 84405

Thank you for your interest in StreetScan. Municipalities worldwide are faced with aging infrastructure and limited budget resources to repair and maintain them. Having the ability to monitor the health of your street network through an abundance of data collected via multiple vehicle-mounted sensors allows your staff to properly allocate repair and maintenance budgets. This is now made possible in an affordable, objective way utilizing StreetScan's advanced mobile sensing vehicle and online web-based app.

Our service offering includes:

- Data Collection: vehicle survey of paved lane miles.
- Data Processing of pavement condition and assets.
- Data Visualization: pavement monitoring system including StreetScan's Pavement Rating (SPR) Report.
- Pavement Management Plan: maintenance and budget options, suggestions and scenarios; optional cloud-based access with robust interactive planning and budgeting tools.

Also available (see Appendices for more details):

- 360° imagery Viewer
- Optional asset extractions including pavement markings, traffic signs, utility assets, street lighting, sidewalks, curbs, trees, etc.

On behalf of the team at StreetScan, we are pleased to submit this proposal for your review. We strive to be as accurate as possible in our initial projections and cost estimates, and look forward to meeting with you soon to discuss any questions you may have.

Yours truly,

Angie M. Stevens

Angie Stevens
Channel Sales Manager

1. ABOUT US

At StreetScan, we come to work each day because we want to solve our clients' biggest problems when it comes to monitoring their street assets. We have a Smart City Mobile Sensing Service Offering targeted at providing clients with an intelligent, objective and affordable way to manage those assets.

Throughout the history of business, people have used data to make more informed decisions. StreetScan enables exactly this for our municipal clients.

Municipalities no longer have to send inspectors into the field for pavement surveys. Now, they can leverage the power of data to improve their decision-making abilities.

This all came about as a result of a 2009 groundbreaking project at Northeastern University that received more than $18 million in funding over a 5-year period. This stamp of approval was due to the power of the project to end localized pavement inspections and enable continuous network-wide health monitoring of roadways.

What kind of technology made this possible? Versatile Onboard Traffic Embedded Roaming Sensors (VOTERS). A framework, prototype and blueprint were successfully designed and developed, and in 2015, StreetScan was launched as a spin-off of the project. It is our comprehensive, advanced hardware and software turn-key solution that distinguishes us from the competition. More importantly, it provides street asset monitoring at a reasonable cost for our clients.

2017 saw the emergence of our current Smart City Service Offering and we have combined this service with our pavement management offering. Clients save time, money and no longer require additional field surveys. Our ScanCars can enable municipalities and other clients to extract and monitor critical assets such as pavement condition, traffic signage, pavement markings, streetlights and other transportation infrastructure assets.

We embrace progress. In 2018, StreetScan launched Streetlogix. This extensively customizable, web-based GIS asset management software has changed the landscape for municipalities. Municipalities can now optimize their budget within a user-friendly GIS environment. The system provides objective information on the current state of their infrastructure and makes maintenance and repair recommendations, including the prioritization of roadway projects. Using unprecedented data visualization and budget optimization tools, our clients have been creating defensible data-driven Capital Improvement Plans while successfully justifying their budgeting requests.

The most important thing you need to know about StreetScan is our data-driven approach. It will change the way you monitor your street assets – for the better and for the future.

StreetScan streetlogix

Powered by AI

2.OUR TEAM

A**ngie Stevens – Channel Sales Manager -** Angie is responsible for developing and executing Streetlogix's Partnership Program. Her primary goal is to build relationships with our partners and understand their needs. Angie provides project governance, customer on-boarding and enablement, and implements business strategies to drive and help the partners' customers realize the full potential of their Streetlogix investment. She has a long history in developing channel relationships to create wins for her organizations, its partners, and most importantly its customers. Previously, Angie was a Channel Sales Manager at Cartegraph, as well as a Strategic Partner Account Manager at 360training and QuickStart. She received her B.A. in English from the University of Missouri – Columbia.

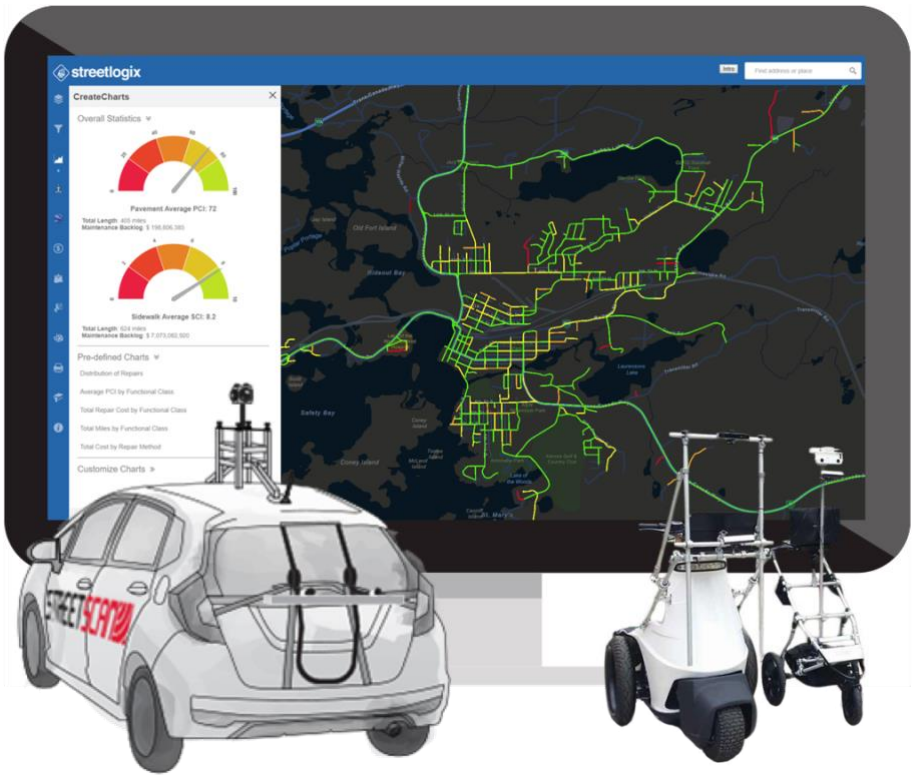
David M. Vines – Sr. Project Manager – David will provide project management leadership for the road condition assessment of the municipal road network. As the primary point of client contact, David will coordinate the project from the kickoff meeting to project delivery. He will provide geotechnical support for route creation, results publishing and end-user training on software functionality. David joined StreetScan as a Research and Development Engineer and was instrumental in the initial setup of the firm. He received his Ph.D. in Civil Engineering and a MS in Structural Engineering from Northeastern University in Boston, MA, as well as a B.S. in Civil Engineering from Valparaiso University in Valparaiso, IN.

Kathy Zarrehparvar – Sr. Implementation Project Manager – Kathy works closely with Streetlogix customers to successfully implement our software products. She manages projects from initiation to delivery and ensures that Streetlogix users are properly onboarded. Kathy brings 15 years' experience in project management, software implementation, and process improvements skills. She is well versed in understanding customers' needs and goals to help tailor solutions that optimize their operations and workflows. A Certified Project Management Professional, Kathy received her B.S. in Civil Engineering from the Eastern Mediterranean University in Northern Cyprus, and an Associate Certificate in Applied Web Development from the British Columbia Institute of Technology.

Ivano Teti – Customer Success Manager, Streetlogix – Ivano provides ongoing support to our customers from their onboarding of Streetlogix through the long term, ensuring they reach their goals for integrating asset management technologies to enhance their daily operations. He brings over 13 years' experience in sales and management, with a strong knowledge of the traffic, transit signal and detection industry. Prior to joining Streetlogix, Ivano managed accounts and inside sales at Electromega Ltd. where he provided adaptable and cost-efficient traffic solutions to Ontario municipalities alongside external partners such as Leotek, Siemens, and others. Ivano has completed management courses at Concordia University's John Molson School of Business in Montreal, QC.

3. THE STREETSCAN SYSTEM

StreetScan's automated data collection and algorithm-based roads prioritization software can help optimize your road budget and provide user-friendly analytics about the status of your roads and sidewalks.



Data Collection

StreetScan's vehicles equipped with multi-sensor systems detect pavement & sidewalk surface distresses without interrupting traffic flow.

Data Processing

Optimized algorithms evaluate and prioritize repairs of assets, including pavement, sidewalks, traffic signs, and more.

GIS Analytics

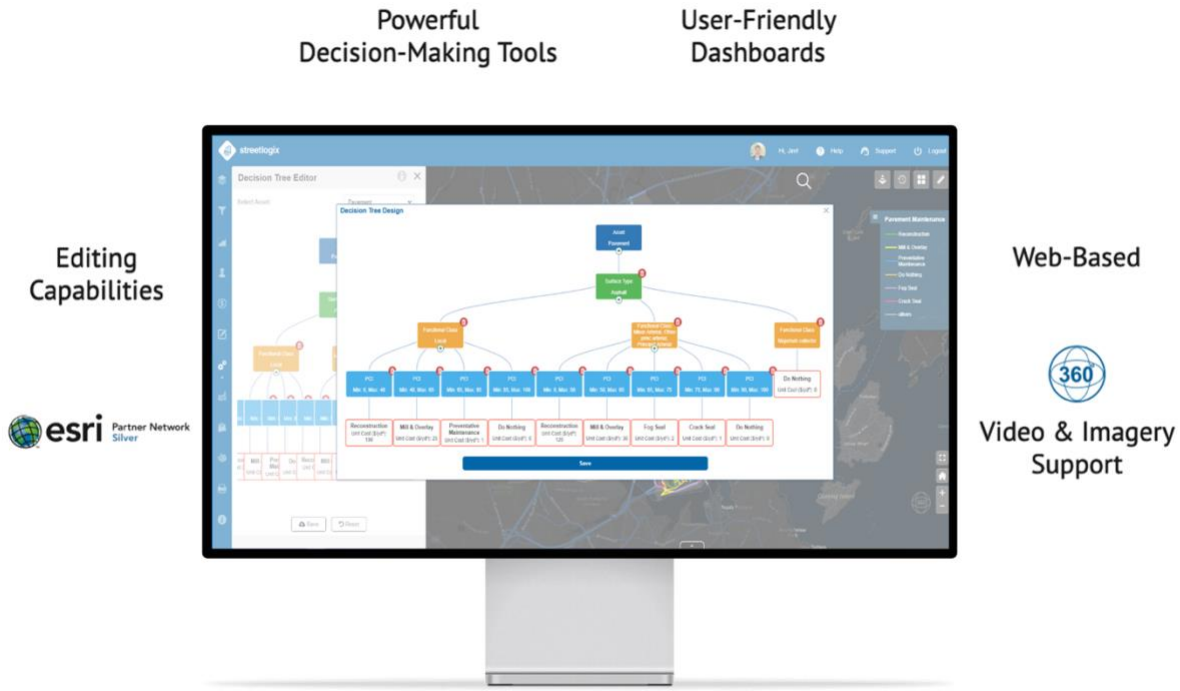
Collected data goes into Streetlogix, our unique **cloud-based application,** allowing municipalities to visualize and manage road assets in order to schedule maintenance within a user-friendly GIS environment.

4. STREETLOGIX SOFTWARE

4.1 ASSET MANAGEMENT SOFTWARE

Streetlogix's **Asset Management Module** is a cloud-based mapping, analysis, and decision-making tool for the public sector. Use it to create maps, analyze data and plan road repairs, sidewalk projects, traffic signs and right-of-way budgeting decisions. Your data and maps are stored in a secure and private infrastructure and can be configured to meet your mapping and IT requirements.

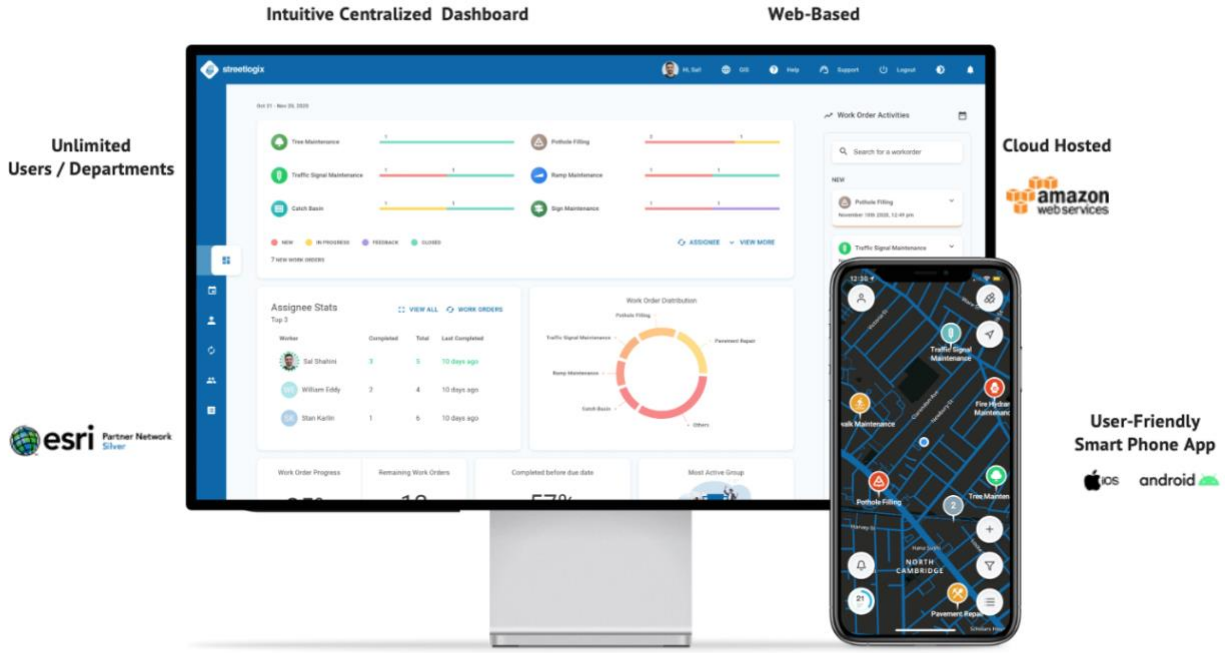
Asset Management Key Features:



4.2 WORK ORDER MANAGEMENT SYSTEM

Streetlogix's **Work Order Management System** brings greater organization, efficiency, and accountability to your task management planning, allowing you to effectively schedule, track and manage all work orders, as well as monitor work order performance metrics in a centralized dashboard. Plus, you can track and complete work orders in the field using our app on your mobile device.

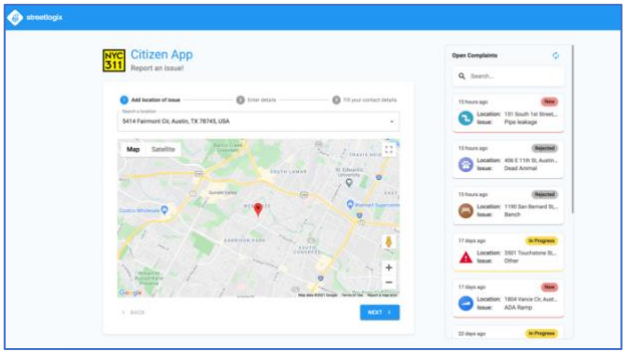
Work Order Key Features:

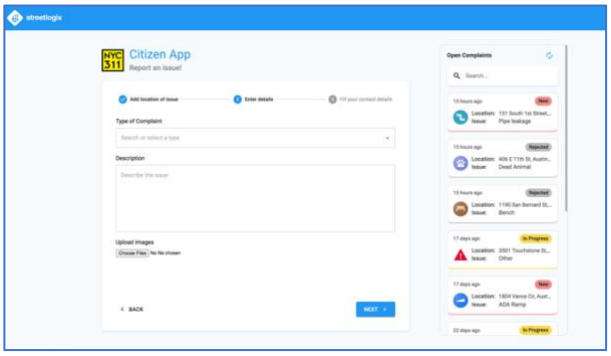


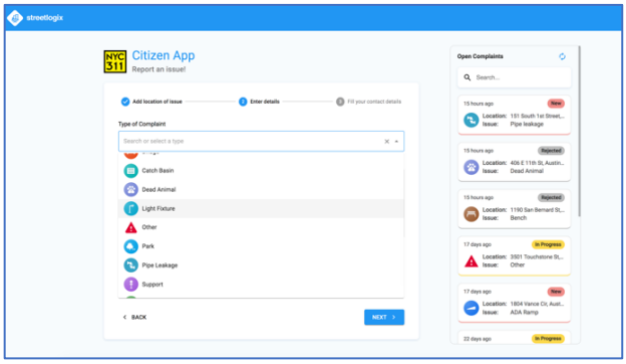
4.3 CITIZEN ENGAGEMENT APP

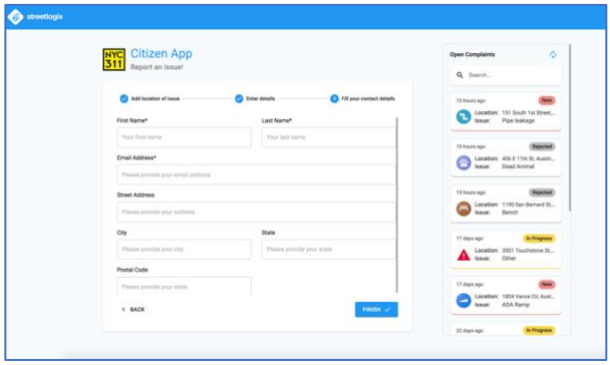
Streetlogix's **Citizen Engagement App** empowers your residents to submit service requests while enabling you to easily monitor the submissions. Our 311 application ensures your residents that each request is heard, acknowledged and tracked. It is simple to use, easy to set up, and allows automatic updates for residents on efforts to keep their community functioning. Streetlogix Citizen Engagement app helps you build a collaborative, transparent and stronger community.

Resident Online Form:



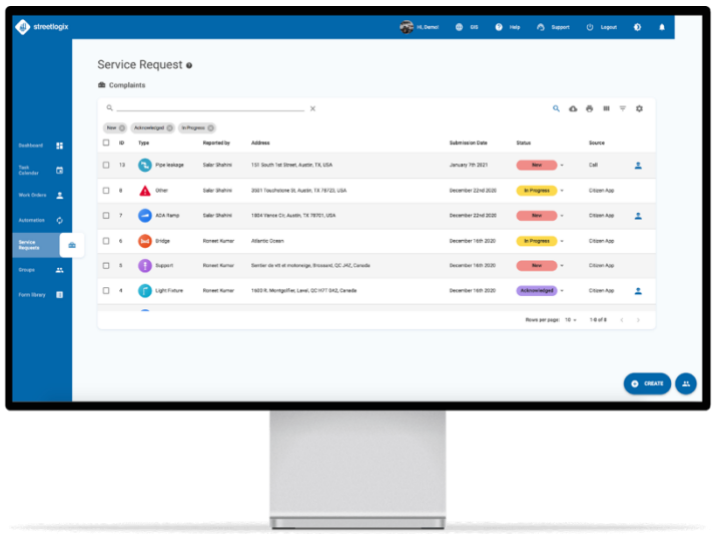






Layout Editor:

Seamless integration with Work Order App



5. PRICING OVERVIEW

5.1 DATA COLLECTION (STREETSCAN)

PAVEMENT MANAGEMENT				
	SERVICES INCLUDED	**CENTERLINE MILES**	**$/CL**	**TOTAL**
StreetScan DATA COLLECTION	ScanCar Data Collection	28 mi	$160	$4,480
	Data Processing			
	Processed Data Results			
Mobilization and Setup Cost*				$1,000
TOTAL				**$5,480**

*Assumes project is completed in combination with a nearby project.

SIDEWALK MANAGEMENT				
	SERVICES INCLUDED	**SIDEWALKS MILES**	**$/MI**	**TOTAL**
StreetScan DATA COLLECTION	ScanCart Data Collection	46 mi	$210	$9,660
	Data Processing			
	Sidewalk Videos			
	Processed Data Results			
Mobilization and Setup Cost*				$1,500
TOTAL				**$11,160**

*Assumes project is completed in combination with a nearby project.

5.2 SOFTWARE (STREETLOGIX)

STREETLOGIX SOFTWARE MODULE PRICING					
streetlogix MODULES	POPULATION	ANNUAL LICENSE	ANNUAL DATA	IMPLEMENTATION FEE	TOTALS
ASSET MANAGEMENT	7,800	$2,500	$500	$1,500	$4,500
WORK ORDER		$9,000	$1,500*	$7,500	$18,000
CITIZEN ENGAGEMENT		$3,000	Included with work order	$2,500	$5,500
Jones & Associates Partner Discount					($1,250)
Total (Includes $7,999 worth of assets from section 5.3)					$26,750

* Recommended data package as per the table below

The following Hosting Fees are for the Work Order module:

DATA HOSTING AND MAINTENANCE (AWS CLOUD)*				
	PACKAGE	DATA STORAGE	DATA TRANSACTIONS	ANNUAL COST
amazon web services	10	10 GB/ Year	2 GB / Month	$750*
	25	**25 GB / Year**	**5 GB / Month**	**$1,500***
	50	50 GB / Year	10 GB / Month	$2,750*
	100	100 GB / Year	20 GB / Month	$5,500*
	250	250 GB / Year	50 GB / Month	$12,000*

*Fees are based on data usage. The bolded package above is your municipality's estimated usage (based upon population). The data could also be hosted by the municipality if you have the internal hosting capacity.

5.3 OPTIONAL SERVICES AND ASSETS

One of our unique advantages is the ability for our clients to extract, assess and obtain actionable data from other Municipal assets utilizing the same data collected for the Pavement Management Survey. Below is a list of additional assets we can process from the collected data. This is set up as an a-la-carte menu so you can pick and choose the assets to meet your asset management needs.

Assets	Unit L=Lane CL=Centerline	QTY (est.)	Price ($/Unit)	PRICE ADDER (est.)	
				STANDARD	Work Order Module
Assets Extracted from ScanCar Dataset (Pavement Management Service Required)					
360 Degree Imagery Package	CL-M	28	$25	$700	Included
Pavement Markings (2 Attributes)	CL-M	28	$20	$560	Included
Pavement Markings (3 Attributes)			$50	$1,400	$5,250
Sidewalk GIS Database	CL-M	28	$30	$840	Included
Curb GIS Database	CL-M	28	$50	$1,400	Included
Traffic Signage (3 Attributes)	Signs	975	$1	$975	Included
Traffic Signage (4 Attributes)			$3	$2,925	$2,925
Catch Basins	Catch Basins	560	$2	$1,120	Included
Manholes	Manholes	840	$1	$840	Included
Tree GIS Inventory	Trees	560	$3	$1,680	
Street Lighting GIS Database	Lights	780	$2	$1,560	Included
Assets Extracted from ScanCart Dataset (Sidewalk Management Service Required)					
ADA Sidewalk Width	S-Miles	46	$40	$1,840	
ADA Ramp Compliance	Ramp	690	$6	$4,140	

Assumptions:

All asset quantities are estimated based on lane or centerline miles except for:

- Traffic Signs are estimated at 1/8 of the municipal population
- Street Lighting which is 1/10 of the municipal population
- Catch Basins which is estimated at CL-M multiplied by 20
- Metal Objects (Manholes & Valve) which is estimated at CL-M multiplied by 30
- Tree Inventory which is estimated at CL-M multiplied by 20
- ADA Ramp Inventory which is estimated at Sidewalk Miles multiplied by 15

Annex

APPENDIX A – SCOPE OF WORK AND DELIVERABLES

ROAD AND SIDEWALK ASSESSMENT SERVICE

StreetScan offers a technology-based Pavement Management approach for continuous health monitoring of your road network. Combining years of R&D at Northeastern University, StreetScan's vehicles and web-based app Streetlogix save you time and make your repair dollars go further. We have developed a 4-step process to effectively Scan, Process and Manage your Road data.

STEP 1: DATA COLLECTION

Roads

Vehicle Deployed: ScanCar

StreetScan utilizes 3D imaging technology to measure road defects, such as cracking and bumps. The 3D imaging cameras provide a 8' (2.4m) of lateral road coverage and seamless road coverage in the direction of travel at speeds up to 65 mph (72kph). A 360 degree camera system provides imagery of the road surface and ROW. An Inertial Measurement Unit (IMU) enabled GNSS position system provides position location, even in the event of intermittent GPS satellite coverage.

Sidewalks

Vehicle Deployed: ScanCarts

StreetScan has developed a technology stroller-based approach which captures all the necessary distress & ADA data. We currently have 5 Carts in our fleet. StreetScan utilizes 2D imaging technology to measure sidewalk defects, such as Uplifts, Bumps, Holes, Cracking & Surface Texture. An IMU mounted on the cart measures tilt, slope & accelerations. A laptop computer is used for controlling data collection. An encoder on each wheel of the ScanCart's rear wheels provides accurate linear displacement along with a GPS, providing position information.

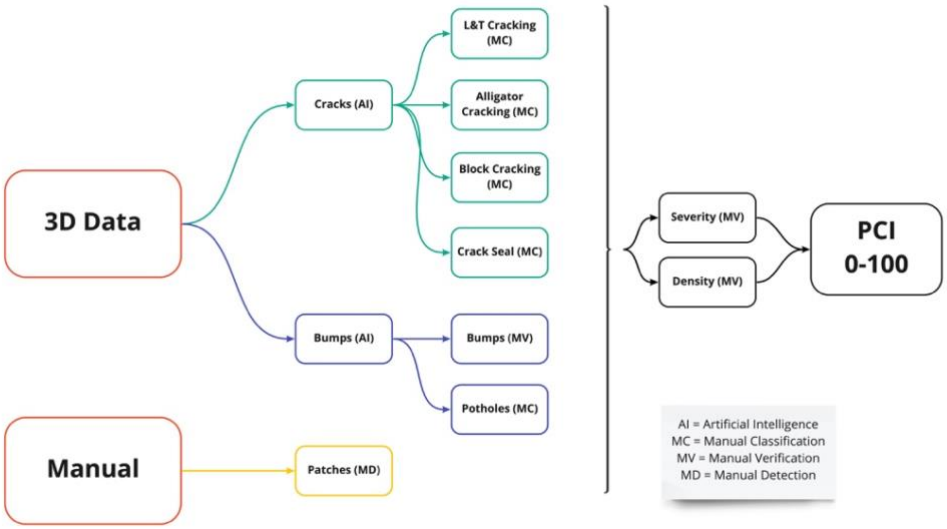
STEP 2: DATA EXTRACTION

Roads

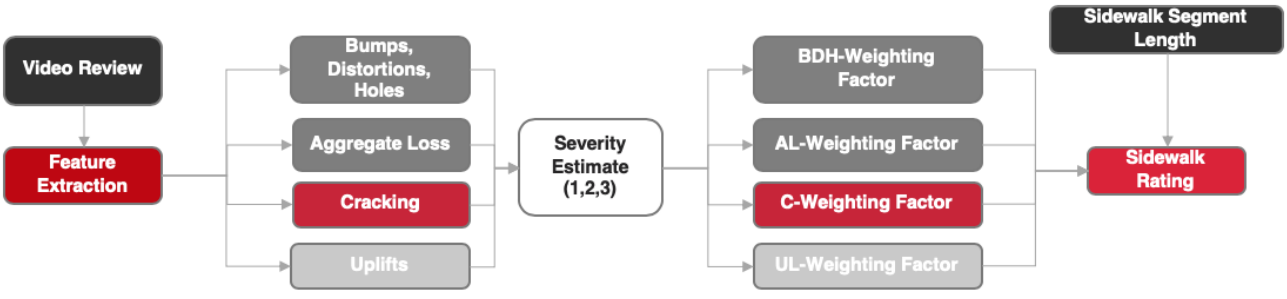
The collected data (TBs/day) is uploaded to the StreetScan server, where automated software processes the raw sensor data. Using advanced processing algorithms, the sensors' raw data is converted into meaningful parameters representing different aspects of pavement condition. Several of our key indicators are fused to determine the **StreetScan Pavement Rating (PCI)** for each road segment. StreetScan's GIS specialists segment the pavement evaluation data from intersection to intersection and populate the database allocated to the segment.

Sidewalks

StreetScan's basic approach uses a weighted failures scheme per linear distance for a given sidewalk segment. Individual failure or feature types are given various weightings depending on their contribution to perceived sidewalk condition. As an example, an uplift is considered to have more impact to the sidewalk quality than aggregate loss, so it is given a greater weighting in the rating formula.



Sidewalk Algorithm



STEP 3: DATA VISUALIZATION AND ANALYTICS

Roads

Municipal staff will be given access to Streetlogix, our GIS web-based application, in order to view and analyze all collected survey data in addition to data from other sources to assist in decision making.

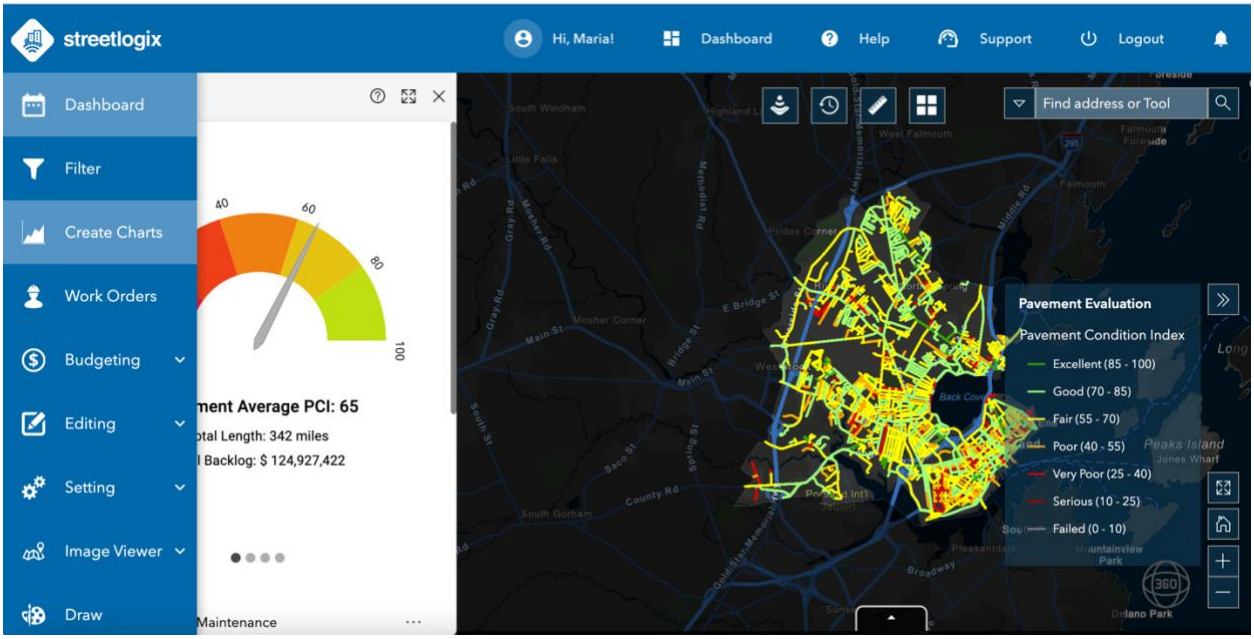
This provides staff an easy-to-use tool to quickly review PCI results, distress data and 360 images along with pavement history and other data that the municipality wants to be integrated. All data is hosted in the cloud, allowing users to login from anywhere on any computer to view the results. Streetlogix has many data import and export features making it compatible with any existing GIS solution concerning asset management. Streetlogix provides powerful data visualization and management tools including 360 viewer and extensive charts and dashboards (example below).

Sidewalks

Municipalities are given access to our GIS web-based application, Streetlogix, in order to view and analyze all collected survey data in addition to data from other sources to assist in decision making.

This provides clients an easy-to-use tool to quickly review sidewalk condition results, distresses and sidewalk images. All data is hosted in the cloud allowing users to login from anywhere on any computer to view the results. Streetlogix has many data import and export features making it compatible with any existing GIS solution. Streetlogix provides powerful data visualization and management tools including 360 viewer and extensive charts and dashboards (example below).

Portal view: Overall stats and available layers



STEP 4: MAINTENANCE PLANNING

Roads

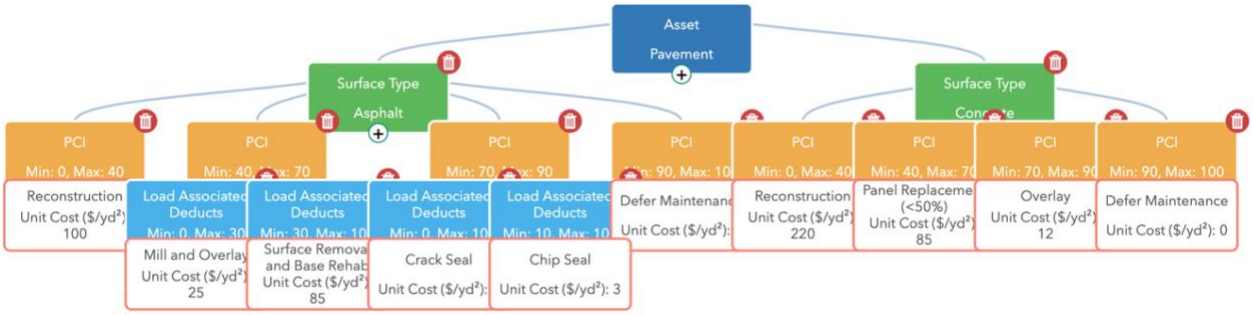
Once the inventory condition database and GIS web-app have been finalized, the work on implementing the pavement management side of the software begins. While pavement condition indicators are concerned with the current condition of the network, the management side of the process concerns itself with the analysis of condition, prediction of future condition, generation of maintenance options and pavement management scenarios. At this stage, the Client's preferred repair methods and associated costs are used to customize our Streetlogix asset management module. The results are compiled and reported to the client in our Streetlogix software and as a digital storymap.

Our decision-trees are highly customizable and we work with staff to tailor it to ensure our AI will provide the neccesarry maintenance and repair suggestions. All decision trees & underlying data will be editable by staff.

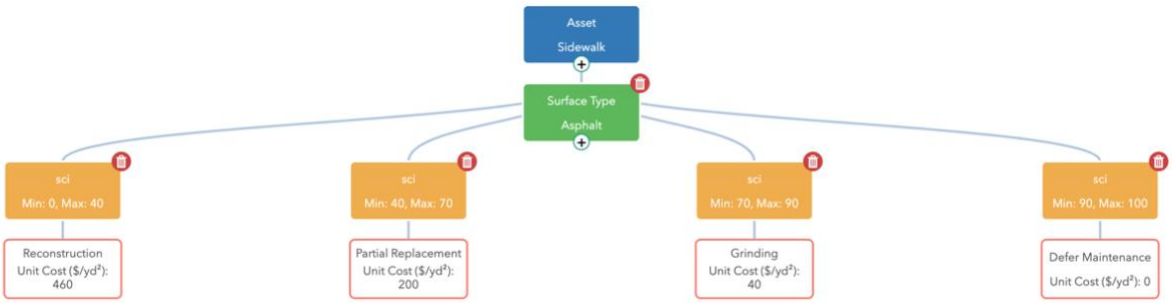
Sidewalks

Once the inventory condition database and GIS web-app have been finalized, the work on implementing the sidewalk management side of the software begins. While sidewalk condition indicators are concerned with the current condition of the network, the management side of the process concerns itself with the analysis of conditions, prediction of future conditions, generation of maintenance options and sidewalk management scenarios. At this stage, the Client's preferred repair methods and associated costs are used to customize our sidewalk management modules. The results are compiled and reported to the client in our Streetlogix software and as a pdf document.

Roads:



Sidewalks:



APPENDIX B – OPTIONAL SERVICES AND ASSET COLLECTION

StreetScan leverages AI with Semantic Segmentation in order to process the attributes which are included as part of the Work Order Module. As a result we guarantee over 80% accuracy of detecting all assets within the right of way but is subject to error due to obstructions or miss classifying the asset. 360 Imagery has the lowest margin of error and therefore is reliant on the imagery processed to obtain the assets.

Paving Markings

Through StreetScan's existing collected data, our geospatial engineering team can extract pavement markings and insert them into a separate GIS layer. All data is accessible through Streetlogix. A visual review of the markings determine their current condition and whether maintenance is required.

Attributes	Description
Category*	Left Turn, Right Turn, Crosswalk etc.
Location*	Global Positioning System (GPS) location (+/- 5 meters)
Condition	The analysis will be conducted from intersection to intersection and given a rating of either Good, Fair or Critical. If the length of the road is longer than 1,000 ft, the analysis will be broken up into 1,000 ft segments

*Attributes included for the basic Pavement Marking inventory

** Measurement device has a rated accuracy of 0.1 degrees. However, in practice due to variations in ground surface and location where measurement is take, measured value can typically vary +/- 1 degree*

Sidewalk GIS Database

StreetScan provides sidewalk locations, determined from existing data sources (satellite imagery, Google StreetView or ScanCar images) if available. All data is provided as a GIS layer.

Deliverable:

- GIS layer of sidewalk locations

Curb GIS Database

StreetScan provides curb locations, determined from front or side facing imagery. Data is provided as a GIS layer.

Deliverable:

- GIS layer of the linear features where curbs are present

Traffic Signage

StreetScan's traffic sign asset management service provides a simple solution for the Municipality to quickly and efficiently manage its traffic signs. StreetScan utilizes an algorithm to automatically locate traffic signs saving you time and money. Our geospatial engineering team then undergoes a rigorous Q&A process and collects multiple unique attributes. Traffic sign quantities are estimated at 1/8 of municipal population. Charges will be for actual number identified; please inform us if you have more accurate estimates.

Attributes	Description
Sign Category*	Regulatory, Warning, Guide, School, Recreation, Information, General
Sign Name*	Federal or State MUTCD designation or custom designation for specialized signs
GPS Location*	Global Positioning System (GPS) location (+/- 5 meters)
Sign & Post Condition	Good, Fair, Critical rating assessed through review of daytime digital images

*Attributes included for the basic sign inventory

Catch Basins

StreetScan provides catch basin locations, determined from existing data sources (satellite imagery, Google StreetView or ScanCar images) if available. All data is provided as a GIS layer.

Deliverable:
- GIS Layer of catch basin

Manhole

StreetScan provides location of circular Manhole access points which are visible in the road imagery data. All data is provided as a GIS layer.

Deliverable:
- GIS layer of manhole locations

Tree GIS Database

StreetScan provides tree locations which are situated in the right of way, determined from existing data sources satellite imagery, Google StreetView or ScanCar images if available. All data is provided as a GIS Layer.

Deliverable:
- GIS layer of tree location

Streetlight GIS Database

Utilizing the ScanCar's cameras, StreetScan has the ability to review already collected data and extract the necessary street lighting attributes. A new street lighting data layer will be accessible through Streetlogix.

Attributes	Description
GPS Location	Global Positioning System (GPS) location (+/- 5 meter)

ADA Sidewalk Width

StreetScan will manually calculate the sidewalk width from the 3D Data collected as this feature is not automated.

ADA Ramp Compliance Survey

StreetScan will determine the compliance of ADA Ramps, measuring the following attributes: ramp slope & cross slope, road slope & cross slope, flare slopes, ramp width, landing area, tactile pad (present/not present/condition). As part of this service, StreetScan provides imagery of all ramps and a GIS data layer accessible in Streetlogix, showing location of ADA ramps and all measured properties.

Deliverables:

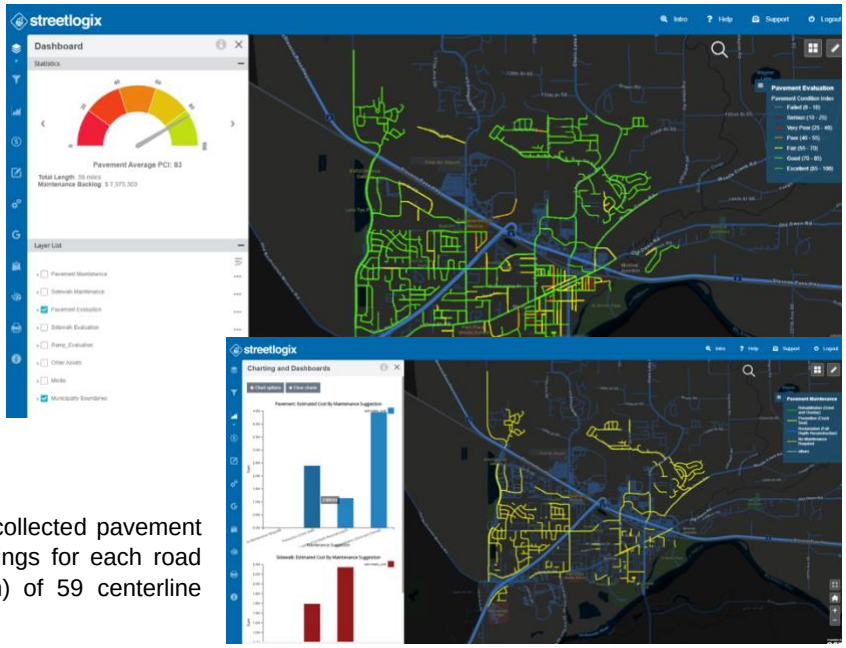
- GIS Layer with ramp location & missing ramps
- Image of ramps/no ramp
- Compliance
- Measured Attributes (shown below)

Attributes	Description
GPS Location	Global Positioning System (GPS) location (typically +/- 1.5 meters)
Image	Image of Ramp
Ramp Slope / Cross Slope	Angle (+/- 1 Degree)*
Road Slope / Cross Slope	Angle (+/- 1 Degree)*
Flare Slopes	Angle (+/- 1 Degree)*
Ramp Width Compliance	Yes/No
Landing Area Compliance	Yes, No/Obstructed
Tactile Pad	Present/Not Present & Condition

APPENDIX C – OUR CLIENTS

REFERENCES & ADDITIONAL INFORMATION

City of Monroe, WA



Project Objective:

The City of Monroe, WA, selected StreetScan to perform a mobile sensing survey of City's road & sidewalk network and prepare custom Maintenance and Repair suggestions.

The mandate also included ramp assessment.

Project Description:

In the summer of 2019, StreetScan collected pavement condition, texture and roughness ratings for each road segment (intersection to intersection) of 59 centerline miles and 76 lane miles.

StreetScan utilized specialized ScanVan vehicles to assess the condition of roadways and, using a pavement condition index scale which runs from 0-100, developed a Municipal-wide inventory of road condition.

For sidewalk surveys, StreetScan deployed mobile carts with high definition video capture capability to assess the condition of 75 miles of sidewalk. Through analysis techniques, sidewalk distresses such as cracking, aggregate loss, uplifts and surface distortion were identified, which were then used to calculate sidewalk condition ratings on a scale of 0 to 100–with 0 being the worst and 100 being ideal.

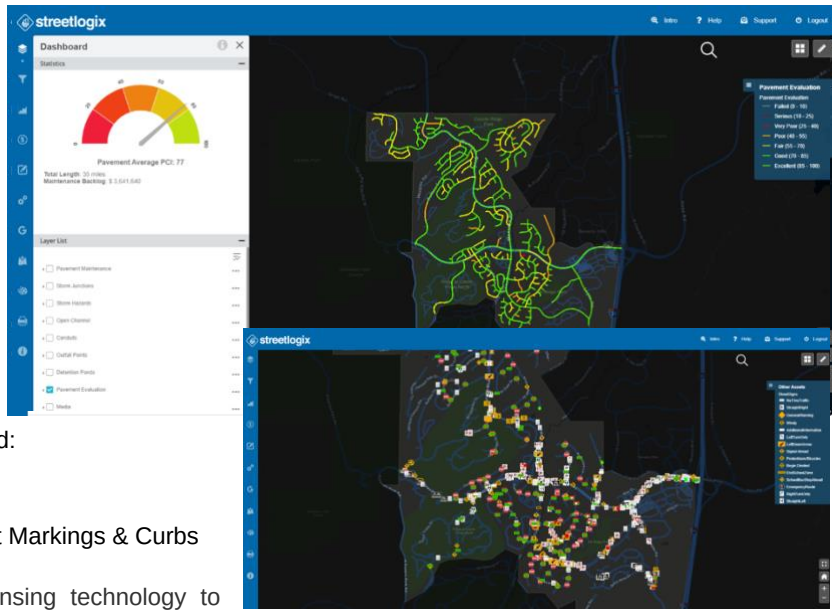
For ramp assessments, StreetScan deployed teams to physical measure various ramp slope and wear surface requirements as per the ADA regulation for compliance of each ramp assessed.

Project Outcome:

Results from the survey were placed in Streetlogix, providing an enriched view of the City's street network with color-coded pavement conditions, along with images for every scanned road and a range of decision-making tools. Staff is now able to interactively collaborate, share, edit, and view right-of-way assets as well as perform budget planning and estimate future maintenance and repair costs.

Project Contacts	
City of Monroe, WA	Scott Peterson, Deputy City Engineer (360) 863-4606 / speterson@monroewa.gov
StreetScan	Salar Shahini, Chief Data Officer (617) 399-8236 / salar.shahini.s@streetscan.com

City of Castle Pines, CO



Project Objective:

StreetScan was contracted by the City of Castle Pines, CO, to perform a roads assessment survey that would objectively collect pavement condition and ROW data and provide a custom pavement management plan.

Project Description:

In August of 2019, StreetScan surveyed:

- 35 centerline miles
- 42 lane miles
- 1,257 Traffic Signs, Pavement Markings & Curbs

StreetScan used vehicle-mounted sensing technology to assess road conditions in normal traffic flow and, using a pavement condition index scale which runs from 0-100 (with 0 being the worst and 100 being ideal), developed a Municipal-wide inventory of road condition. The system utilized 3D imaging technology to measure the severity and extent of road defects including cracking, bumps, surface distortions, surface texture and potholes. Additionally, the City selected StreetScan's enhanced visualization package that captured movies of the road surface and right-of-way.

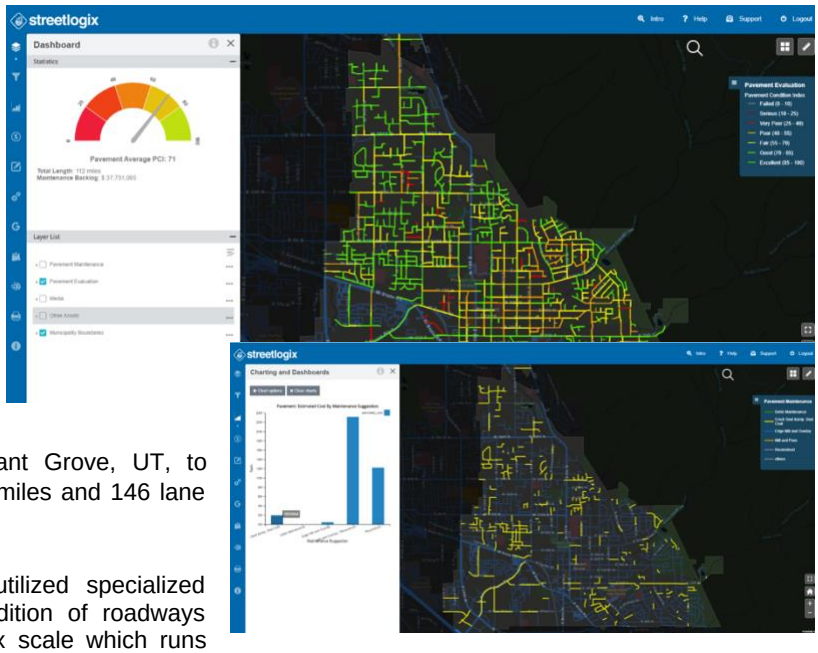
Through StreetScan's existing collected data, StreetScan's geospatial engineering team extracted other Municipal assets such as traffic signs, pavement marking lines & points and curb presence geospatial feature classes.

Project Outcome:

Results from the survey were placed in Streetlogix, providing an enriched view of the City's street network with color-coded pavement conditions and other assets, along with images for every scanned road and a range of decision-making tools.

Project Contacts	
City of Castle Pines, CO	Larry Nimmo, Public Works Director (303) 705-0216 / larry.nimmo@castlepinesco.gov
StreetScan	Salar Shahini, Chief Data Officer (617) 399-8236 / salar.shahini.s@streetscan.com

City of Pleasant Grove, UT



Project Objective:

The City of Pleasant Grove entrusted StreetScan to perform a mobile sensing survey of the City's road network to assess its current condition and prepare custom Maintenance and Repair suggestions.

Project Description:

StreetScan was contracted by Pleasant Grove, UT, to assess the condition of 112 centerline miles and 146 lane miles of Municipal-maintained roads.

In the spring of 2019, StreetScan utilized specialized ScanVan vehicles to assess the condition of roadways and, using a pavement condition index scale which runs from 1-100, developed a Municipal-wide inventory of road condition. Additionally, location of road features such as potholes, manholes and cracks were collected.

Project Outcome:

StreetScan delivered a pavement management plan and decision-making solutions via Streetlogix, its highly customizable, web-based asset management software that enables municipalities to optimize road budgets within a user-friendly GIS environment. The software allows Pleasant Grove Staff to view the current state of their infrastructure and makes maintenance and repair recommendations, including prioritizing roadway projects. Streetlogix's intuitive analysis and decision-making tools enables the City to improve decision making, estimate budget requirements and create capital improvement plans to optimize every dollar invested.

Project Contacts	
City of Pleasant Grove, UT	Marty Beaumont, Public Works Director (801) 785-2941 / mbeaumont@pgcity.org
StreetScan	Salar Shahini, Chief Data Officer (617) 399-8236 / salar.shahini.s@streetscan.com

Sample of other Clients:

Town of Amherst, MA

County of Tippecanoe, IN

City of Parma Heights, OH

City of Kilgore, TX

City of Hillsboro, OR

City of Lafayette, IN

City of New Bedford, MA

City of Spokane Valley, WA

Town of Somers, CT

Town of Dover, NJ

City of Portland, ME

City of Sidney, OH

City of Greenwood, AR

City of Castle Pines, CO

County of Tulsa, OK

City of Barrie, ON

Town of Beverly, MA

Town of Hampstead, QC

Marshall, Texas is nestled deep into the piney woods of North East Texas, near the Louisiana border. Home to approximately 23,000 residents, this charming city is a cultural and educational center and is known for holding one of the largest light festivals in the United States.

The Challenge

Whether it be budget limitations, pressure from district council members or resident complaints, the task of effectively developing a long-term maintenance plan for its 200 centerline miles of City roadways was becoming very difficult. Plus, with tighter budgets and rising material costs, the City needed a more technical approach to develop a repair and maintenance plan; one that would create a baseline dataset to build the plan from, while also remaining free from political or resident pressure.

The Solution

The City embarked on a search for an objective and cost-effective way to assess roadway conditions. The City selected StreetScan to perform a City-wide condition assessment using its Smart City Mobile Sensing Technology. This technology has been developed to provide municipalities with a fast, objective analysis, ensuring that repair and maintenance decisions are based on complete and up-to-date data.

“If my staff and I had attempted to complete this kind of detailed analysis of 200 centerline miles of roads, it would have taken us every bit of two years to develop the dataset and still would not have been to the level of accuracy that StreetScan provides,” mentioned Eric G. Powell, PE, Director of Public Works and City Engineer for the City of Marshall.

StreetScan’s mobile-sensing vehicle travelled 200 centerline miles of roads to assess road conditions in normal traffic flow and, using a pavement condition index scale which runs from 0-100 (with 0 being the worst and 100 being ideal), developed a City-wide inventory of road conditions. The system utilizes 3D imaging technology to aide in the detection of various road defects. The automated detection results, combined with extensive human QA/QC, provided reliable and accurate surface condition estimates.

Once scanned, results were made available in Streetlogix, a powerful GIS asset management platform that provided the City unprecedented tools to develop capital improvement plans and perform projections on their roadway conditions.

The Results

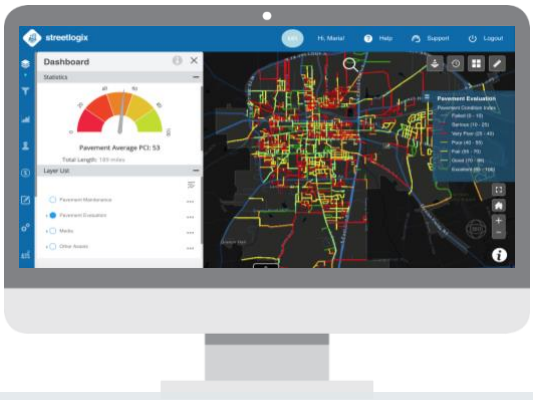
All survey results were placed in the Streetlogix platform. Streetlogix AI-engine utilizes PCI, road usage data and a cost benefit analysis to determine road maintenance, repair costs and prioritization per segment. Budgeting and planning tools allow for editable short- and long-term planning as well as level of service analysis with target PCI.

With Streetlogix, the City has an enriched view of its street network with color-coded pavement conditions and other assets, along with images for every road and tools for data-driven budget and maintenance planning.

StreetScan reported that Marshall's overall pavement condition index (PCI) was rated at an average PCI of 53, with 46% of roads above a critical PCI of 55 and 37,5% of roads rated as 'very poor' or 'serious'. Staff were pleasantly surprised at the average PCI but concerned over the extreme condition rating of some of their streets.

"We now possess the ability to prepare an extensive long-term plan for road maintenance activities that eliminates outside influences."

Eric G. Powell, PE
Director of Public Works/City Engineer
City of Marshall, TX



The Benefit

Having a comprehensive view of the overall condition of City-owned streets is an important benefit for Marshall. It allows Staff to have PCI data at their fingertips, build different scenarios in minutes, and quickly respond to resident inquiries. "We now possess the ability to prepare an extensive long-term plan for road maintenance activities that eliminates outside influences. The data and PCI are our method of selection and organizing. Plus, having the ability to plug in our unit prices to determine annual costs of services and treatments means that we can better plan for the work and stay within existing budgets, and maybe even increase the budget requests as we show the PCI improving," explained Powell.

The City is now utilizing the data created by the initial scan to develop a 10-year street maintenance plan and will utilize the unit price tools to help align the plan with current budgetary monies. Once approved by the Council, the plan will be a quick and easy way to review the street improvement budget each year and eliminate any "surprise" years.

"I would absolutely recommend StreetScan to any city that wants to get a good handle on the condition of their streets, evaluate that condition and assign budget numbers to it. Streetlogix's ease of use makes planning quite simple and takes the guesswork out of prioritizing and preparing," concluded Powell.