

Applying Performance Management Techniques in the Transportation Planning Process

presented at

TRANSPORT Chicago

presented by

**Joe Guerre
Cambridge Systematics, Inc.**

June 5, 2009

Transportation leadership you can trust.

Outline

- Performance management overview
- Examples applications within planning context

Role of Performance Measures

- Provide link between goals and specific actions
- Evaluate impacts of policies, plans, programs, and projects
- Guide resource allocation decisions
- Track system performance over time
- Communicate results and strengthen accountability

Performance Management Framework

Linking Goals/Objectives to Resources and Results



Examples

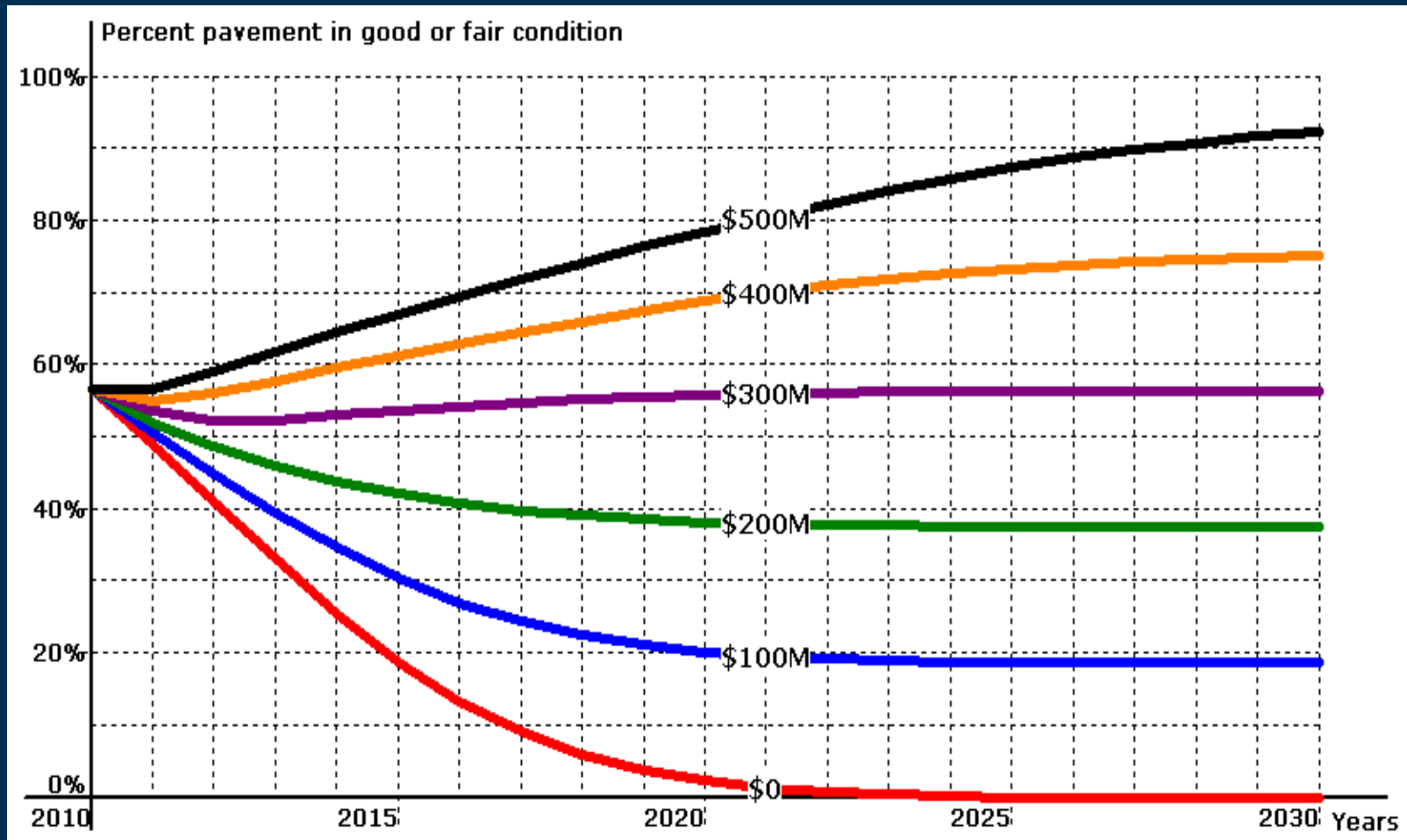


Southeast Michigan Council of Governments Regional Targets

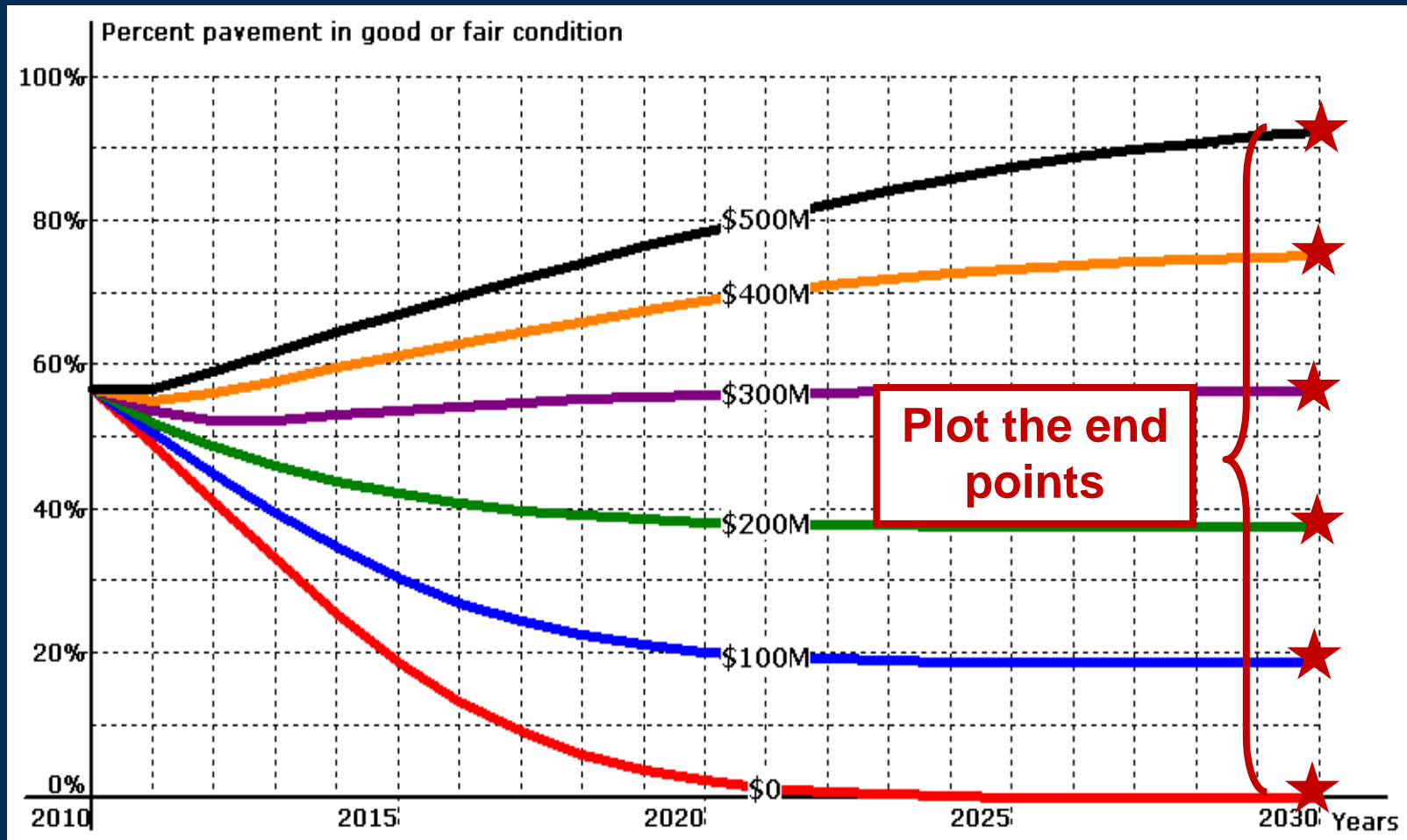
- As part of long range planning process, SEMCOG wanted to reach a consensus on regional priorities
- Priorities were defined as a set of funding splits and performance targets in the following program areas
 - Safety
 - Pavement preservation
 - Bridge preservation
 - Transit
 - Highway capacity expansion
 - Nonmotorized
 - Roadway Operations

Analysis within each Program Area

Expected Performance over time for Different Funding Levels

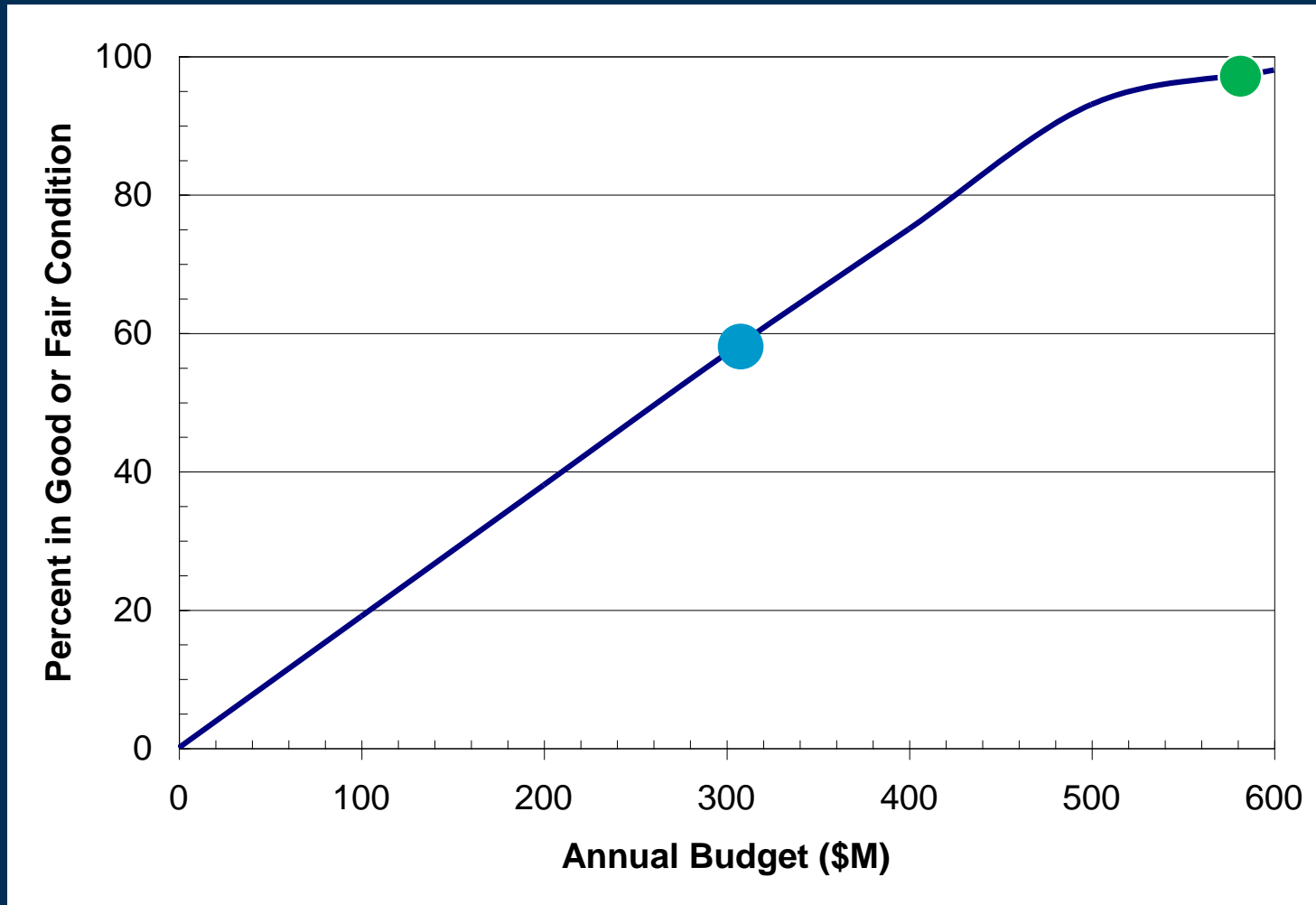


Analysis within each Program Area, cont.



Analysis within each Program Area

Expected Performance in 2030 for Different Funding Levels



● Current performance expectation ● Maximum performance

Analysis Across Program Areas

Program Area	Measure of Effectiveness	Projected 2010	1. Current Allocation		2. Public Opinion		3. Preservation First	
			2030 Target	Funding Split	2030 Target	Funding Split	2030 Target	Funding Split
Transit	System extent	Current System	Current System	21%	< Current System	12%	< Current System	21%
Pavement	% pavement in good or fair condition	57%	57%	21%	49%	18%	85%	31%
Bridge	% bridges in good or fair condition	85%	100%	6%	100%	7%	85%	3%
Expansion	hours of congestion delay per 1,000 vehicle miles traveled	2.9	2.6	10%	2.6	10%	3.0	2%
Safety	fatalities per 100 million vehicle miles traveled	0.77	0.74	0%	NA	7%	0.73	1%
Nonmotorized	% pop. and emp. within ½-mile of nonmotorized facility	13%	44%	1%	100%	5%	44%	1%
Roadway Operations	NA			41%		41%		41%

Examples



Georgia DOT Project Prioritization

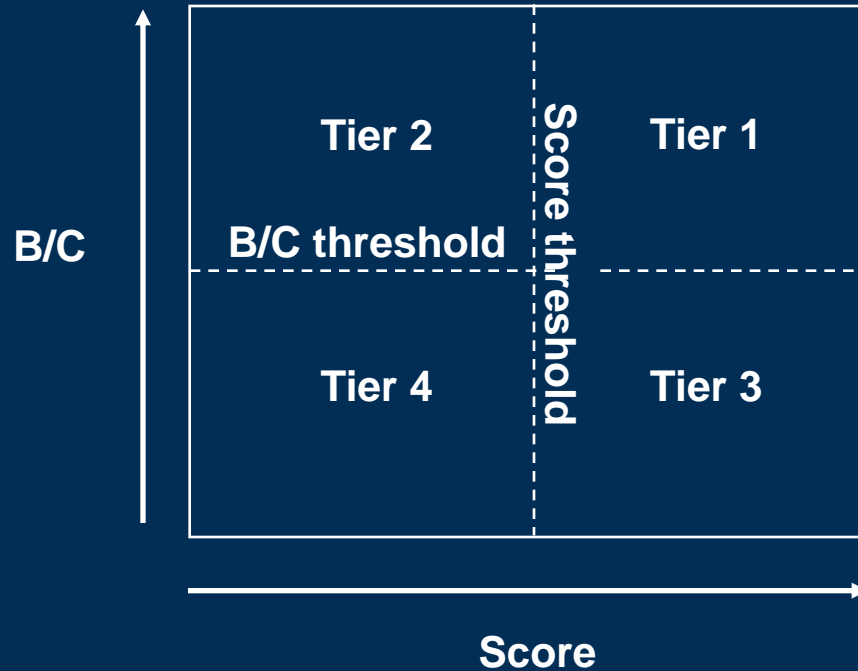
- **GDOT recently developed a data-driven, transparent methodology for prioritizing projects**
- **Projects are prioritized based on a combination of:**
 - **Benefit/cost analysis**
 - **An assessment of how well each project supports goals and objectives established in the long range plan**
- **GDOT automated the process and applied it to its backlog of nearly 1,000 projects**
- **Results are used to communicate priorities and inform the programming process**

Georgia DOT Project Prioritization

Define Measures and Relative Weights – Capacity Program

SWTP Goal	Performance Measure	Atlanta Region	Other MPOs	Rural
Preservation	Bridge – SD	2.5	5	5
	Pavement – PACES	2.5	5	5
Safety	Crash Reduction	5	20	20
Congestion	Delay Reduction – VHT	70	35	20
Connectivity, Access and Mobility	Travel Time – Intermodal Connector, Truck Route, STRAHNET	4	10	15
	Activity Center	4	5	5
	Land Use Plan	3	5	5
	Access Management	4	5	5
Economic Development	Gross State Product	2	5	10
	Economic Policy Area	2	5	10
Total Weight		100	100	100

Georgia DOT Project Prioritization *Using Tiers to Communicate Results*





Prioritas^{CS}

[Login](#)[Account Info](#)[Edit Projects](#)[Screen Projects](#)[Evaluate Projects](#)[Select Projects](#)[Admin](#)[Help](#)Program: Filter by Compare measures within:

Map						Preservation		Safety	Congestion	Connectivity, Access, Mobility				Economic Development		
Tier	ID	County	Score	B/C	Cost	Percent Deficient Bridge	Pvmt	Crash Reduction	Delay Reduction	Travel Time Red. on Key Corridor	Activity Centers	Land Use Plan	Access Mgmt	Change in GSP \$M	Dev. Policy Area	
+	1	0002868	DeKalb	74	277.10	\$18,450,000	0 %	0 %	49	87,698	N/A	P	Y	N	\$469	N
+	1	0000715	DeKalb	74	7.36	\$501,502,000	0 %	0 %	1,595	63,299	38 %	P	Y	N	\$338	N
+	1	0003432	DeKalb	67	4.92	\$458,000,000	32 %	0 %	2,986	41,824	22 %	P	Y	N	\$224	N
+	1	0000378	DeKalb	65	25.40	\$80,300,000	0 %	0 %	244	39,152	23 %	P	Y	N	\$209	N
+	1	0003166	DeKalb	55	5.59	\$159,000,000	20 %	0 %	1,019	15,267	15 %	P	N	N	\$82	N
+	1	0006889	DeKalb	50	35.19	\$10,714,000	0 %	0 %	N/A	6,816	N/A	Y	Y	N	\$36	N
+	1	0001791	DeKalb	46	41.74	\$5,500,000	0 %	0 %	1	5,103	N/A	N	Y	N	\$27	N
+	2	0006895	DeKalb	37	7.89	\$6,279,000	0 %	0 %	66	793	N/A	P	Y	N	\$4	N
+	2	0006879	DeKalb	36	1.80	\$21,675,000	0 %	0 %	18	814	N/A	P	Y	N	\$4	N
+	2	0005905	DeKalb	25	3.57	\$4,617,000	0 %	0 %	58	331	N/A	P	Y	N	\$2	N
+	4	0006888	DeKalb	8	0.00	\$11,163,000	0 %	0 %	20	1	N/A	Y	Y	N	\$0	N
+	4	0006891	DeKalb	7	0.00	\$13,185,000	0 %	0 %	3	1	N/A	Y	Y	N	\$0	N
+	4	0006890	DeKalb	6	0.00	\$21,210,000	0 %	0 %	55	1	N/A	P	Y	N	\$0	N
+	4	0006894	DeKalb	6	0.00	\$14,065,774	0 %	0 %	43	1	N/A	P	Y	N	\$0	N
+	4	0006880	DeKalb	5	0.00	\$8,610,000	0 %	0 %	13	1	N/A	P	Y	N	\$0	N
+	4	0006882	DeKalb	5	0.00	\$13,050,000	0 %	0 %	88	0	N/A	N	Y	N	\$0	N
+	4	0005528	DeKalb	3	0.00	\$10,490,000	0 %	0 %	8	0	0 %	N	Y	N	\$0	N

Questions?