Pavement and Asset Management Solutions
OVERVIEW

- $18M R&D Project
- Streetlogix Launch
- StreetScan Launch
- Work Order Launch
- 2009
- 2015
- 2018
- 2020
- 2022

- 280+ municipalities
- 80K ml under management
- **TotalStreets** Launch

- Wakefield MA
  - US HQ
- Montreal, QC
  - Canada HQ
  - Data Center
Recent CT Clients

- Town of Southington, CT
- Town of Killingly, CT
- Town of Manchester, CT
- Town of Branford, CT
- Town of Berlin, CT
- Town of Groton, CT
- Town of New Canaan, CT
1. LACK OF DATA

2. LACK OF SUPPORT

3. LACK OF RESOURCES
Pavement Management 101
Cost of Maintaining 1 Mile

$35K + $35K + $800K + $35K = ~ $900 K – Proactive Approach

~ $2.3 M Opportunity Cost

~ $3.2 M – Worst 1st Approach
Cost of Maintaining 1 Mile
Cost of Maintaining 1 Mile

- Unforeseen Utility Projects
- Changing Weather Patterns
- Political Influences
- Traffic Flow
StreetScan Formula

1) Data Collection
2) AI Data Processing
3) Manage, Plan & Update
   ASSET MANAGEMENT MODULE
4) Maintain
   CITIZEN ENGAGEMENT &
   WORK ORDER MODULE

- EVERY 3 YEARS
- MONTHLY
- DAILY
DATA COLLECTION

ScanCar

360

3D
Pavement Distresses

- Use 3D image stream
- Output:
  - Cracking presence (classification)
  - Area of cracking (Uses segmentation, count pixels)
  - ~93.5% Accuracy
StreetScan Pavement Rating PCI

Data from 3D cameras

Distress detection process

Bumps & surface distortions

Potholes

Block cracks

Longitudinal & trans. cracks

Alligator cracks

Patches

Crack seal

Pavement condition index (PCI) algorithm

PCI (0 - 100)

<table>
<thead>
<tr>
<th>PCI Range</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 – 100</td>
<td>Excellent</td>
</tr>
<tr>
<td>70 – 85</td>
<td>Good</td>
</tr>
<tr>
<td>55 – 70</td>
<td>Fair</td>
</tr>
<tr>
<td>40 – 55</td>
<td>Poor</td>
</tr>
<tr>
<td>25 – 40</td>
<td>Very poor</td>
</tr>
<tr>
<td>10 – 25</td>
<td>Serious</td>
</tr>
<tr>
<td>0 – 10</td>
<td>Failed</td>
</tr>
</tbody>
</table>
SIDEWALKS & RAMPS

Sidewalks

Data from camera

Distress detection process

- Cracks
- Surface distortions
- Uplifts – From trees
- Uplifts – Not from trees

SCI (0 - 100)
- Excellent (85 - 100)
- Good (70 - 85)
- Fair (55 - 70)
- Poor (40 - 55)
- Very Poor (25 - 40)
- Serious (10 - 25)
- Failed (0 - 10)
### ADA Ramps

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of Detectable Warning Surface</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Surface Condition</td>
<td>(Good/Fair/Poor)</td>
</tr>
<tr>
<td>Ramp Obstruction</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Slope – Running</td>
<td>&lt; 4.8° (8.3%)</td>
</tr>
<tr>
<td>Slope – Cross</td>
<td>&lt; 1.2° (2.08%)</td>
</tr>
<tr>
<td>Slope – Left Flare</td>
<td>&lt; 5.7° (10%)</td>
</tr>
<tr>
<td>Slope – Right Flare</td>
<td>&lt; 5.7° (10%)</td>
</tr>
<tr>
<td>Slope – Street Running</td>
<td>&lt; 2.9° (5%)</td>
</tr>
<tr>
<td>Ramp Width</td>
<td>&gt; 36&quot; wide</td>
</tr>
<tr>
<td>Landing compliance</td>
<td>Landing must be present*</td>
</tr>
</tbody>
</table>

If any of the above criteria is not met, the ramp is considered ADA non-compliant.
Ramp Compliance Map

Ramp Compliance
- Compliant
- Not Compliant
- No Ramp
AI DATA PROCESSING

Right-of-Way Assets
API Integrated into SLX

ROW ASSETS
DATA MANAGEMENT

POWER OF AI & GIS

StreetScan® Body

Streetlogix® Brain

Pavement Condition Index 0-100
Distress data
360 Imagery

Climate/Weather Data
Example: evolving climate data (more freeze/thaw cycles)

Traffic Counts

Political Influences
Example: Funds equally divided in each ward

Other critical infrastructure Projects
Example: Water Main Replacement

Cost Benefit Ratio
Example: Preventative treatments vs. reconstruction
• Right Treatment
• Right Time
• Right Location

Highly Configurable
NOT One size fits all
Software Demo

Asset Management  Work Order Management  311/Citizen Engagement

1. EASE OF USE  2. GIS CENTRIC  3. AFFORDABLE
What’s included?

1. Data Collected every 3 Years*
2. PCI Score
3. 360 HD Imagery
4. Maintenance & Repair Strategies
5. Asset Management Software Data Hosting, Support, Advanced Analytics (3 years)
# How Much Does it Cost?

~110 CL Miles / ~20,000 Population

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>StreetScan</td>
<td>$25,238</td>
<td></td>
<td></td>
<td>$25,238</td>
</tr>
<tr>
<td>streetlogix</td>
<td>$9,750</td>
<td>$5,750</td>
<td>$5,750</td>
<td>$21,250</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$34,988</td>
<td>$5,750</td>
<td>$5,750</td>
<td>$46,488</td>
</tr>
</tbody>
</table>

**With Subscription:**

| TotalStreets Solution | $15,496 | $15,496 | $15,496 | $46,488 |
Looking to complete a more comprehensive asset management database?

Select from our many a-la-carte assets:

- Sidewalks
- Pavement Markings
- Traffic Signage
- Ramps
- Street Lights
- Catch Basins
- Trees
- Traffic Lights
NEXT STEPS

1. Proposal
2. Data Import
3. Free 30-Day Trial

Next Steps

Free 1-month Software Trials
(Using Your Historical Data)

PAVEMENT: $ / CL M
SIDEWALKS: $ / Sidewalk Mile
RAMPS: $ / Ramp

A/M Annual License*
W/O Annual License*
CE Annual License*

*Unlimited Users & Groups/Departments