

MULTI-TIER PAVEMENT CONDITION GOAL SYSTEMS

DESCRIPTION:

Staff has researched multi-tier pavement condition goal systems and proposes a four-tiered system to replace the current, single-tier, 90% 'Good' or better goal.

ISSUES:

- Analysis shows that the 90% 'Good' or better statewide pavement condition goal can not be achieved and that pavement conditions will deteriorate at the projected Unified Transportation Program (UTP) funding levels for the next 10 years.
- Twenty-one other DOTs have implemented multi-tiered pavement condition goals. More effective use of limited funds and improved or stabilized conditions have been reported.
- Staff recommends a four-tiered system and possible goals that are attainable based on TxDOT's current projected UTP funding over the next 10 years:

Category	Description	Lane Miles	Percentages of...		
			Lane Miles	VMT	Truck VMT
Tier 1	National Highway System routes (includes all IH mainlanes)	49,578.1	25.39	65.89	71.79
		Goals: Between 60 and 70 percent or more 'Good' or better 10 percent or less 'Very Poor'			
Tier 2	Non-NHS high-traffic routes, including corridors important to the economy	28,022.3	14.35	17.16	13.44
		Goals: 50 percent or more 'Good' or better 15 percent or less 'Very Poor'			
Tier 3	Non-NHS lower-traffic routes (mainly FM, but some SH and US)	71,139.6	36.43	15.87	13.31
		Goals: Between 25 and 35 percent or more 'Good' or better Between 20 and 30 percent or less 'Very Poor'			
Tier 4	Tier 3 routes less than 500 vehicles per day.	46,547.4	23.84	1.08	1.46
		Goals: Between 20 and 25 percent or more 'Good' or better Between 25 and 30 percent or less 'Very Poor'			

REFERENCES:

None.

DESIRED RESULTS:

Commission direction of the four-tiered system and feedback on goals for each tier.

FURTHER ACTIONS

The department will present proposed new Category 1 formula scenarios at the August 25, 2010 commission workshop.

OTHER:

None.

Pavement Quality

23 June 2010



Condition = 100
Above "Good"
Or Better



Condition = 55
Below "Good"
Or Better



Condition = 6
"Very Poor"

Multi-Tier Pavement Management Workgroup

Co Chairs

Mario Jorge – Pharr District Engineer

Jeffrey Seiders – Materials & Pavements Engineer, Construction Division

Members

Toribio Garza – Maintenance Division Director

Russel Lenz – Construction Division Director

Mike McAnally – Odessa District Engineer

Delvin Dennis – Houston District Engineer

Bobby Littlefield – Paris District Engineer

Albert Quintanilla – Laredo District Engineer

Rick Collins – Research & Technology Implementation Office Director

Brian Ragland – Finance Division Director

Colin Parrish – Aide to Commissioner Underwood

Wayne Dennis – Transportation Planning & Programming Division Assist. Director

University Support

Dr. Zhanmin Zhang, Ph.D. – University of Texas

Dr. Michael Murphy, Ph.D. – University of Texas

Dr. Timothy Lomax, Ph.D. – Texas A&M University

State DOT Multi-Tier Goal Survey

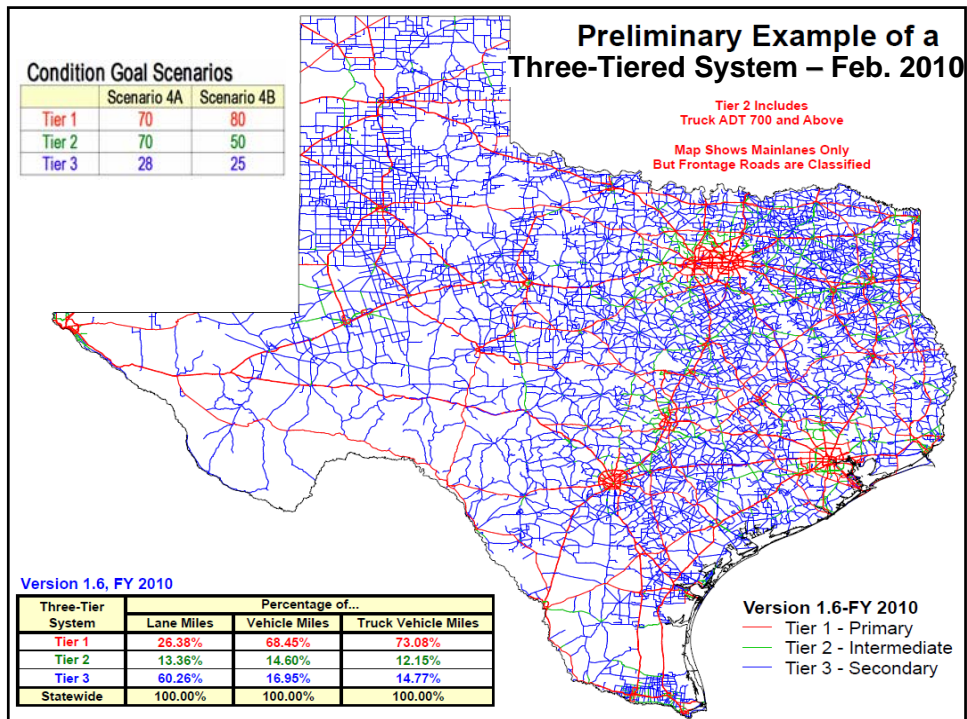
- All 50 states were asked to complete a 13-question survey.
- At least 20 DOTs use Multi-Tier Goals
- Several other DOTs are Currently Considering Multi-Tier Goals for the First Time.

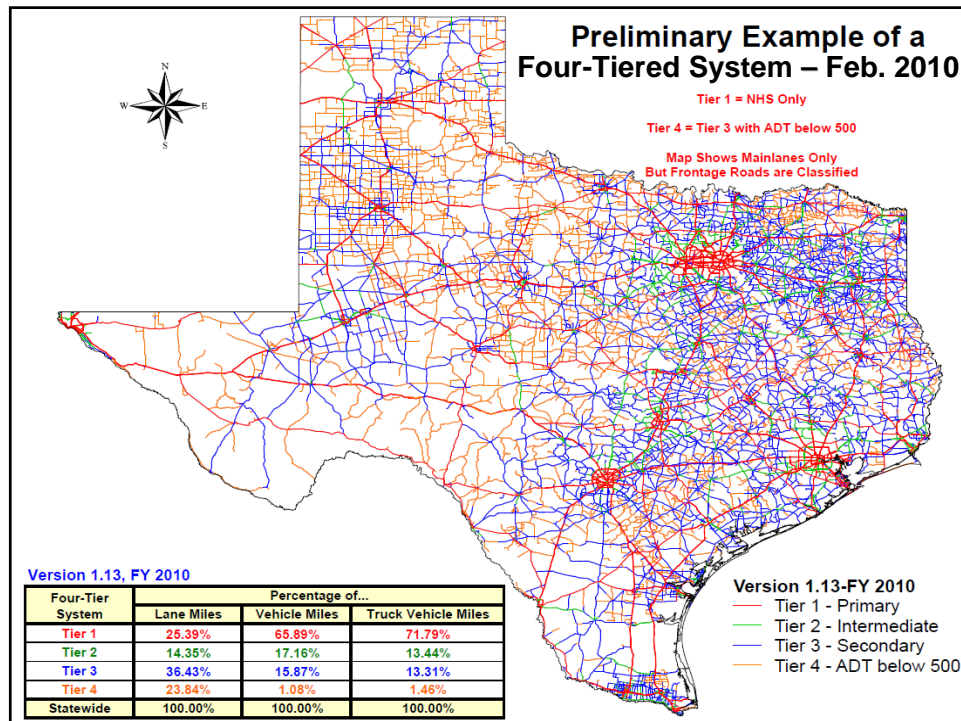
Aspects in Common...

- Financial Constraints
- Min/Max Goals
- Focus on Statewide Priorities Instead of on Geographic Distribution
- Establish Public/Legal Expectations

The reports can be found in the following locations:

<http://txspapp1/cst/ppo/White%20Papers/Multi-Tier%20Goal%20Interim%20Report%201%20Apr%2030%202010.pdf>
<http://txspapp1/cst/ppo/White%20Papers/Multi-Tier%20Goal%20Interim%20Report%202%20May%2024%202010.pdf>





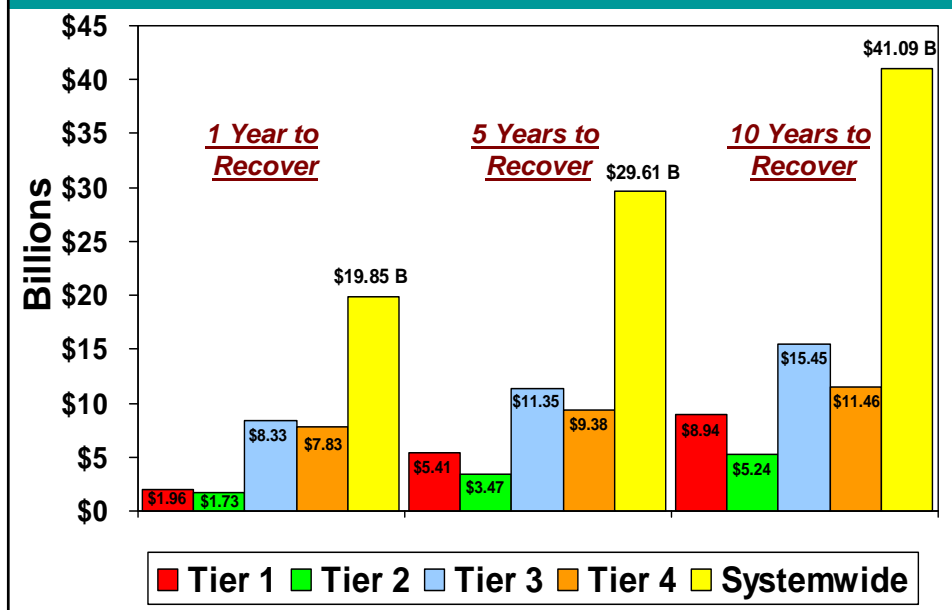
Current System Condition and Potential Goal Scenarios Utilizing a Four-Tier System

Scenario 1				
Tier	Goals	Base Year (FY 2010)	Final Year (FY 2021)	Fund Distribution (Billions)
Tier 1 49,578.1 Lane Miles				\$6.65
	% of G or B	86.51	70	
	% of V. Poor	2.10	7.48	
Tier 2 28,022.3 Lane Miles				\$2.85
	% of G or B	81.22	50	
	% of V. Poor	3.66	15	
Tier 3 71,139.6 Lane Miles				\$1.91
	% of G or B	86.8	27.14	
	% of V. Poor	1.79	27	
Tier 4 46,547.4 Lane Miles				\$0.00
	% of G or B	91.08	22.21	
	% of V. Poor	0.72	26.70	
Systemwide	Total	86.97	41.82	\$11.41

Current System Condition and Potential Goal Scenarios Utilizing a Four-Tier System (cont.)

Scenario 2				
Tier	Goals	Base Year (FY 2010)	Final Year (FY 2021)	Fund Distribution (Billions)
Tier 1 49,578.1 Lane Miles				\$5.39
	% of G or B	86.51	60	
	% of V. Poor	2.10	10	
Tier 2 28,022.3 Lane Miles				\$2.85
	% of G or B	81.22	50	
	% of V. Poor	3.66	15	
Tier 3 71,139.6 Lane Miles				\$3.05
	% of G or B	86.8	33.75	
	% of V. Poor	1.79	20	
Tier 4 46,547.4 Lane Miles				\$0.12
	% of G or B	91.08	24.52	
	% of V. Poor	0.72	25	
Systemwide	Total	86.97	41.82	\$11.41

Summary of Three Scenarios of Cost to Recover to 2010 Pavement Condition for the Four-Tier System



Proposal

- **We propose to take the Four-Tiered System, with associated goals, through allocation analysis and present to the Commission in August a recommendation for changing the Rehabilitation and Maintenance funding formula for consideration in the next UTP update.**

Discussion???

