

Getting the best bang
out of the stimulus buck!

The City of Lincoln's
Pavement Management Program

www.lincoln.ne.gov

Keyword: Pavement

This is where all of
Lincoln's streets are
heading



This is what we want



A Pavement Management System is...

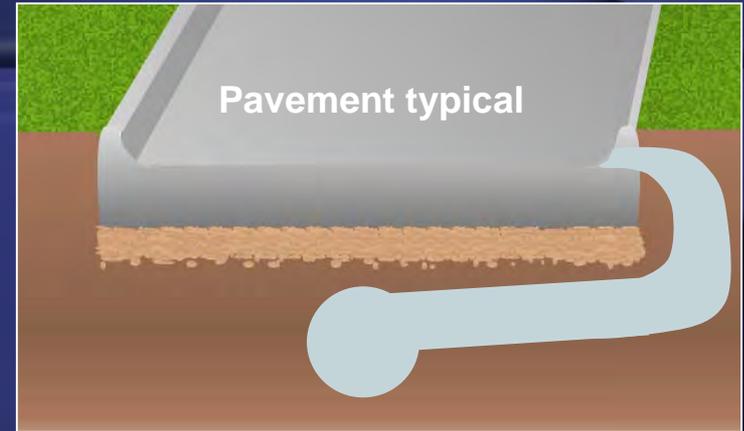
Taking the right action at the right time

The benefits include :

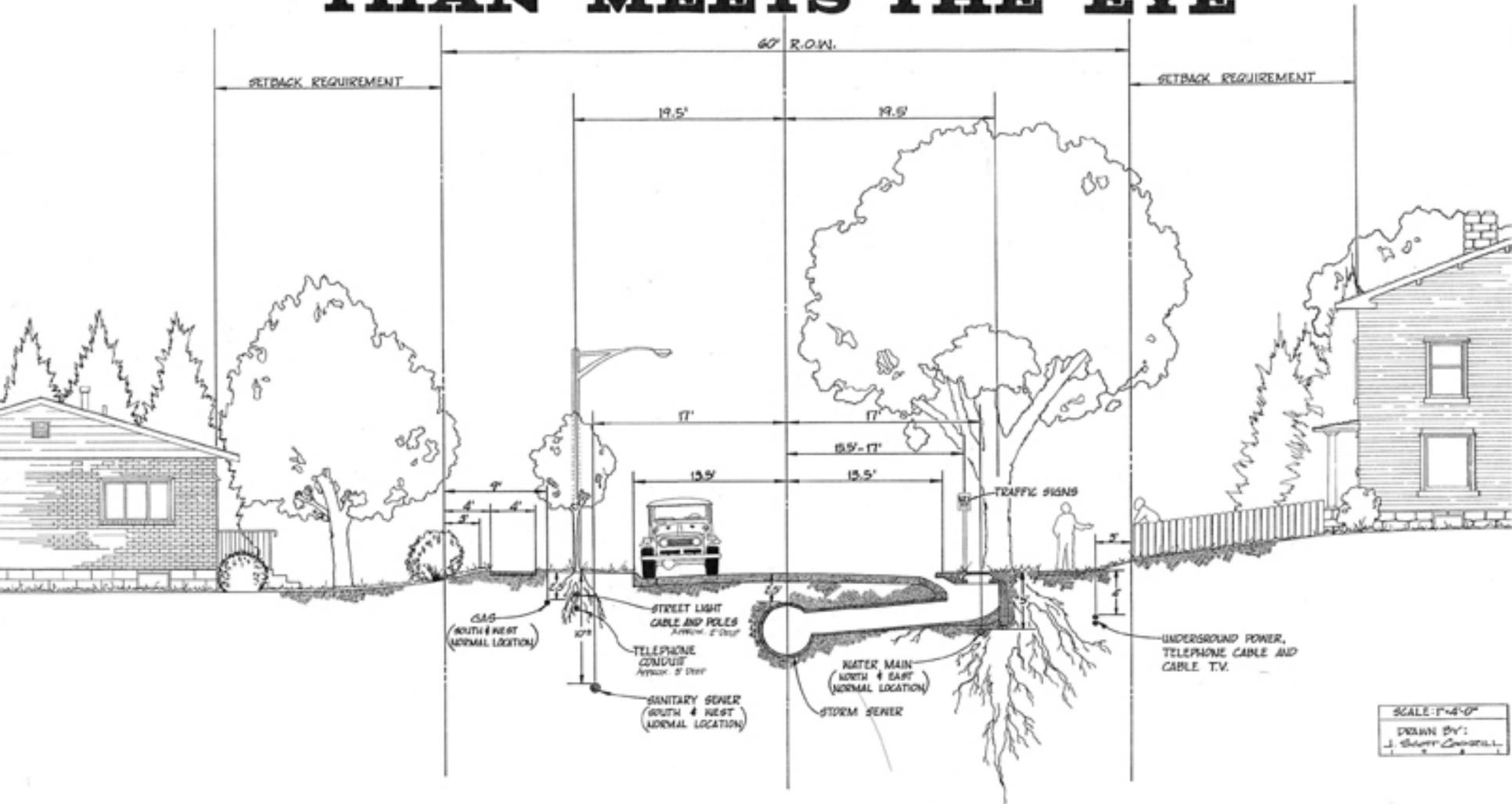
- reducing overall cost of street repair
- helping keep problem streets to a minimum.
- forecasting funding needs over the long term.

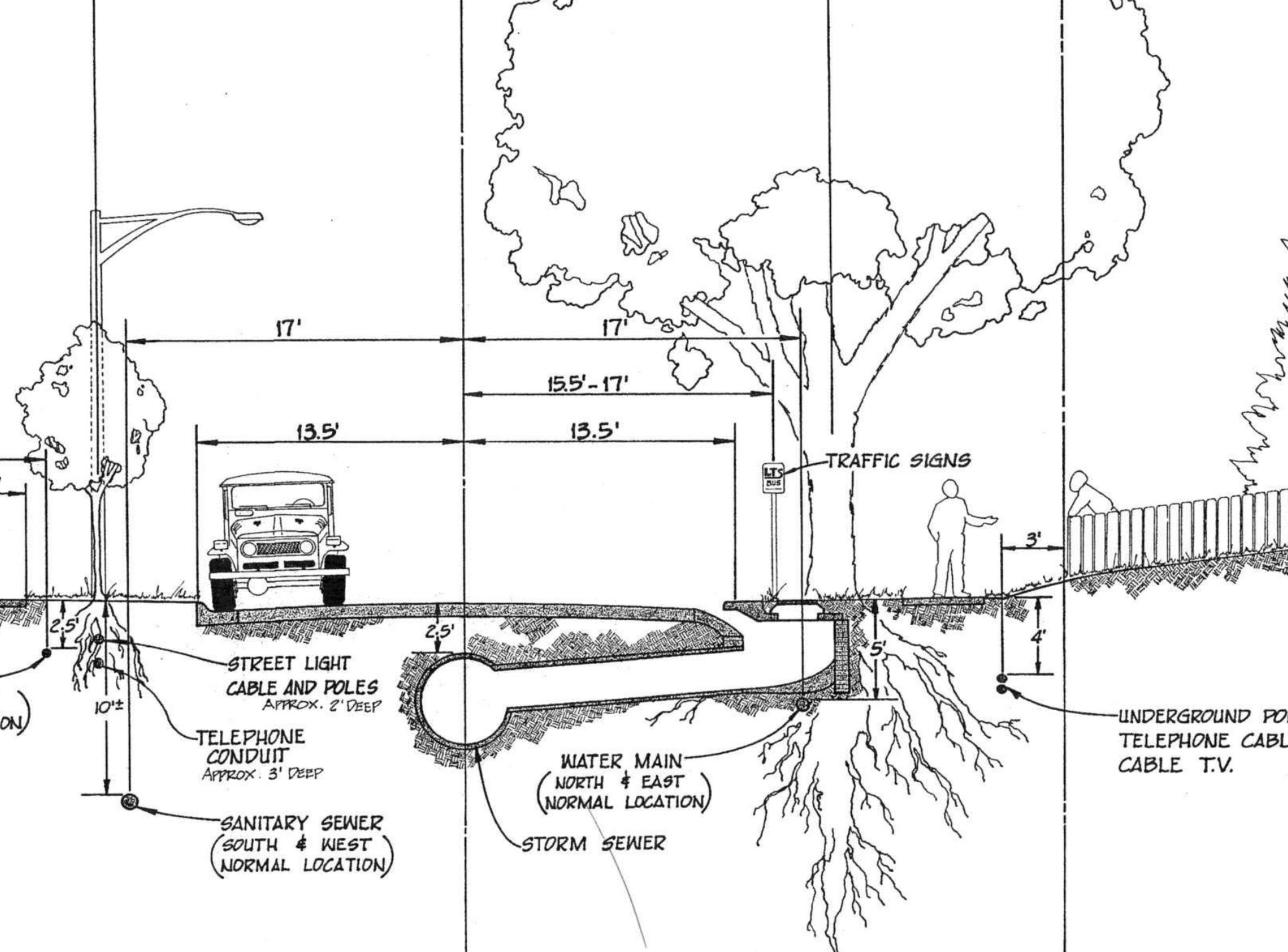
Pavement's Purpose.

- Pavement is designed to carry vehicles
- Roads are Paved to:
 - Provide reliable access
 - Increase Safety
 - Improve air quality
 - Carry storm water



THERE'S MORE IN A STREET THAN MEETS THE EYE





17'

17'

15.5'-17'

13.5'

13.5'

TRAFFIC SIGNS

LTS
BUS

3'

4'

2.5'

2.5'

5'

10'±

STREET LIGHT
CABLE AND POLES
APPROX. 2' DEEP

TELEPHONE
CONDUIT
APPROX. 3' DEEP

SANITARY SEWER
(SOUTH & WEST
NORMAL LOCATION)

WATER MAIN
(NORTH & EAST
NORMAL LOCATION)

STORM SEWER

UNDERGROUND PO
TELEPHONE CABL
CABLE T.V.

Lincoln Road Network Facts

Paved Streets total
over 1190 miles

Turn Pockets
9 miles

Total asset value
Over \$1.5 Billion

Unpaved
40 miles

Residential Streets
make up **88%**

Range of miles
added each year
15 - 50 miles

The Pavement Management System will...

- Aid in finding the best use of the available funds.
 - Including cost/benefit scenarios
- Create a consistently managed system.
- Provide measurable benchmarks.
- Help determine where we stand and where improvements are needed.
 - Existing condition, funding scenarios, annual performance reports, etc.

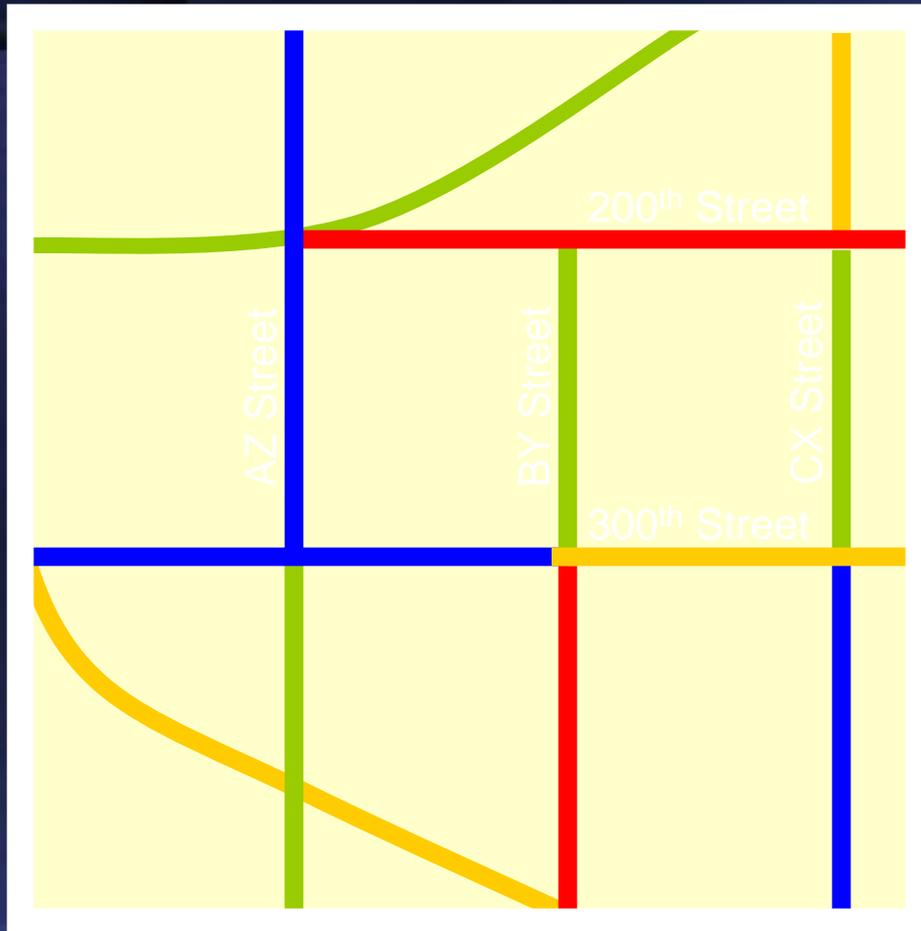
The Tools Needed to Evaluate the Roadway Network.

- Record, observe and measure
 - Measured ride (roughness)
 - Physical distress
- Ride + Distress = OCI
- Overall Condition Index (OCI)
 - Range between 0 and 100

Sometimes called PCI or Pavement Condition Index



Sample Map



People Need to Evaluate:

- Specific location
- Curb & Gutter
- Bridges
- Brick streets
- Signals
- Non-Standard &
- Unpaved roads
- Sidewalks / Trails
- Utilities (water, wastewater, electric, cable, fiber, stormwater)



The Previous Pavement Management System was...

- Based more on individual opinion
- A more subjective method
- More appropriate to smaller community

Lincoln just out-grew the capacity of the previous system



The New Pavement Management System is...

- Computer Database
 - Roadway pictures and statistics at our finger tips
- Standard measuring stick
 - Collection of data is more uniform, less subjective
 - Nationally recognized
- Cost scenarios facilitates budget and planning process



Records need to be maintained.

Continually updating information:

- Data entry of new projects and all maintenance work
- Every 3 years re-assess arterials
- Every 9-10 years re-assess residential



The Pavement Management System Provides Long-Term Benefits.

This proactive approach allows for:

Better utilization of resources



More predictable funding needs

Better overall condition of roadway



A happier driving public

Funding will be used more efficiently



Reduced construction time and costs

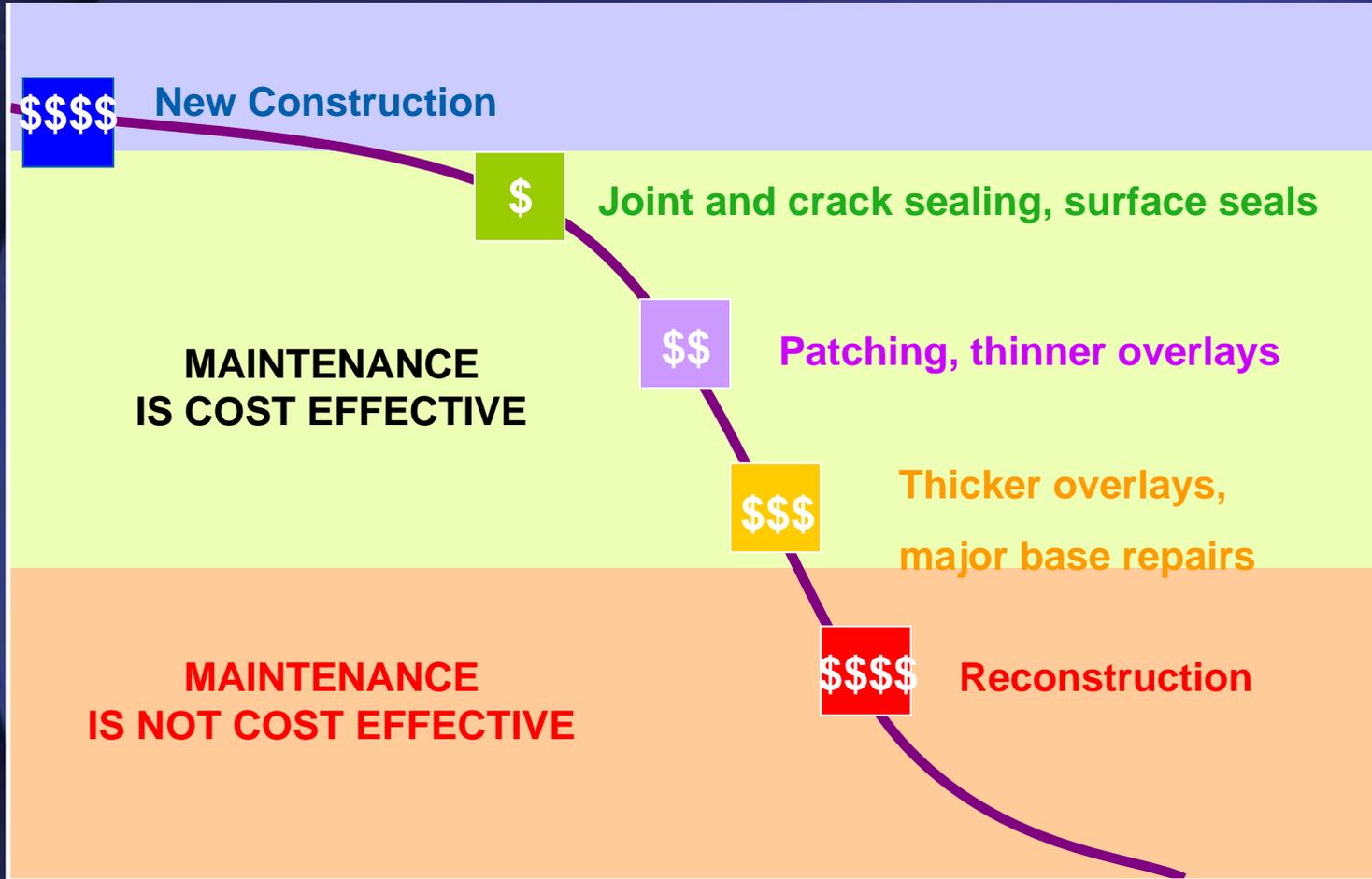
The Pavement Management System Provides Long-Term Benefits.

The methodology has changed from reactionary to preventative maintenance, which will:

- Prolong the life of roadways
- Smaller maintenance work on a more regular basis
- Track progress, funding and network needs
- Fewer disruptions to residences and businesses
- Less sitting in traffic because of construction
- Provide a better overall street system

Stages of Maintenance

Overall Condition Index (OCI)



Age or Time

Stages of Maintenance - Joint and Crack Sealing

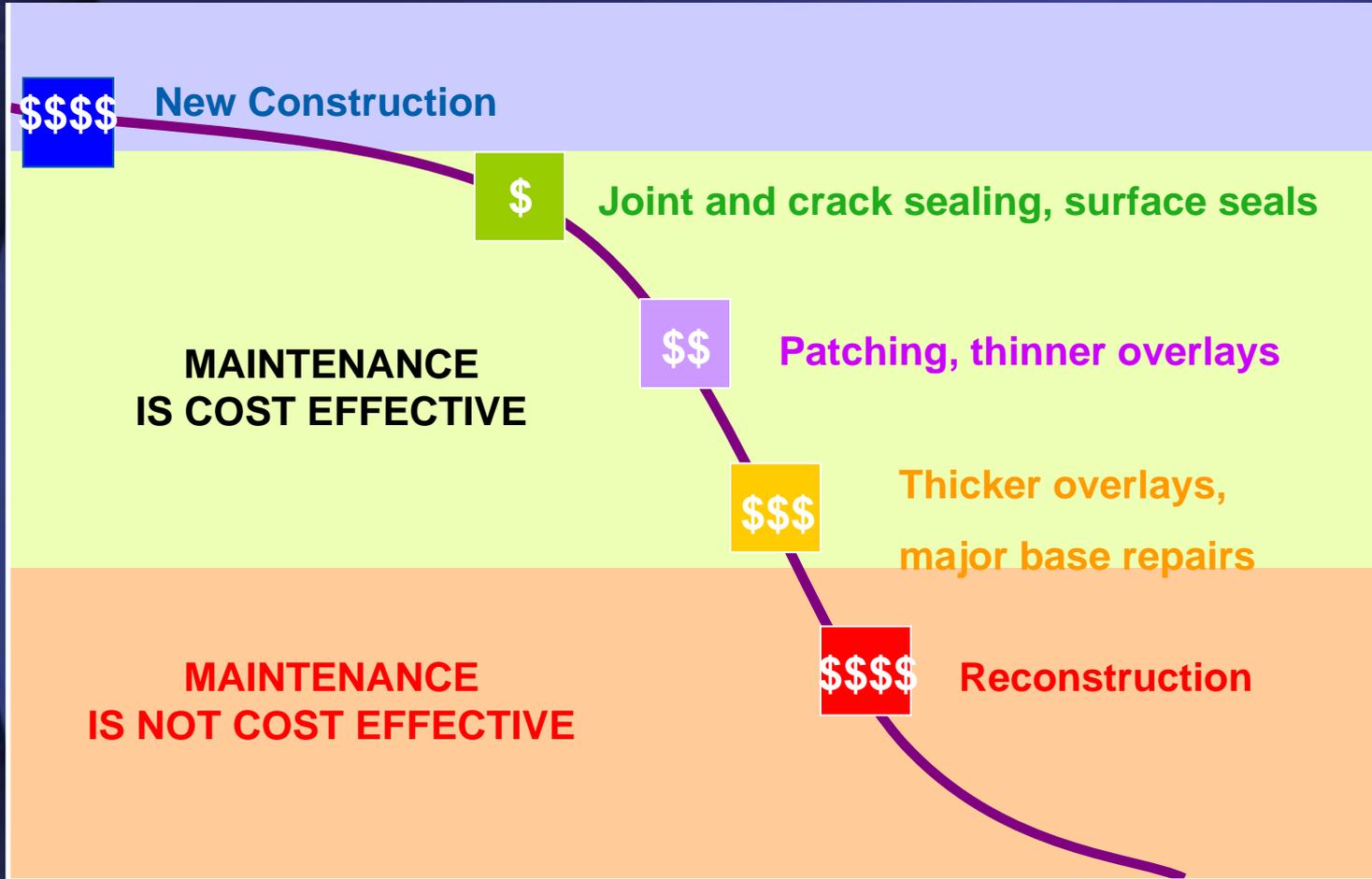


Stages of Maintenance - Slurry Seal



Stages of Maintenance

Overall Condition Index (OCI)



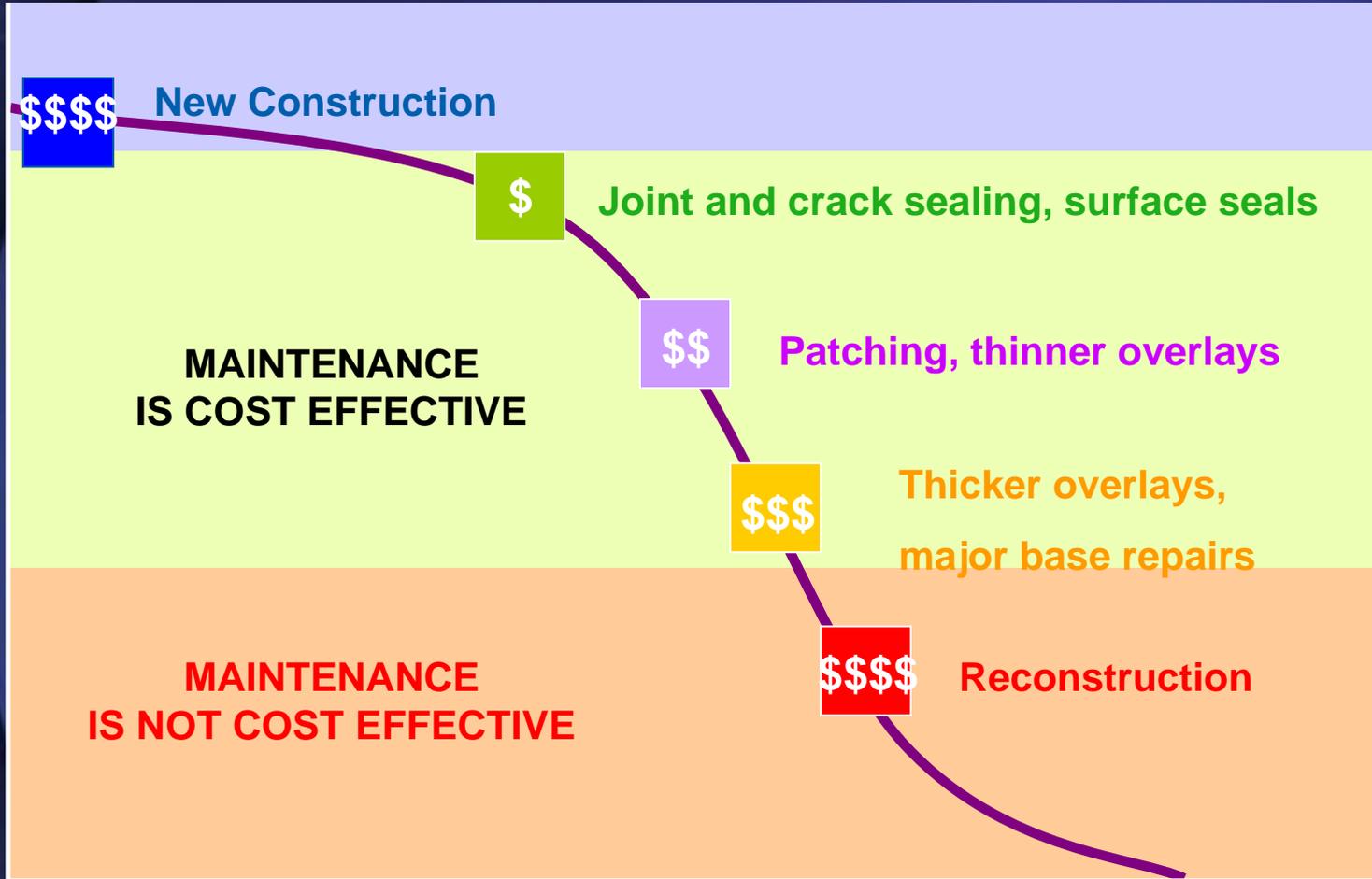
Age or Time

Stages of Maintenance – Patching



Stages of Maintenance

Overall Condition Index (OCI)



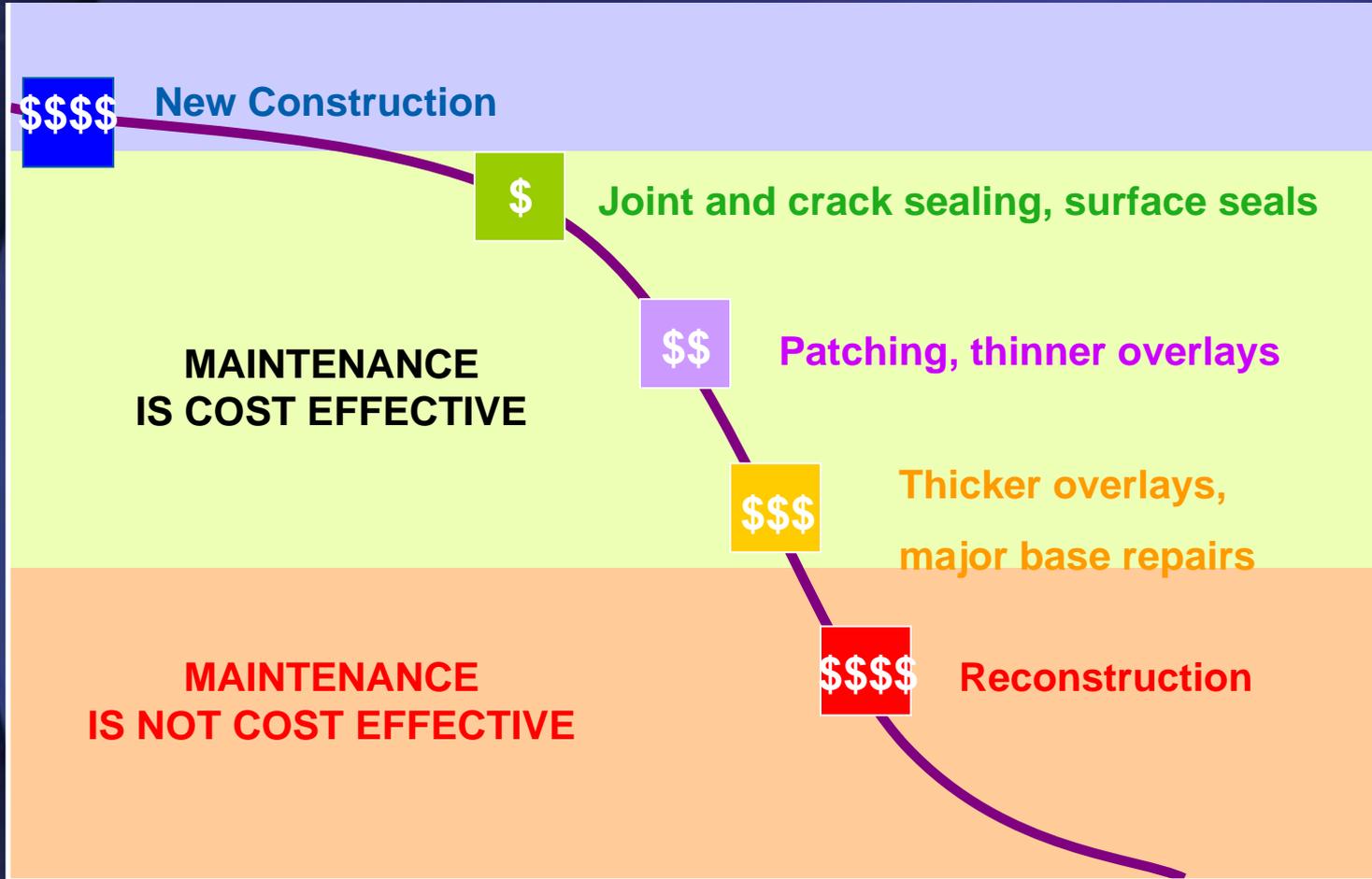
Age or Time

Stages of Maintenance - Thin Overlays, Thick Overlays



Stages of Maintenance

Overall Condition Index (OCI)



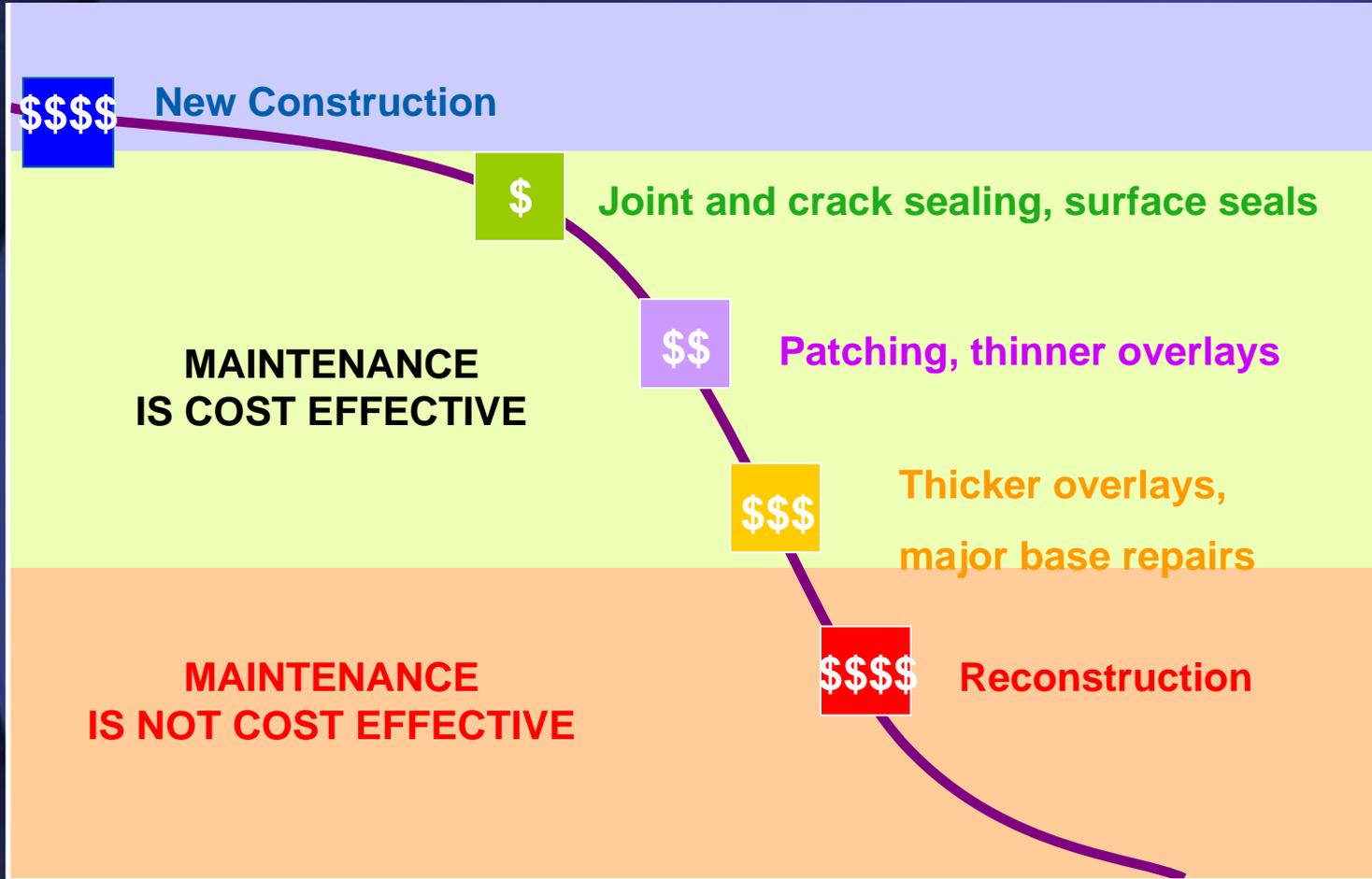
Age or Time

Stages of Maintenance – Major Base Repairs



Stages of Maintenance

Overall Condition Index (OCI)

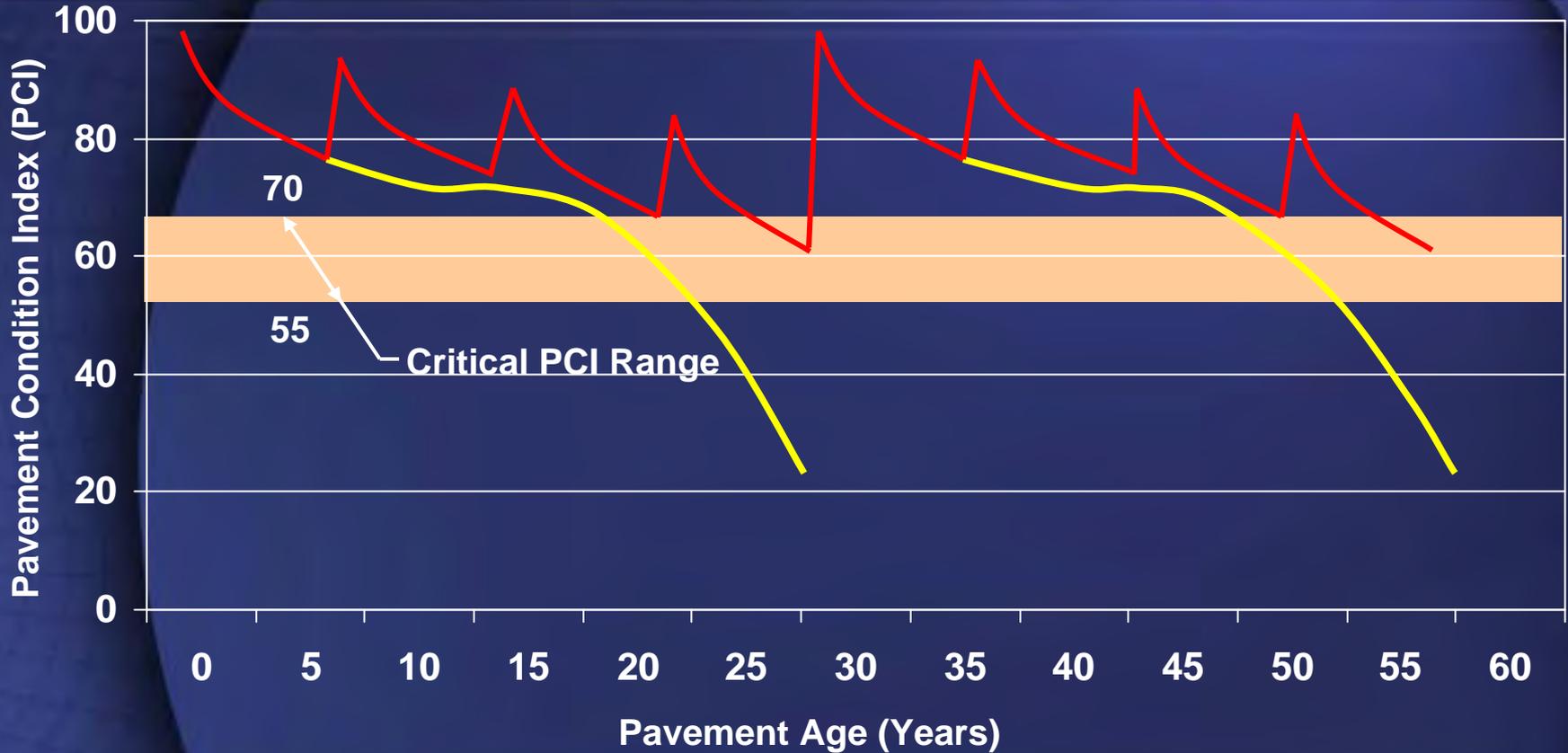


Age or Time

Stages of Maintenance - Reconstruction



Extending Pavement Life



Minimum Maintenance Street

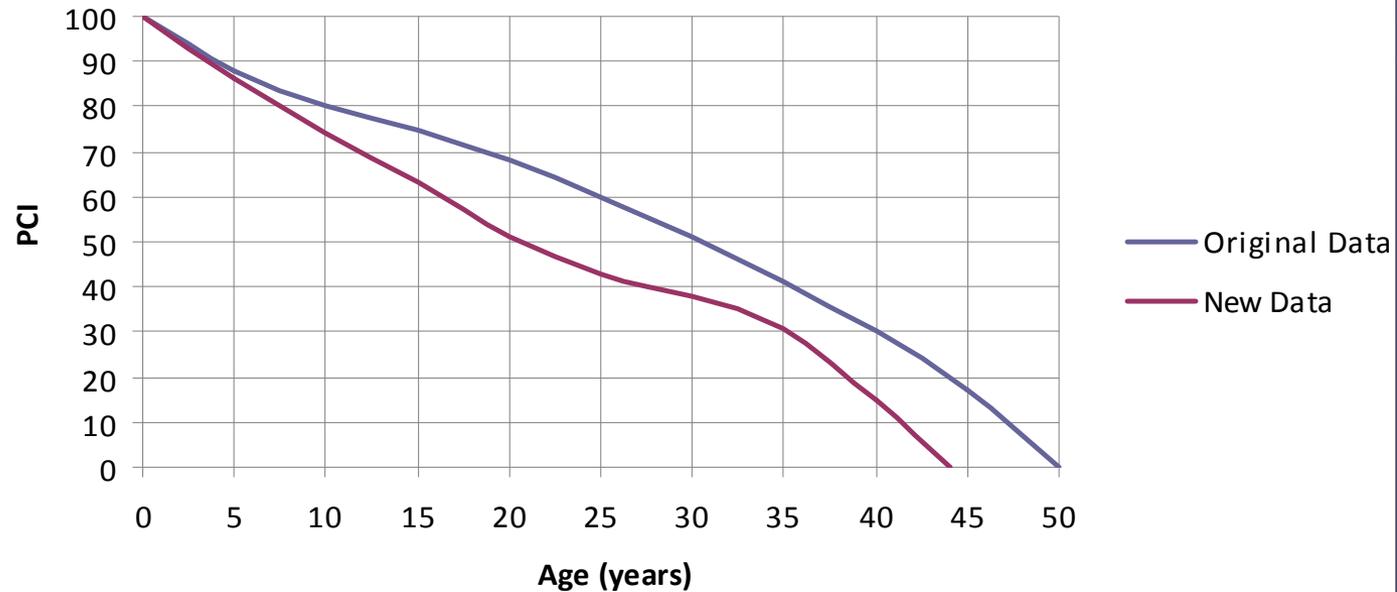
Regular Maintenance Street

2005 to 2008 Conditions

	2005	2008
Poor	3.0%	4.1%
Fair	9.8%	12.1%
Good	23.7%	25.4%
Very Good	63.4%	58.4%
Total	100.0%	100.0%

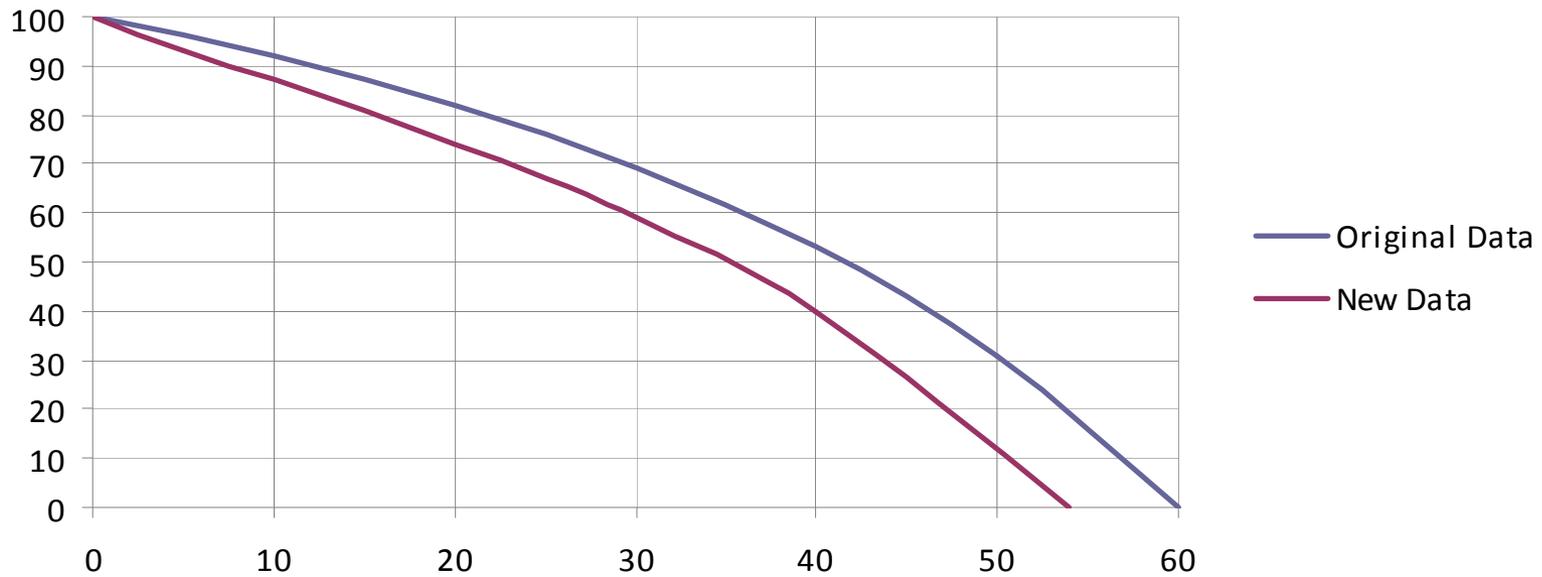
Asphalt from 2005 to 2008

AC Asphalt Pavement - Arterials



Concrete - 2005 to 2008

PCC Jointed Concrete - Arterials



Good Streets = Good Economy

Littleton, CO - Provide Basic Infrastructure. Infrastructure can be thought of as the basic garden plot in which economic activity occurs. Most communities, regardless of their approach to economic development, recognize the need for basic infrastructure - good streets and water and sewer systems.

Michigan State Study - Location Factors

Local governments must understand that many factors besides incentives and tax breaks determine whether an industry will locate in their community. Here are some more factors:

- Access to four-lane highways
- Condition of Local Transportation
- A pro-business attitude among town officials and residents

Good Streets = Good Community

“Good streets equal a good city.”

Rob Adams, Director of Design and Culture, City of Melbourne

The quality of our streets matters - functionally, socially and environmentally. The creation of spaces that people love fosters a sense of well-being and sends a clear message to citizens that they are respected and valued.

Questions?

Questions?

- Questions?
 - Questions?
 - Questions?
 - Questions?
 - » Questions?



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Transportation Stimulus Funds

- American Recovery & Reinvestment Act (ARRA) of 2009
- Signed into law on February 17, 2009
 - To retain and create jobs
 - Infrastructure Investment
 - Accountability and Transparency

Overview of the Final Legislation

- \$27.5 Billion for Highways
- \$8.4 Billion for Transit
- \$1.5 Billion for Discretionary Program
- \$9.3 Billion for Rail
- \$1.3 Billion for Aviation
- \$0.1 Billion for Misc.
- \$48.1 Billion TOTAL for Transportation

Overview - Highways

- 50% of only the State's funds have to be obligated within 120 days.
- All funds (including locals) have to be obligated within 1 year
- Obligate = OK to bid
- No waivers of ANY Federal Requirements
- Have to certify maintenance of effort (*still spend like you were before*)

Nebraska

- \$236 million Total
- NDOR = \$158 million (50% within 120 days)
- First Class Cities = \$29 million
- Counties = \$9 million
- Omaha = \$23 million + \$2 million (Iowa)
- Lincoln = \$9.3 million
- Enhancement = \$7 million

What's ALL we can do BECAUSE of stimulus dollars?

Public Works & Utilities recommends the following:

- Continue marching Antelope Valley towards completion
- Increased Capacity, Condition Improvements, and Preventive Maintenance on existing arterial streets
- Getting other arterials further along the major widening process (grade studies, ROW)

Lincoln's \$9.3 million

- ***Trying to get projects through the Federal process as quick as possible***
- Antelope Valley Project (*maintenance of effort*)
- One bridge deck rehab (40th and Superior)
- Partnering with County on Saltillo Road from US-77 to 70th Street

Adding to that \$9.3 will be \$6.9

- \$16.2 million will be spent in 2009, 2010, and 2011 on arterial road rehabilitation
- 310 Blocks in 25 Segments
- 310 Blocks = 19.4 miles
- Can rehabilitate 7.8 miles for the same cost as building one mile of new four-lane.

Where are the Rehab locations?

A Street: 17th to 27th; 63rd to Imperial Drive

Adams: Interstate 180 to 14th; 57th to 62nd

Cornhusker: Russell to 70th

Holdrege: 19th to 25th; 33rd to 47th; 70th to 79th

Old Cheney: Salt Valley View to Hunts Drive

O Street: 15th to 44th; Wedgewood to 84th

P Street: 17th to 27th

Pioneers: 32nd to 54th

Sheridan: South to Calvert

Van Dorn: 33rd to 48th; Normal to 70th

Vine: 70th to Sierra

Y Street: 18th to 27th

Northwest 1st: Highland to Fletcher

South 27th: Alpha to A

North 33rd: P to Holdrege

South 56th: South to Randolph

North 70th: Adams to Vine

What about other divisions

- Water \$ - went to state revolving fund
 - Lincoln isn't poor enough
 - Lincoln isn't bad enough
- Wastewater \$ - also state revolving fund
 - Getting some very limited dollars
- Urban Development – Block Grants
 - Undecided at this time

What might be ahead?

- Desire to find ways to do other arterial expansions (S. 56th, Old Cheney, Pine Lake)
- Potential Issues
 - Federal Process
 - Public Process
 - Costs
 - Complaints about the amount of work
 - Complaints about the streets picked

From 2/27/09 Lincoln Journal Star

- **Poor street choices**

After reading Mayor Chris Beutler's preliminary list of identified streets as the priority for repairs ("Mayor wants to use stimulus to repair streets," LJS, Feb. 20), I am amazed at the selection: A Street from 63rd to 70th streets and Sheridan Boulevard from South to Calvert streets among them. These streets are in very good condition compared with Holdrege from 70th to 84th streets.

I hope people test drive these routes and let the mayor know what they think. Does the south side of O always get priority?

“Does the south side of O always get priority?”

- South of “O”
 - 7 locations
 - 49 blocks
- North of “O”
 - 8 locations
 - 83 blocks
- On “O” Street (3 locations = 44 blocks)

"These streets are in very good condition compared with Holdrege from 70th to 84th streets"

- Holdrege – 70th to 84th = 64
- Sheridan Blvd. – South to Calvert = 62
- "A" from S. 63rd to S. 70th = 57
- Just as you can't judge a book merely by its cover, you can't judge a road by ONLY its potholes (what the average person perceives)
- *What the computer program kicks out just doesn't strike home with the average person*

What is considered when picking arterial street projects / work?

- Street Condition (*Pavement Management Software*)
- Curb and Gutter Condition
- Current / Future amount of Traffic on the road
- Existing Capacity / Future Capacity Needs
- Coordination of other needed work (water, wastewater, gas, electric, telephone, signals)
- Type – Arterial, Collector, Residential
- Unpaved or Non-Standard Streets
- Usually work on list for about 8 months

Consider this...

From Fiscal Year 2006 to 2008

- Spent over \$65 million on major widenings / expansions
 - Rosa Parks way West/Homestead Expressway
 - 84th from Kathy Lane to Cheney Ridge Road
 - Pine Lake Road from 40th to 56th
 - 48th & O
 - Yankee Hill from 27th to 40th
 - Pine Lake from 40th to 56th
 - Pine Lake Road from 84th to 98th
 - East Adams from 75th to 90th
 - West Adams NW 56th to NW 48th (NW 56th)
 - Pioneers 70th to 84th
 - S. 27th from Pine Lake to Yankee Hill
 - Fletcher from 14th to 20th

From Fiscal Year 2009 to 2011

- Planning some \$26 million in major widenings / expansions
 - 98th from Old Cheney to Pine Lake
 - 98th from Hwy 2 to Pine Lake
 - Alvo from NW 12th to N 14st
 - N. 14th from Superior to I-80
 - West Denton
 - SW 40th Overpass and Paving from “O” Street

Spending Comparison

- Fiscal Year 2006 – 2008
\$65 million on major expansions
\$3 million on existing arterials
- Fiscal Year 2009 – 2011
\$26 million on major expansions plus spending additional funds on starting ROW
\$16 million on existing arterials
- Antelope Valley not included in these figures

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