



PAVEMENT INSPECTOR 2008

with

PMS4

Pavement Management System

Resource International, Inc.



What is a Pavement Management System?

- **An Expert System, Coupled with a Historical Database, Able to Organize and Prioritize Pavement Maintenance**
- **Eliminates Need for Outdated, Slow, Error Prone and Illegible Paperwork**



What Can a Pavement Management System Do for You?

- **Maintain a Historical Database**
- **Prioritize Allocation of Resources**
- **Manage Road Network Inventory**
- **Manage Road Network Condition**
- **Allow Management-Level Planning**



For Whom Could Such a Thing Be Useful?

- **Maintenance Personnel**
- **Highway Engineers**
- **Field Technicians**
- **Management**



What Support is There for GIS Data?

- **Can Import GIS Data to Jump-Start the Roadway Segment Database**
- **Capable of Exporting Street Data for Arcview or any other GIS Program Which Can Read**
 - **Tiger/Line Files**
 - **dBASE (.DBF) Files**

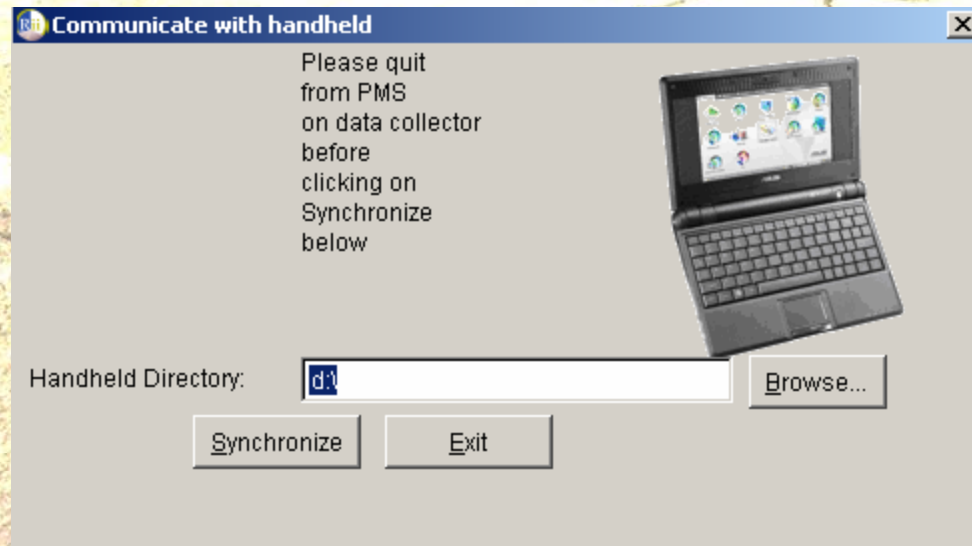


How Does It Gather Information?

- **Database of Roadway Segments Is Created via Pre-Loaded GIS Data and Modifications from User.**
- **Road Inventory and Condition Information Are Collected in the Field with Handheld Data Collector.**
 - **Pavement Distresses**
 - **Distress Severity and Extent**
 - **Existence of Sidewalk, Curb, Drainage**

How Does It Gather Information?

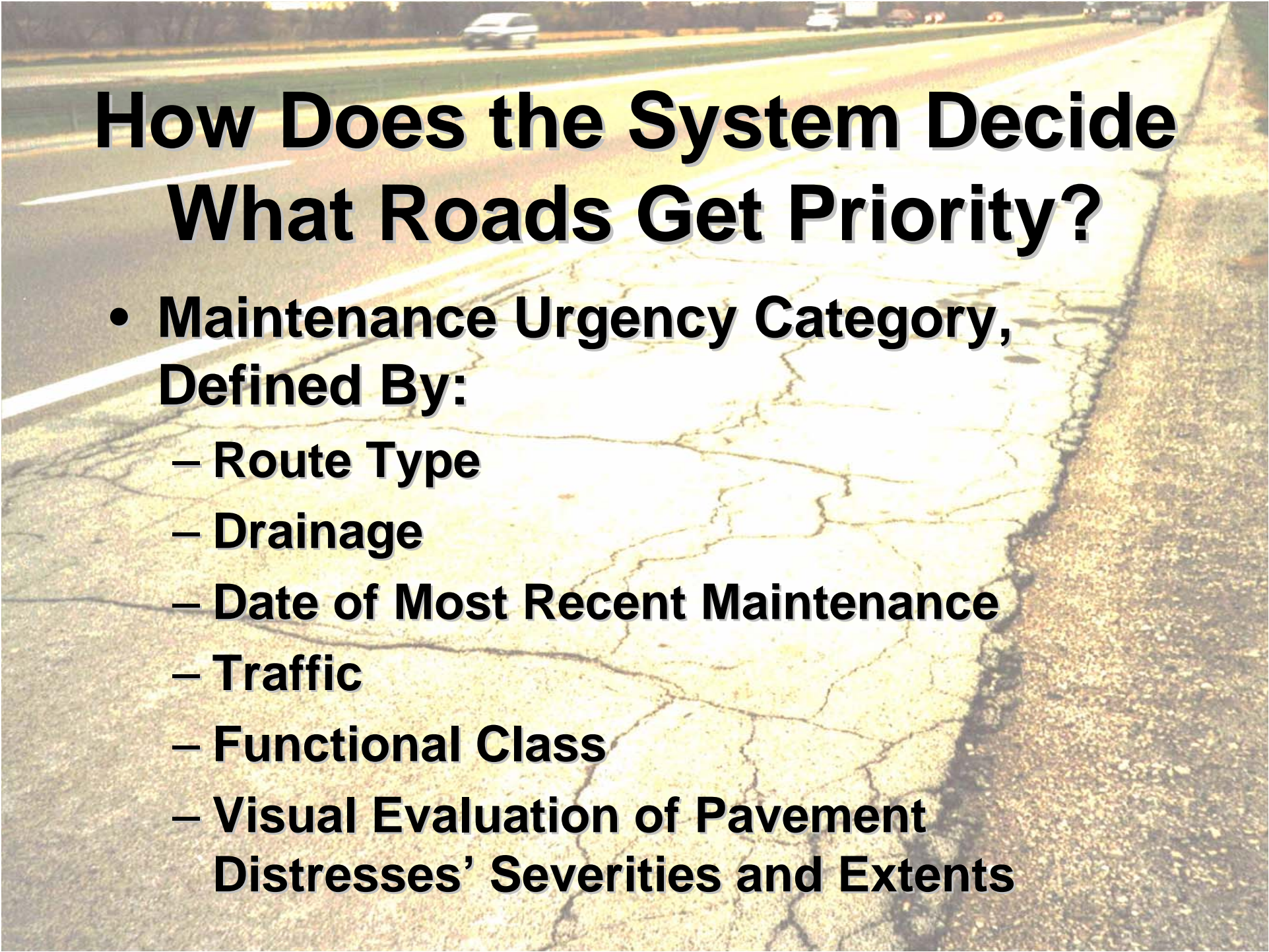
- The Two Data Sources Are Then Reconciled with One Mouse Click.





How Does the System Decide What Roads Get Priority?

- Uses the Data Commonly Collected by Highway Engineers, Which Is Imported with One Mouse Click from PMS4 for Ultra Mobile PC**
- Expert System Incorporates More Than 25 Years of Experience In PMS Technology**



How Does the System Decide What Roads Get Priority?

- **Maintenance Urgency Category,
Defined By:**
 - **Route Type**
 - **Drainage**
 - **Date of Most Recent Maintenance**
 - **Traffic**
 - **Functional Class**
 - **Visual Evaluation of Pavement
Distresses' Severities and Extents**



What Types of Maintenance Are Considered?

- **Routine Maintenance**
- **Crack Seal**
- **Chip & Seal**
- **Slurry Seal**
- **Routine Overlay**
- **Designed Overlay**
- **Reconstruction**
- **New Construction**



What Pavement Types Can the System Handle?

- **Flexible**
- **Composite (Flexible over Concrete)**
- **Jointed Concrete**
- **Continuous Concrete**



What Are the Distresses That Are Assessed in PCR?

- **Groups of Distresses:**
 - **Surface Defects**
 - **Pavement Support**
 - **Joint Failures**
 - **Cracking**
- **Specific Distresses Combine into Pavement Condition Rating (PCR)**

What Does the Program Look Like?

Enter the Pavement Segment Information.

Street: Halcyon Road

From: [Dropdown]

To: [Dropdown]

Entire Street

Verify Segment

Chosen Segments

- Halcyon Road (Entire Street)
 - from Cedar Road to Edgehill Drive
 - from Edgehill Drive to E Baintree Road
 - from E Baintree Road to Hilltop Drive
 - from Hilltop Drive to E Groveland Road
 - from E Groveland Road to Woodway Road
 - from Woodway Road to Greenlawn Ave
 - from Greenlawn Ave to Wendover Drive
 - from Wendover Drive to Timberlane Drive
 - from Timberlane Drive to Deborah Drive

Next Screen Close

What Does the Program Look Like?

Enter the Pavement Segment Information.

Street: Halcyon Road

From: [Dropdown]

To: [Dropdown]

Entire Street

Verify Segment

Chosen Segments

- [-] Halcyon Road (Entire Street)
 - from Cedar [Dropdown]
 - from Edgemoor [Dropdown]
 - from E Bainbridge [Dropdown]
 - from Hilltop [Dropdown]
 - from E Grove [Dropdown] Road
 - from Woodville [Dropdown] ve
 - from Green [Dropdown] ve
 - from Wendover [Dropdown] Drive
 - from Timberlane Drive to Deborah Drive

Context Menu:
Next Screen...
Split Segment...
Redefine Segment...
Swap Start/End Nodes...
Move to Start
Move to End
Delete...
What's This?

Next Screen Close

What Does the Program Look Like?

Composite Pavement Condition Rating

Street Name: Halcyon Road Date Rated: 12/05/1997
 Begin: Cedar Road End: Edgehill Drive Rated By: BWS

Distress	Weight	Severity			Extent			Clear
		Low	Med	High	Occas	Freq	Ext	
Raveling <input checked="" type="checkbox"/>	10	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Clear
Bleeding <input type="checkbox"/>	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Patching <input checked="" type="checkbox"/>	5	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Clear
Surface Distintegration/Debondi <input type="checkbox"/>	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Rutting <input type="checkbox"/>	10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Corrugations <input checked="" type="checkbox"/>	5	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Clear
Pumping <input type="checkbox"/>	10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Shattered Slab <input type="checkbox"/>	10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Settlement <input checked="" type="checkbox"/>	5	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Transverse Cracking <input type="checkbox"/>	20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Joint Reflection Cracks <input type="checkbox"/>	12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Other <input type="checkbox"/>	8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Longitudinal Cracking <input type="checkbox"/>	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear
Pressure Damage/Upheaval <input checked="" type="checkbox"/>	5	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Clear
Crack Seal Deficiency <input type="checkbox"/>	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Clear

Clear OK Cancel

What Does the Program Look Like?

Projects

Road Information | Traffic Data | Layer Thicknesses | Miscellaneous

Comments | PCR | Maintenance Projects

Street Name: Halcyon Road
Begin: Cedar Road
End: Edgehill Drive

Year: 1997

Recommended Projects:

1. **Chip & Seal**
2. **Slurry Seal**
- 3.

Actual Project:

Save | Save and Exit | Exit and Discard Changes

How Do Printed Reports Look?

FOREST PARK
 Pavement Management System
Priority Ranking Report
 02/25/2008

Priority: 1
 Road: Winson Road
 Begin: Finley Avenue
 End: North Corp
 Number:

Functional Class: Major Arterial	Length: 0.280000
Route Type: Truck/Bus Route	Pavement Width: 80.0
Pavement Type: Composite	R.O.W. Width: 100.0
Number of Lanes: 6	Surface Width: 0.0
Aadt: 20000	
Percent Trucks: 0	
Date of Traffic count: //	
ESAL: 18000	
Surface: 2.60 in Asphalt Surface	
Base: 9.00 in Cement Base	
Subbase1: 0.00 in Unknown	
Subbase2: 0.00 in Unknown	
Soil Type: Unknown	
Curb: Present	Drainage: Good
Shoulder: Present	Ditch: Not Present
Sidewalk: Present	Catchbasin: Not Present
	Underground Drain: Unknown
Comment:	
Per: 95	PCR Date: 03/24/2006
Recommended Action:	Estimated Cost:
Routine Maintenance	\$3898.00

FOREST PARK
 Pavement Management System
Inventory Report
 02/25/2008

Road: Artist Drive
 Begin: Northland Road
 End: Ashby Drive
 Number:

Functional Class: Collector	Length: 0.360000
Route Type: Car Only	Pavement Width: 70.0
Pavement Type: Flexible	R.O.W. Width: 80.0
Number of Lanes: 3	Surface Width: 0.0
Aadt: 300	
Percent Trucks: 0	
Date of Traffic count: //	
ESAL: 270	
Surface: 3.00 in Asphalt Surface	
Base: 9.00 in Asphalt Base	
Subbase1: 0.00 in Unknown	
Subbase2: 0.00 in Unknown	
Soil Type: Unknown	
Curb: Present	Drainage: Unknown
Shoulder: Not Present	Ditch: Unknown
Sidewalk: Unknown	Catchbasin: Unknown
	Underground Drain: Unknown
Comment:	
Per: 75	PCR Date: 03/18/2005
Recommended Action:	Estimated Cost:
Rakumac	\$16247.68
Routine Overlay	\$98387.20
Unknown	

What Does the Data Collector Look Like?



<input type="button" value="Add Street"/>	<input type="button" value="Edit Street"/>	<input type="button" value="Define New Segment"/>
Street Name	Sheridan Avenue	
Segment	E Main Street to E Mound Street	
<input type="button" value="Next"/>		
<input type="button" value="Delete"/>		

Pavement Type	Flexible	
Route Type	Truck / Bus Route	
Functional Class	Collector	
Segment Length	30	
Pavement Width	9	
Number of Lanes	5	
Right Curb	Present	
Left Curb	Present	
Right Shoulder	Not Present	
Left Shoulder	Not Present	
Right Sidewalk	Present	
Left Sidewalk	Present	
Ditch	Not Present	
Catch Basin	Not Present	
Drainage	Fair	
Comments	core taken 10 meters from Sheridan	

Flexible Pavement Rating Sheet		
Raveling	Low	Frequent
Bleeding		
Patching		
Potholes	Medium	Occasional
Crack Seal Deficiency		
Rutting	High	Extensive
Settlement		
Corrugations		
Wheel Track Cracking		
Block & Trans. Cracking		
Longit. Joint Cracking		
Edge Cracking	Medium	Occasional
Random Cracking		



How Difficult Is Teaching This to Field Technicians?

- **PMS4-2008 for Windows**
 - **Uses Standard Windows Interfaces to Ease Data Entry.**
- **PMS4 for Ultra Mobile PC Handheld Distress Data Collector**
 - **Utilizes Simplified Data Entry Techniques for Optimal Field Efficiency.**
 - **Allows Field Personnel to Enter Data for Streets & Segments That Are New to the Database.**
 - **Very Simple Qualitative Rating System**
 - **Can Be Learned in Less Than an Hour**



Any Questions?

- **Check Out Our Web Page at <http://www.ResourceInternational.com>**
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- **Call Us at 614-823-4949**