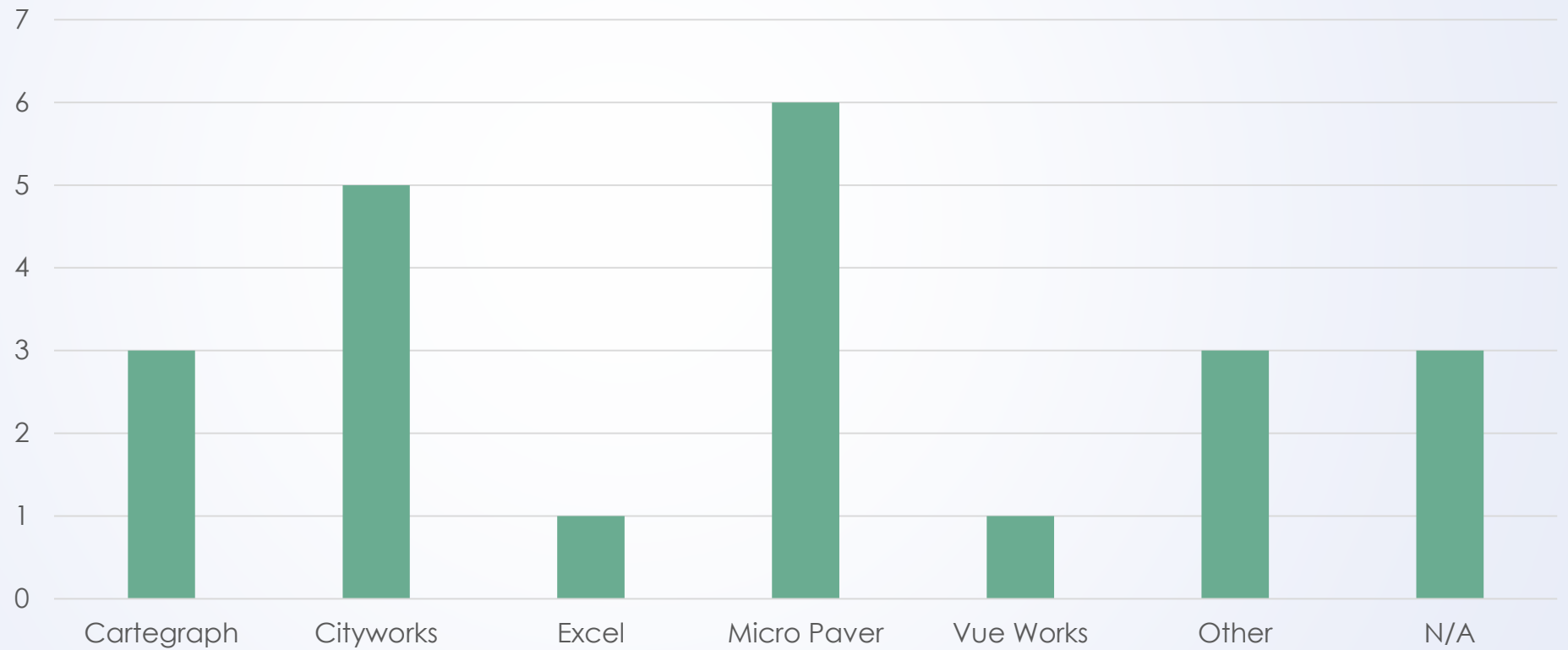


Asset Management Software Survey

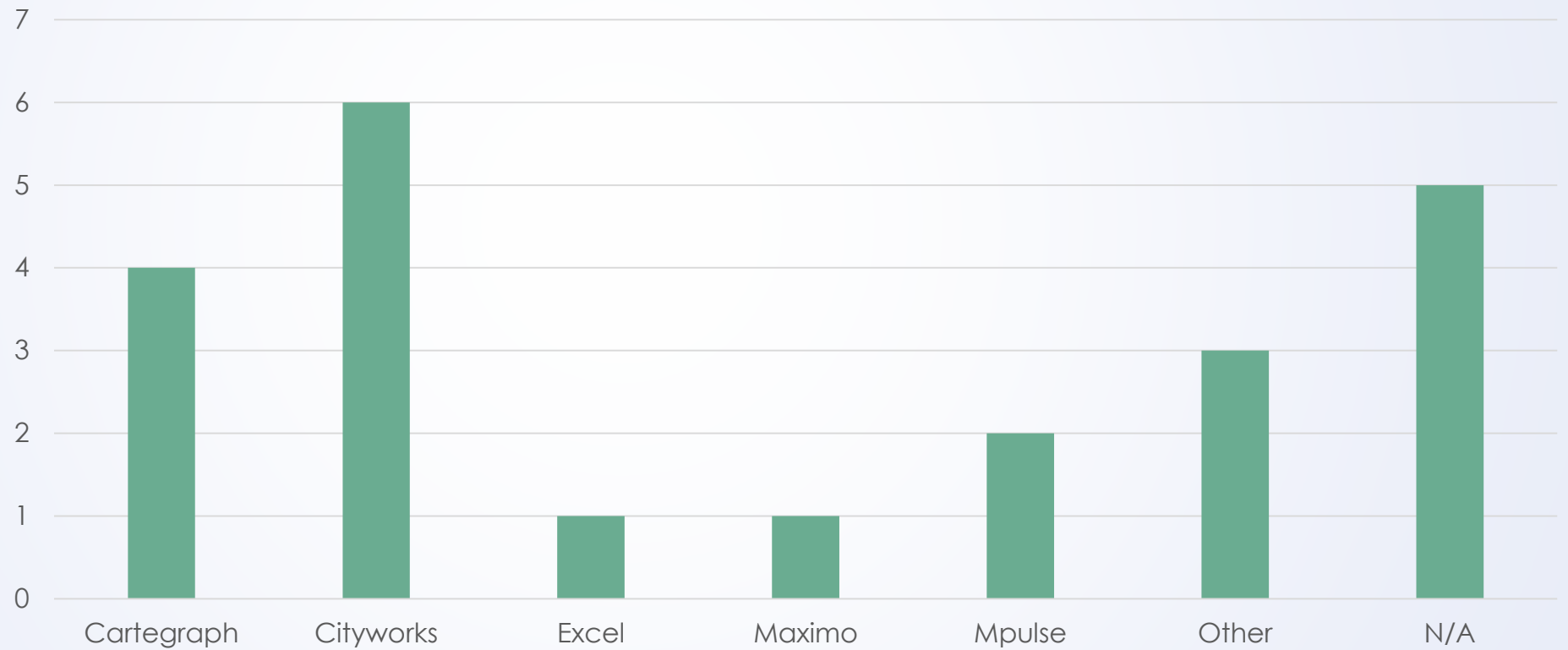
Kori Mullen, NCTCOG



What asset management software do you use for streets and pavement?



What asset management software do you use for water?



What asset management software do you use for sanitary sewer?



What asset management software do you use for drainage?



If no asset management software is used, what work order software do you use for tracking of maintenance?

- RVS Utility Billing Software
- MyGov
- Tyler Incident and Munis
- Incode
- FacilityDude

If no asset management software is used, why?

- None used previously, not familiar with the software.
- Working to secure funding for an asset management software.
- Probably changing systems soon because of the expense.
- Considering additional asset management software that is compatible with Cityworks.

Contact

Kori Mullen

Environment & Development Planner
North Central Texas Council of Governments

kmullen@nctcog.org

817.695.9215

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EandD@nctcog.org



nctcog.org/envir

CITY WORKS 2014 SP9

CITY OF WEATHERFORD

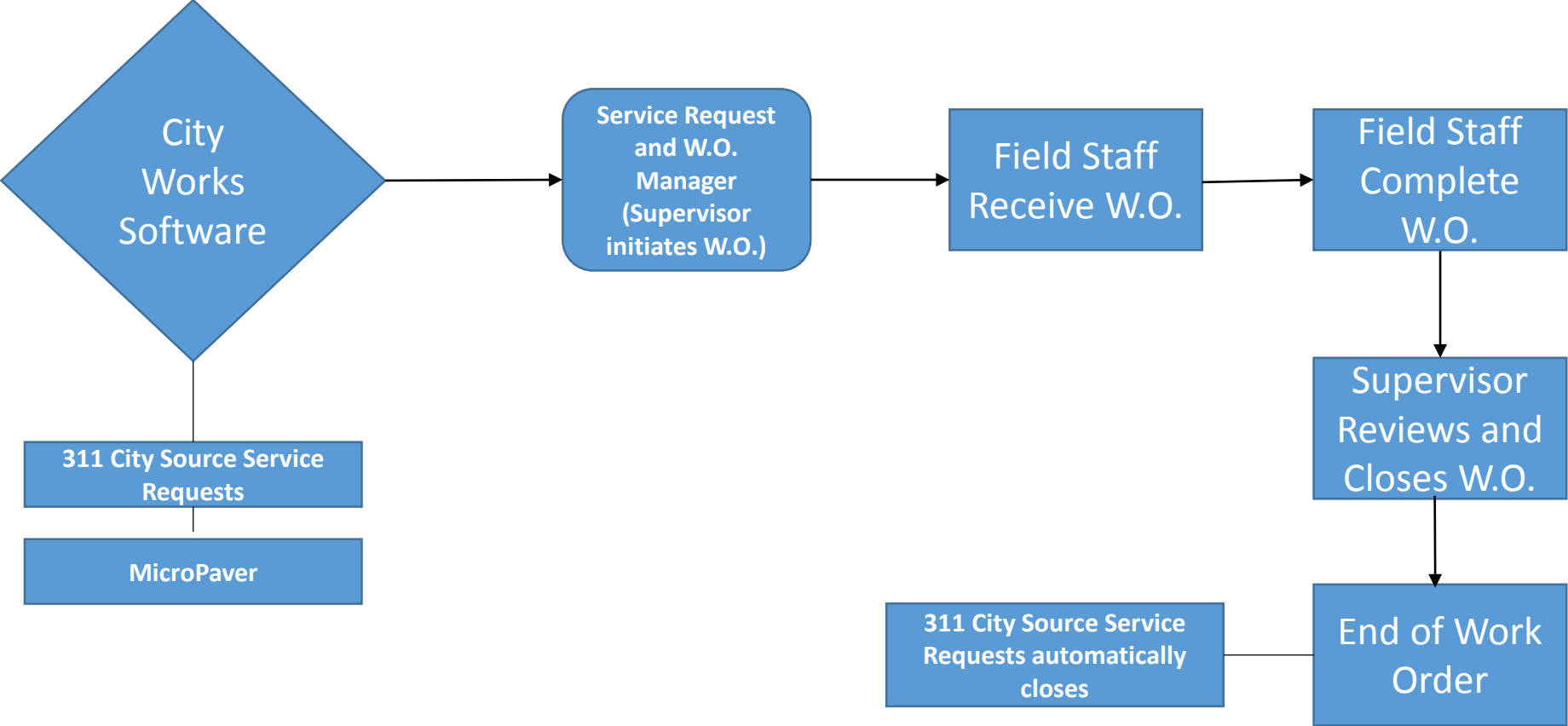
ASSET MANAGEMENT SOFTWARE

DEPARTMENT USERS:

- TPW
- WATER UTILITIES
- ELECTRIC DEPT
- WAREHOUSE
- PARKS



WORK FLOW FOR WORK ORDERS



Cityworks wfcwa01/Cityworks/Default.aspx 67% Search

Cityworks Inbox Recents New SR Search SR New WO Search W/O Saved Searches Reports Projects GIS Search New IN SR Designer

Sandbags Open TPW SR/WO GIS Edits Report Issues W/Ds Not Mapped Sidewalk Estimates Traffic W/Ds Field Services W/Ds For Review Special Events Matt's SRs Matt's WO SR - CURRENT YEAR

All TPW items

Open TPW SRs

Open	Print	Expand	Map	(34 records)					
Id	Date Initiated	Description	Submit To	Dispatch To	Address	WO Id	Initiated By	Details	
<input type="checkbox"/>	13003	8/31/2016 9:50 AM	STORM DRAINS/DITCHES	LEPLA, MATT	LEPLA, MATT	1506 OLD DIXEY RD	231034	SNOW, LENA	water flows from neighbor on property front and ditch is too shallow and doesn't carry water so floods front yard. In back yard, water stands about 2 feet of water and fence if about to collapse from water flow when heavy rains. Please call
<input type="checkbox"/>	14089	10/5/2016 8:23 AM	STORM DRAINS/DITCHES	SMITH, CISCO	SMITH, CISCO	1451-1891 Banks Dr	237229	CITY, SOURCED	Description: Water runoff keeps building up on the street because the ditch need to be cleaned and mowed. Need this fixed so the road doesn't wash out. CitySourced Id: 282725 Device Type: Android Device Model: XT1254 Nearest Address:
<input checked="" type="checkbox"/>	15079	12/1/2016 5:59 PM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	108 Kathy St	234229	CITY, SOURCED	Description: The road needs better drainage. It's washing my drive way away. This is the second request to have this fixed. CitySourced Id: 29974 Device Type: Apple Device Model: iPhone 6S Nearest Address (Est.): 108 Kathy St, Weatherford, TX
<input type="checkbox"/>	16335	12/28/2016 2:23 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	E 88 Fielder Rd	234612	SNOW, LENA	Caller states that pavement markings/striping is faded and drivers are not realizing this is a two way road. Needs to be striped asap.
<input type="checkbox"/>	16386	12/29/2016 11:39 AM	STORM DRAINS/DITCHES	LEPLA, MATT	LEPLA, MATT	1540 OAK TREE CIR	234653	CHAMBERS, DIANE	At 1540 Oak Tree Cir water that runs down the street pools along the north side of house. Owner stated he has a drainage issue for the water does not run off it just pools. He would like for someone to come out and look at the location to see
<input type="checkbox"/>	16512	1/4/2017 12:12 PM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	912 TREMONT ST	237292	CHAMBERS, DIANE	Caller advised there are large cracks in front of her driveway, she is concerned the weather will rapidly turn the cracks into a large pothole. Would like the cracks to be repaired.
<input type="checkbox"/>	16514	1/4/2017 12:21 PM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	E 1ST ST & TREMONT ST	237293	CHAMBERS, DIANE	At the intersection of E 1st St and Tremont St by the stop sign there is some large cracks, when you drive over them you can feel the difference in the pavement. Would like for the cracks to be repaired.
<input type="checkbox"/>	17378	2/9/2017 4:27 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	900 block Foster Lane	236711	SNOW, LENA	caller states striping needs to be painted again near intersection of Sureka Street. Too many near accidents because drivers don't stay in their lane.
<input type="checkbox"/>	17636	2/13/2017 1:00 PM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	215 Cherry St		CITY, SOURCED	Description: We have lost the East lane of the first block of Cherry Street. This short block on just the East side needs curb and to be paved. Potholes, drainage, no pavement due to no curb and no maintenance have created a hazardous and
<input type="checkbox"/>	18737	3/22/2017 4:29 PM	STORM DRAINS/DITCHES	SMITH, CISCO	SMITH, CISCO	317 COLLEGE AVE	237149	CHAMBERS, DIANE	Behind the dumpster at 317 College Ave there is trash collecting in the creek area. Caller is elderly and would like for someone to clean it out.
<input type="checkbox"/>	18911	3/28/2017 10:32 AM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	301 W INTERSTATE 20	237230	SNOW, LENA	Manager at Fit for Life says "cut through traffic prohibited (ord#) fine \$200" has been cut or removed from sign, sign is laying next to sign. Not sure if state or ours, please investigate, needs repair asap.
<input type="checkbox"/>	19000	3/31/2017 4:35 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	Ethan Drive	237236	SNOW, LENA	caller would like a speed limit sign or two placed on Ethan Drive to remind drivers that speed limit is only 30 not 50 miles per hour.
<input type="checkbox"/>	19113	4/5/2017 10:34 AM	OTHER	BAKER, RYAN	RUSSELL, DUSTY	711 Santa Fe Drive	237428	SNOW, LENA	trash bag was dropped and hit and is spread across Santa Fe Dr. Needs to be removed from roadway.
<input type="checkbox"/>	19354	4/11/2017 4:08 PM	POTHOLE/STREET DAMAGE	BAKER, RYAN	BAKER, RYAN	1710 N RUSK ST		CHAMBERS, DIANE	In front of 1710 N Rusk in the middle of the street the asphalt is sticking up. Would like for someone to repair.
<input type="checkbox"/>	19386	4/12/2017 2:50 PM	STREET SWEEPING	BAKER, RYAN	BAKER, RYAN	Front St		CHAMBERS, DIANE	On Front St caller advised he lives at 401 E Front St and he gets alot of wash off from up the hill. Stated he has a lot of debris in front of his house in the street would like for the street sweeper to come out and sweep his street.
<input type="checkbox"/>	19387	4/12/2017 2:57 PM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	307 N Bowie Dr		CITY, SOURCED	Description: There is a hole by the curb its giving away. CitySourced Id: 340454 Device Type: Android Device Model: LG-K540 Nearest Address (Est.): 307 N Bowie Dr, Weatherford, TX 76086 Lat/Lng Coordinates: 32.762913, -97.814785 AttachedMedia:
<input type="checkbox"/>	19427	4/13/2017 4:26 PM	OTHER	SMITH, CISCO	SMITH, CISCO	W 8 B FIELDER RD & BETHEL RD		CHAMBERS, DIANE	At the intersection of 88 Fielder and Bethel there is some alk fencing that was left when concrete was added - caller would like to have removed.
<input type="checkbox"/>	19429	4/13/2017 4:31 PM	POTHOLE/STREET DAMAGE	BAKER, RYAN	BAKER, RYAN	209 GUINEVERE DR		CHAMBERS, DIANE	At 209 Guinevere Dr the drive at the street washes away every time it rains. Stated we have placed asphalt there before, would like for us to come out and patch.
<input type="checkbox"/>	19459	4/14/2017 4:05 PM	ROW MOWING	SMITH, CISCO	SMITH, CISCO	NEWPORT RD & WESTBRIA DR		CHAMBERS, DIANE	At the entrance into Westwood Addition, it is when you turn in on the left (southside) there is some overgrown grass, would like for it to be mowed, not sure if it is ROW?
<input type="checkbox"/>	19536	4/18/2017 10:37 AM	TREE TRIMMING/OVERHANGING	SMITH, CISCO	SMITH, CISCO	W 8 B FIELDER RD & TIN TOP RD		CHAMBERS, DIANE	At W 88 Fielder and Tin Top - going south on Tin Top to the bridge there is low hanging branches over the street - would like for them to be trimmed back so they do not hit high profile vehicles.
<input type="checkbox"/>	19591	4/19/2017 2:46 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	399 S Main St	237958	CITY, SOURCED	Description: Street sign knocked down. CitySourced Id: 342541 Device Type: Apple Device Model: iPhone 6 Nearest Address (Est.): 399 S Main St, Weatherford, TX 76086 Lat/Lng Coordinates: 32.754745, -97.797363 AttachedMediaCount: 1 InitialBoun:
<input type="checkbox"/>	19594	4/19/2017 3:36 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	PAMELA DR & HICKORY LN	237959	CHAMBERS, DIANE	Caller advised at the intersection of Pamela Dr and Hickory Ln the street sign has been missing since January, she would like for the sign to be replaced. Stated it makes it very difficult for the delivery services to find any one on Pamela Dr.
<input type="checkbox"/>	19609	4/20/2017 8:57 AM	STORM DRAINS/DITCHES	SMITH, CISCO	SMITH, CISCO	301 W INTERSTATE 20 SERVICE RD		CHAMBERS, DIANE	At 301 W Interstate 20 Service Rd the drainage ditch on the east side (Tin Top) is stopped up, it is not draining like it should has water standing. Would like for someone to clean it out. (Fitness USA)
<input type="checkbox"/>	19692	4/23/2017 11:44 AM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	398 S Main St	238223	CITY, SOURCED	Description: Street sign is down on the east side of the intersection. CitySourced Id: 343676 Device Type: Apple Device Model: iPhone 4 Nearest Address (Est.): 398 S Main St, Weatherford, TX 76086 Lat/Lng Coordinates: 32.754669, -97.797401 Attach:
<input type="checkbox"/>	19717	4/24/2017 2:16 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	88 Fielder Rd	238228	SNOW, LENA	caller requests that road be striped gain as it faded and hard to see. This is from S Main east to intersection with Gausele Road. Drivers coming out of Lowe's mostly, do not see that it is two lanes of traffic.
<input type="checkbox"/>	19759	4/25/2017 12:59 PM	OTHER	LEPLA, MATT	LEPLA, MATT	303 Palo Pinto Street	238232	SNOW, LENA	Krista is requesting 4 cones delivered to her office next week for the Employee Olympics to mark off a space in the parking lot. She needs by May 1st or 2nd please.
<input type="checkbox"/>	19824	4/26/2017 10:02 PM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	703 E Lake Dr		CITY, SOURCED	Description: Deep tire ruts just beyond the edge of the pavement (in R.O.W.). Someone has been making them deeper and deeper for many months (years?), and they appear to be dangerous if someone comes off the road. CitySourced Id: 34
<input type="checkbox"/>	19976	5/1/2017 9:41 AM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	PEASTER HWY & KAREN ST	238298	CHAMBERS, DIANE	At the corner of Peaster Hwy (1300 blk) and Karen (100 blk) the street sign was blown down, the pole is missing from the location. The street sign will be at 102 Karen caller's residence. Caller advised she has the sign in her garage. Would like fo
<input type="checkbox"/>	20016	5/1/2017 3:07 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	SILVERSTONE DR & SAGE BRUSH DR	238310	CHAMBERS, DIANE	At the intersection of Silverstone and Sagebrush the street sign is laying by the transformer.
<input type="checkbox"/>	20025	5/1/2017 5:49 PM	TREE TRIMMING/OVERHANGING	LEPLA, MATT	LEPLA, MATT	1645 Silverstone Dr	238316	CITY, SOURCED	Description: street sign down at Silverstone Drive and Sagebrush CitySourced Id: 346187 Device Type: Widget Device Model: v2.0.8.3 Nearest Address (Est.): 1645 Silverstone Dr, Weatherford, TX 76087 Lat/Lng Coordinates: 32.776686, -97.71964
<input type="checkbox"/>	20097	5/3/2017 3:12 PM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	Clear Lake Rd.	238372	LEPLA, MATT	
<input type="checkbox"/>	20184	5/8/2017 8:34 AM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	925 EAST LAKE DR		CHAMBERS, DIANE	At 925 E Lake caller advised at her driveway there is about 2 foot of asphalt that has broken up into big chunks, she said every time they pull in or out it is really hard on their vehicles. She would like for it to be repaired. Also caller would like f
<input type="checkbox"/>	20203	5/8/2017 10:10 AM	TRAFFIC SIGNS	LEPLA, MATT	LEPLA, MATT	400 WEST LAKE DR	238497	CHAMBERS, DIANE	In the 100 to 400 blocs of W Lake Dr where the new asphalt was laid there are no center stripes. Caller advised she has almost been hit 3 times from people driving in the center of the road. She would like for the road to be striped as soon as po
<input type="checkbox"/>	20204	5/8/2017 10:14 AM	POTHOLE/STREET DAMAGE	SMITH, CISCO	SMITH, CISCO	1223 E BANKHEAD DR		CHAMBERS, DIANE	In front of the driveway at 1223 E Bankhead there is a pothole which is getting bigger. Caller would like for the pothole to be repaired.

Open TPW WOs (Domain)

Open	Print	Expand	Map	(79 records)						
Id	Description	Submit To	Proj Start Date	Address	Location	Initiated By	Date Initiated	Project	Instructions	SR RequestId
<input type="checkbox"/>	214482	STORMWATER INSPECTION	4/1/2015 8:12 AM	1503 W BANKHEAD DR	N.W. Corner of Bankhead and Mineral Wells	LEPLA, MATT	4/2/2015 8:12 AM	Dollar General-W Bankhead/MW Hwy	inspect Dollar General storm drain	
<input type="checkbox"/>	214564	TRAFFIC CONTROL INSPECTION	4/2/2015 4:37 PM	lh-20 Frontage Rd.	lh-20 Frontage Rd	LEPLA, MATT	4/2/2015 4:37 PM	lh20 FR Bethel Bowie	inspect traffic control on project	

CITIZEN SERVICE REQUEST AND WORK ORDER MANAGER



WO #237428 DEBRIS REM... | wfcwa01/Cityworks/Default.aspx | 90% | Search

Cityworks | Inbex Recents | New SR | Search SR | New WO | Search WO | Saved Searches | Reports | Projects | GIS Search | New INSP | Designer | Search...

Work Order View | Save | Close | Delete

Work Order

Description: DEBRIS REMOVAL / LITTER PICKUP

Number: 237428

Entity Type: MOWING_AREA

Category: TPW

Initiated By: SNOW, LENA | Date: 4/5/2017 10:35 AM

Status: FIELD WORK COMPLE | Priority: Medium

Requested By: BAKER, RYAN | Supervisor: SMITH, CISCO

Submit To: RUSSELL, DUSTY | Date: 4/5/2017 10:35 AM

Projected Start: 4/5/2017 10:35 AM | Projected Finish: 4/5/2017 10:35 AM

Opened By: | Date: |

Closed By: | Date: |

Completed By: RUSSELL, DUSTY

Actual Start: 4/5/2017 10:00 AM | Actual Finish: 4/5/2017 12:00 PM

Stage: Actual | Expense Type: Maintenance

Add Comments:

Select

Existing Comments:

From Request 19113:
Code: OTHER
Description: OTHER
Details: trash bag was dropped and hit and is spread across Santa Fe Dr. Needs to be removed from roadway.
Comments:

Instructions:

Pick up litter in roadway in front of 711 Santa Fe Drive.

Resolution: | Reactive?

Location Information

WO Address: 711 Santa Fe Drive

Location: in front of 711 Santa Fe

Shop: | Map Page: |

Title Number: | District: |

X Location: 2,187,598.05 | Y Location: 6,957,241.94

Custom Fields

Category: LITTER PICKUP WO

HOW MANY BAGS COLLECTED?	3
HOW MANY INMATES?	2

Assets

Asset	Asset Id	Asset Uid	Location	Warranty Date
MOWING_AREA	0	0		

- Pink rows indicate inventory still under warranty.

Work Cycle

Repeat: Never

Interval: 6 Months

From: Actual Finish Date

Date Printed: | Next Print Date: |

4/3/2017

Related Work Activities

Service Requests

Add Request: |

Id	Date Initiated	Description	Priority	Category	Submit To	Dis
19113	4/5/2017	OTHER	3	TPW	BAKER, RYAN	RU

Remove

Inspections

Add Inspection: |

Work Orders

Parent: | Create Child Work Order

Permits: | Create

Details

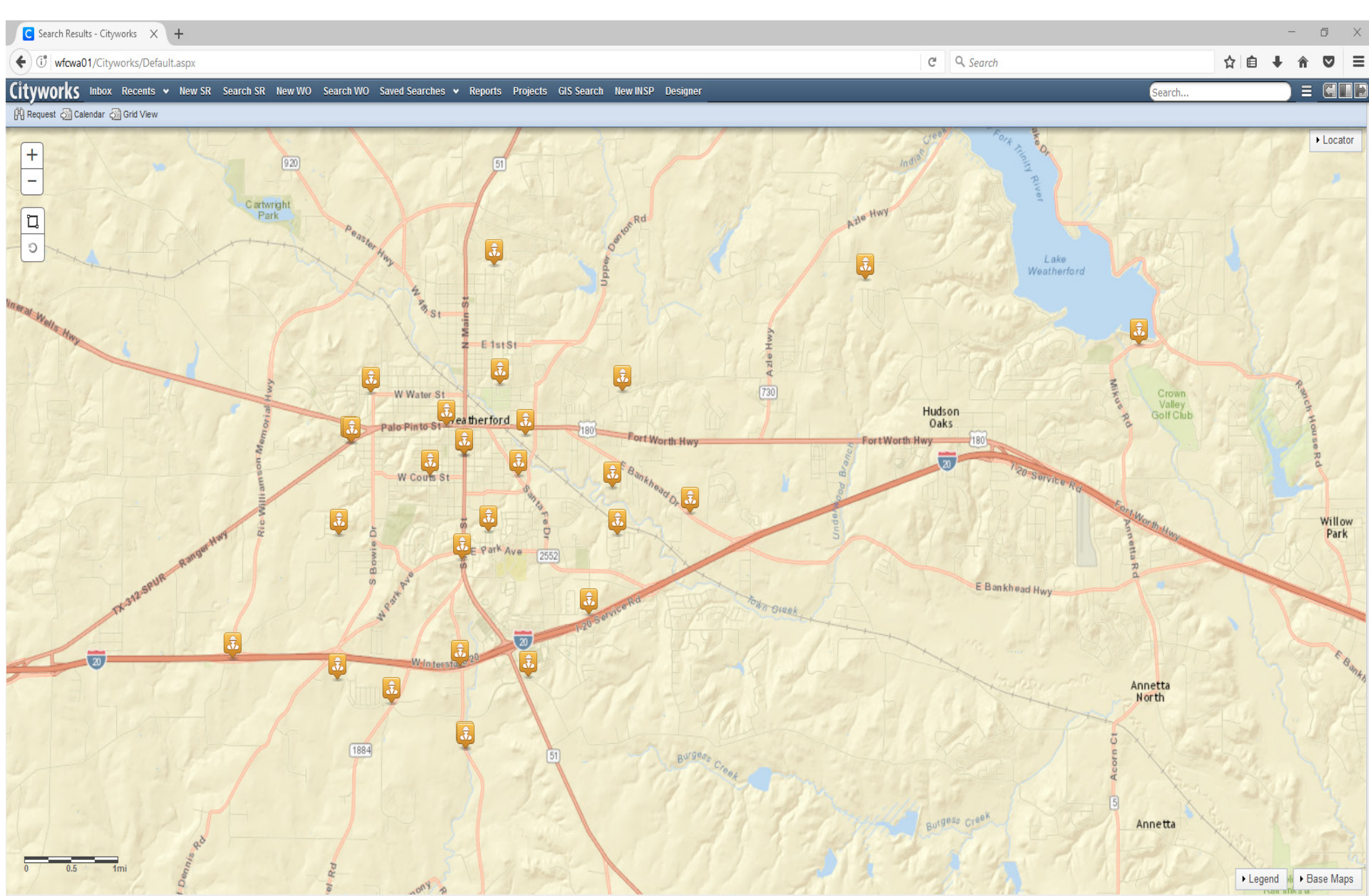
Project: | Account: |

Contract: | Contractor: |

Legal Billable: | Contractor Billable: |

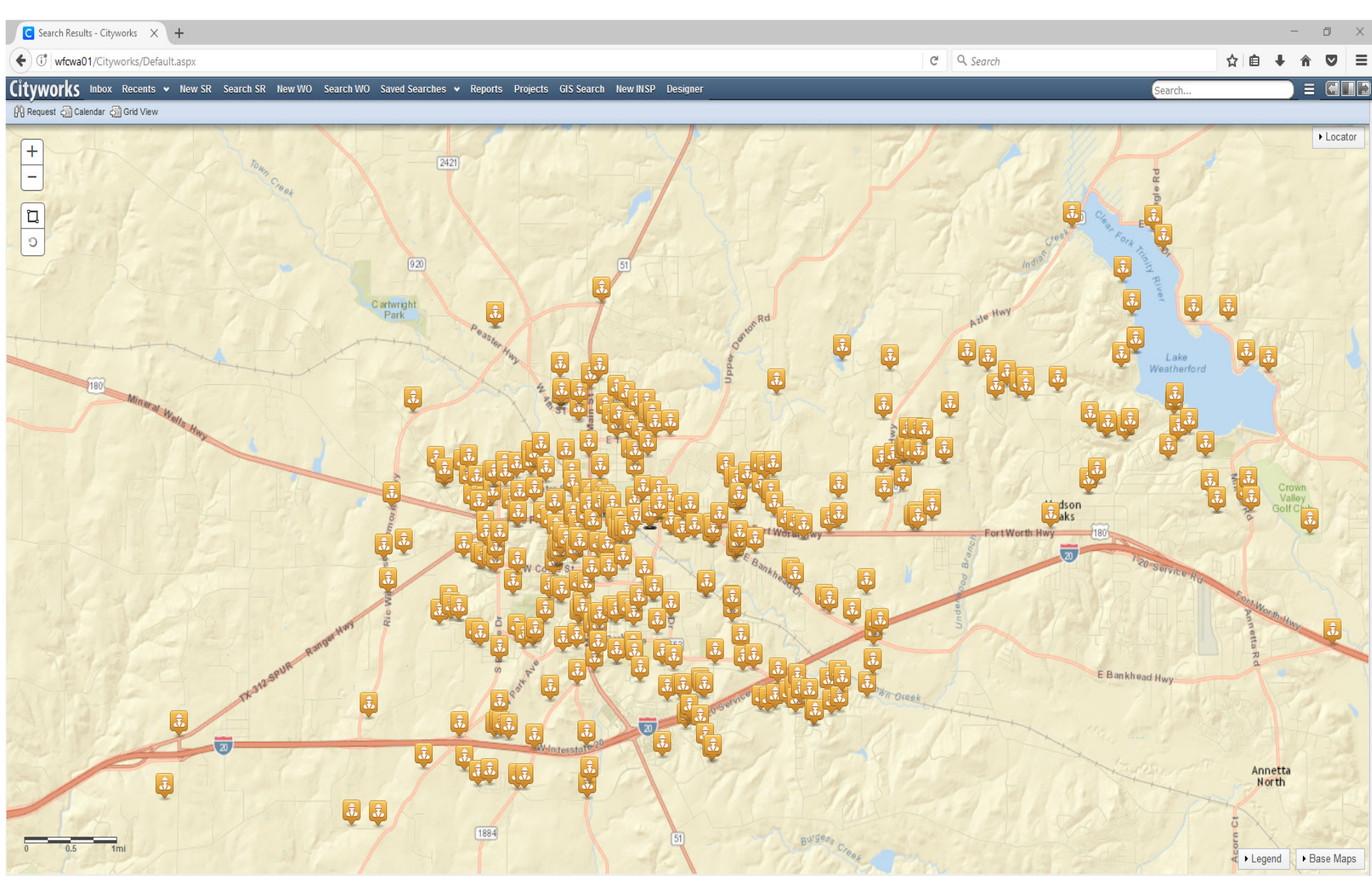
WORK ORDERS





IN THE LAST MONTH





IN THE LAST YEAR



Cityworks
wfcwa01/Cityworks/Default.aspx

Cityworks | Inbex Recents | New SR | Search SR | New WO | Search WO | Saved Searches | Reports | Projects | GIS Search | New INSP | Designer

Sandbags | Open TPW SR/WO | GIS Edits | Report Issues | WOs Not Mapped | Sidewalk Estimates | Traffic WOs | Field Services WOs | For Review | Special Events | Matt's SRs | Matt's WO | SR - CURRENT YEAR

New User Panel

CURRENT YEAR - SUMMARY

Month	Number of Work Orders
Jan 2017	32
Feb 2017	35
Mar 2017	28
Apr 2017	26
May 2017	12

Chart

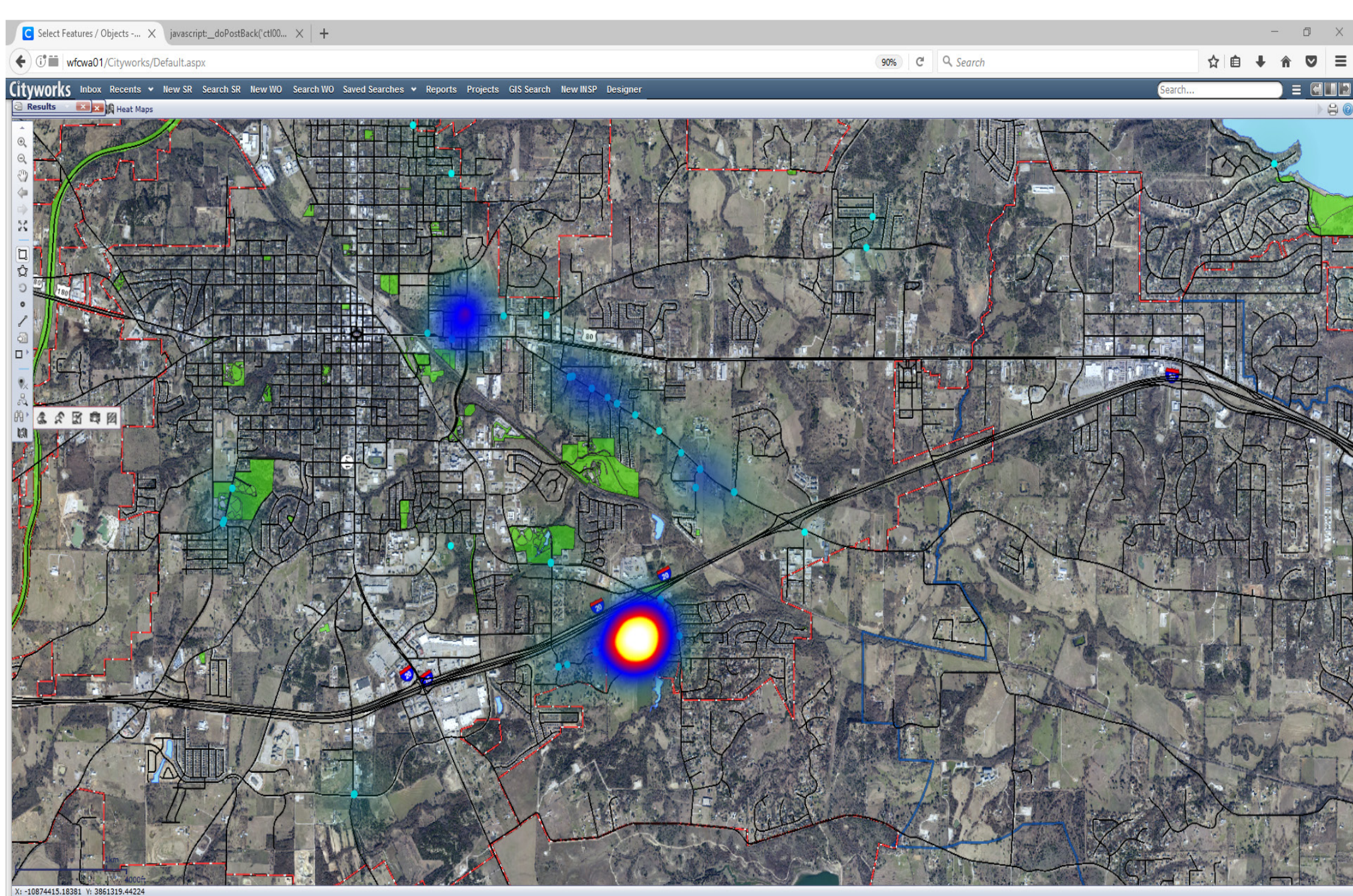
Work Order Type	Relative Frequency
TRAFFIC SIGNS	High
POTHOLE/STREET DAMAGE	High
OTHER	High
SIDWALK REPAIR	Low
ROW MOWING	Low
STREET SWEEPING	Low
STORM DRAINS/DITCHES	Low
TREE TRIMMING/OVERHANGING	Low

SR - CURRENT YEAR (Domain)

Map showing SR locations across the city domain. Key streets include Mineral Wells Hwy, Fort Worth Hwy, and various local roads like W Park Ave and E Bankhead Hwy. Landmarks like Lake Weatherford and Crown Valley Golf Club are also visible.

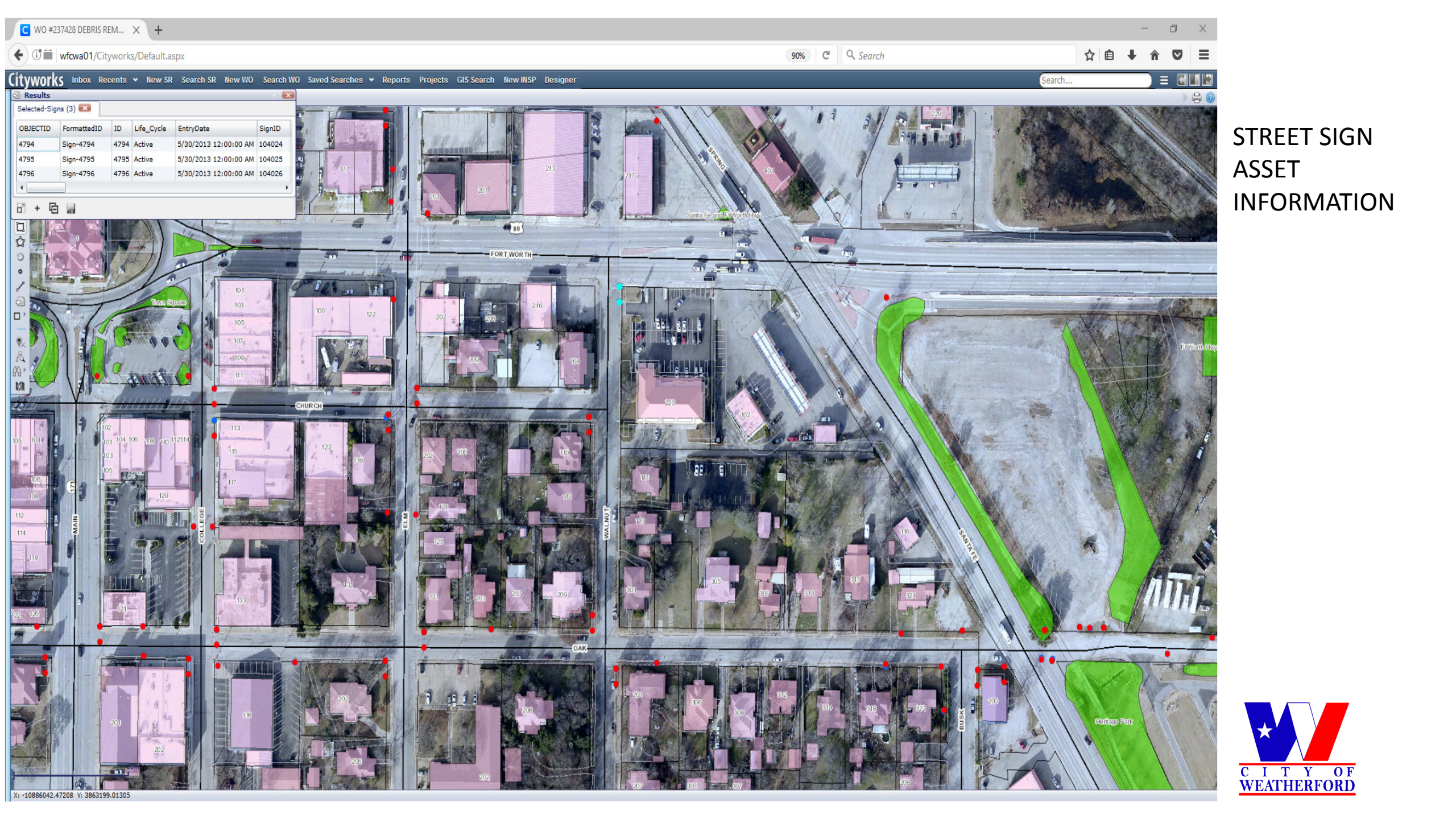
INSTANT DATA INFORMATION





HEAT MAPS TO
PINPOINT
POTENTIAL
PROBLEM AREAS



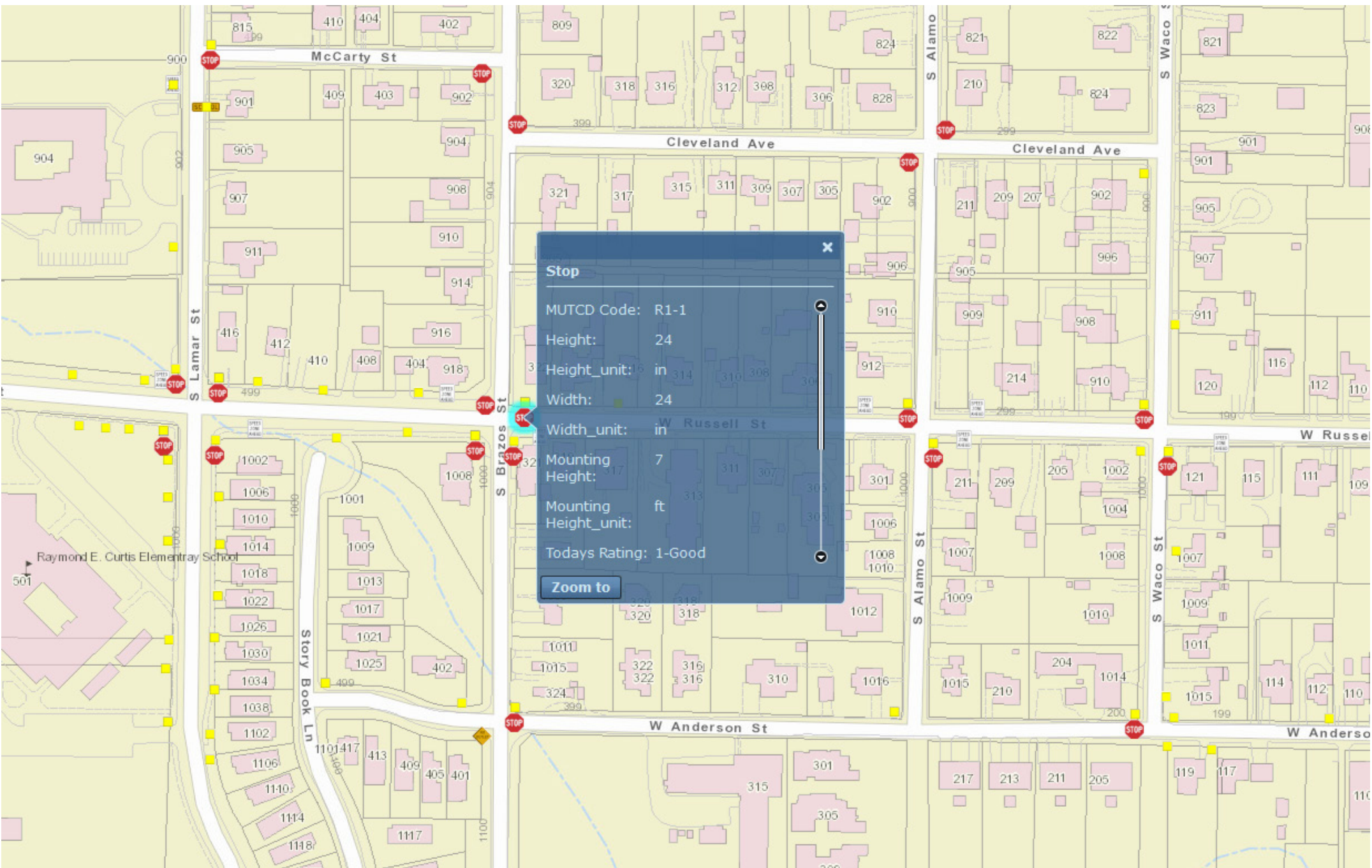


STREET SIGN ASSET INFORMATION



STREET SIGNS

INTRANET
ONLINE
MAPPING



Stop

MUTCD Code: R1-1

Height: 24

Height_unit: in

Width: 24

Width_unit: in

Mounting Height: 7

Mounting Height_unit: ft

Today's Rating: 1-Good

Zoom to



Results Selected-Streets (3)

OBJECTID	cgID	DIR_PRE	STNAME	STTYPE	WIDTH	BLOCK	FRADD
853	1390	E	CHURCH	ST	24	200	201
1024	1797	S	WALNUT	ST	24	100	0
1969	1564	S	WALNUT	ST	24	100	111



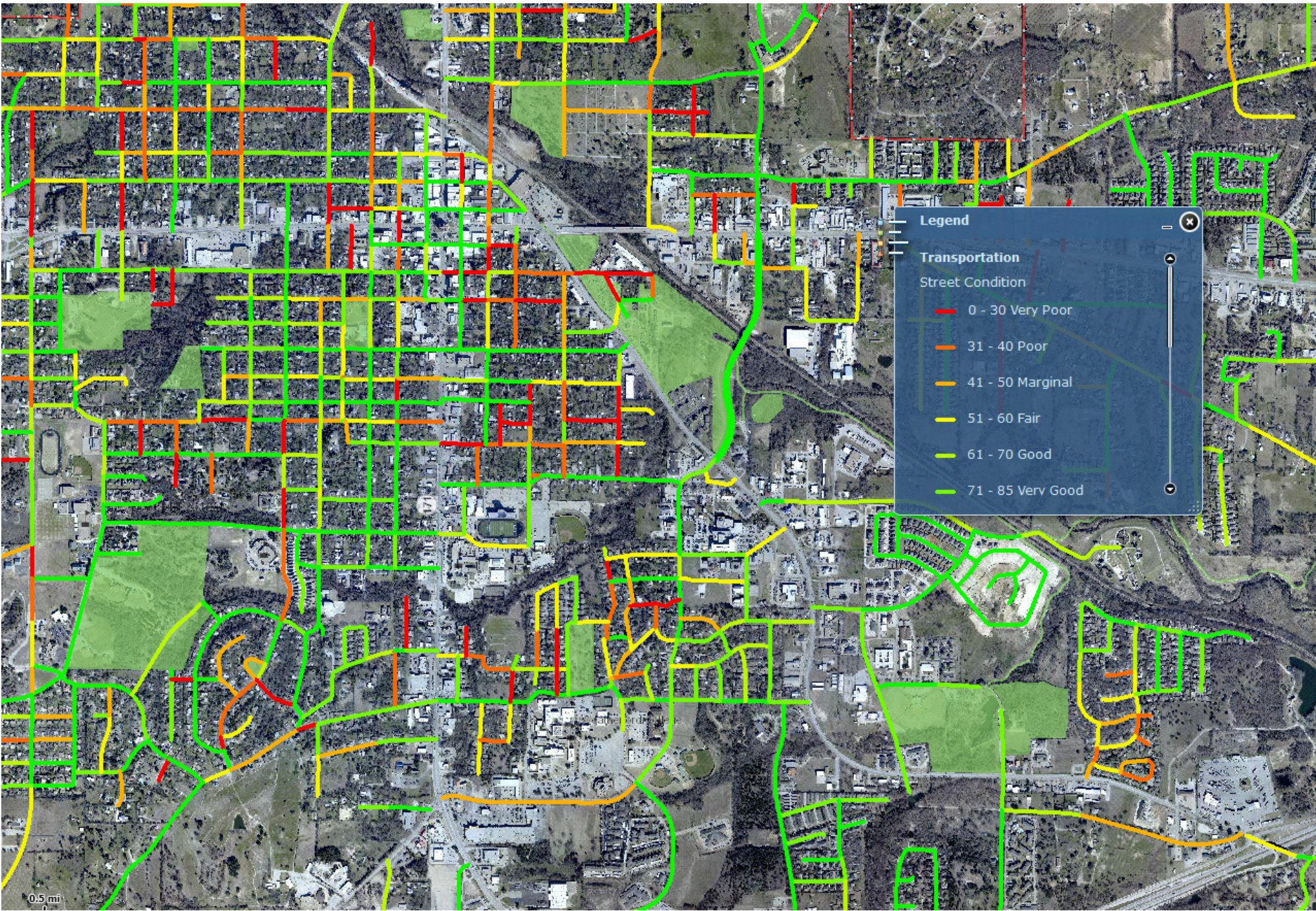
X: -10886034.1007 Y: 3863329.36665

GIS STREET SEGMENT INFORMATION



STREET CONDITION

INTRANET
ONLINE
MAPPING



Tools to Rate the Streets – Objective Surveys....

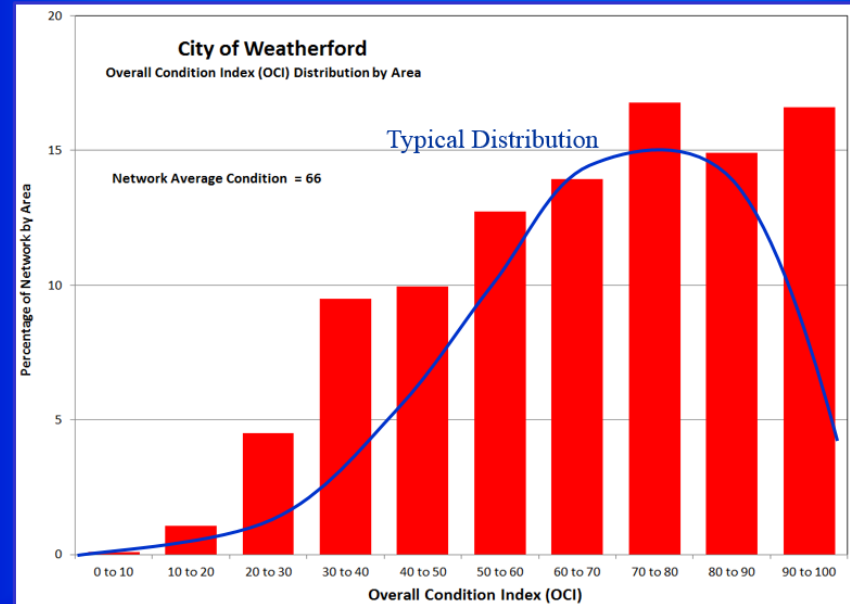
Condition focuses on:

- Fatigue/Alligator Cracking
- Wheel path Rutting
- Cracking
- Distortions & Weathering
- Patching & Potholes



CITY OF WEATHERFORD CONTRACTS IMS TO PERFORM PAVEMENT CONDITION SURVEY

Weatherford OCI Results for 2013....



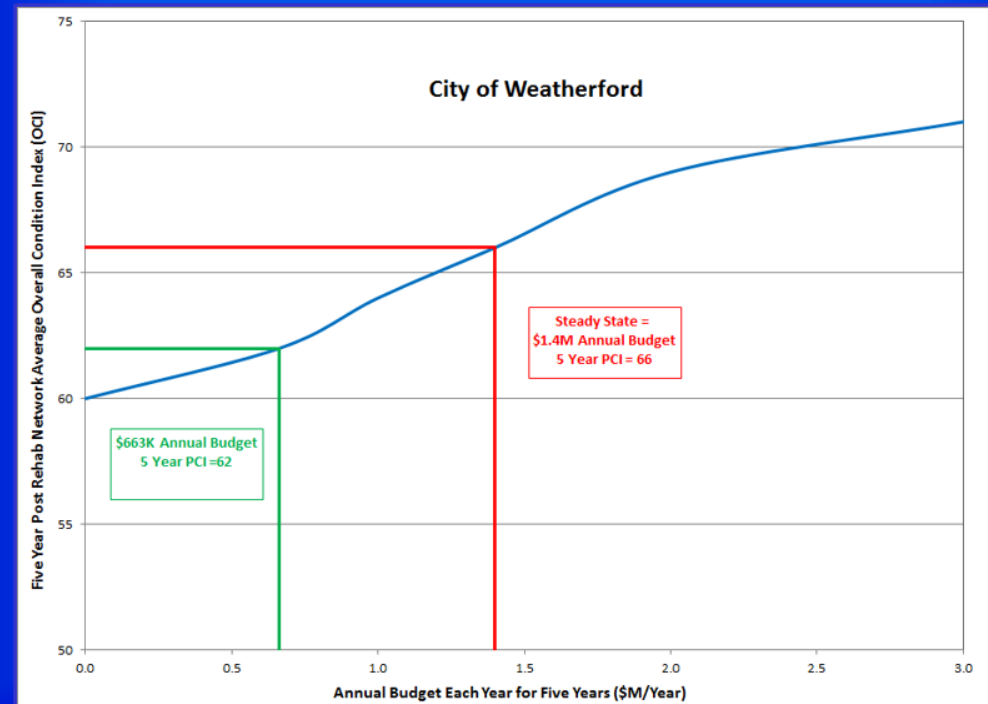
Weatherford Annual Funding Comparison....



Network Funding Comparison									
Agency	State	Year	Mileage (mi)	PCI	Backlog	Steady State Budget (\$M/yr)	Steady State Rate (\$/mi)	Actual Funding (\$M/yr)	Comments
Agency CB	CA	2010	333	81	2%	\$3.40	\$10,000	\$3.40	Fully funded
Agency FW	WA	2011	233	79	4%	\$2.25	\$10,000	\$2.25	Fully funded, well structured
Agency B	CO	2010	442	78	6%	\$3.20	\$7,000	\$1.60	Slightly underfunded
Agency MF	OR	2013	270	77	3%	\$3.00	\$11,000	\$2.25	Slightly underfunded, very low backlog
Agency L	NE	2012	339	77	9%	\$5.25	\$15,000	\$5.00	Slightly underfunded, majors only
Agency K	TX	2010	188	76	9%	\$1.50	\$8,000	\$1.50	Fully funded
Agency CG	AZ	2010	310	76	4%	\$3.00	\$10,000	\$2.00	Underfunded
Agency ST	WA	2011	78	76	4%	\$0.90	\$12,000	\$2.25	Fully funded, well structured
Agency LM	CA	2010	141	76	12%	\$2.40	\$17,000	\$2.00	Slightly underfunded
Agency SV	WA	2013	158	73	12%	\$3.00	\$19,000	\$2.00	Slightly underfunded, solid network
Agency FT	CA	2013	497	73	7%	\$6.50	\$13,000	\$6.50	Fully funded, well structured
Agency F	ND	2012	439	72	9%	\$6.00	\$14,000	\$4.00	Underfunded
Agency SS	GA	2012	311	72	10%	\$4.75	\$15,000	\$3.20	Underfunded, does not do surface treatments
Agency GD	AZ	2009	717	71	4%	\$15.00	\$21,000	\$2.00	Underfunded and struggling
Agency H	KS	2010	120	70	4%	\$0.85	\$7,000	\$0.50	Underfunded
Agency DW	GA	2009	147	69	14%	\$2.75	\$19,000	\$2.75	Fully funded
Agency Y	CA	2011	199	68	5%	\$1.60	\$8,000	\$1.00	Underfunded, decreasing PCI
Agency CY	WY	2010	314	68	4%	\$2.50	\$8,000	\$2.50	Fully funded
Agency TC	TX	2010	1270	68	7%	\$11.00	\$9,000	\$8.00	Underfunded
Agency LV	WA	2011	108	68	7%	\$2.80	\$26,000	\$0.55	Underfunded - looking for alternate funding
Agency DL	CA	2010	578	68	14%	\$18.50	\$32,000	\$8.50	Very underfunded - looking for alternate funding
Agency LA	NM	2010	100	67	11%	\$1.50	\$15,000	\$1.50	Fully funded
Agency WF	TX	2012	170	66	15%	\$1.40	\$8,000	\$0.66	Underfunded
Agency C	CA	2011	54	66	12%	\$1.10	\$20,000	\$1.10	Fully funded and working to increase PCI
Agency BV	OK	2012	130	65	11%	\$1.25	\$10,000	\$1.25	Fully funded
Agency KW	FL	2012	65	65	7%	\$0.75	\$12,000	\$0.75	Fully funded
Agency C	CO	2012	442	64	12%	\$6.00	\$14,000	\$5.00	Slightly underfunded
Agency LC	NM	2012	457	63	17%	\$5.60	\$12,000	\$3.00	Underfunded and concerned about backlog
Agency D	TX	2010	436	61	16%	\$10.00	\$23,000	\$3.20	Extremely underfunded and passing a bond
Agency V	CA	2012	472	60	14%	\$7.50	\$16,000	\$2.50	Underfunded and concerned about backlog
Agency LC	PA	2012	102	59	15%	\$1.00	\$10,000	\$0.75	Underfunded
Average:						\$14,000			

Currently underfunded, backlog may increase

Steady State Budget vs. City's Actual Budget....



City of Weatherford Recommendations....



1. **Target OCI of 66 and backlog below 15% for entire roadway network.**

This equates to a \$1.4M annual budget

A budget of \$663k is not sufficient .

Results in an OCI of 62 with an increase in backlog

2. **Additional long-term funding needs to be secured**
Borrowing /bonding will not provide solution. But the City is taking great strides by recycling and setting aside funds for crack sealing.
3. **Maintenance only defers eventual reconstruction**
4. **Steady – effective rehabilitation and maintenance on an annual basis saves the City money over deferred maintenance.**

QUESTIONS? COMMENTS



NCTCOG Pavement Analysis Services



Pavement Tool

Distress Data

Add... Delete

Edit Export...

Load VSI...

Setup Zoom Out Go To

Set Reference...

Aux Camera Views...

Show Grid Show Path

Show Distress Data

Prompt For Save/Update

Caliper: _____ inch

3P003471_02061520175388

Frame: 3471 Select

QA Tool...

Distress Type: Transverse Cracking

Severity: None Low Medium High

Object Value: 8.4 ft

Comment: _____

OK Cancel

VSI |||192.168.0.91|cdot_2015|4_Processed_Imagery|DTS5|20150206_DTS5|Run3|3P150206150352|20150206_DTS5_360_EAST_RUN3~301.vsi

Prev Next



Example Services Provided...

- Data Collection
- Pavement Condition Analysis
- IRI/Roughness
- Ground Penetrating Radar (GPR)
- Asset Extraction
- GIS deliverables
- Image Viewer
- Budget Forecast Reports
- Pavement Management Software



Where it all began...



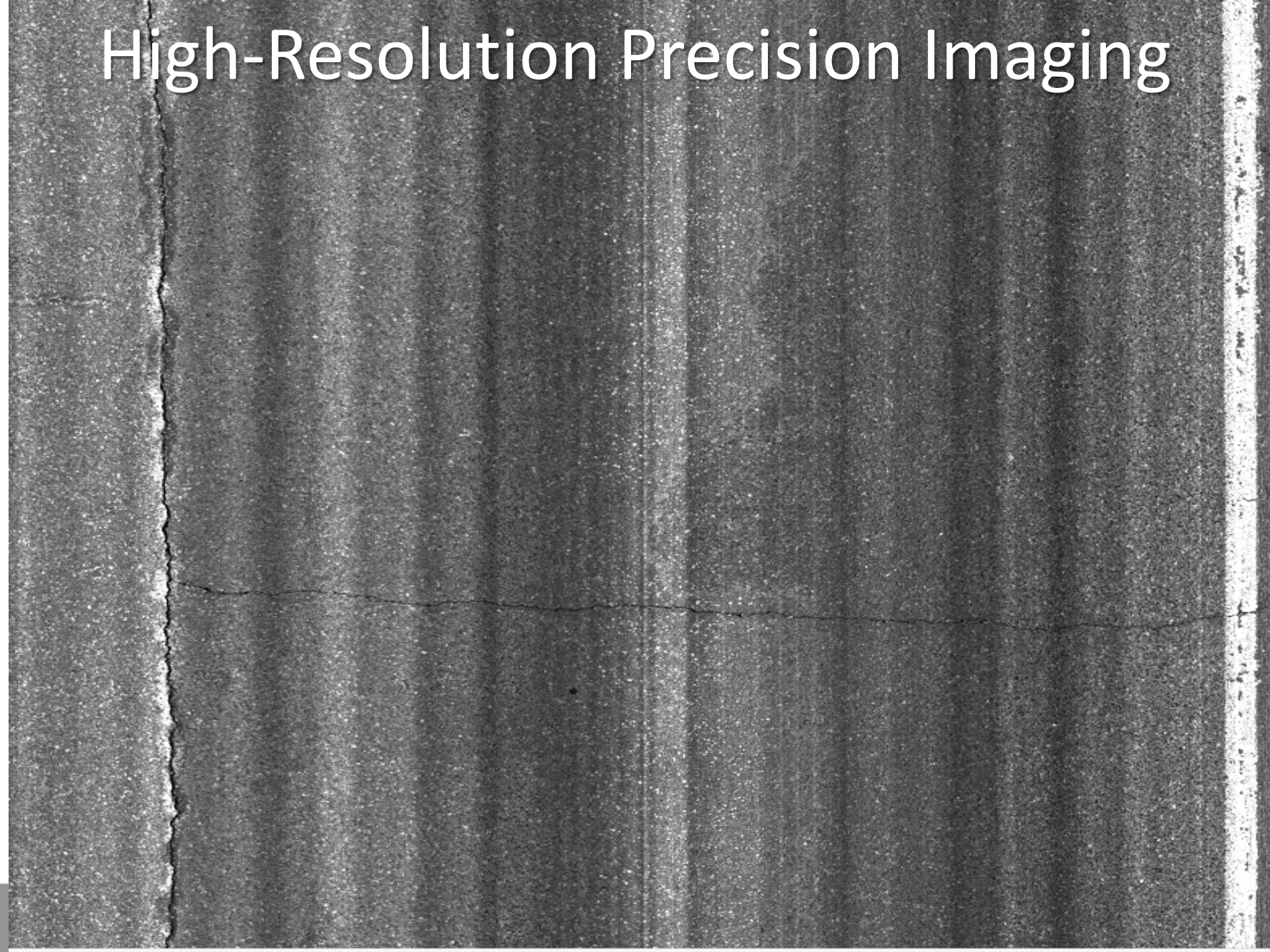


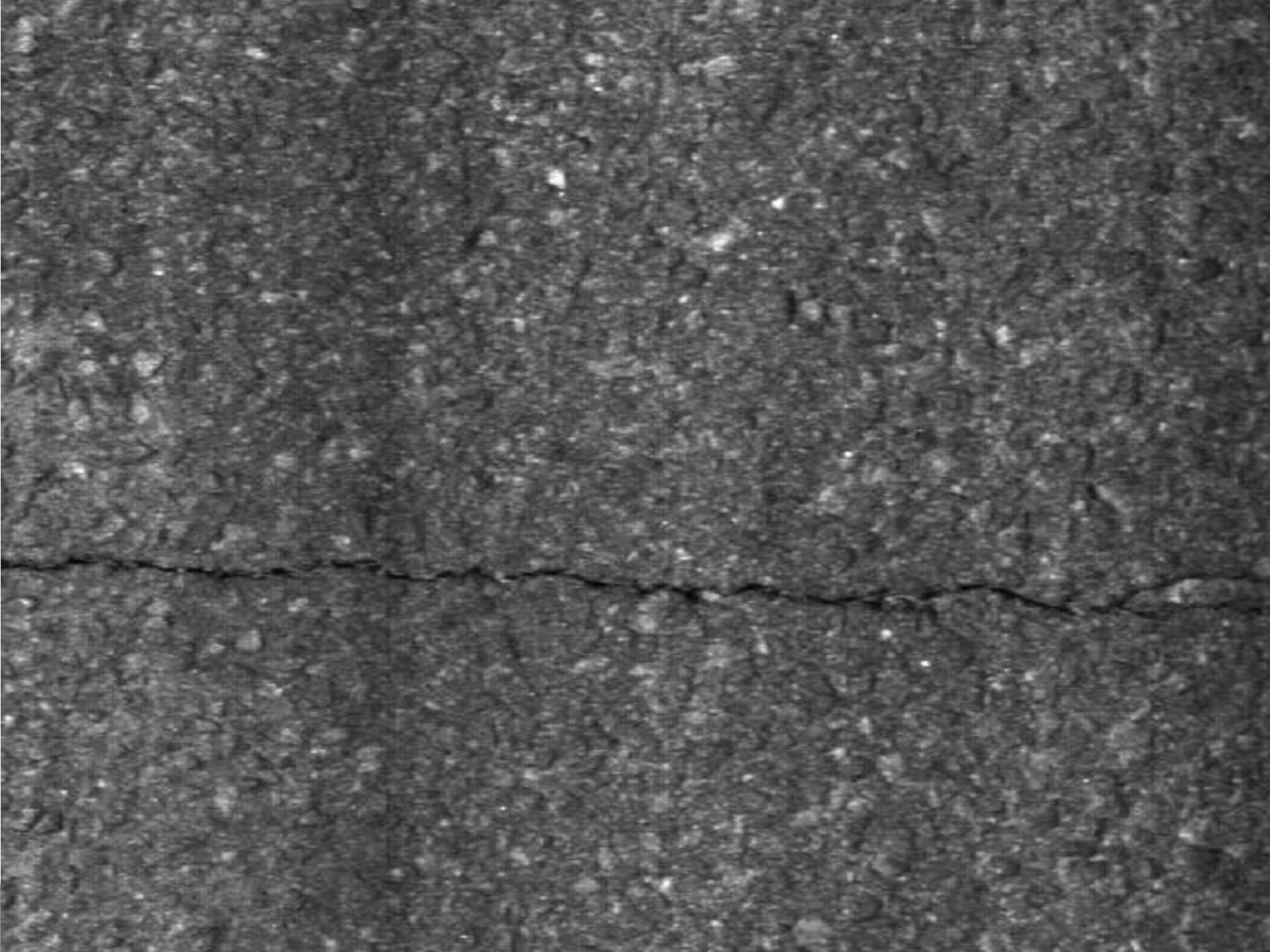
Where we are today!

Pavement verification and ROW asset extraction



High-Resolution Precision Imaging





Distress Rating per the ASTM D6433-11

Pavement Tool

Distress Data

Add... Delete

Edit Export...

Load VSI...

Setup Zoom Out Go To

Set Reference...

Aux Camera Views...

Show Grid Show Path

Show Distress Data

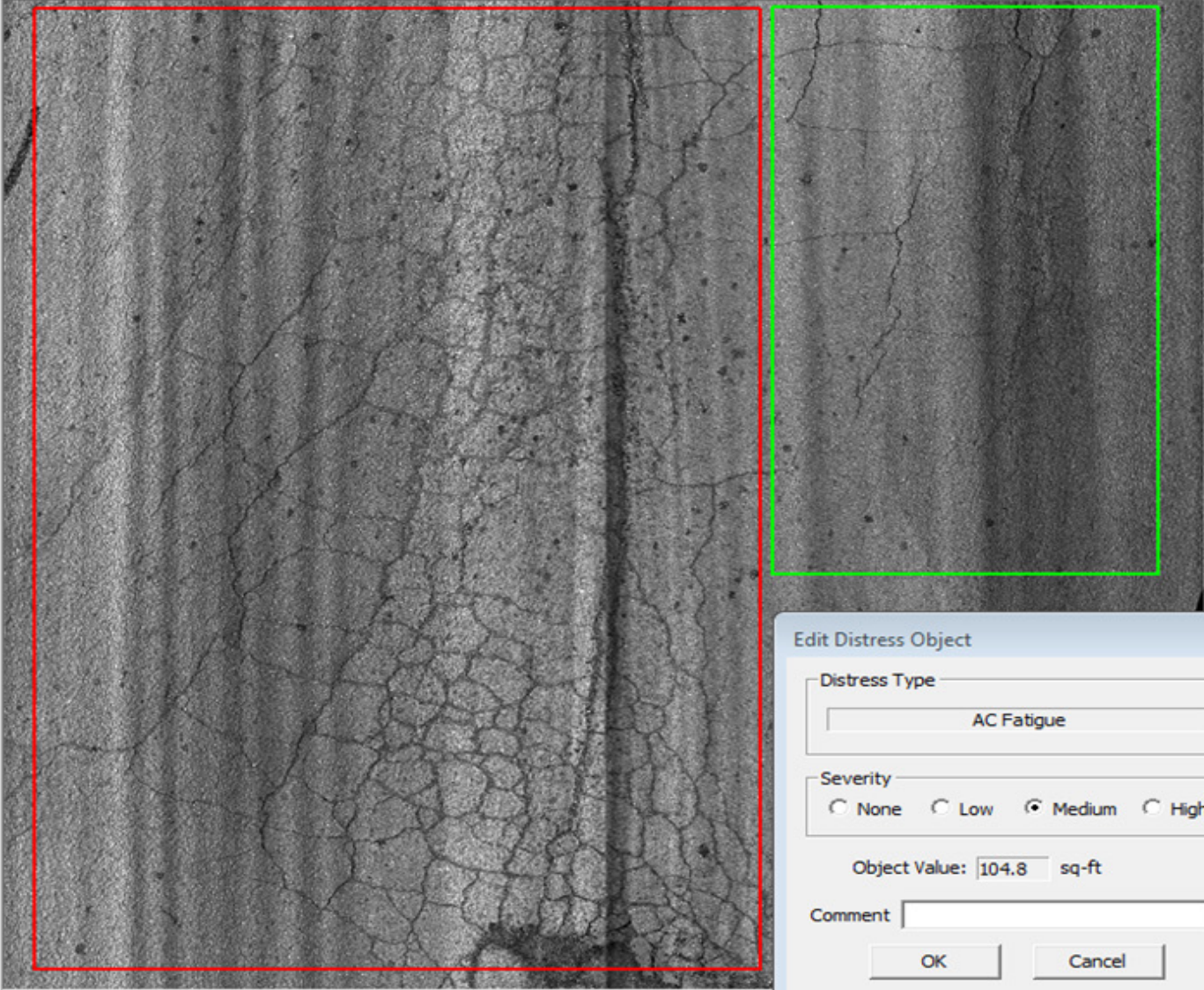
Prompt For Save/Update

Caliper inch

3P000630_09201415471883

Frame Select

QA Tool...



Prev

Next

Edit Distress Object

Distress Type

AC Fatigue

Severity

None Low Medium High

Object Value: sq-ft

Comment

OK Cancel

VSI \\192.168.0.91\arlington\4_Processed Imagery\20140920_DTS6\Run1\3P140920103504\20140920_RUN1~301.vsi

Distress Extraction – Quality Control

The screenshot displays the EarthShaper software interface, which is used for pavement distress extraction. The main window shows a 3D perspective view of a residential street with a white car and a blue van. A 'Pavement Tool' dialog box is open, allowing the user to define distress items. The dialog includes dropdown menus for 'Pavement Type' (set to 'Flexible') and 'Distress Type' (set to 'Fatigue Cracking'). It also provides instructions: 'Use <Ctrl> Left Click to Define an Area', 'Double Right Click to End', and '<ESC> to Abort'. A 'Done' button is present. Below the dialog, a close-up view of the pavement shows a red outline around a section with fatigue cracking. The software interface includes a menu bar (File, Display, Tools, Utilities, Help), a toolbar with icons for TIN, 3D, and Display By (set to Elevation), and a 'Point Size' slider. The bottom of the window shows a scale bar and the text '1"=32.76 units'. The file path is 'E:\DelDOT\20111212\3P111212120309\1G000016_12121117055179.jpg'.

EarthShaper
File Display Tools Utilities Help
TIN 3D Display By Elevation Point Size

E:\DelDOT\20111212\1G111212120309\1G000016_12121117055179.jpg

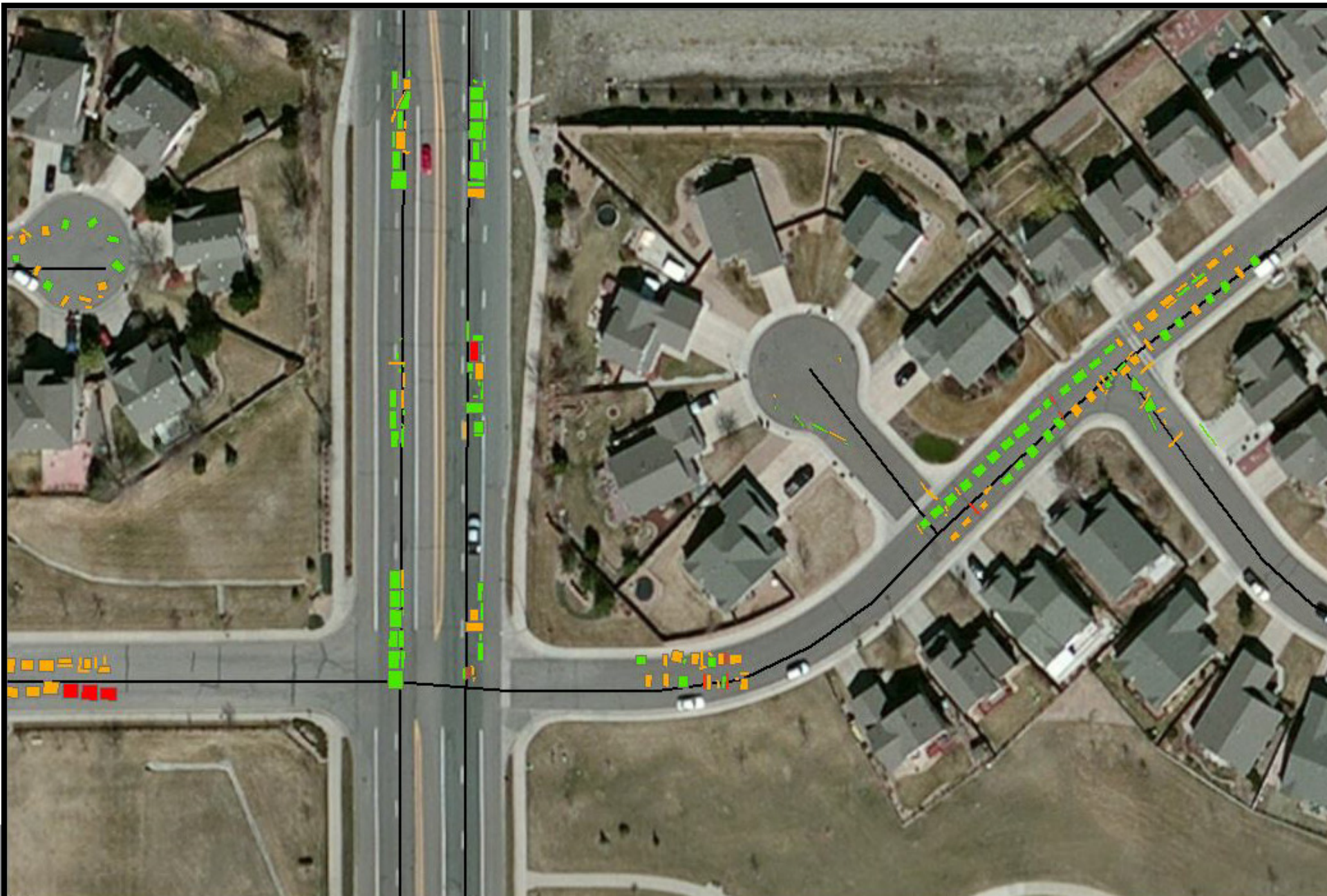
Pavement Tool
Add Distress Items
Pavement Type: Flexible
Distress Type: Fatigue Cracking
Use <Ctrl> Left Click to Define an Area
Double Right Click to End, <ESC> to Abort
Done

Show Grid Show Distress Data Prompt For Save/Update Caliper inch Next

Distress Data Add... Delete Edit Export... Setup Aux Camera Views... Zoom Out
File: 3P000021_12121117055494
E:\DelDOT\20111212\3P111212120309\RUN2_12~12~2011~301.vsi Load VSI...

1"=32.76 units

GIS-Centric Rating Process



Web-based Video Logger

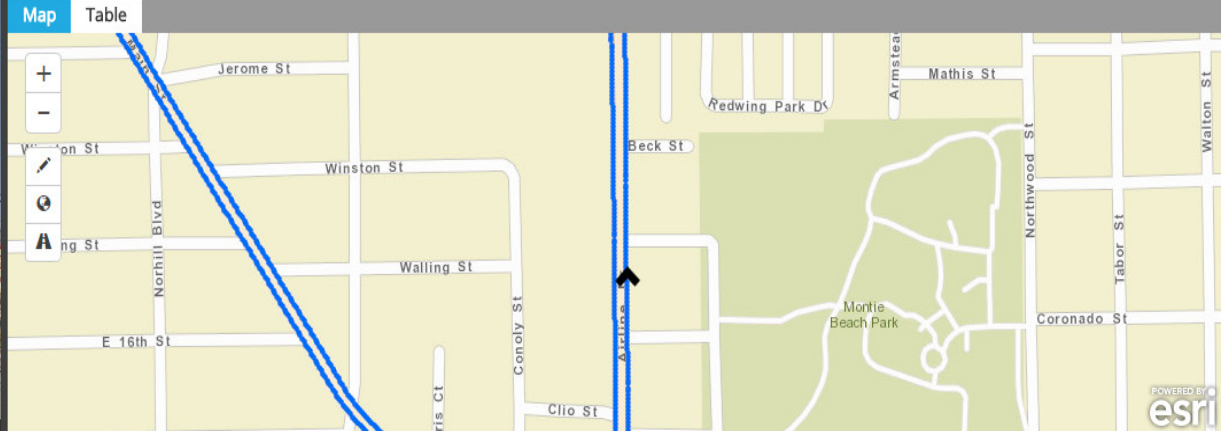
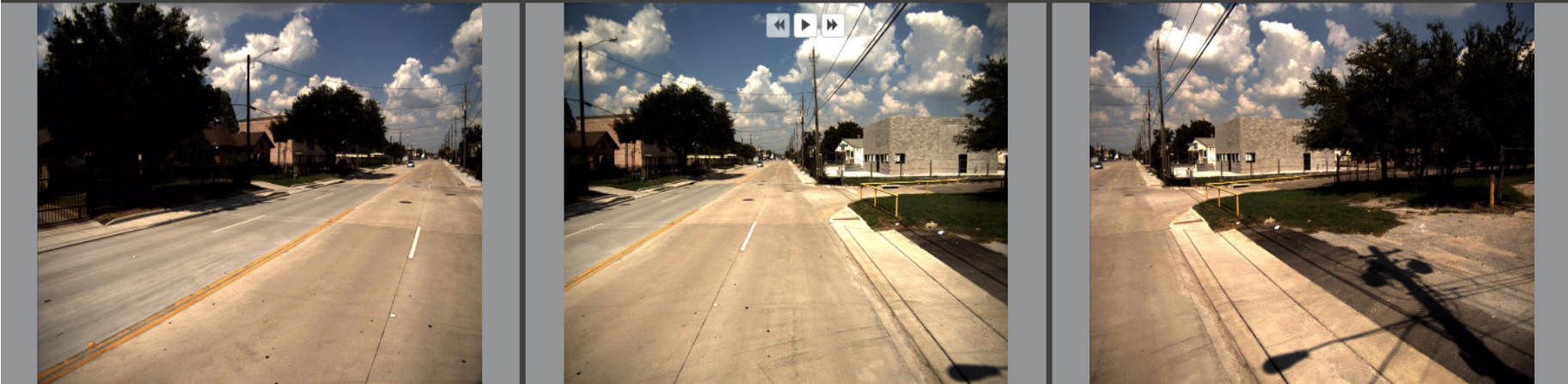
VUEPoint

Route: AIRLINE DR

Point:

2932

Advanced settings



Pavement Preservation Plan

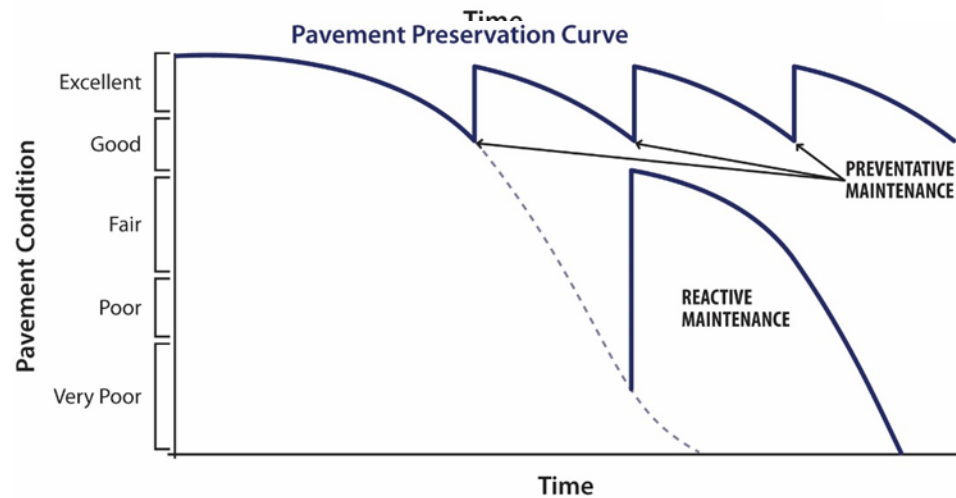
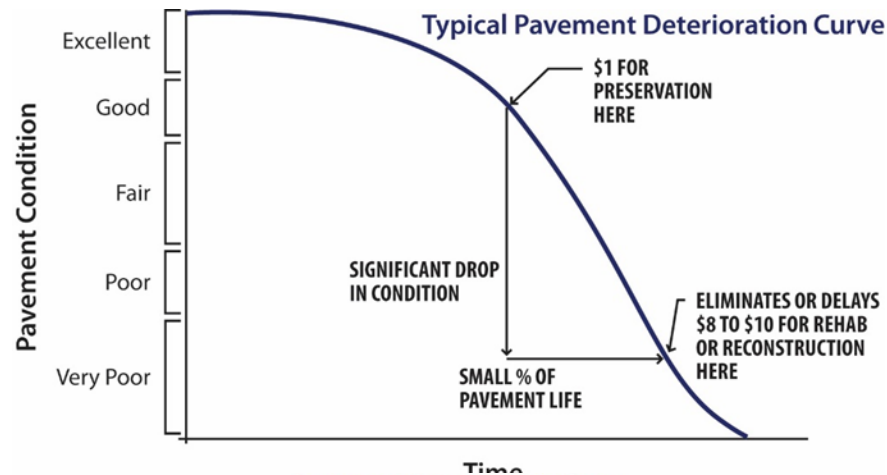
Elements:

- Establish a rating criteria
 - PCI to corresponding description (Excellent, Good, Fair, Poor...)
 - Satisfactory vs. Unsatisfactory
- Recommend improvement and repair types
 - Based on condition data and staff input and established programs
 - Develop unit cost estimates
- Set guidelines for selecting treatments
 - Asphalt/Concrete PCI Classification Treatment
- Develop initial plan strategy
 - Find the right “mix of fixes”
 - Set goals and priorities
- Develop ranking criteria
- Develop 5-year plan
- Provide reports and mapping

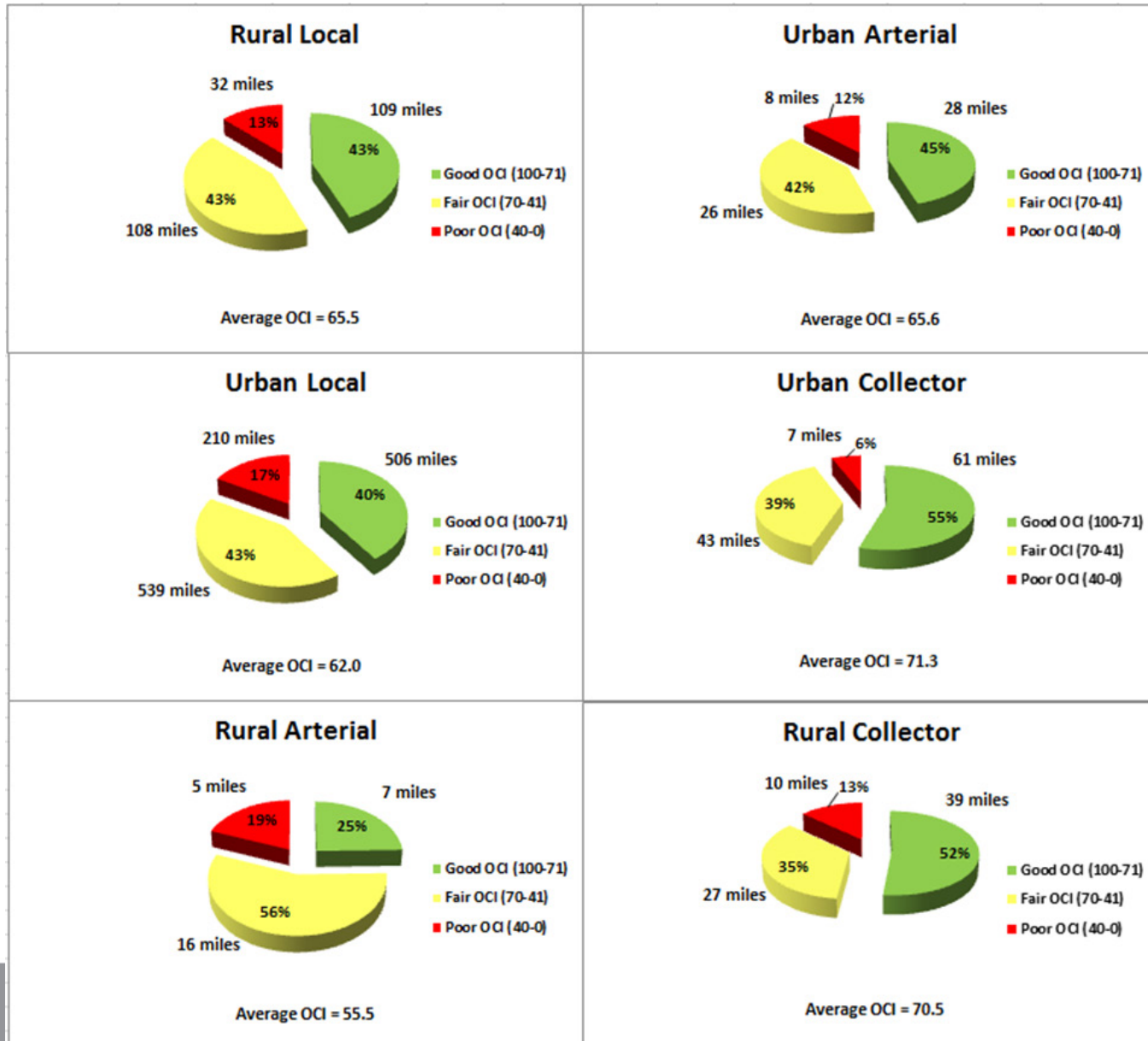
Uses/Benefits

- Assists in making more informed decisions
- Improves pavement preservation strategies
- Improves overall pavement condition
- Improves overall pavement safety
- Improves overall customer satisfaction
- Cost Savings

Typical Pavement Deterioration Curve



Develop of a Pavement Management Plan



ROW Assets that can be extracted

- Signs
- Sidewalks
- Ramps
- Pavement Markings
- Pavement Striping
- Hydrants
- Manholes
- Signals
- Curb and Gutter
- Light Poles
- Guardrail
- Rumble Strips
- Street Trees
- Meter boxes

Thank You!

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Orlando, FL 32828
(407)-382-5222 phone

Pavement Analysis Services

NCTCOG Public Works Roundup

May 9, 2017

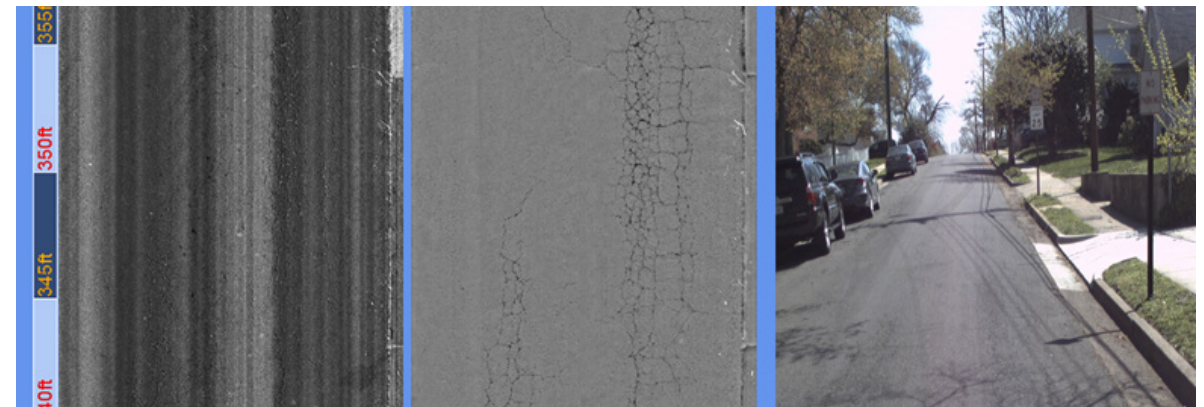


Dynatest North America, Inc.

- Provide pavement testing and evaluation equipment and services.
- Manufacturer of Equipment, Software and Consulting Services including:
 - Falling Weight Deflectometers – Pavement Rehabilitation Design
 - Friction Testers – Roadways, Bridges, Airports
 - Road Surface Profilometers – IRI and roughness QC/QA
 - Automated Pavement Condition Surveys using the Dynatest Pavement Condition Survey Systems (PCSS)
 - Pavement Management System Implementation – Cities, Counties, Agencies
 - Manual condition surveys
 - Accelerated Pavement Testing – Heavy Vehicle Simulator
 - Software: ELMOD 6.0, PERS, AIRPORTS, Dynatest Solution Center

Pavement Management Services

- Automated Data Collection
- Pavement Distress Survey
- Ride Quality Assessment
- Pavement Management Implementation / Update
- Web-viewing Software
- Budget and Maintenance Optimization
- Pavement Management Training
- Database Integration
- Map Module Implementation
- GIS Services



Dynatest Pavement Condition Survey System (PCSS)



Dynatest Pavement Data Collection Benefits



Advantages

1. **Fast** – *minimize impact to operations, collect several lane miles of pavement data in a day*
2. **Comprehensive** – *capture the entire pavement surface and profile!*
3. **Safer** – *fewer bodies on the road, and pavement inspectors not exposed to traffic hazards.*
4. **Day or night survey**
5. **Automated distress detection may aid manual interpretation**
6. **Easier to QC/QA**



7. **Permanent record of pavement condition** – *witness 3D time-series pavement deterioration!*
8. **Geo-referenced Data** – *High accuracy GPS coordinates provide an exact location for each data unit captured*
9. **Quality of Data** – *ROW HD pictures*
10. **Pavement Characteristics** – *Pavement ride quality (IRI) and continuous rutting measurements*
11. **Pavement Geometry** – *Cross slope, radius of curvature and grade.*

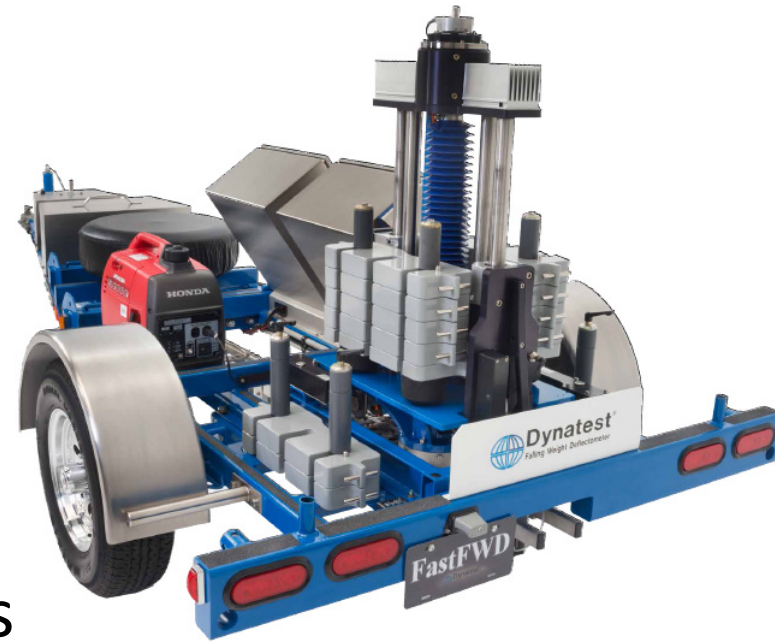
Asset Management Services

- Mobile Asset Inventory Data Collection
- Right-of-Way Asset Inventory
 - Ramps
 - Signs
 - Sidewalks
 - Etc.
- Database Integration
- Map Module Implementation
- GIS Services



Additional Services

- Pavement Structural Testing
 - Falling Weight Deflectometer
 - Ground Penetrating Radar
- Pavement Friction Testing
- Project Level Condition Evaluations
- Pavement Design
- Pavement Engineering



History in North Central Texas

- Active Projects
 - LBJ Expressway
 - North Tarrant Expressway
 - DFW Connector
 - City of Frisco
- Project Manager
 - Over 12 years of experience with implementing pavement management systems and pavement condition assessments in the North Central Texas area

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