

Practical Design

& Safety

*Incompatible or the
Solution?*

The Way We Were...

ENGLISH

CHAPTER IV DETAIL DESIGN

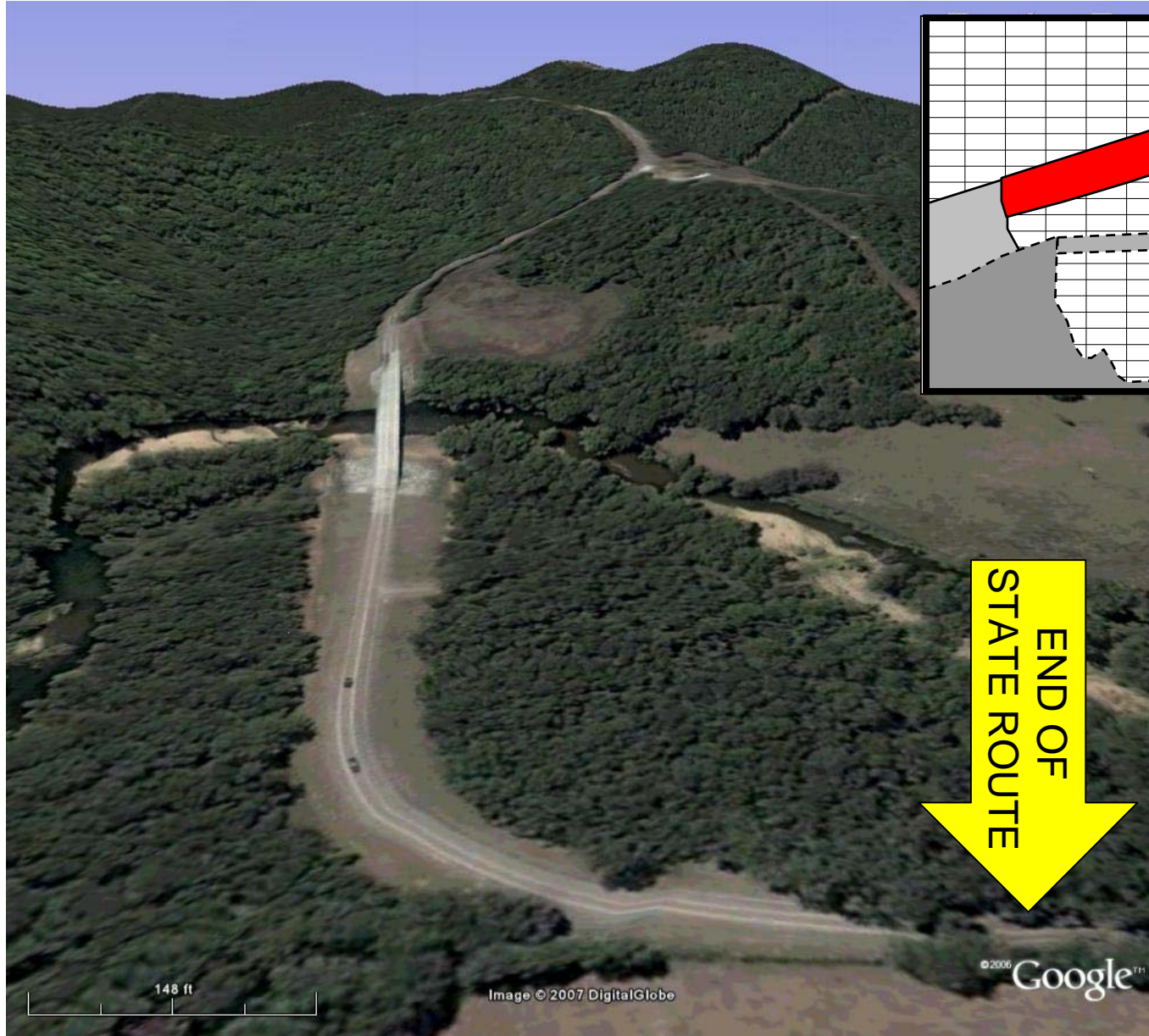
FUNCTIONAL CLASSIFICATION		PRINCIPAL ARTERIALS				MINOR ARTERIALS		COLLECTORS			LOCALS			
		INTERSTATE	OTHERS			>1700	>1700	>400	400-1700	>1700	>400	400-1700	>1700	
AVERAGE DAILY TRAFFIC (DESIGN)		ALL	>1700	>1700 (2 LN.)	>1700 (4 LN.)	>1700	>1700	>400	400-1700	>1700	>400	400-1700	>1700	
DESIGN SPEED (mph)		FLAT	70	60	70	50	50	40	50	50	40 (17)	50	50	
MINIMUM		ROLLING	70	50	60	50	50	30	40	50	30	40	40	
		MOUNTAINOUS	NA	40	50	50	40	50	30	30	40	30	30	
TYPICAL SECTION		DRAWING NUMBER	D-61	D-60	D-63	D-61	D-64	D-62	D-66	D-67	D-68	D-68	D-69	
		LANE WIDTH (ft) MIN	12	12	12	12	12	12	11	12	12	11	12	12
		ROADBED WIDTH (ft) 2 LN. (2) MIN	114-128	44	44	114-128	36	40	28(18)	32(18)	40	28(18)	32(18)	40
		RIGHT OF WAY (ft) 2 LN. (3)	250 DUAL	150	150	250 DUAL	120	150	60	80	120	50	80	80
SLOPES (H:V)		SEE PRELIMINARY GEOTECHNICAL REPORT (CHAPTER VI, PROJECT DEVELOPMENT MANUAL)												
(4)		BACKSLOPE	SEE PRELIMINARY GEOTECHNICAL REPORT (CHAPTER VI, PROJECT DEVELOPMENT MANUAL)											
		FORESLOPE	6:1	6:1	6:1	6:1	4:1	6:1	3:1	4:1	6:1	3:1	3:1	4:1
DITCH DEPTH (ft) (MINIMUM)		(4)	4	4	4	4	3	2	2	2	2	2	2	
CURVATURE (DEGREE) (MAXIMUM)		(4)	3	4.34	3	3	7.12	4%	12.14	7.12	4.34	12.14	7.12	
(5)		ROLLING	3	4.34	4.34	4.34	7.12	7%	22.34	12.14	7.12	22.34	12.14	
		MOUNTAINOUS	NA	NA	7.12	7.12	12.14	7%	NA	NA	18	NA	NA	
SPIRAL CURVES		(5)	NA	NA	(18)	NA	(18)	NA	NA	(18)	NA	NA	NA	
GRADE (PERCENT) (MAXIMUM)		(5)	(18)	(18)	(18)	NA	(18)	NA	NA	(18)	NA	NA	NA	
STOPPING SIGHT DISTANCE (ft) (MINIMUM-DESIRABLE) (3.5 ft TO 0.5 ft)		FLAT	3			400-475	525-650	275-325	400-475	525-650	275-325	400-475	400-475	
		ROLLING	4		5	400-475	400-475	300-300	275-325	400-475	300-300	275-325	275-325	
SAG VERTICAL CURVE (K VALUE)		MOUNTAINOUS	NA		8	90-110	125-160	60-70	90-110	125-160	45-40	90-110	90-110	
		FLAT	625-850		525-650	200	2100	1500	1600	2100	1500	1600	1600	
(7)		ROLLING	625-850		400-475	200	1800	1100	1500	1600	1100	1500	1500	
		MOUNTAINOUS	NA		275-325	60	1800	1100	1100	1500	800	1100	1100	
MINIMUM PERCENT PASSING SIGHT DIST		(7)	NA		275-325	10	25	50	10	25	50	25	50	
Bridges (New)		(8)	FLAT	150-220	120-160	(14)	(14)	(14)	(14)	(14)	(13)	(12)	(12)	
Bridges (Deck Rep)		(8)	ROLLING	150-220	90-110	(14)	(14)	(14)	(14)	(14)	(13)	(12)	(12)	
Bridges (Use in Place)		(8)	MOUNTAINOUS	NA	60-70	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	
Box Culverts		(8)	FLAT		2100	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	
		(8)	ROLLING	NA	18	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	
		(8)	MOUNTAINOUS	NA	18	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	
		(8)	WITH	NA	18	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	(14) & (16)	

Figure 4-04.1

This Led to...



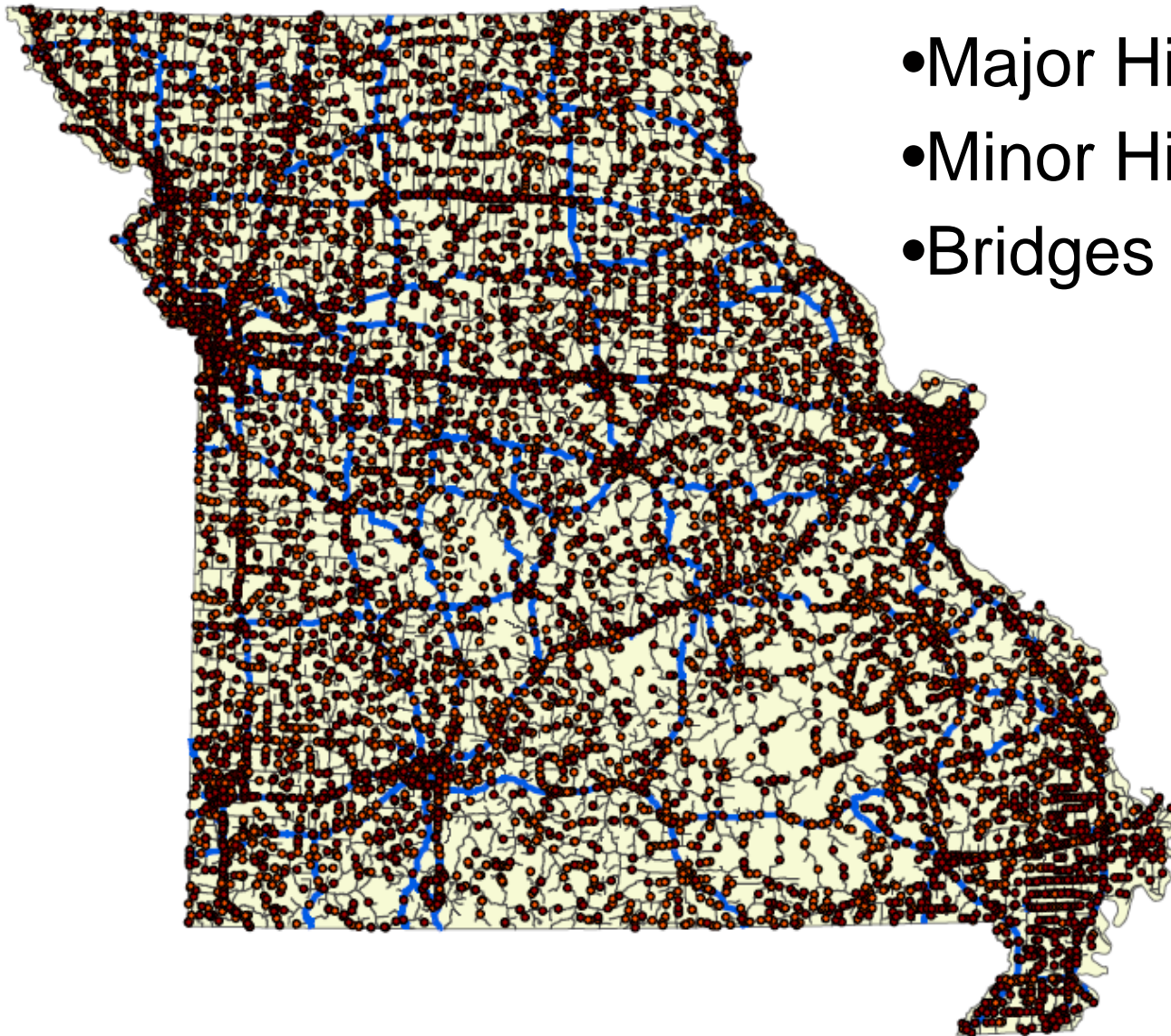
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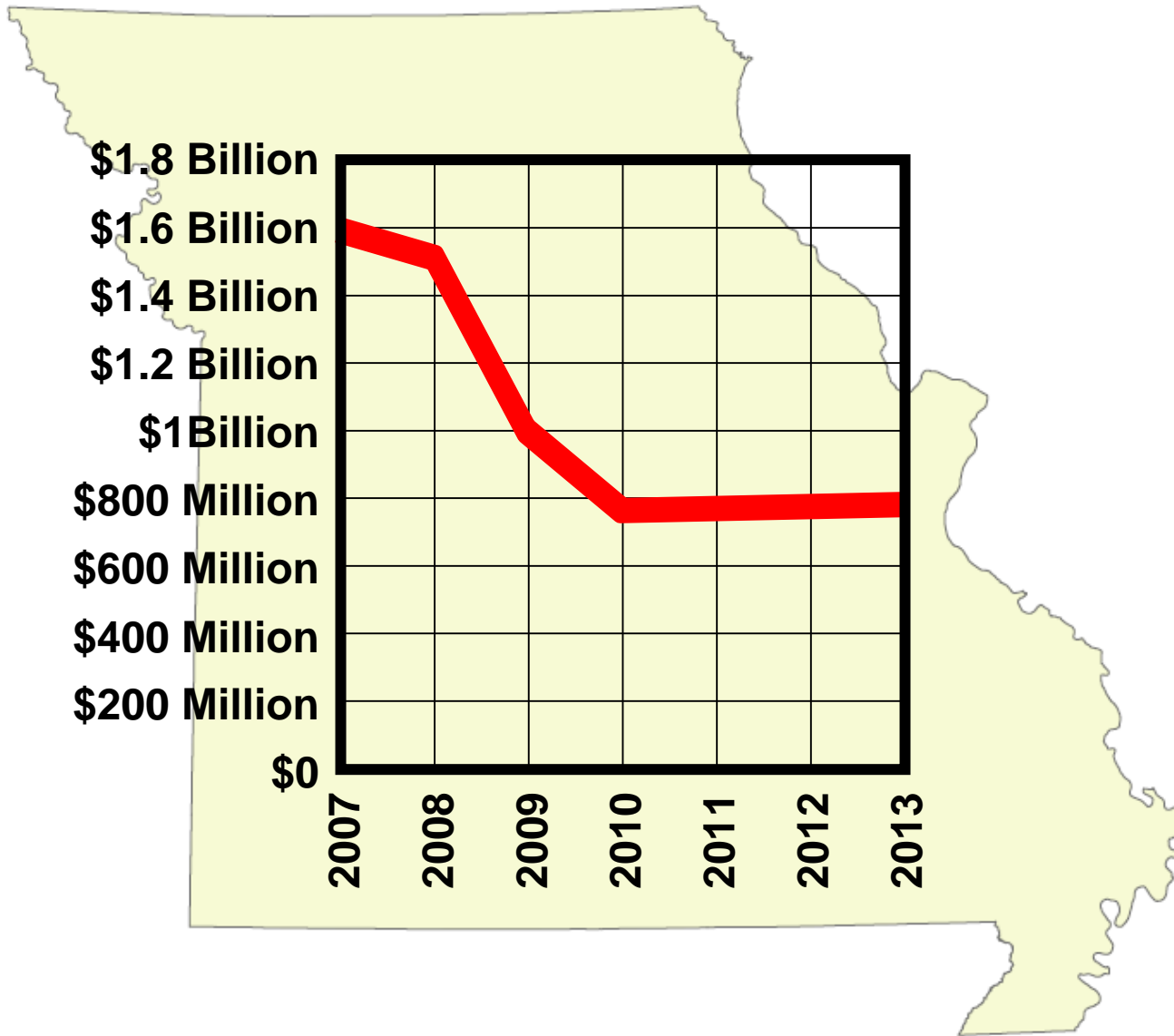
This Led to...



MoDOT's Responsibility



MoDOT's Funding



What is Practical Design?

...on. 4. Capable of being used or put into effect : *practical* knowledge of auto repair> 5. Designed to serve a useful purpose <*practical* shoes> 6. Concerned with the production or operation of something useful <Metalworking is a *practical* art.> 7. Having or displaying good judgment : SENSIBLE. 8. Being actually so in almost every respect : VIRTUAL <a *practical* catastrophe> —**prac'ti-cal/i•ty** (-kāl'ī-tē), **prac'ti-cal•ness** *n.*

❖ **synonyms:** PRACTICAL, FUNCTIONAL, HANDY, SERVICEABLE, USEFUL, UTILITARIAN *adj. core meaning :* serving or capable of serving a useful purpose <a *practical* kitchen device—not a worthless gadget> **antonym:** IMPRACTICAL

prac-ti-cal de-sign (prāk tī-kəl dī-zīn') *n.* 1. A process by which the value of a project is maximized. 2. Ensuring that a project is the correct solution for its surroundings: RIGHT SIZING. 3. An approach to transportation in which an improvement is considered on the basis of its contribution to the entire system instead of its individual perfection.

ī pit ī bite īr pier ō pot ō toe ô paw ôr core
îr urge zh visiō a about, item

The Results...



BEFORE



AFTER

JUN 28 2006

The Results...



The First Ground Rule...

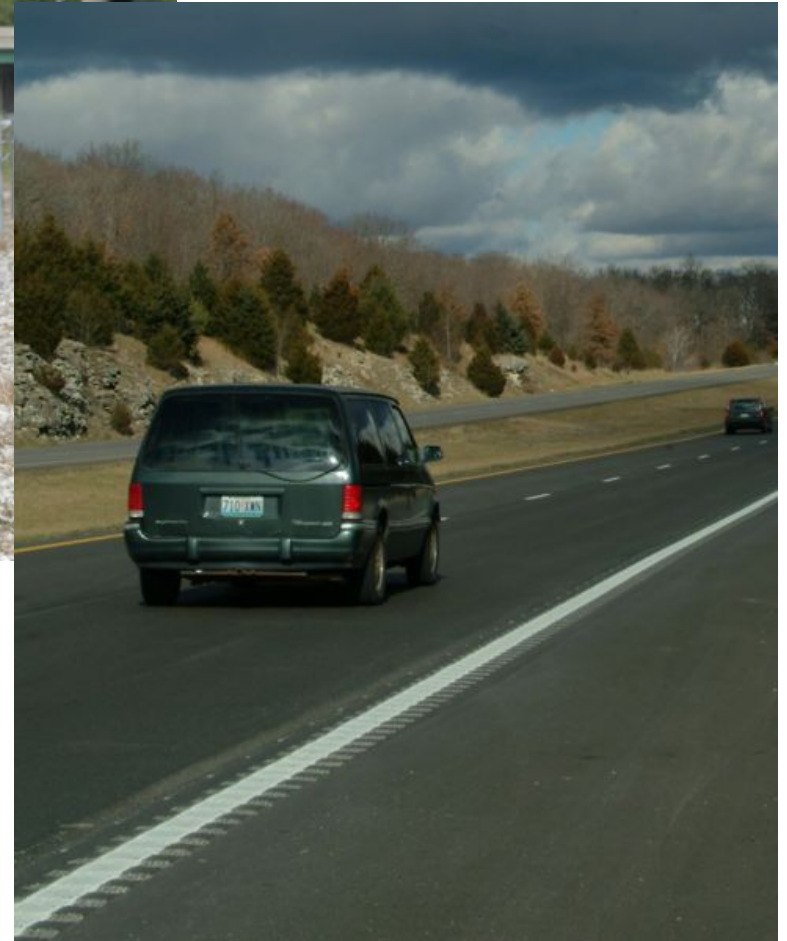
Safety

Every project designed with practicality in mind, must get safer. There is no room for compromise where safety is concerned.

What's Our Liability?



System Wide Safety...



How We Know it's Working...

National Recognition for Safer Roads

by Laura Holloway

The one hundredth anniversary of Henry Ford's automobile came and went in 2003. Traffic safety advocates have been around almost as long.

In November, people living in the here and now who are working to save lives on Missouri roads received national recognition for installation of medially-placed barriers on major roads across the state and for the Destination: Zero coalition in Kansas.

The Roadway Safety Council

More Missouri Motorists Arrive Alive

Reaches Fatality Reduction Goal in 2007 - One Year Early

January 5, 2008
James F. Keathley, superintendent of Missouri State Highway Department
Missouri has the number one road safety record in the nation, ultimately.

The four counties in the Southeast Missouri coverage area saw 18 road-related deaths in 2007, a decrease from 24 in the previous year.

Roundabouts billed as improvements

By Kris Hilgedick
khil@newstribune.com

With two new roundabouts in Jefferson City, Missouri...

Saving Lives Tops MoDOT's 2007 Achievements

Public Works Director...
safely. "If you're going to...
d. "This is an attempt to...

Engineering staff also...
designed...

JEFFERSON CITY - The federal announcement in July that Missouri had the largest drop in traffic-related fatalities last year tops the Missouri Department of Transportation's 2007 top 10 list of accomplishments. Of the 868 fewer traffic deaths nationwide in 2006, the Show Me State accounted for 107 of them or 19 percent.

"Making our roads safer and

4. Ensuring Bridge Safety. Following the tragic Minnesota bridge collapse in August, MoDOT immediately began inspecting the 14 state bridges similar in design and deemed all safe to cross within just two months. In addition, legislation passed in the August special session enabled the agency to move forward with the Safe & Sound Bridge Im-

provement program in the St. Louis area, including the landmark Christopher S. Bond Bridge.

9. Getting Greener. In 2007, MoDOT became one of the first state agencies to use recycled asphalt shingles in highway projects. It also tested soy-based paint, used vegetable oil as a de-icing agent, and joined with the Missouri Department of Conservation to plant one million trees a year.

Is

Practical
Design



Safe?