

## ***City Council Pavement Conditions Tour***

**Friday, April 1, 2016  
Library Conference Room  
951 Spruce Street  
1:00 PM – 4:00 PM**

***Note: The time frames assigned to agenda items are estimates for guidance only. Agenda items may be heard earlier or later than the listed time slot.***

- |                  |             |                                      |
|------------------|-------------|--------------------------------------|
| 1:00 p.m.        | <b>I.</b>   | Call to Order                        |
| 1:00 – 3:00 p.m. | <b>II.</b>  | Streets Field Visit – locations vary |
| 3:00 p.m.        | <b>III.</b> | Return to Library Meeting Room       |
| 3:00 – 4:00 p.m. | <b>IV.</b>  | Discussion – Paving                  |
| 4:00 p.m.        | <b>V.</b>   | Adjourn                              |

*Council members will leave for a tour of various City streets 1:00 PM. Members of the public must provide their own transportation if they wish to follow the caravan. All discussion will take place following the street tour in the Library Meeting Room.*

## Paving Tour Informal Agenda

1. Overview
2. Brief Handout Review of Pavement Failure Types
3. Brief discussion of any specific streets to visit.
4. Field Tour (Various Locations)



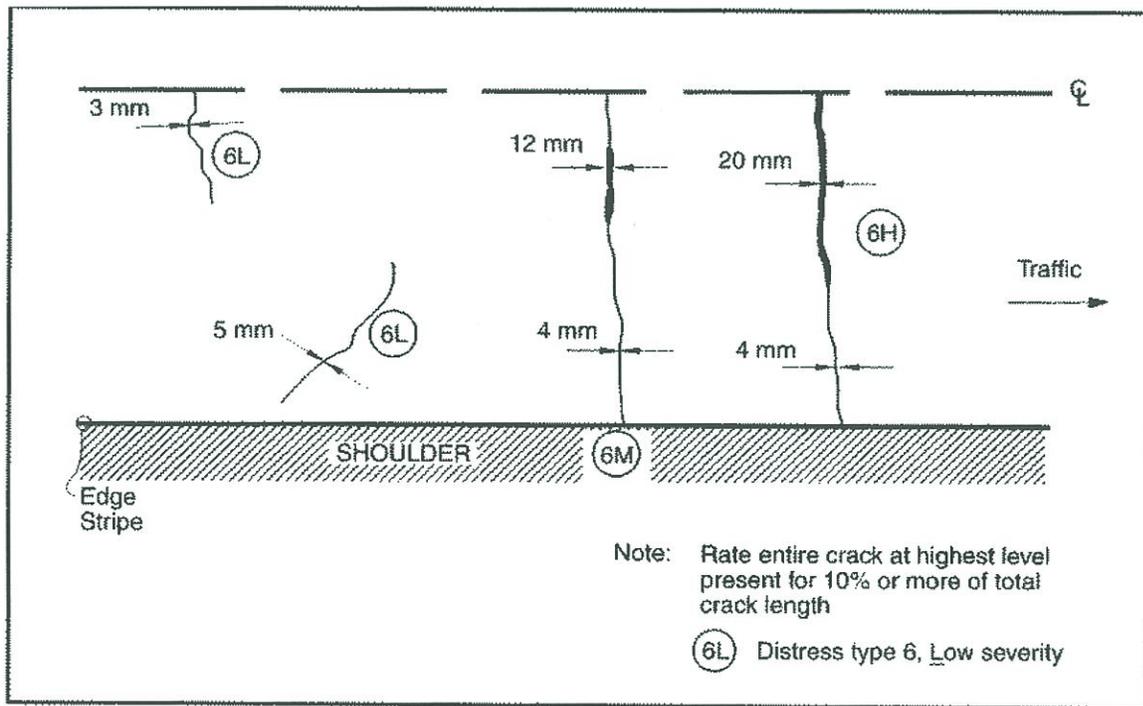
**To:** Mayor and City Council  
**CC:** Malcolm Fleming, City Manager  
**From:** Kurt Kowar, P.E., Director of Public Works and Utilities  
**Date:** 4/1/2016  
**Re:** Pavement Condition Index and Impacts of Preventative Maintenance

Staff is providing a short reference document for the City Council that explains how the Pavement/Overall Condition Index relates to what seen in the Streets. Understanding why a street is scored a certain way and having an understanding of what various work being done accomplishes for the system score can be helpful during capital improvement budgeting discussions.

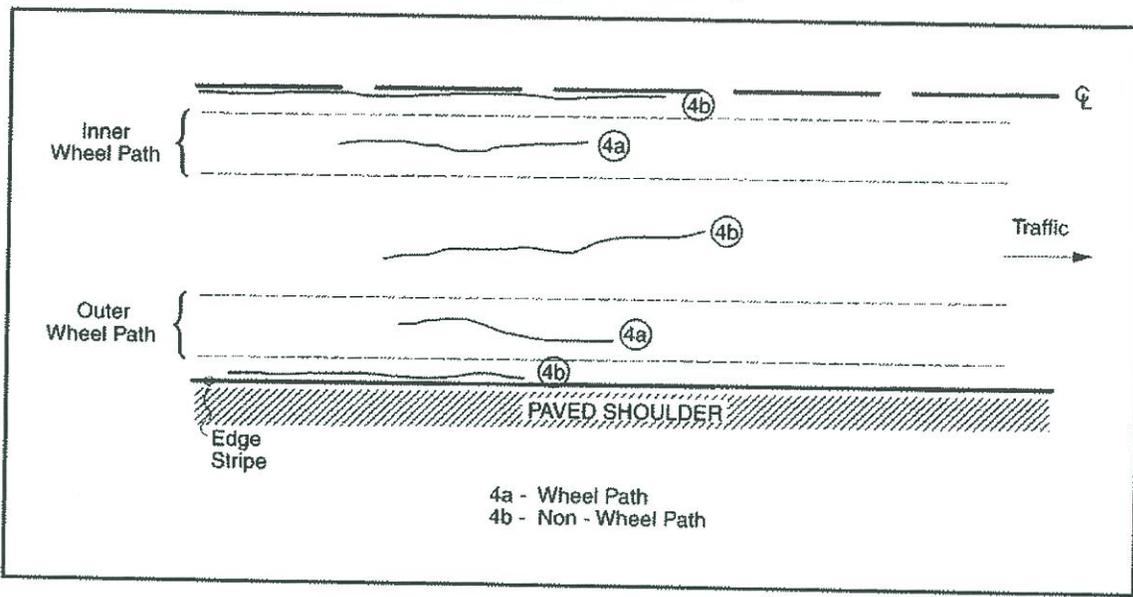
**A visual of some common distresses on our streets**

The Pavement Condition Index uses varying distresses categorized by low, medium, or high severity for each distress. The most common distresses found in Louisville and used for this discussion are as follows (Please note these are not all distresses that can occur):

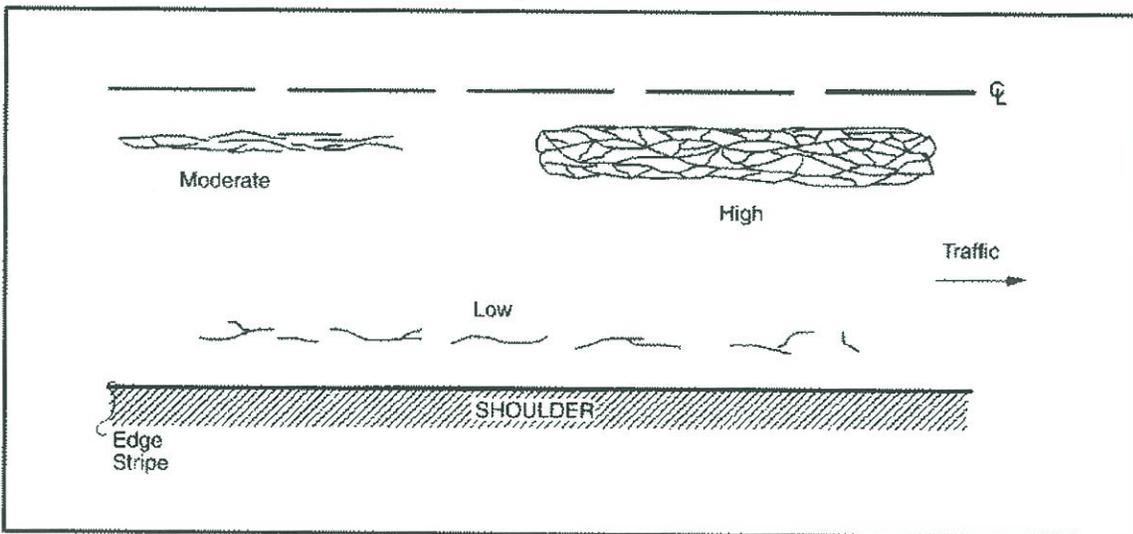
**Low, Medium, and High Transverse Cracking**



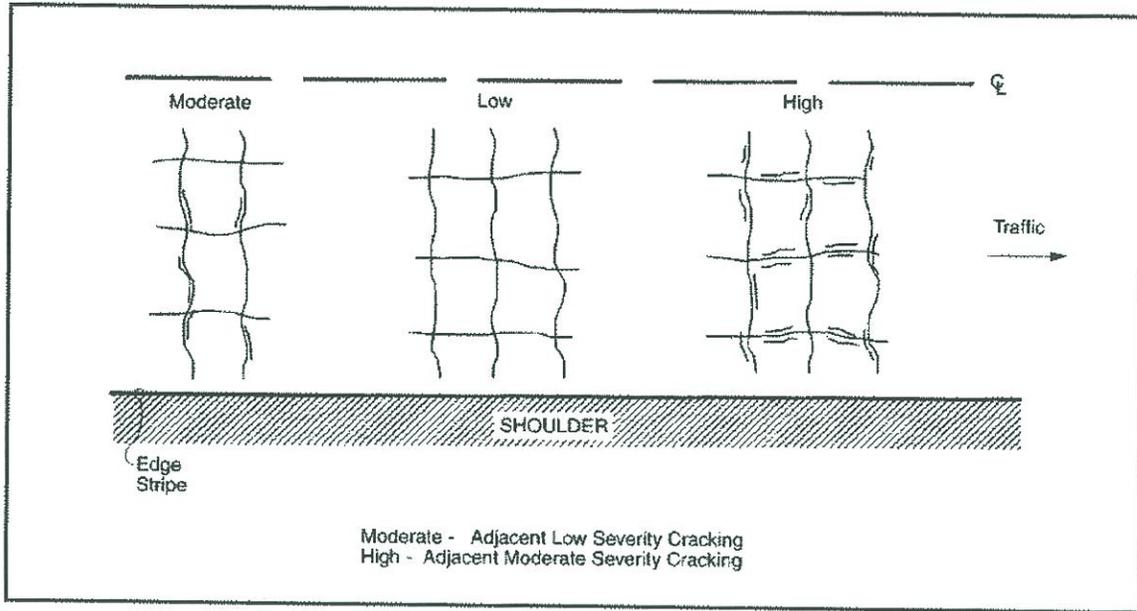
### Longitudinal Cracking



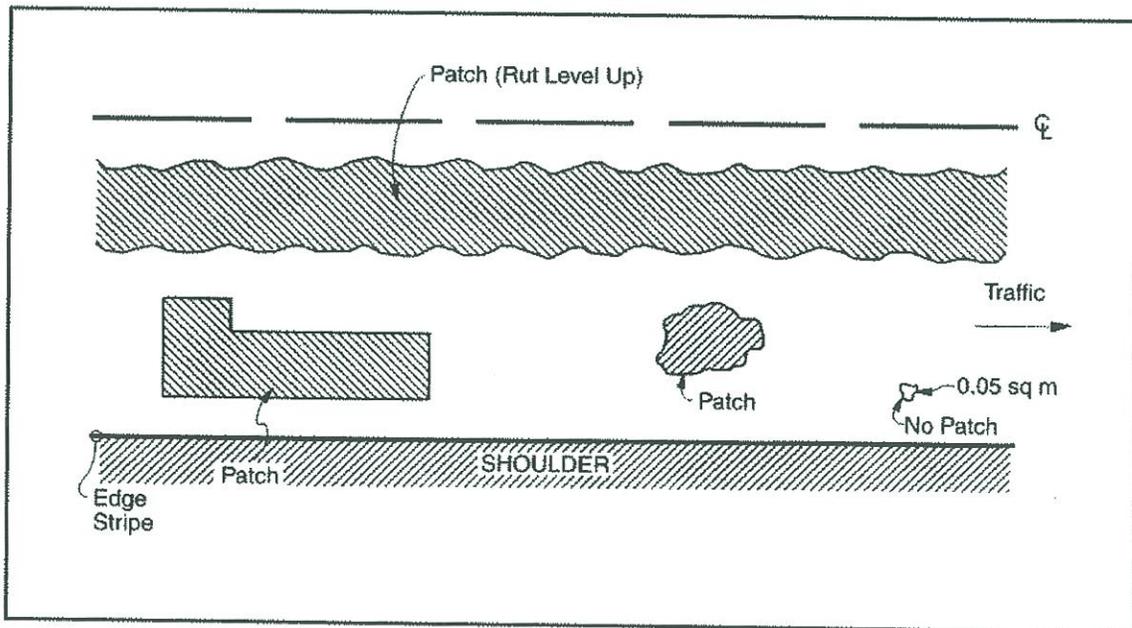
### Fatigue or Alligator Cracking



### Block Cracking



### Patching



## What effect does each distress have on the score of a street?

To understand what effect a type of distress has on our street system one must understand roughly how the pavement management system calculates the score. Basically, each type of distress is observed for severity and measured for the total quantity in linear feet or square feet for the section of street being surveyed. The totals of the distresses are then converted into a percentage of the entire section for each type and finalized into an average OCI score for that section of street. The following table illustrates the score a section of street 2 lanes wide (24 ft) and 100 feet long (imagine one side of Via Appia) would be for each type of distress previously shown and as may be observed in the field.

**OCI Score for different types of Distresses on a 2 Lane (24 ft), 100 ft Section of Street**

Type of Distress	Severity of Distress	Size of Distress	Measurement	PCI Score
New Overlay	-	-	-	<b>100</b>
Chip Seal	-	-	-	<b>90 - 100</b>
Longitudinal/Transverse	Low	400 ft	400 lf	<b>79</b>
Patch	Low	50 ft x 12 ft	600 sf	<b>75</b>
Block Cracking	Low	Whole Section	2400 sf	<b>72</b>
Longitudinal/Transverse	Medium	400 ft	400 lf	<b>64</b>
Block Cracking	Medium	Whole Section	2400 sf	<b>57</b>
Alligator Cracking	Low	50 ft x 12 ft	600 sf	<b>57</b>
Alligator Cracking	Medium	50 ft x 12 ft	600 sf	<b>42</b>

## What does this mean in regards to Preventative Maintenance?

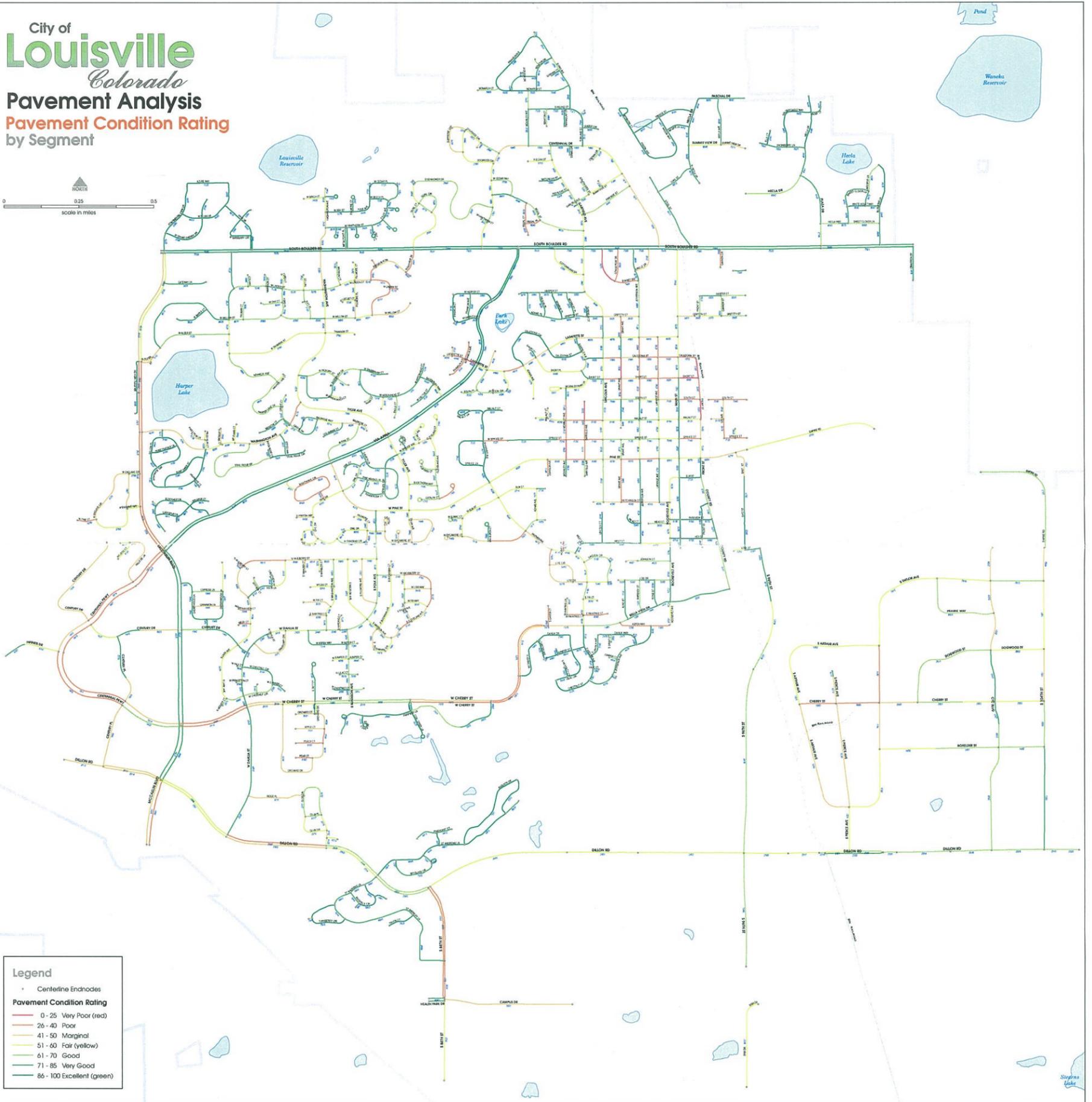
Using our same example section of road the following table shows what score can be achieved when preventative maintenance is performed and the same distresses are transformed to other types of distresses. Please note that these are examples and various ranges to try and provide an idea of what occurs. In general, the entire street network is surveyed to provide an idea of the condition of each street and the average OCI for the entire City. As it becomes time to perform the actual work on each street, staff assesses that street in full detail including localized problems, traffic volume, and other factors that may contribute to street distresses or ongoing issues. The appropriate treatment or work is then selected and performed.

**Effect of Preventative Maintenance on the OCI Score for a 2 Lane (24 ft), 100 ft Section of Street**

Existing	PCI	Preventative Maintenance	Improved Distress	New PCI
Alligator – Low	57	Patching	Patch - Low	<b>75</b>
Alligator – Medium	42	Patching	Patch – Low	<b>75</b>
Long/Tran – Medium	64	Crack Seal	Long/Tran – Low	<b>79</b>
Block – Medium	57	Crack Seal	Block – Low	<b>72</b>
Varies	0 - 40	Reconstruct	New	<b>100</b>
Varies	26 - 56	Overlay	New	<b>100</b>
Varies	41 - 69	Chip Seal	Like New	<b>90 - 100</b>

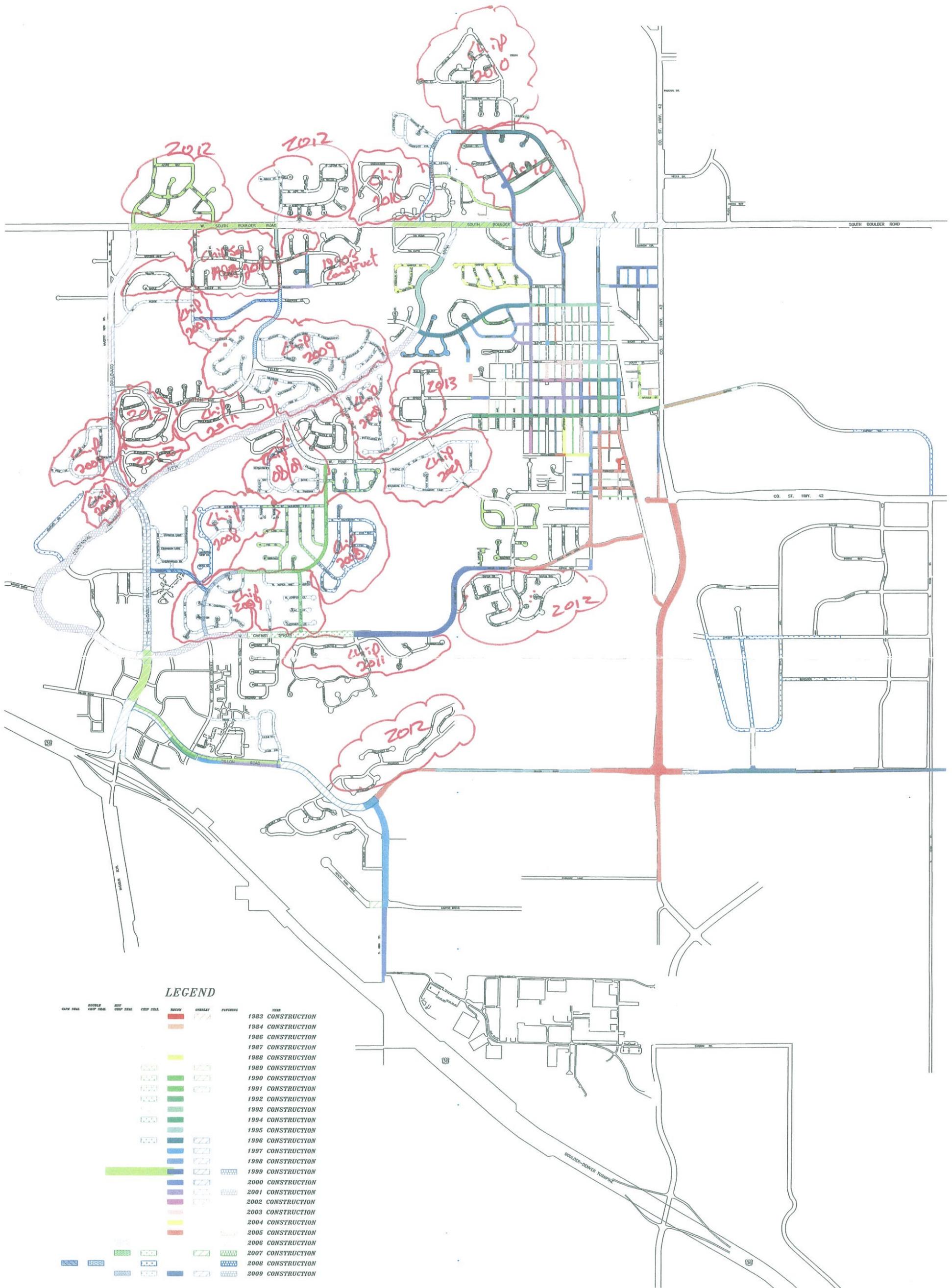


City of  
**Louisville**  
*Colorado*  
**Pavement Analysis**  
**Pavement Condition Rating**  
 by Segment



**Legend**

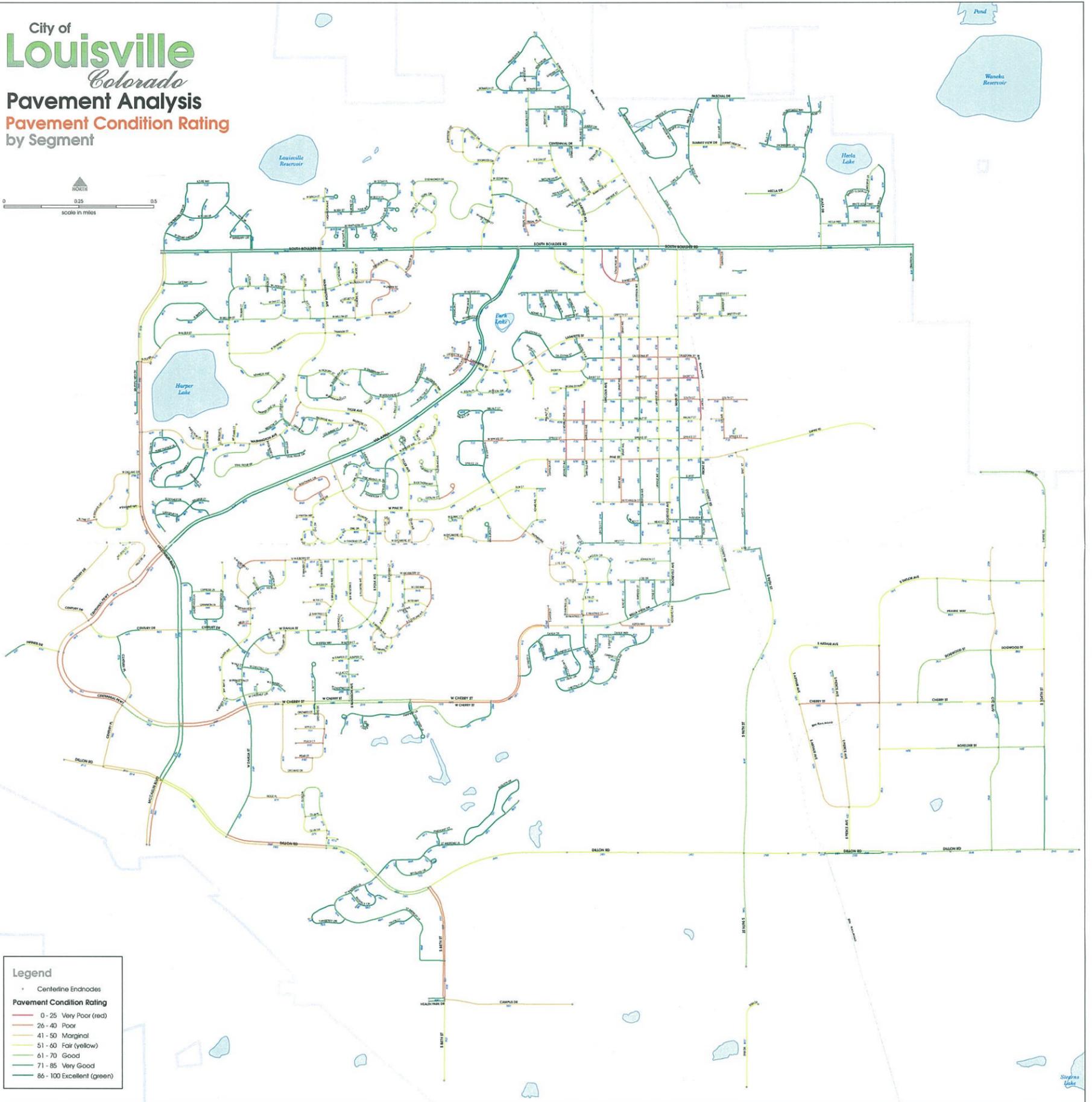
- Centerline Endnodes
- Pavement Condition Rating**
- 0 - 25 Very Poor (red)
- 26 - 40 Poor (orange)
- 41 - 50 Marginal (yellow-orange)
- 51 - 60 Fair (yellow)
- 61 - 70 Good (light green)
- 71 - 85 Very Good (green)
- 86 - 100 Excellent (dark green)



**LEGEND**

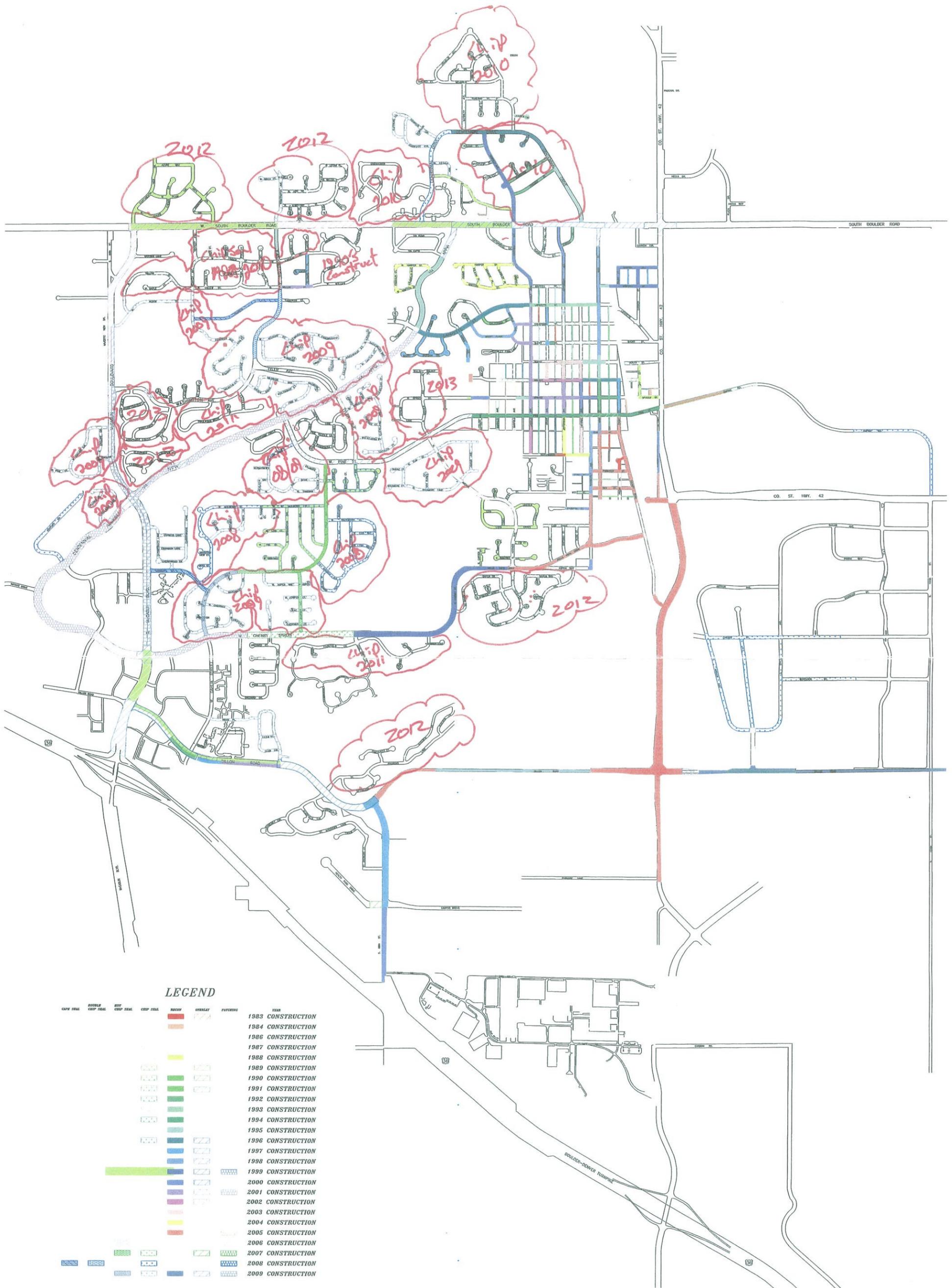
DOUBLE CHIP SEAL	CHIP SEAL	RYE CHIP SEAL	CHIP SEAL	OVERLAY	PAVING	YEAR
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	1983 CONSTRUCTION
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	1984 CONSTRUCTION
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	1986 CONSTRUCTION
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	1987 CONSTRUCTION
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[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	2007 CONSTRUCTION
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	2008 CONSTRUCTION
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	2009 CONSTRUCTION

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