Department of Public Works

Bureau of Street Services

Pothole Politics:
The Road To Pavement Preservation

William A. Robertson
Director

Potholes Are Like Diamonds…

They’re Forever!
HOW BIG IS LOS ANGELES?

<table>
<thead>
<tr>
<th>City</th>
<th>Square Miles</th>
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<tbody>
<tr>
<td>City of Los Angeles</td>
<td>468.85</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>49</td>
</tr>
<tr>
<td>Cleveland, OH</td>
<td>199.4</td>
</tr>
<tr>
<td>Manhattan, NY</td>
<td>31</td>
</tr>
<tr>
<td>Milwaukee, WI</td>
<td>95</td>
</tr>
<tr>
<td>Minneapolis, MN</td>
<td>58.7</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>55.5</td>
</tr>
<tr>
<td>St. Louis, MO</td>
<td>160.3</td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td>46.7</td>
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</table>
CITY OF LOS ANGELES

Largest municipal street system in the United States

6,500 Centerline Miles

28,000 Lane Miles

69,507 Segments
Current Condition Assessment

- Pavement Condition Index (PCI) 62
- Approximately 1,000 miles of failed streets
- $2.3 Billion Backlog (PCI 80)
- Overall system condition is a D+
How Did We Get In This Mess?

- Prior to World War II the City was comprised of approximately 2,500 miles of paved streets and the Annual Resurfacing Program (ARP) consisted of 50 miles.

- After World War II, and the rapid growth of the San Fernando Valley the street system grew to 6,500 miles.

- Up until 1986, the ARP still consisted of only 50 miles of resurfacing.

- From 1987 to the early 1990’s, the ARP was increased to approximately 150 miles.

- Fiscal Year 1994-95, the Bureau was funded for its first 200 mile ARP.

- This year the ARP is funded at 235 miles.
Strategic Game Plan

• Identify the goal.
• Create a pavement preservation plan.
• Budget Allocation.
• Pavement Management/ Micro PAVER™.
• Recycle, Recycle, Recycle
• Telling the Story.
Identify The Goal

- Verify current condition of the street system.
- Where do you want to go?
- Where will current funding levels take you?
- With a $2.3 billion backlog LA had one choice...slow the rapid deterioration of the street system – Save Streets.
Pavement Preservation Plan

• Identify the elements of your program.
• What’s the mix…how much of each.
• What will get me the biggest bang for my buck – In LA it was Rubberize Slurry Seal.
• Look for innovative processes.
• Commit to the plan and stay flexible.
Maintenance and Rehabilitation (M&R) Work Planning

- Maintenance
- Rehabilitation

- Pothole Repairs
- Crack Sealing
- Slurry Sealing
- Overlays
- Resurfacing
- Reconstruction
Budget Allocation

Where do I put my money to get the greatest benefit?

MicroPaver

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Failed</th>
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<tbody>
<tr>
<td>$1</td>
<td>$2</td>
<td>$4</td>
<td>$7</td>
<td></td>
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</table>

*Typically 20% of the budget is allocated towards failed streets.
Budget Allocation Formula

Old Method

\[
\text{Council District} = \frac{\text{Total Maintained Centerline Miles in CD}}{\text{Allocation Total Maintained Centerline Miles Citywide}} \times 100\%
\]
Budget Allocation Formula
Current Method

Three factors are contemplated in the BAF:

- **Pavement Condition:**
  The condition factor is included to address the need for Pavement Resurfacing or Reconstruction due to deteriorated conditions in a particular district and to take into account user comfort.

- **Pavement Area:**
  The area factor is considered due to the varying size of the pavement areas (or lane miles) in the different Council Districts.

- **Bus/Truck Traffic:**
  The bus/truck traffic factor is included to address the effects of buses/trucks traffic factor on increase pavement thickness and consequently on the cost of resurfacing or reconstruction.
Pavement Management Program

- Justifies different funding level requests.
- Provides information to make efficient use of available resources.
- Produces quantified and accurate information.
- Tracks pavement performance.
- Identifies current and future maintenance & rehabilitation (M&R) needs.
- Selects cost-effective repair strategies.
- Predicts future pavement condition based on different budget scenarios.
Street Sections Inventory Graph

SUMMARY

Sections (Blocks)

<table>
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<tr>
<th>Surface Type</th>
<th>AS</th>
<th>PC</th>
<th>OV</th>
<th>AP</th>
<th>DT</th>
<th>OT</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6154</td>
<td>58300</td>
<td>2212</td>
<td>1406</td>
<td>496</td>
<td>16</td>
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Surface Type
Condition Prediction Modeling

Section Prediction in relation to Family Model

The graph shows the relationship between pavement condition index (PCI) and time (years). The "Pavement Family Prediction Model Curve" indicates the expected condition of the pavement over time. The "Present PCI - Age Point" shows the current PCI at a given age. The "Modified Prediction Curve" represents an adjusted model for future predictions.
Reports
Average Condition

Annual Condition Plot

Weighted Avg Condition

Years

Reports

Backlog of Maintenance and Rehabilitation

Number of Years

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Backlog of M&R

Number of Years

- $0
- $200,000,000
- $400,000,000
- $600,000,000
- $800,000,000
- $1,000,000,000
- $1,200,000,000
- $1,400,000,000
- $1,600,000,000
- $1,800,000,000
Work Planning

Compare various budget scenarios

![Network Weighted Average Pavement Condition Index (PCI)]

- No Major M&R
- $35 M/Yr
- $80 M/Yr
- $150 M/Yr

Years:
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
Innovations In Asphalt Technology

Cold In-Place Recycling – The key to addressing failed streets in our neighborhoods.

- 25% to 35% more cost effective than conventional reconstruction.

- Less invasive to local neighborhoods.
Innovations In Asphalt Technology

- Rubberized Slurry Seal – 400 miles
- Environmentally friendly, 25,935 waste tires are recycled for every 100 miles of streets slurry sealed.
- Pre-mixed at centralized plant and delivered ready for application.
Fresh, clean, and new appearance for neighborhoods.
Innovations In Asphalt Technology

- Installation of RAP Gators at both Municipal Asphalt Plants.
- Increase recycled content from 15 to 20 percent.
- Reduce cost for processing RAP material.
Reaching For The Stars

• Establishing and working with non-traditional asphalt industries to identify new products
PAVEMENT PRESERVATION

A Challenge That Goes “To Infinity And Beyond”
Name the crater and the planet.
PROFESSOR POTHOLE

Tell it like it is…
Telling The Story

• Public Outreach – 89 Certified Neighborhood Councils
• Outreach to Elected Officials and their staffs.
• Embrace the Media.
• Working with local Colleges and Universities.
Public Outreach
Neighborhood Councils As Advocates

• Be straightforward, forthright, and tell the truth.
• Give them a historical view of the condition of the street system.
• Tell them what you do with the money you receive.
• Provide condition assessments.
• Ask them for their Strategic Plan.
Elected Officials & Staff

• Focus on their staff.
• Provide training on issues that affect service delivery.
• Keep the elected officials informed.
• Use your Pavement Management Program to make your point for Preservation.
Working With The Forces Of Evil
(Media & Press)

• Be honest…build trust.
• Be accessible.
• Tell them the same story you tell elected officials and the public.
• Spin the positive.
• Keep your website updated.
Colleges & Universities

- Contact and establish a relationship with their Schools of Policy, Planning and Development.
- Volunteer to be a guest speaker at classes.
- Use Graduate Students as a resource.
- Provide information regarding key issues to professors for class discussions.
Where The Road Has Taken Us

• Pavement Preservation Program has grown from 310 miles in 2002 to 735 miles in 2008...137 percent increase.

• Ten million dollars allocated to rebuild the Metro Asphalt Plant to run a 50-50 recycled mix.

• For the first time since World War II the overall street system’s PCI will not decline.
The Road to Pavement Preservation Is Never Finished.
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