

Northwest Pavement Conference
Seattle, Oct 2104

Automated Data Collection

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Manual Inspection

(City LA)



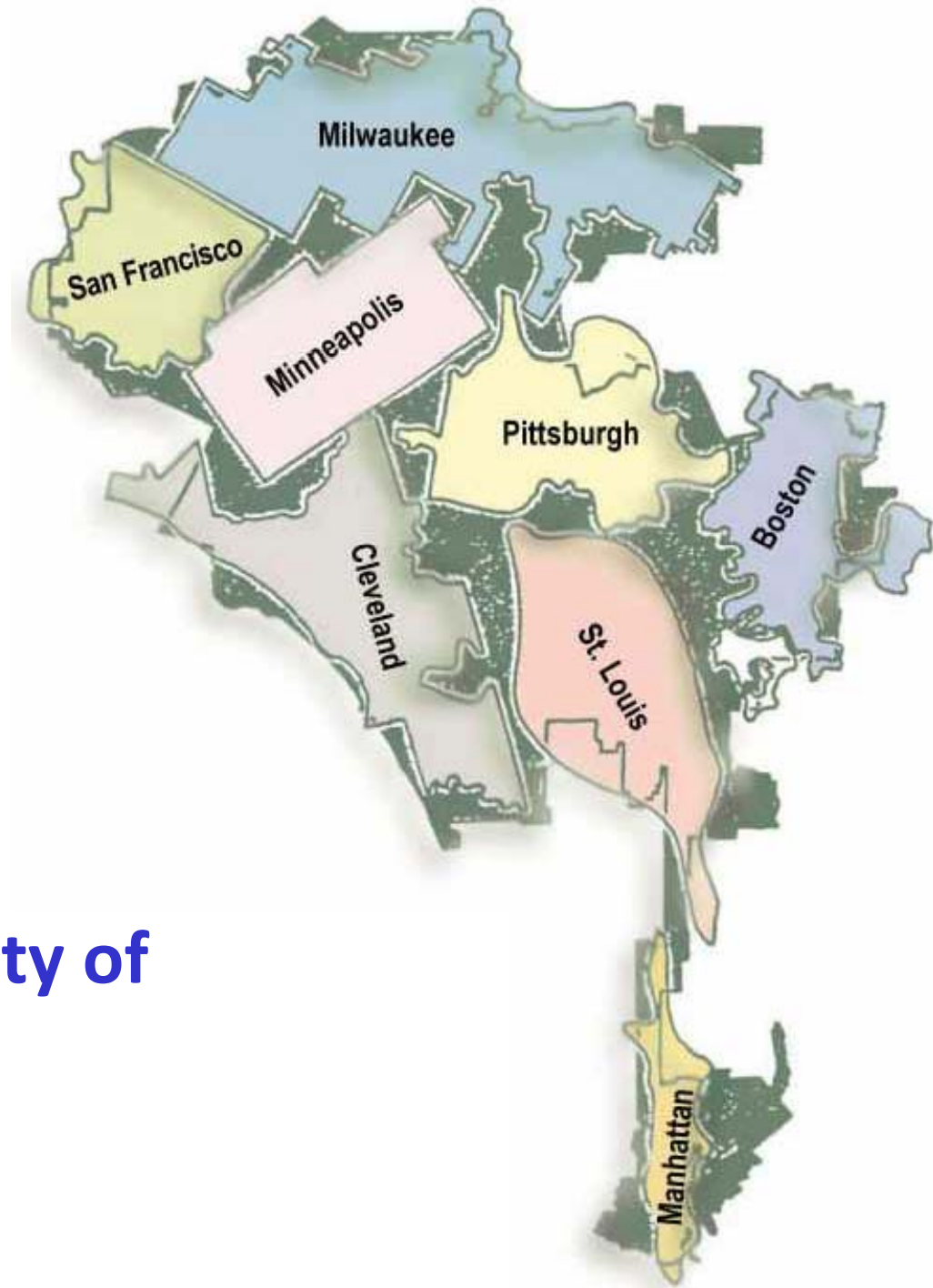
CITY OF LOS ANGELES

An aerial photograph of Los Angeles, California, showing a dense urban landscape with numerous skyscrapers and residential buildings. The city is set against a backdrop of blue mountains under a clear sky. The image is used as a background for text overlays.

Largest street system in the United States

6,500 Centerline Miles

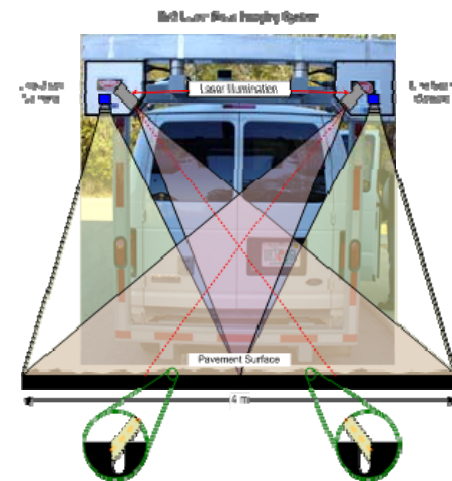
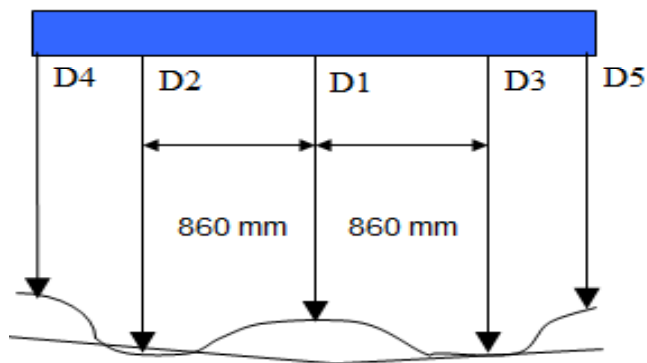
28,000 Lane Miles



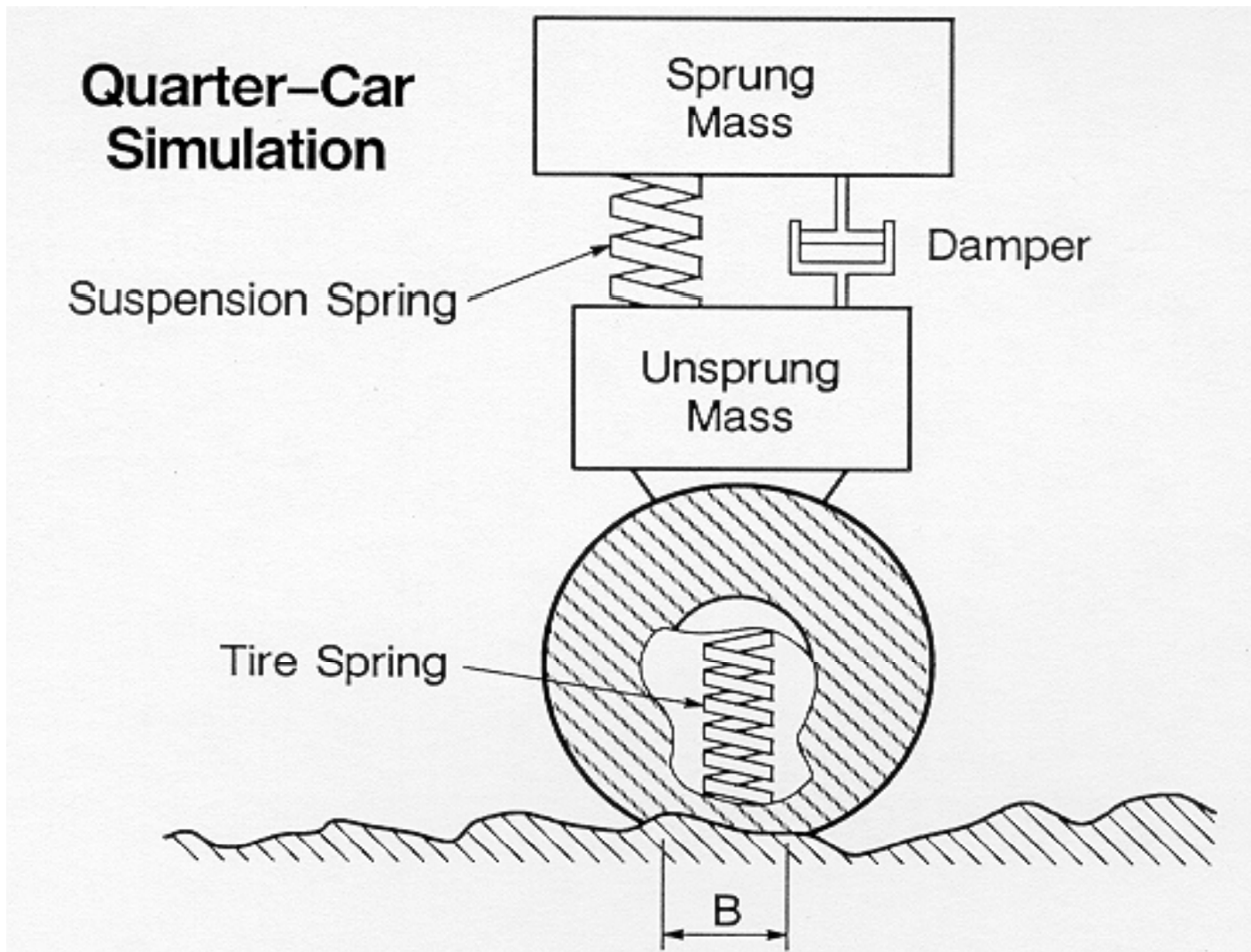
**How large is the City of
Los Angeles?**

City Data Collection Vehicle

(City LA)



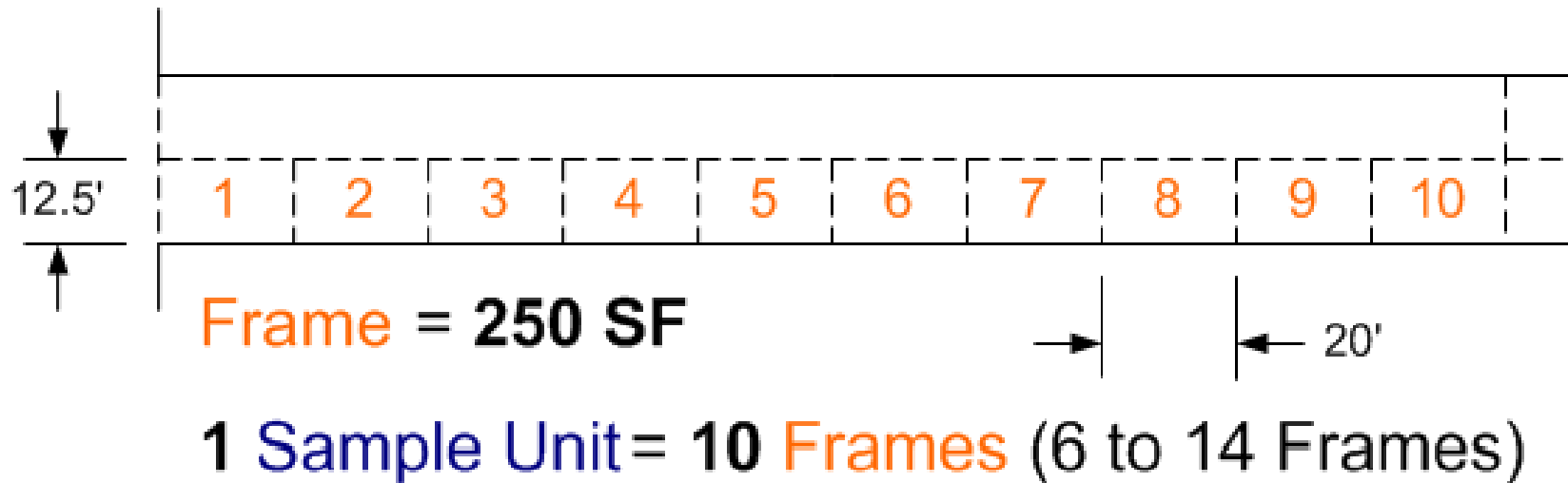
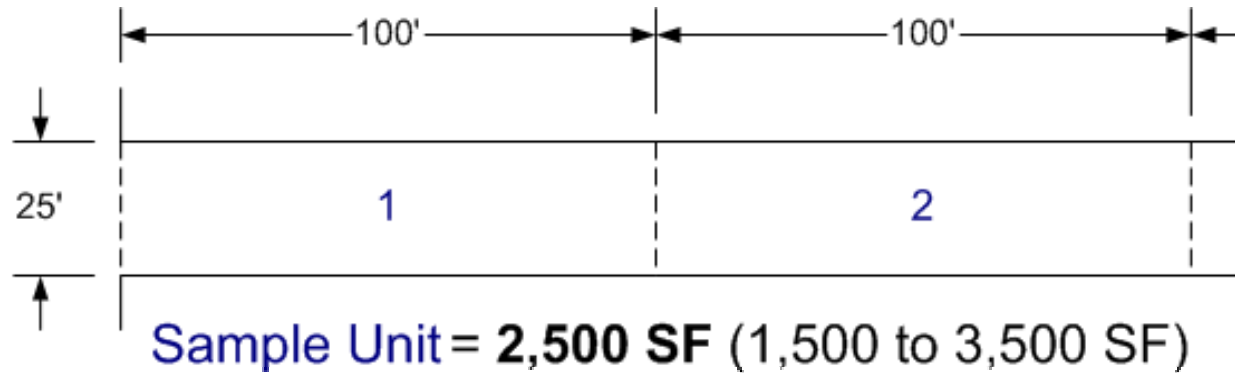
International Roughness Index (IRI)



PCI Frame Inspection

- Frame Method
 - Frame Definition
 - Number of Frames to Survey

Frame Definition



Number of Frames to survey Rate - 2 Way Traffic

Section Length, L Less Than 200' (100%)

From	9	8	7	6	5	4	3	2	1	To
	1	2	3	4	5	6	7	8	9	

Section Length, 200' < L < 400' (33%)

From	...	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	To
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	...	

Section Length, L > 400' (25%)

From	...	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	To
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	...	

Number of Frames to survey Rate - 1 Way Traffic



Section Length, L Less Than 300' (100%)

From

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

 To

Section Length, $300' < L < 450'$ (50%)

From

...	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	...
-----	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	-----

 To

Section Length, $450' < L < 750'$ (33%)

From

...	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	...
-----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

 To

Section Length, L Greater Than 750' (25%)

From

...	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	...
-----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

 To

PAVER™ ImageInspector™



Workflow for ImageInspector™

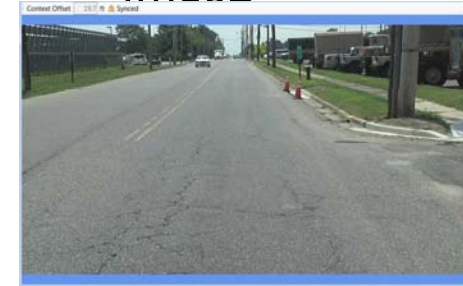
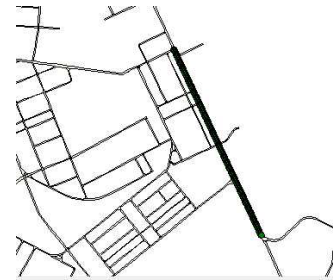
Image Interpretation Workstation

Inventory from PAVER (.i70)

Images and GPS Data

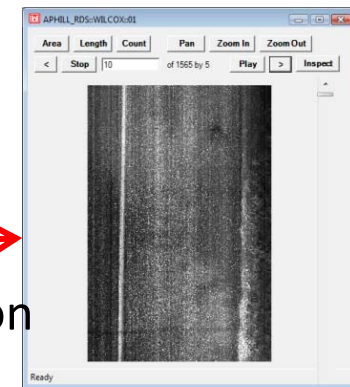
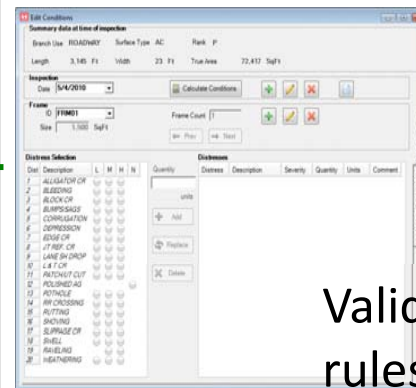
Assign Images to PID

Right of way Image



Inspection

Downward View



Validation rules

XML Distress Data to PAVER (Import Tool)



Image Assignment – Image Points

The screenshot displays a software interface for image assignment. The main window, titled "Image Assignment", shows a summary of the assignment process:

- Total: 287
- Assigned: 287
- Discarded: 0
- Unassigned: 0

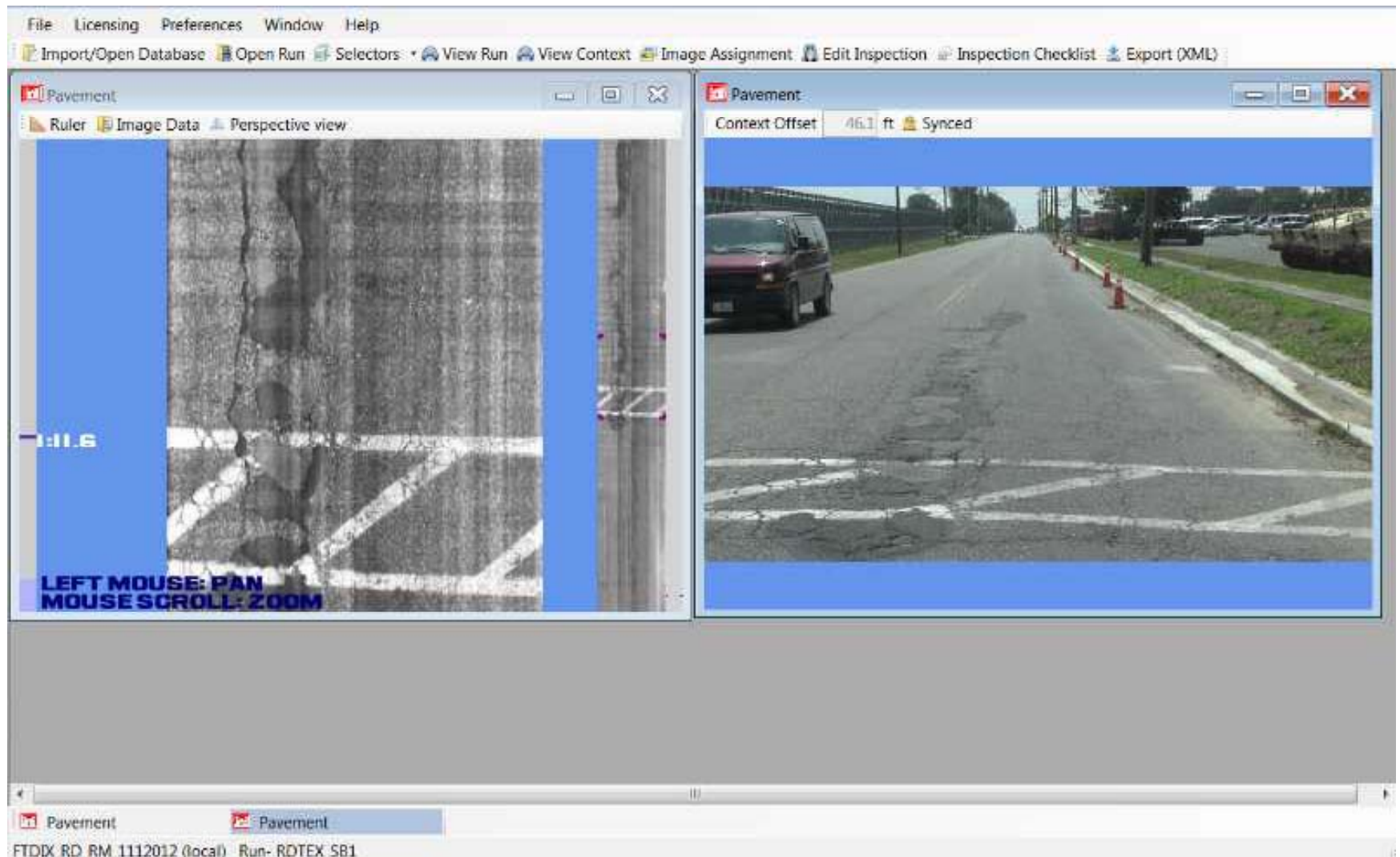
The "Map Selector" section includes buttons for "Assign by GPS", "Show image points" (set to "All"), "Discarded", and "Unassigned". A table below shows the assigned items:

PID	Items	First DMI	Last DMI
FTDIX RD - RDTEX - 01	287	0	4420

An "Inventory" window is overlaid on the map, showing a road network. The "Inventory" window has a toolbar with options: Pan, Select Item, Select Area, Select Event, Zoom Area, Zoom Out, Center, Print, and Export GIS. The map shows a road with a series of green dots representing image points. A "Discard" button is visible in the background.

At the bottom of the screen, the taskbar shows the following text: "Inventory", "Image Assignment", and "TDX RD RM 1112012 (local) Run - RDTEX 581".

Downward and Context Images Alignment



Edit Inspection – Auto Frame Selection

File Licensing Preferences Window Help

Import/Open Database Open Run Selectors View Run View Context Image Assignment Edit Inspection Inspection Checklist Export (XML)

Edit Inspection (FTDIX RD::RDTEX::01)

Section and Inspection Information
Branch Use: **LOADWAY** Surface Type: **C** Rank: **T**
Length: **11,883.00 Ft** Width: **47.00 Ft** True Area: **58,501**

Frames

Numb	Selecte	Inspect	View
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	View
2	<input type="checkbox"/>	<input type="checkbox"/>	View
3	<input type="checkbox"/>	<input type="checkbox"/>	View
4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	View

Frame
 No distresses found on fr Size: **250 SqFt** Edit Comme Calculate Condi

Distress Selection

Distres	Description	L	M	H	Quantity
1	ALLIGATOR...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	BLEEDING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	BLOCK CR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	BUMPS/SAG...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	CORRUGATI...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	DEPRESSION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	EDGE CR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	JT REF. CR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	LANE SH DR...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	L & T CR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	PATCH/UT C...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	POLISHED A...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	POTHOLE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	RR CROSSI...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	RUTTING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Distresses

Distres	Description	Severit	Quantit	Units	Comm
---------	-------------	---------	---------	-------	------

Auto-select frames
Start selection on frame: **1**
skip every: **2** frames
Cancel Select

Pavement
Image Data Perspective view
Total frame: 188
Selected frame: 63
% frames inspect: 0.0%

PCI Inspection
Non PCI Inspection

FTDIX_RD_RM_1112012 (local) Run- RDTEX_SB1

Edit Inspection – Marking Distress

The screenshot displays a software application window titled "Edit Inspection". The interface is divided into several sections:

- Menu Bar:** File, Licensing, Preferences, Window, Help
- Toolbar:** Import/Open Database, Open Run, Selectors, View Run, View Context, Image Assignment, Edit Inspection, Inspection Checklist, Export (XML)
- Left Panel (Rank T):**
 - Rank T: 0 Ft, True Area: 58,501.00 SqFt
 - Buttons: Create Frames, Auto-select Fra
 - Statistics: Images assign: 287, Total frame: 188, Selected frame: 63, % frames inspec: 77.8
 - Buttons: Edit, Comme, Calculate Condi
- Distresses Table:**

Quantity	Distres	Description	Severit	Quantit	Units	Comm
3.00	1	ALLIGATOR...	Medium	37.33	SqFt	Add
SqFt	11	PATCH/UT...	Medium	83.00	SqFt	Add

Buttons: Add, Replace, Delete
- Right Panel (Image Data):**
 - View: Perspective view
 - Image: A grayscale image of a pavement surface with orange lines marking distress areas. A circular manhole cover is visible in the upper left.
 - Vertical Strip: A narrow vertical strip on the right side of the image showing a zoomed-in view of the marked areas.
- Bottom Panel:**
 - Vertical Labels: PCI Inspection, Non PCI Inspection
 - Taskbar: Pavement, Edit Inspection (FTDIX RD), Pavement
 - Status Bar: FTDIX_RD_RM_1112012 (local) Run- RDTEX_SB1

Edit Inspection – Rutting

File Licensing Preferences Window Help

Import/Open Database Open Run Selectors View Run View Context Image Assignment Edit Inspection Inspection Checklist Export (XML)

Context Offset 45.0 ft Synced

Pavement

Rect Polygon 100% Ruler Image Data Perspective view

20L IM IM

15L 15L

Edit Inspection (FTDIX RD::RDTEX::01)

Section and Inspection Information

Branch Use: ROADWAY Surface Type: C Rank: T

Length: 11,883.00 Ft Width: 47.00 Ft True Area: 58,501.00 SqFt

Frames

Numb	Selecte	Inspect	View
2	<input type="checkbox"/>	<input type="checkbox"/>	View
3	<input type="checkbox"/>	<input type="checkbox"/>	View
4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	View
5	<input type="checkbox"/>	<input type="checkbox"/>	View

Create Frames Images assign 287 Recalculate rutting for

Auto-select Fra

Total frame 188
Selected fram 63
% frames inspec 77.8

Frame

No distresses found on fr Size 250 SqFt Edit Comme Calculate Condi

Distress Selection

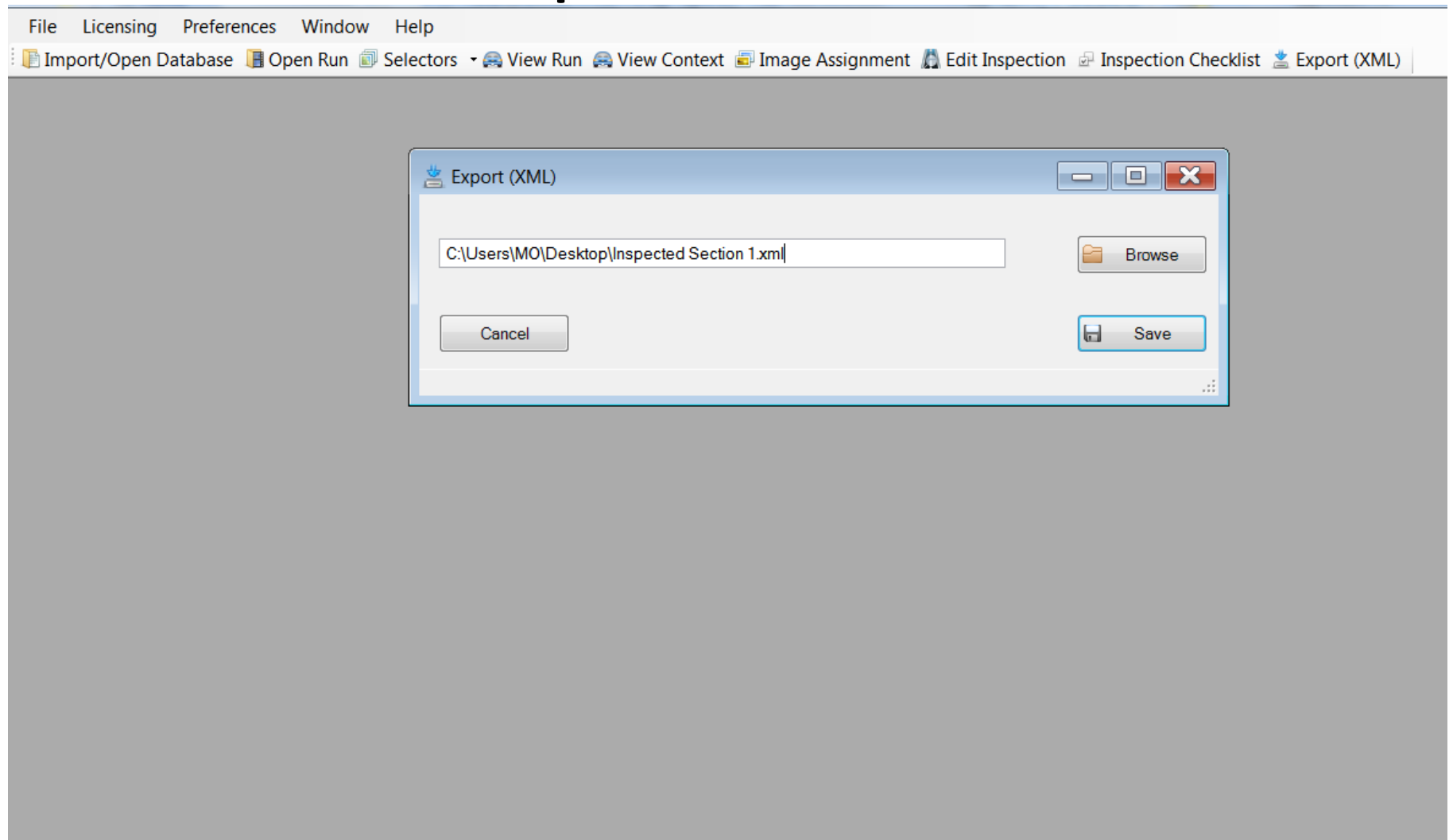
Distres	Description	L	M	H	Quantity
1	ALLIGATOR...				241.91
2	BLEEDING				
3	BLOCK CR				

Distresses

Distres	Description	Severit	Quantit	Units	Comm
15	Rutting	Low	17.04	SqFt	Add
1	ALLIGATOR...	Medium	44.48	SqFt	Add
1	ALLIGATOR...	Medium	18.70	SqFt	Add

PCI Inspection

Export to XML



In use prior to release

