

STH Maintenance and County Operations

Winter Road School
January 15, 2014



Maintenance Definition

- **A wide range of activities** to maintain pavement, shoulders, slopes, drainage facilities, bridges, ferries and all other structures and property within the existing state trunk highway system **as near as possible to its as-constructed or renewed condition.**



CATEGORIES OF MAINTENANCE

Routine

~

Corrective

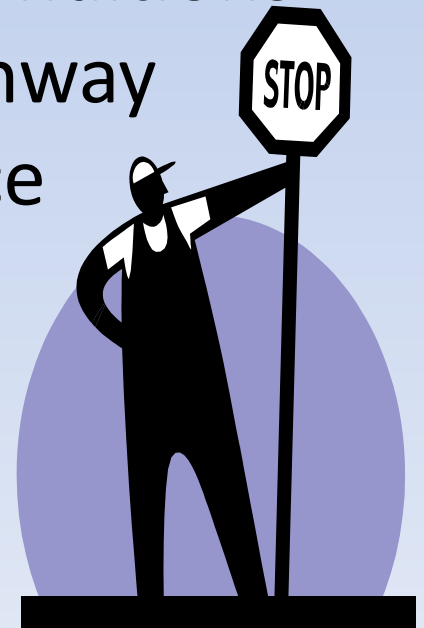
~

Preventative



Definition of Routine

- Planned, scheduled & performed on a regular basis to maintain & preserve the condition of the highway system
- To respond to specific, predictable conditions & known events that sustain the highway system at an adequate level of service



Definition of Routine

- In Wisconsin, historically performed by county forces, financed with state dollars
 - day-to-day activities scheduled up to a month in-advance
 - small-scale repairs or isolated distresses where the remedy delays further deterioration
- General nature of routine maintenance is to address conditions of distress that are limited both in terms of cost & extent (e.g., length, density or frequency).



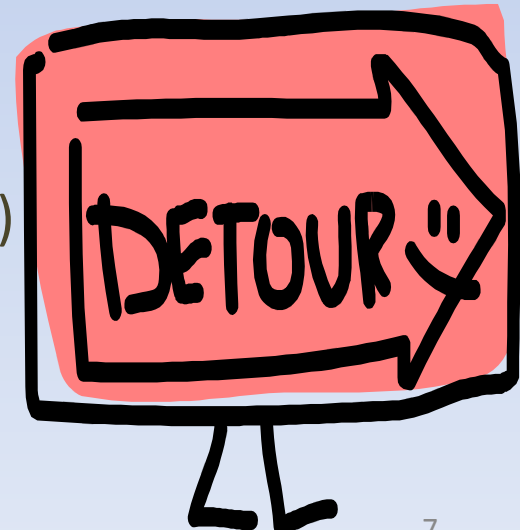
Definition of Corrective

- Involves activities where need cannot be anticipated with any certainty in advance
- Required when the system breaks down or malfunctions
 - Therefore, they are only performed on an as-needed basis
- Provided by both county highway departments and private contractors
- Always requires timely attention



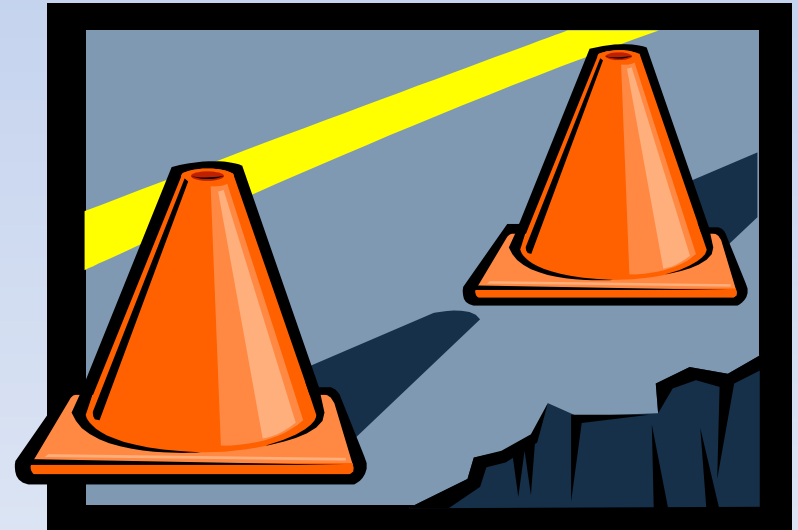
Definition of Corrective

- Restore adequate but often minimal level of service, repairing isolated problems compromising safe & efficient operations of the facility
 - In a few cases, a permanent restoration is simultaneously designed and scheduled to subsequently supplement the corrective treatment
- Examples
 - Discretionary Maintenance Agreement (DMA) negotiated with county
 - Let as an expedited improvement contract



Definition of Corrective

- **Examples of unforeseen conditions**
 - Premature failures, malfunctions, or other unusual or unexpected damage
 - Non-winter storms & other weather related conditions
 - Bridge hits
 - Pavement blow-ups
 - Road wash-outs



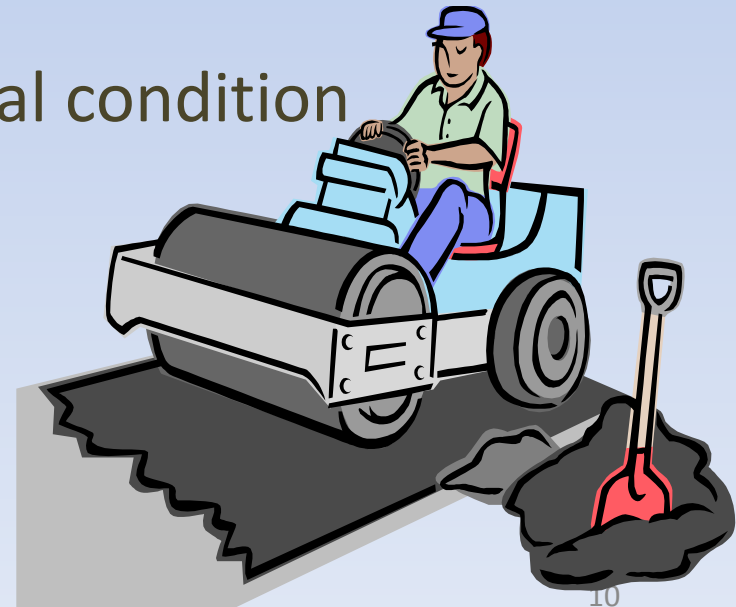
Definition of Preventative

- Planned asset management strategies that add system service life by mitigating future deterioration
- It is always let to private contractors because this work is programmed and eligible for federal funding
 - Follows PS and E process



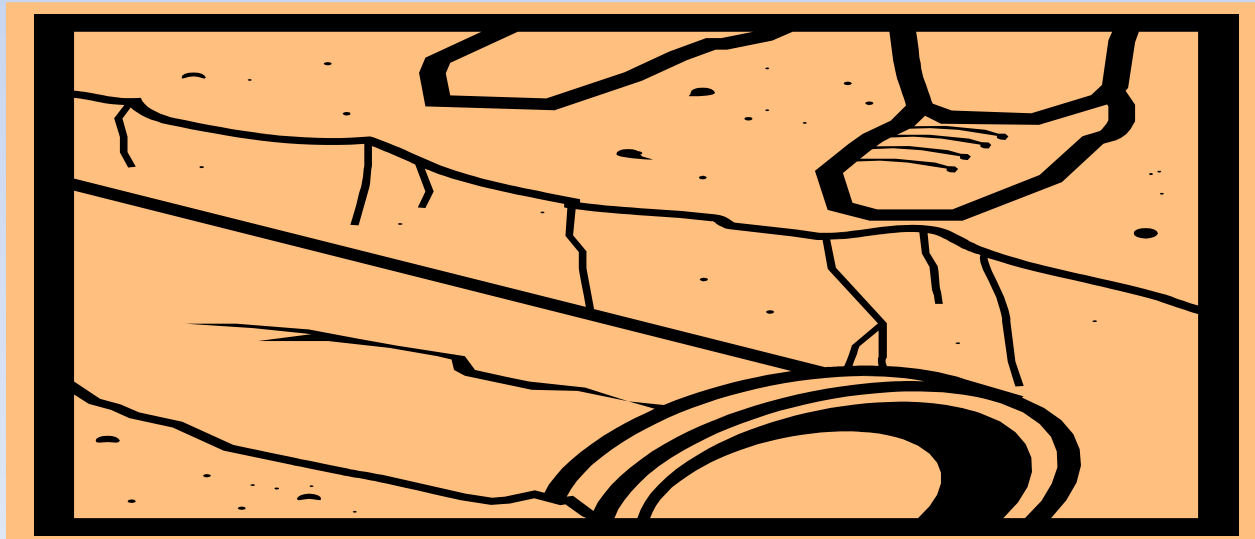
Definition of Preventative

- Pavement preventive maintenance efforts are typically lower in cost than full fledged improvements and are intended to:
 - Slow pavement deterioration
 - Maintain a highway's functional condition
 - Extend pavement life



Definitions of Preventative

- Examples
 - Pavement resurfacing, concrete joint repair
 - Milling and diamond grinding
 - Under drains and drainage system restorations
 - Bridge painting, deck overlays and rehabilitation



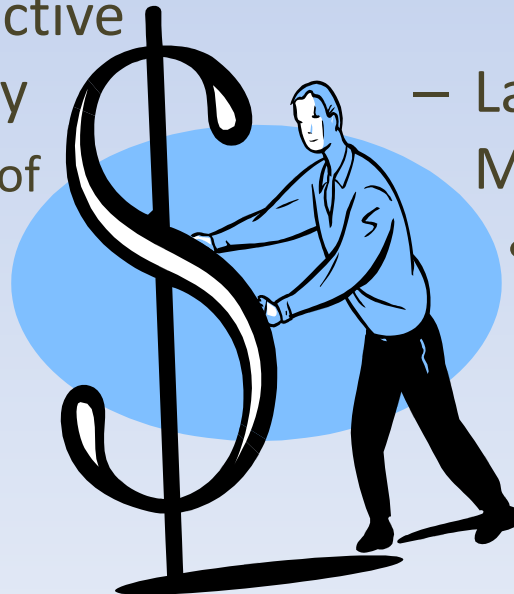
Funding Source

Maintenance dollars

- County Provided Services
 - All Routine Maintenance
 - Small scale Corrective Maintenance only
 - Largest number of instances

Improvement dollars

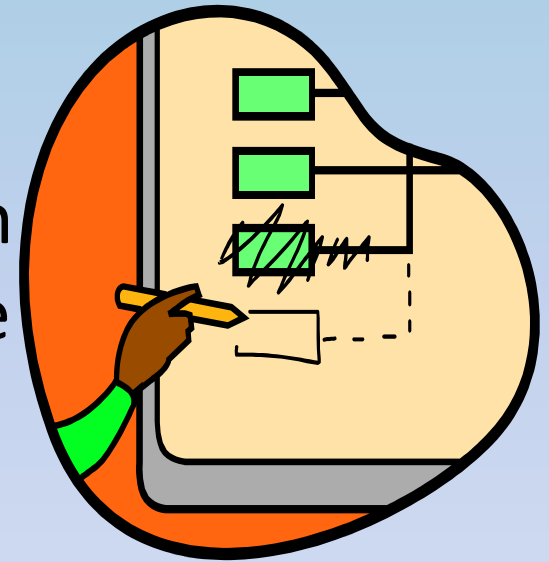
- Contractor Provided Services
 - All Preventative Maintenance
 - Large scale Corrective Maintenance
 - Fewer instances, but substantive costs



Routine Maintenance Program

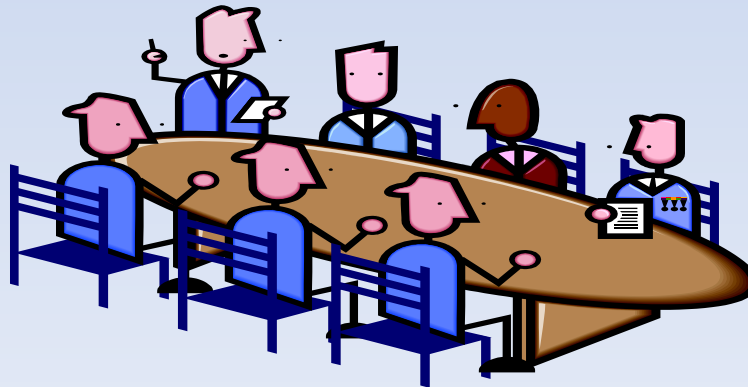
Changes

- Wisconsin Commission on Transportation Finance and Policy
- 2013 Wisconsin Act 20
 - Reimbursement Method Option
 - Performance Base Maintenance
 - New Appropriation Structure
 - Additional Funding
- Restoring the Contingency Fund for Excessive Winter Costs



Wisconsin Commission on Transportation Finance and Policy

- **The Commission recommends:**
 - **Retaining the state highway maintenance model** with the counties performing work under contract with the state
 - That **opportunities for regionalization** of some county maintenance functions be evaluated for efficiency
 - That consideration be given to **improving the model to make it more performance-driven**
 - **An increase to the Maintenance and Traffic Operations budget** of \$33 million annually or \$330 million over 10 years



2013 Wisconsin Act 20

The 2013-15 budget bill created 84.07 (2) (b) of the statutes

When any county or municipality maintains the state trunk highways within or beyond the limits of the county or municipality, including interstate bridges, in compliance with the arrangement with the department, the department and the county or municipality **may agree to a payment method** and terms other than that specified in par. (a), including payment **according to a contract price for maintenance services rather than payment of actual costs of the maintenance.**



Revision to *Wisconsin Statute 84.07(2)*

WisDOT is no longer required to pay actual costs

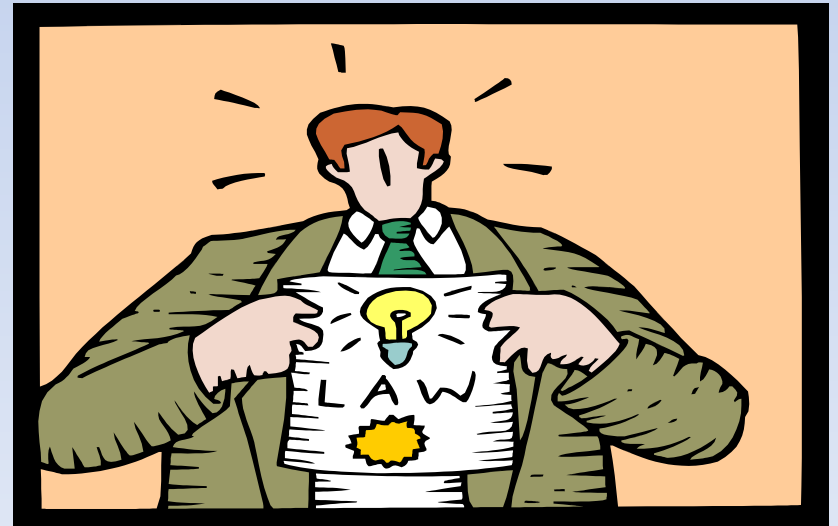
Related Concerns:

- Cost variations between counties
- Over-runs & supplemental budget requests
- Know dollars spent, not work accomplishments
- Doesn't encourage efficiency or innovation
- Chasing costs, not defining outcomes
- Spending isn't linked to performance



2013 – 15 Budget Provides

- **New method for payment**
 - Expands options for county reimbursement for routine maintenance services
 - Introduces the concept of Performance Based Maintenance (PBM)



2013 – 15 Budget Provides

- New appropriation structure
 - Splits Highway Maintenance into two pots
 - Highway System Management & Operations
 - Routine Maintenance Activities (County Services)
 - More funding: **\$52.5 million in total**
 - **\$2.5 million** in year one
 - **\$50 million** in year two

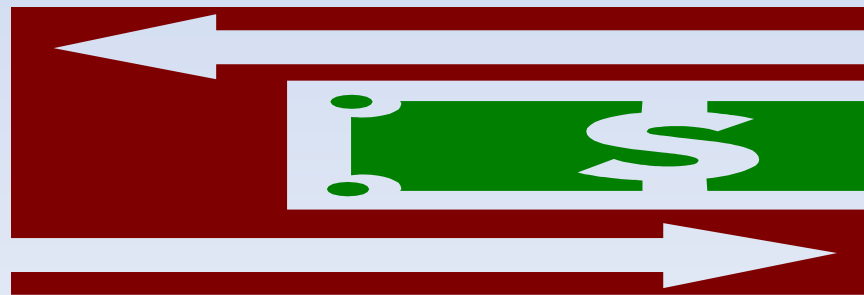


New Appropriation Structure

Highway Maintenance, Repair and
Traffic Operations (Appn. 365)
FY13 Funding \$202.9 million

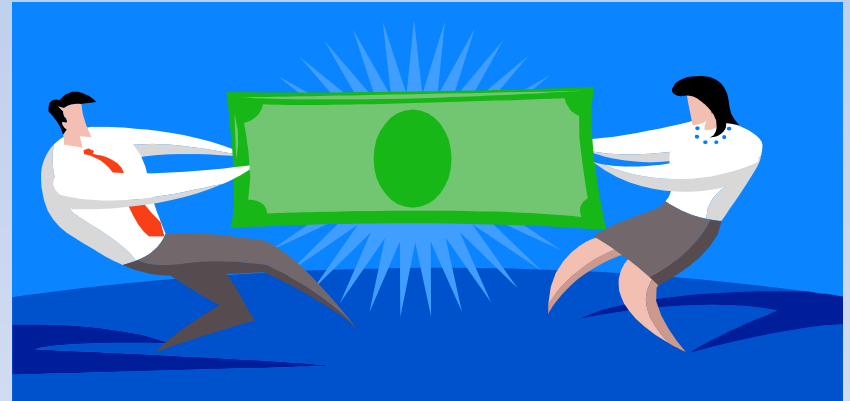
Highway System Management
and Operations (Appn. 365)
FY14 Funding \$82.9 million
FY 5 Funding \$ 82.9 million

Routine Maintenance Activities
(Appn. 368)
FY14 Funding **\$122.5** million
FY15 Funding **\$170.0** million



Highway System Management and Operations

- This newly named appropriation funds the following activities:
 - Staff delivery costs (salaries, fringes, etc.)
 - Salt purchases
 - Roadside facilities
 - STOC support
 - Traffic Operation needs
 - Safety & Traffic Engineering, SE Region Electrical signal & lighting, and Utilities
 - Bridge Maintenance and Operations



Routine Maintenance Funding

	FY 2014	FY 2015	TOTALS
Budget	\$122.5 M	\$170 M	\$292.5 M
CY 13 RMA	\$62.5 M	---	\$62.5 M
CY 14 RMA	\$60.0 M	\$85.0 M	\$145.0 M
CY 15 RMA	---	\$85.0 M	\$85.0 M



CY 14 Funding for Routine Maintenance

- **Total Funds Available: \$145 M** (\$60 million from FY 14 and \$85 million from FY15)
- **This funding will be allocated as follows**
 - \$9 million (or about 6%) to initiate routine maintenance services delivered on a regionalized basis or under a performance-based agreement
 - **\$132 million** for an LOS Model distribution to all counties
 - **\$4 million** for a contingency fund



RMA Allocations

CY 06*	\$120.2 M
CY 07*	\$124.3 M
CY 08*	\$130.2 M
CY 09*	\$134.5 M
CY 10	\$120.0 M
CY 11	\$120.0 M
CY 12	\$120.0 M
CY 13	\$120.0 M



Plus Winter Reserve

CY 14	\$132.0 M	\$ 4.0 M
CY 15	\$140.0 M **	\$ 13.0 M

*Includes 5% contingency

** Proposed

History of Winter RMA & Salt Budget Supplements

FY 01	\$ 8.5 M
FY 05	\$15.1 M
FY 09	\$24.8 M
FY 11	\$19.6 M
FY 13	\$25.0 M



Performance Measurement

- Variables that Impact System Performance
- Types of Measurement
 - Inputs
 - Outputs
 - Outcomes



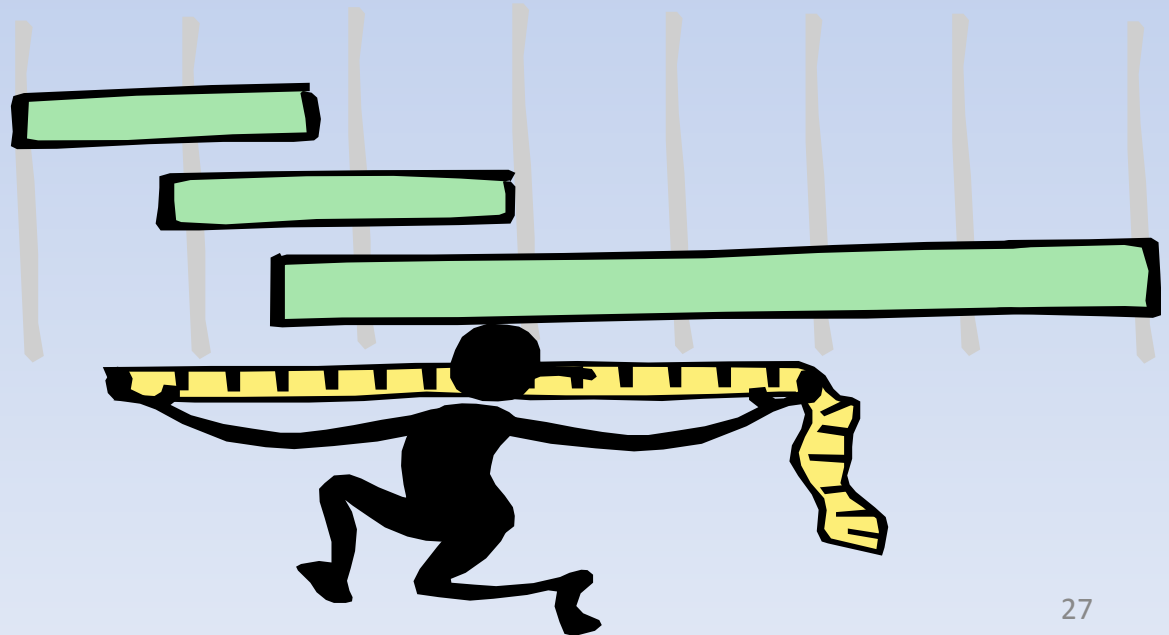
Performance Variables

- Age of Infrastructure, Baseline Conditions & Deterioration Curves
- Snow & Ice, Flooding, Wind Events
- Accident Rates & Damage Claims
- Traffic Volumes, Truck Traffic & Overweight Vehicles
- Topography & Soils



Examples of Measures

- *Inputs* (Costs): Labor, Equipment, Materials
- *Outputs* (Accomplishments): Work Completed – linear feet, acres, lane miles, etc.



Examples of Measures

- *Outcomes* (Performance): Impacts or Results From Maintenance Activities
 - Smoother pavement (e.g. IRI readings)
 - Longer lasting pavement (e.g. PCI values)
 - Safer and more functional bridges (e.g. sufficiency ratings)
 - Safer roads (e.g. accident rate per million vehicle miles traveled)
 - More visible signs (e.g. ages and retro-reflectivity values)

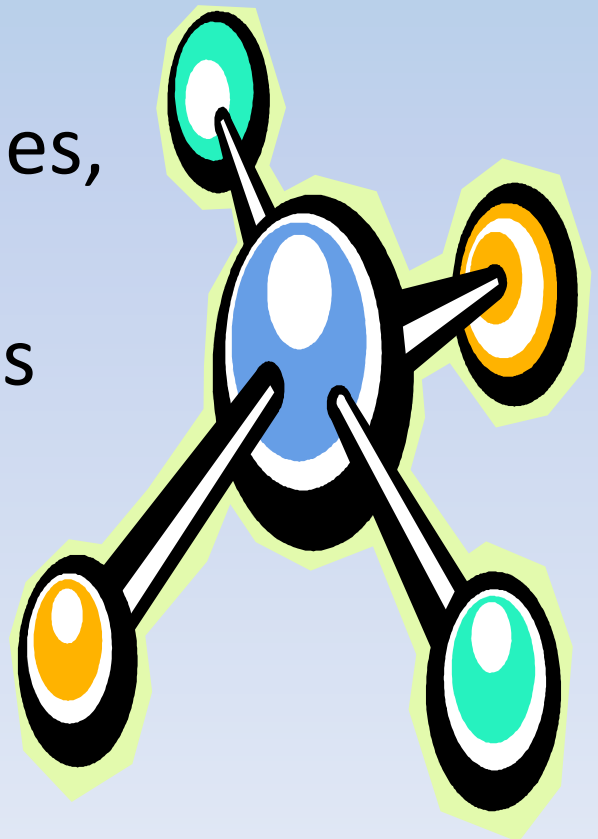


Level of Service Model



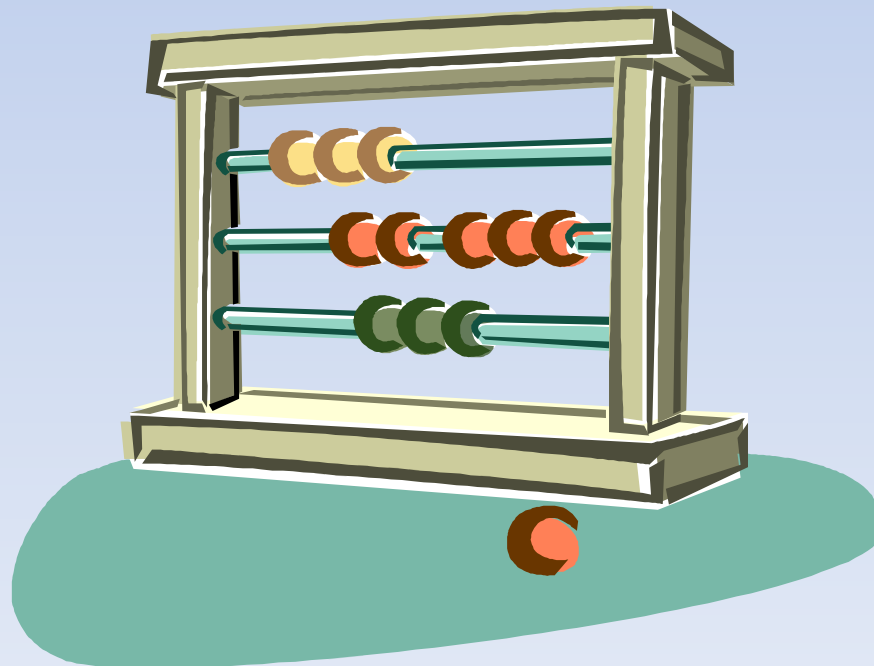
LOS Model Basics

- Estimate and develop the annual routine maintenance budget
- From three components
 - Facility inventory – lane miles, structures, and roadsides
 - Maintenance task standards
 - Costs of labor, material, & equipment



Facility Quantities By Program Area

- Roadways – 34,339 Lane Miles
- Roadsides – Over 150,000 Acres
- Structures – 5,153 Bridges, 15 Lift Bridges
- Winter Operations – Uses 35 Storms/Year



LOS Maintenance Tasks

- Range of Tasks
 - More than 100 maintenance tasks in the LOS Model
 - Example: 10 tasks for winter maintenance activities



LOS Element Calculations

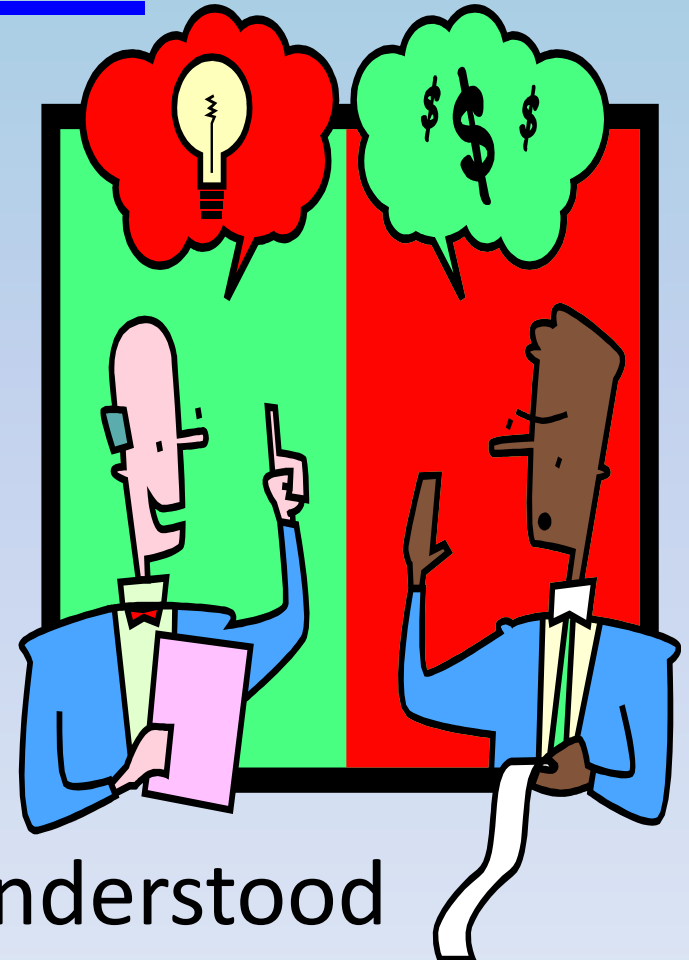
- Labor Costs
 - Actual County Wages & Fringe Benefit Rates
- Equipment Costs
 - Chapter 5 Rental Rates
- Material Costs
 - Statewide Average Cost
- Administration Costs
 - 4.44% Records & Reports
 - Equipment Storage, GPL, Radio, Salt Storage



Level of Service (LOS)

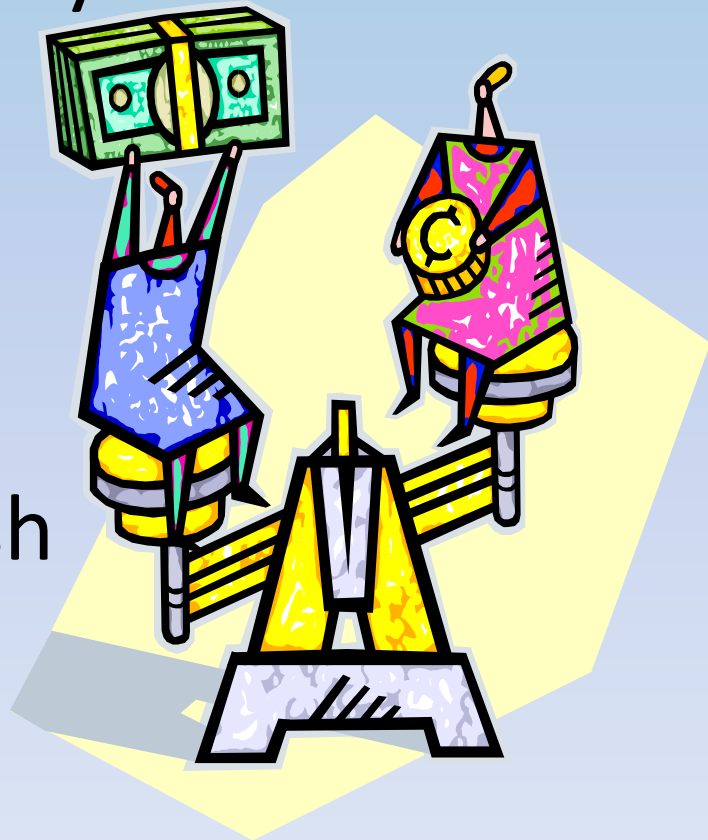
Model Benefits

- Sound conceptual basis
- Long-standing usage
- Annual updates & regular refinements
- Generally accepted and understood



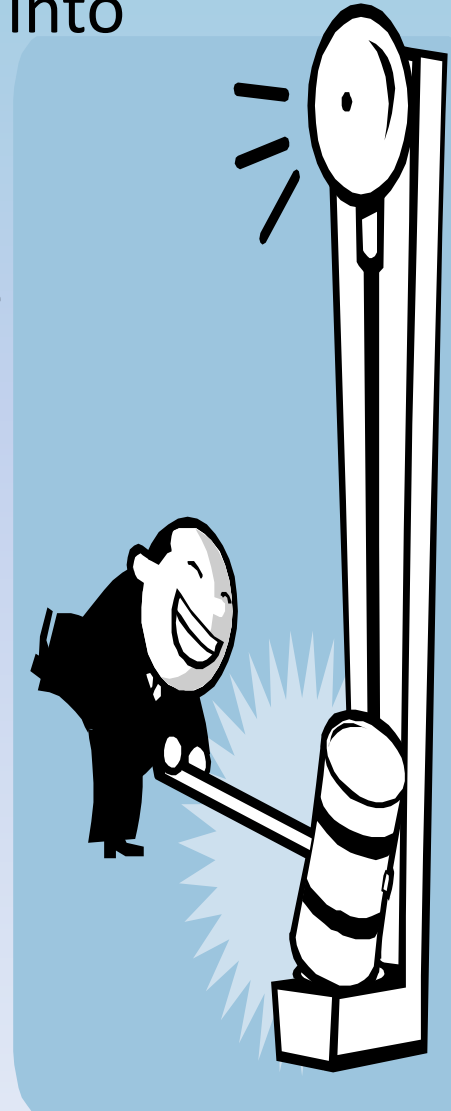
Routine Maintenance Agreement

- Region Offices receive county budget allocations
- Previous year's RMA's expenditures reviewed
- LOS report for the budget year is reviewed to establish the latest county budget



Challenges for Highway Operations

- Integrating Performance Based Concepts into Routine Maintenance Service Delivery
- Documenting System Condition & Effectiveness of a Maintenance Response
- Piloting Innovative Approaches & Implementing Successful Ones Statewide
- Offsetting Yearly System & VMT Growth and Other Inflationary Pressures



Questions?

