

# Defects: Then and Now

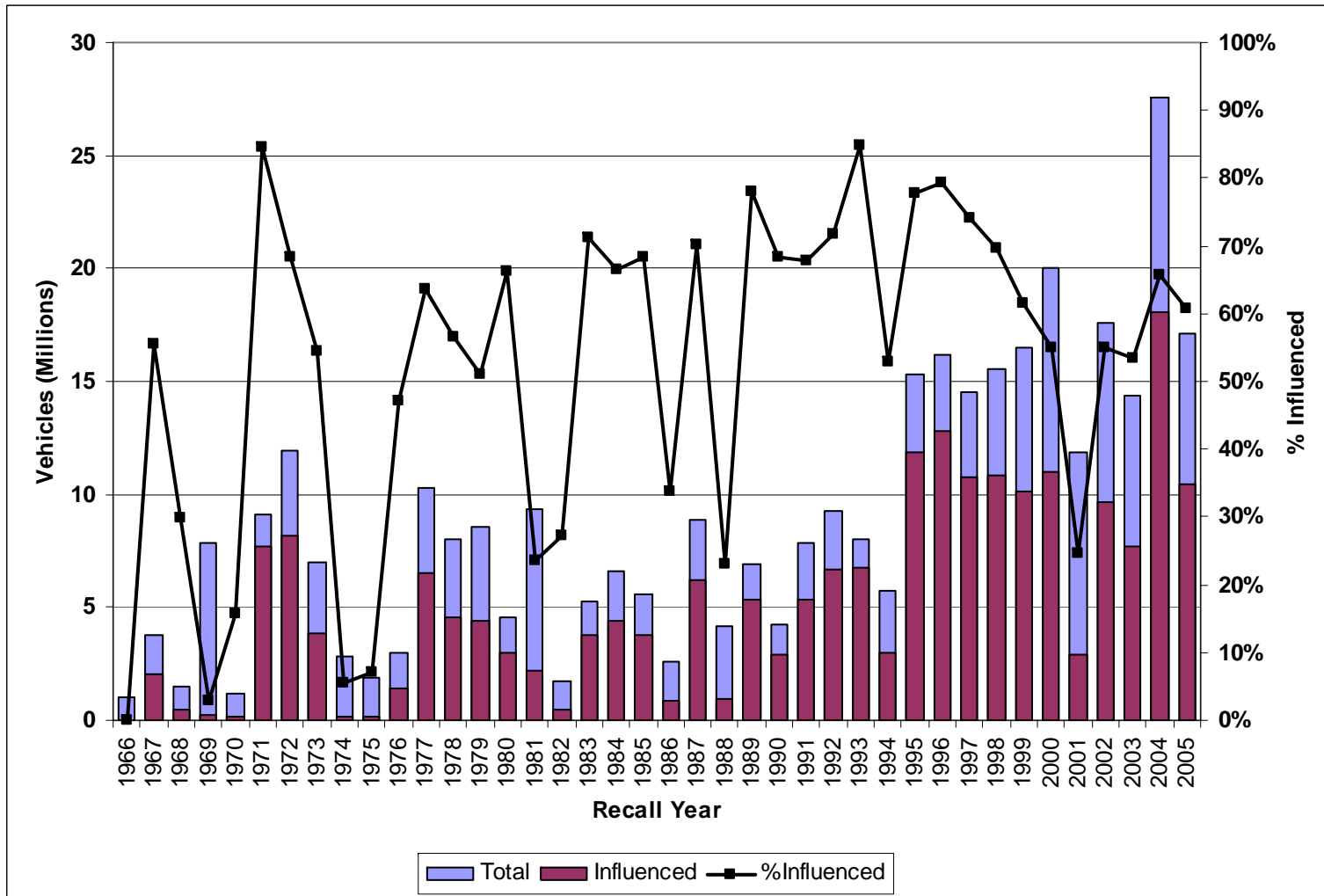
Jeffrey Quandt, NHTSA  
Office of Defects Investigation

May 9, 2006



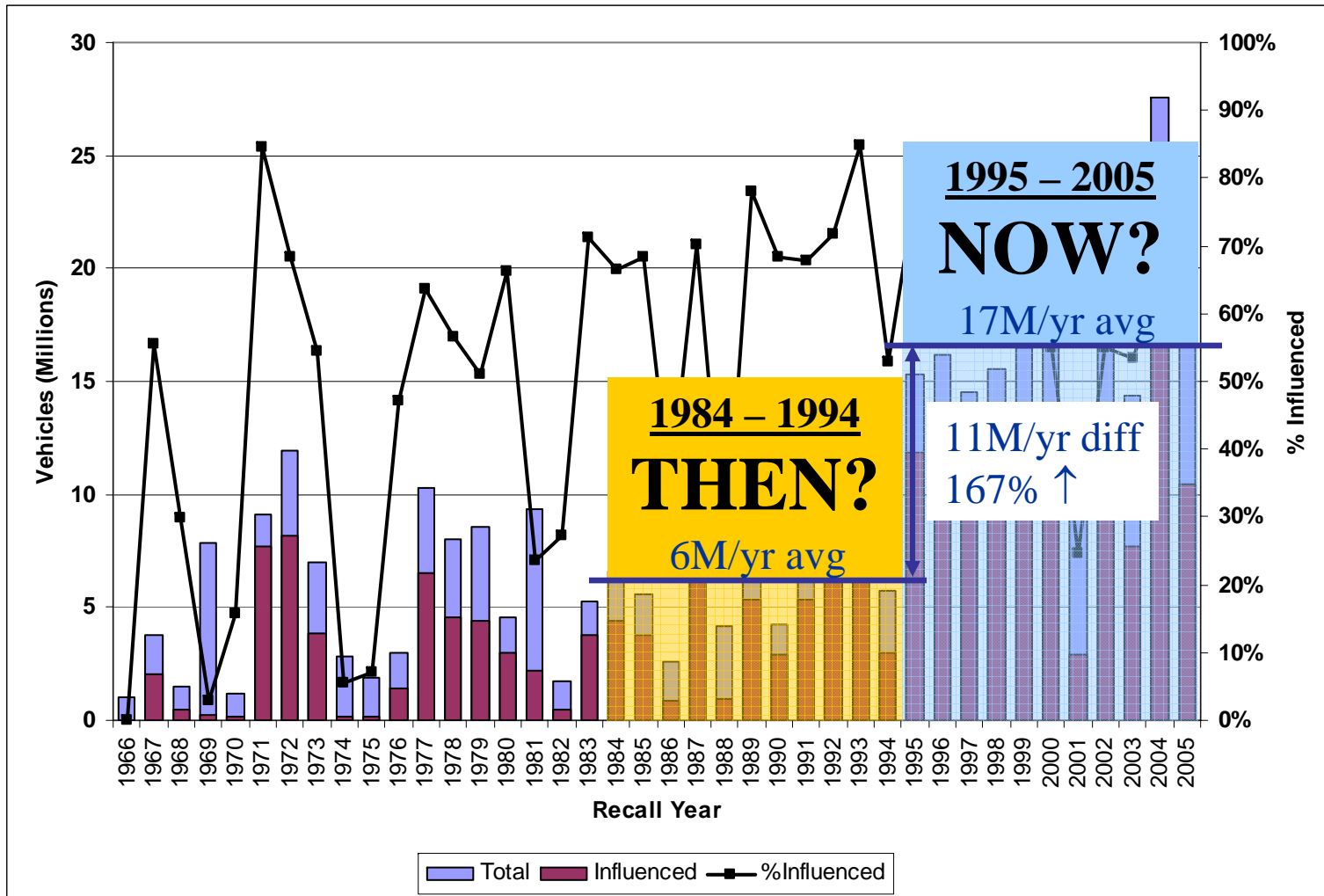
# Vehicle Defect Recalls

## Trends in Recalled Vehicles



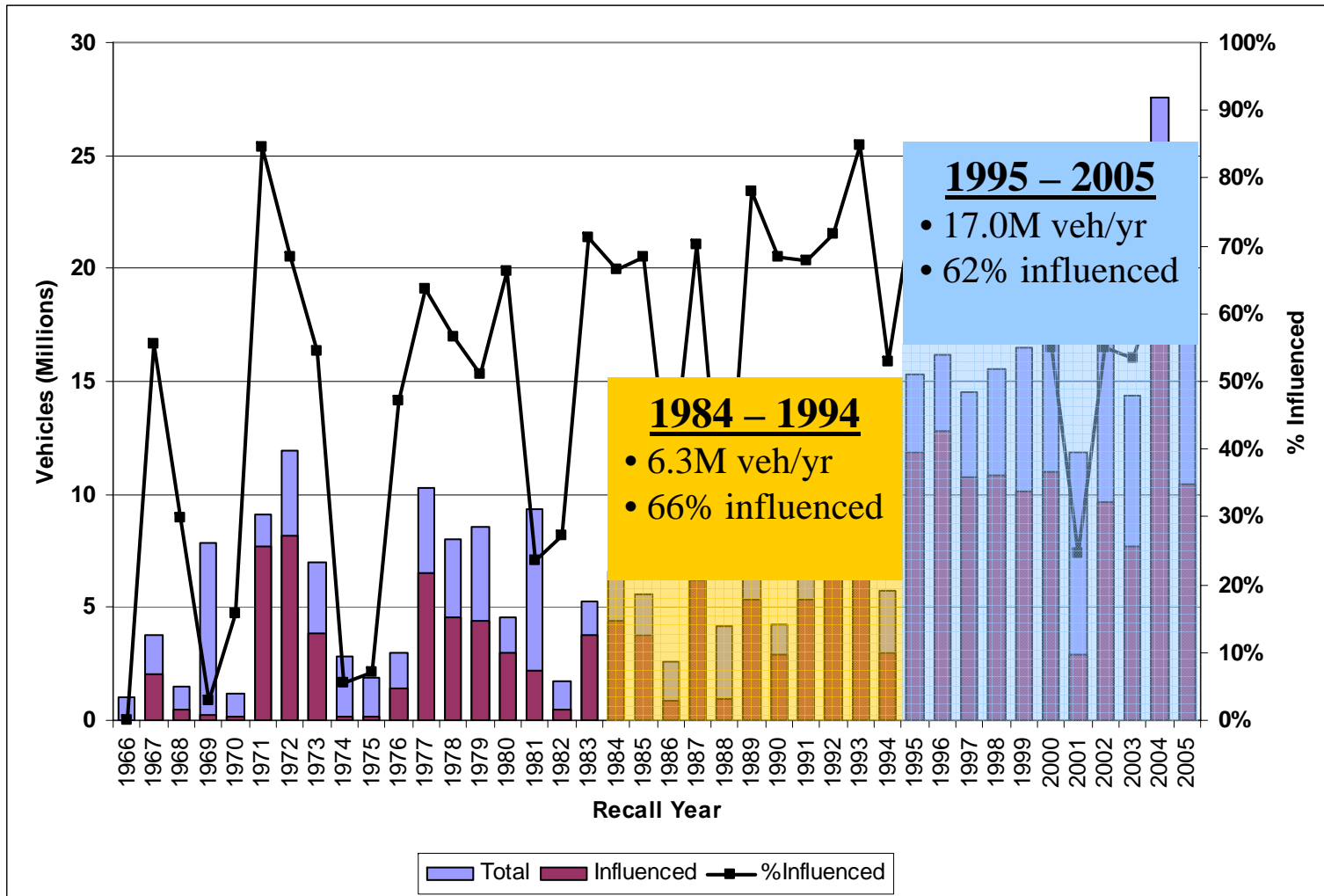
# Vehicle Defect Recalls

## Trends in Recalled Vehicles



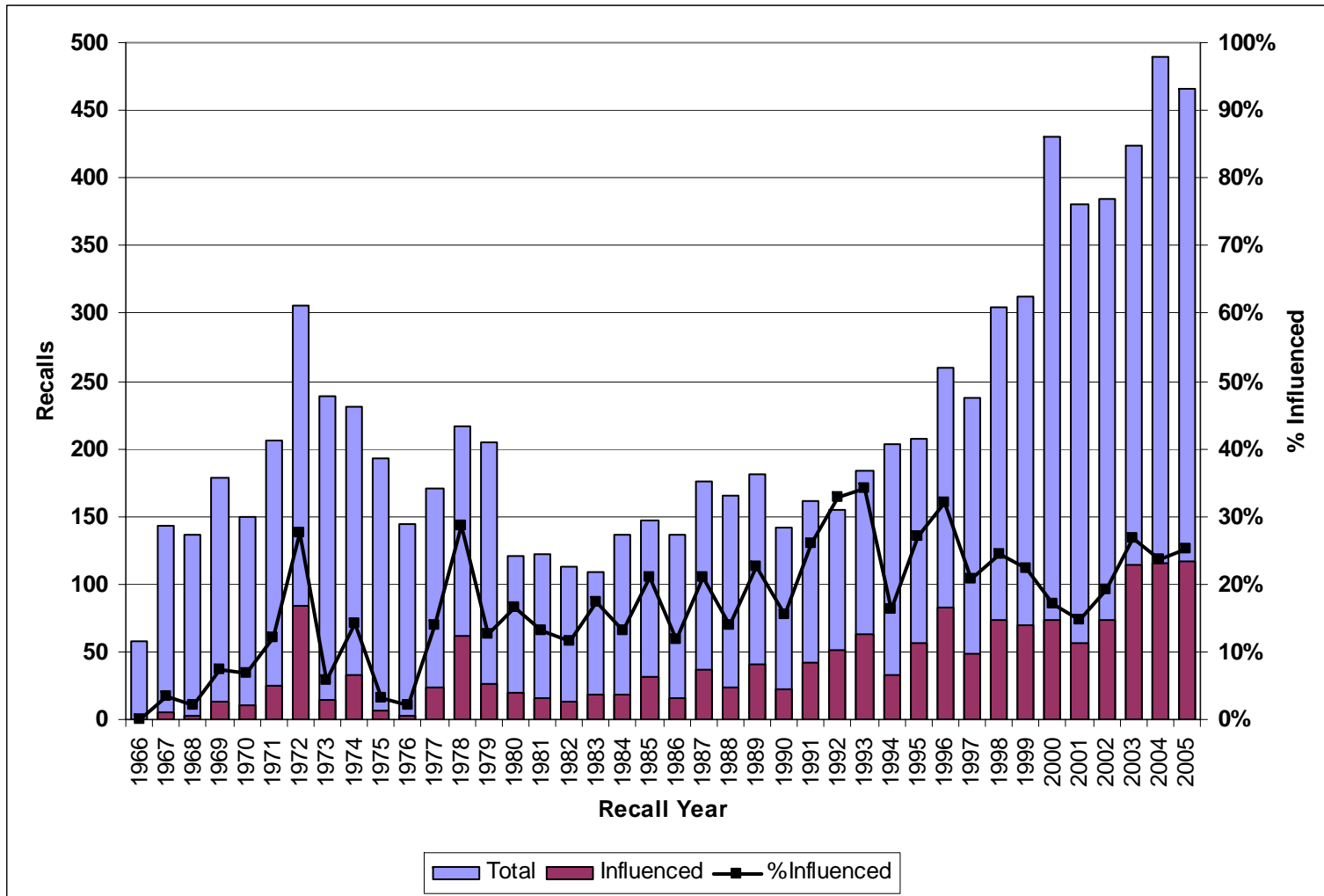
# Vehicle Defect Recalls

## Trends in Recalled Vehicles



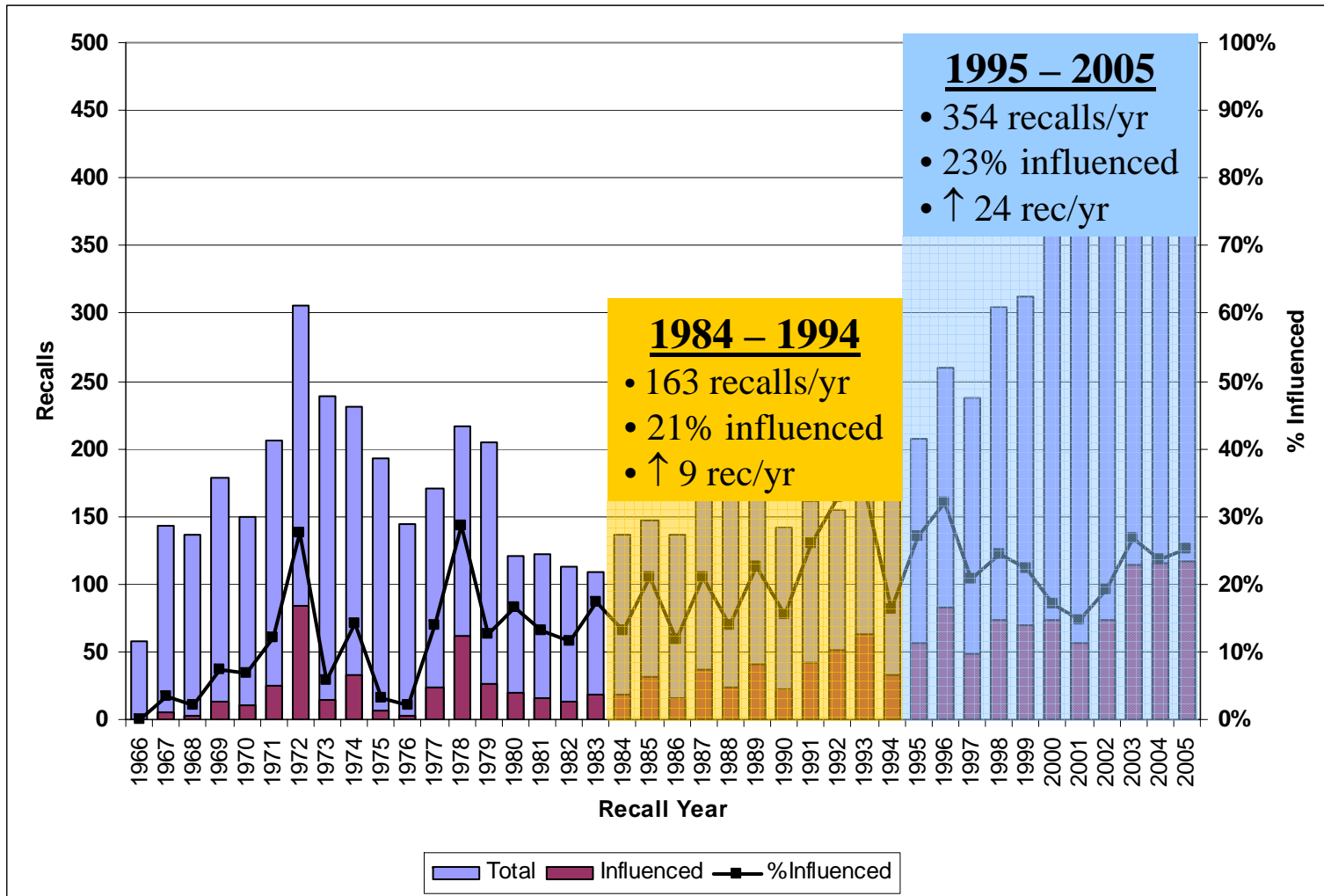
# Vehicle Defect Recalls

## Trends in Recalls



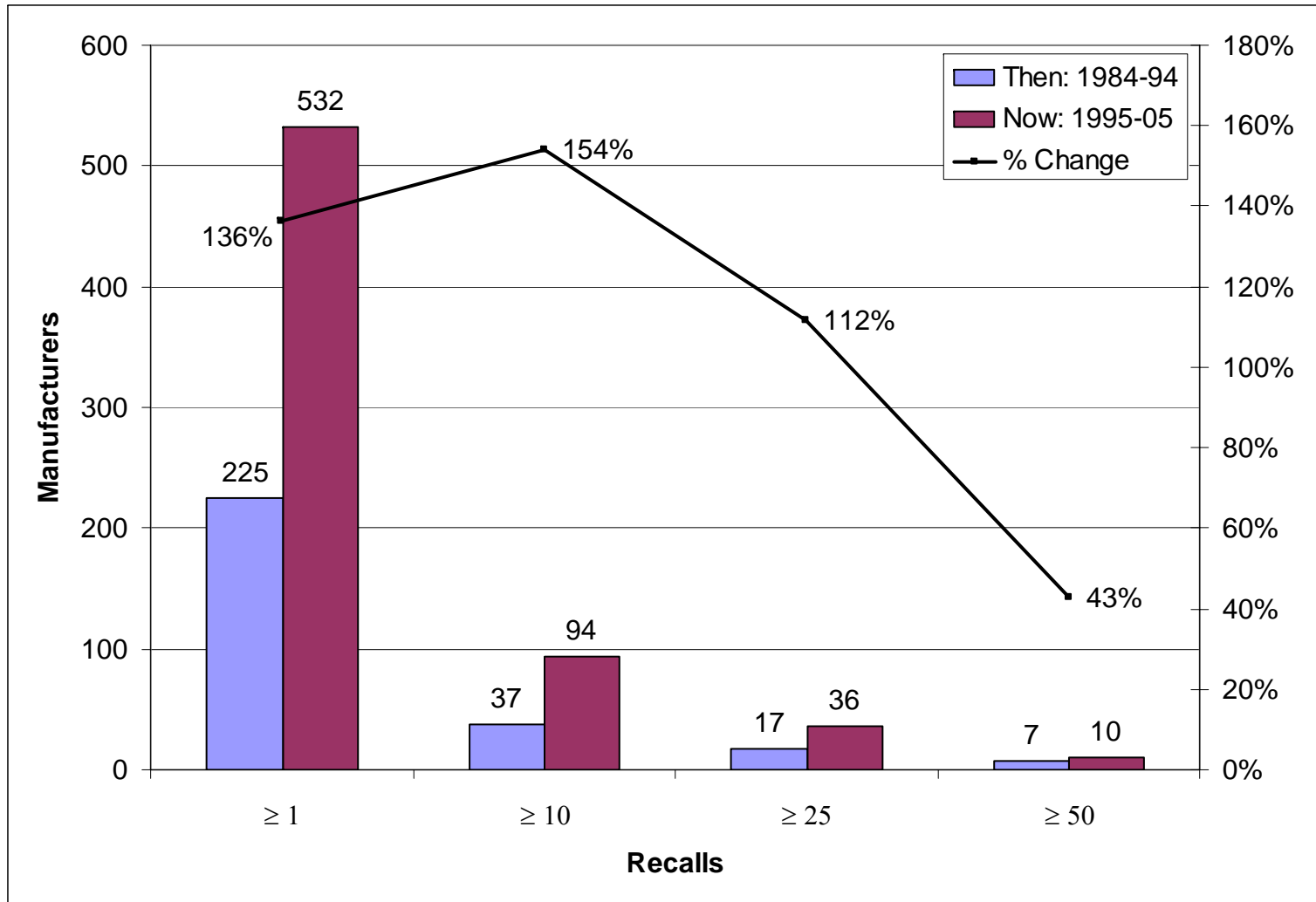
# Vehicle Defect Recalls

## Trends in Recalls



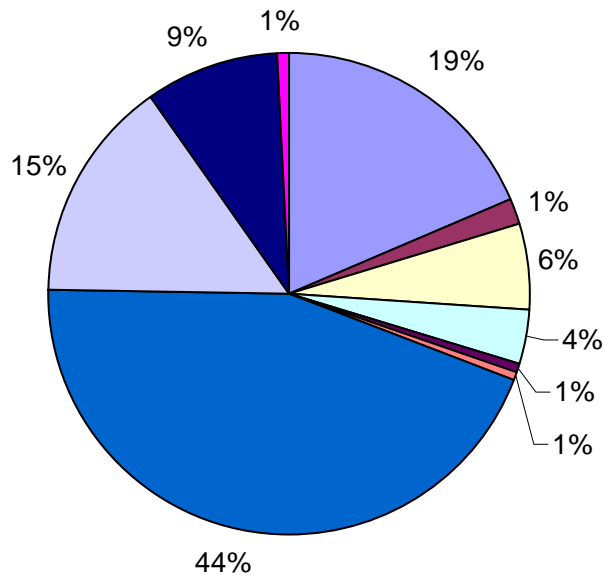
# Vehicle Defect Recalls

## Trends in Recalls by Number of Manufacturers

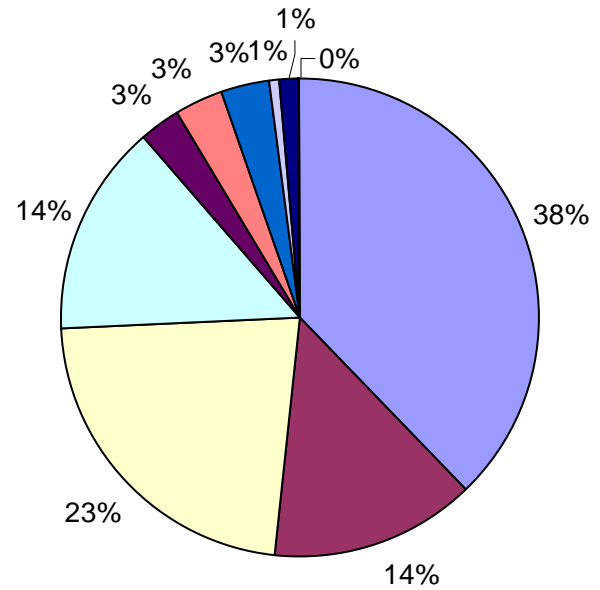
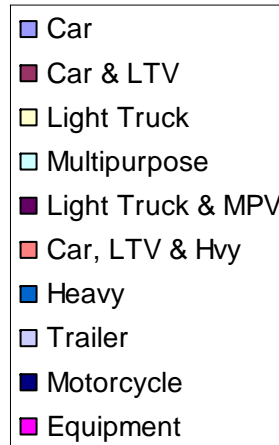


# Vehicle Defect Recalls

## Trends in Recalled Vehicles by Vehicle Type, 1995 - 2005



Share of Recalls

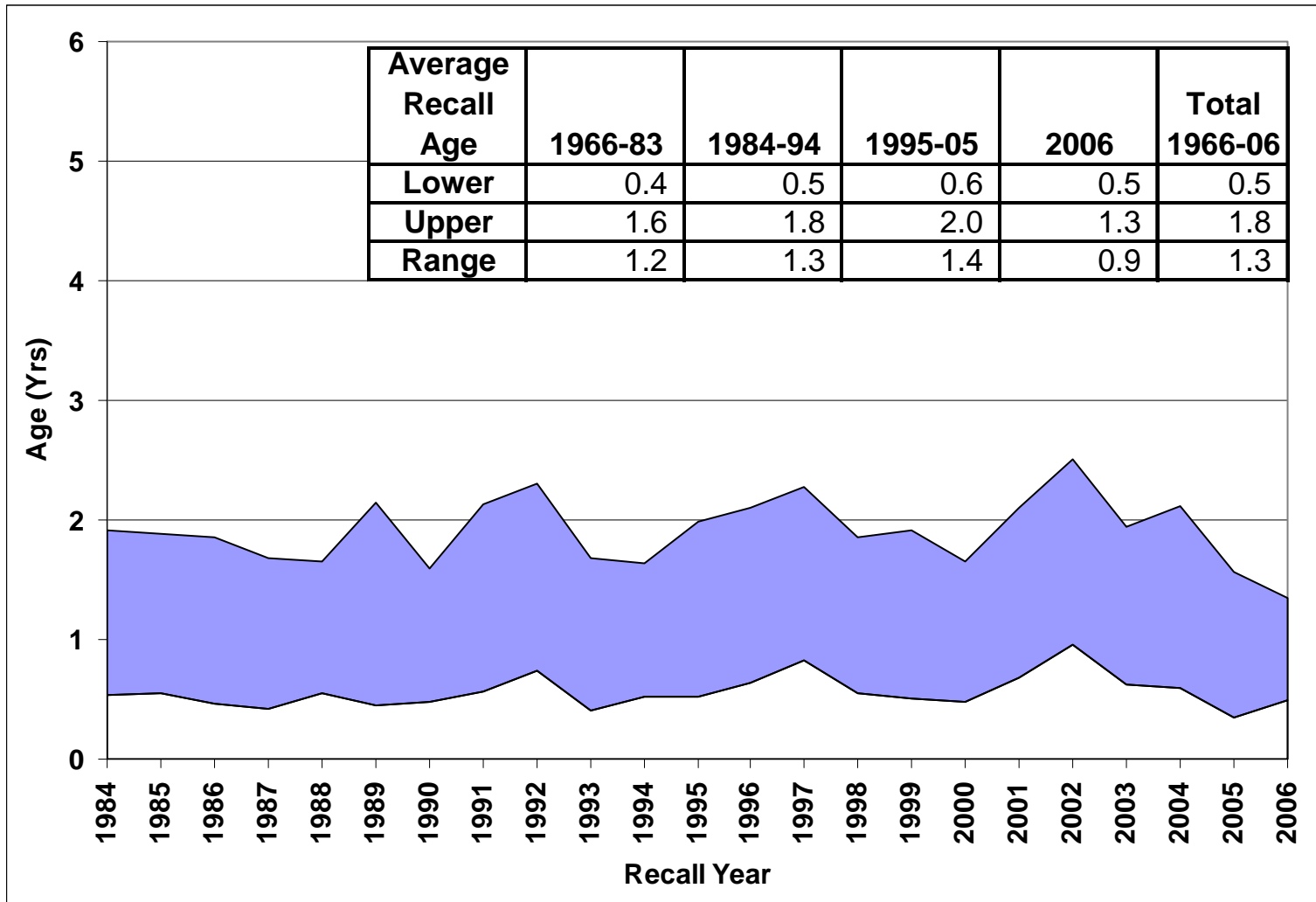


Share of Vehicles Recalled



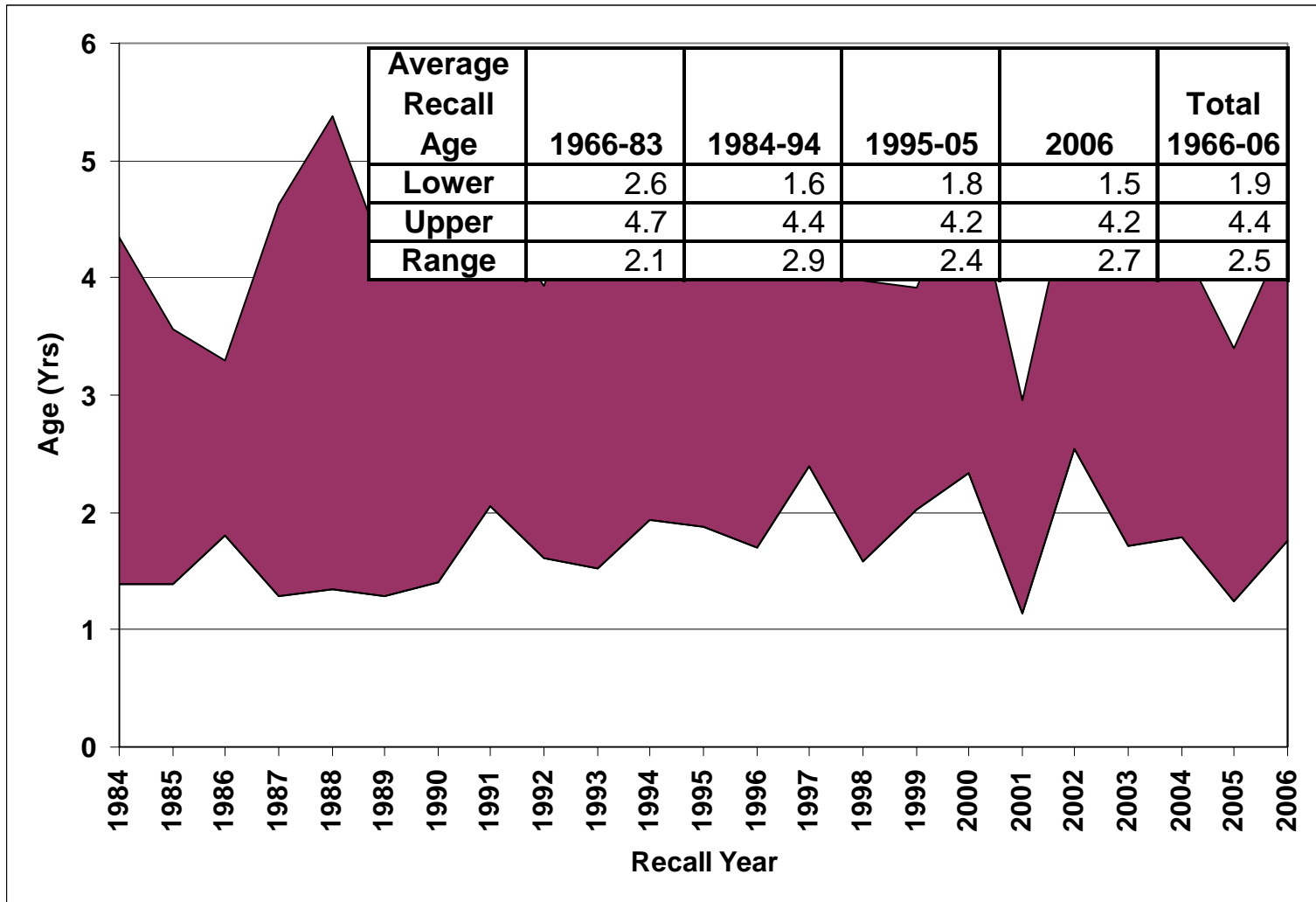
# Vehicle Defect Recalls

## Trends in Average Age Range of Recalls, Non-Influenced



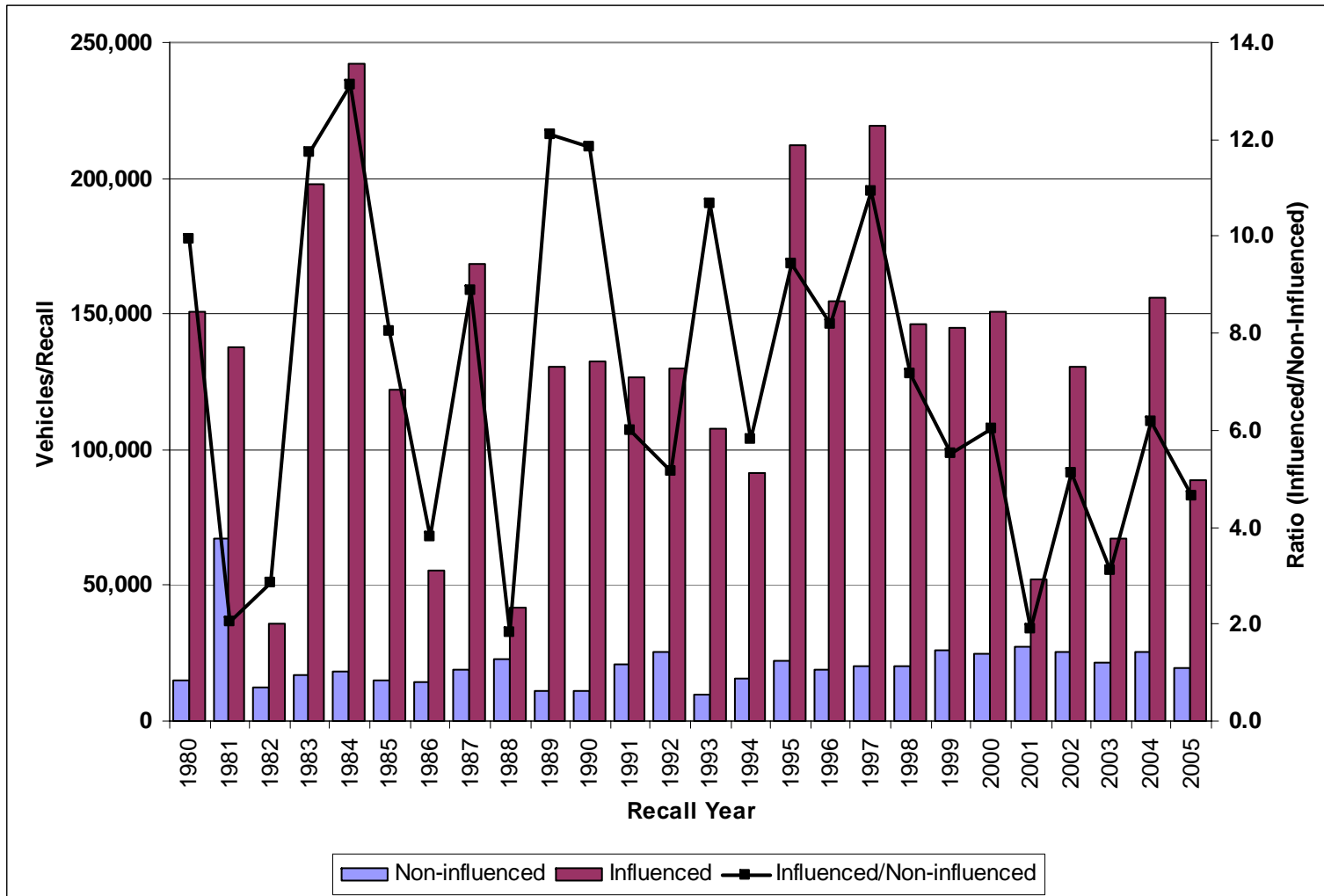
# Vehicle Defect Recalls

## Trends in Average Age Range of Recalls, Influenced



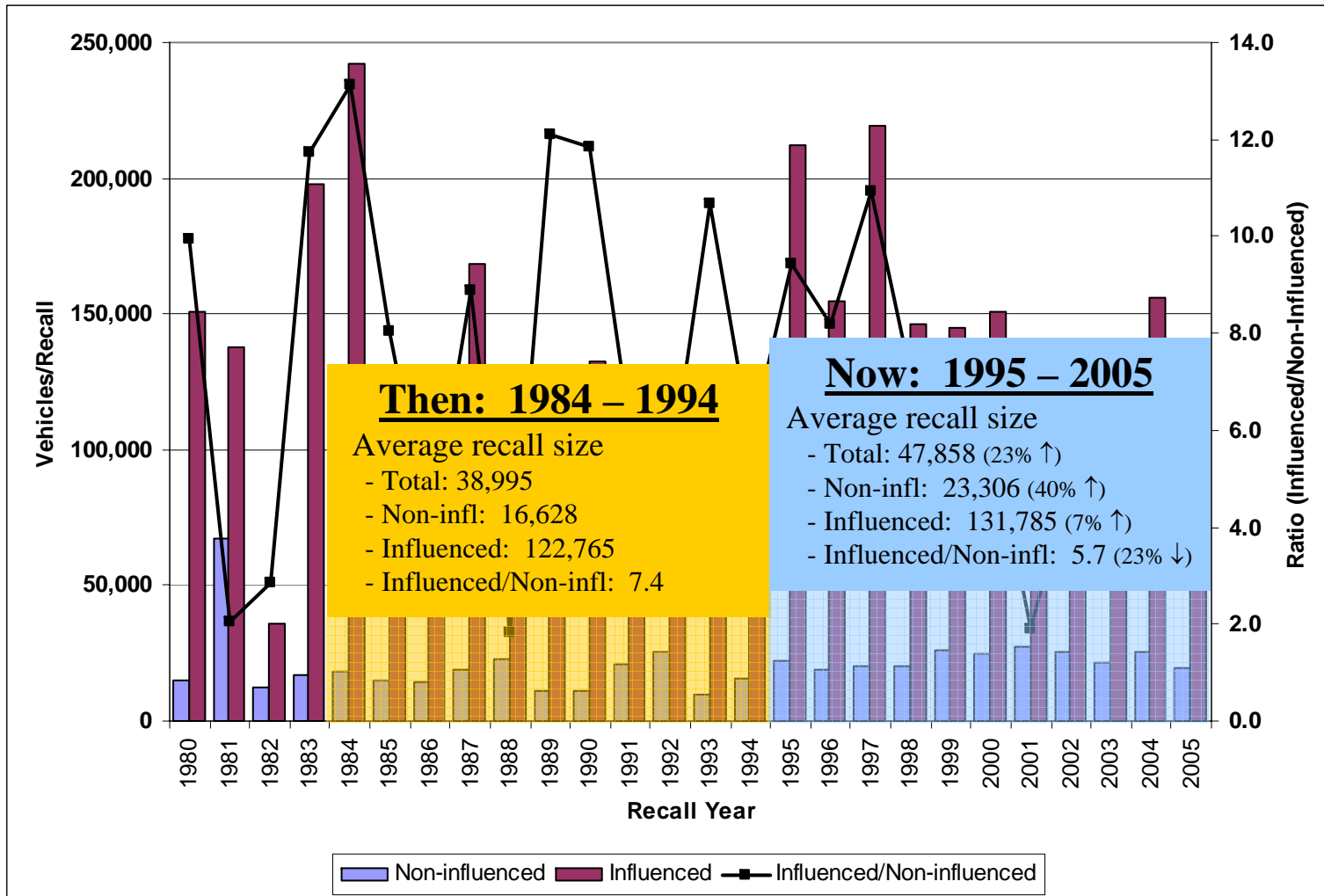
# Vehicle Defect Recalls

## Trends in Average Recall Size



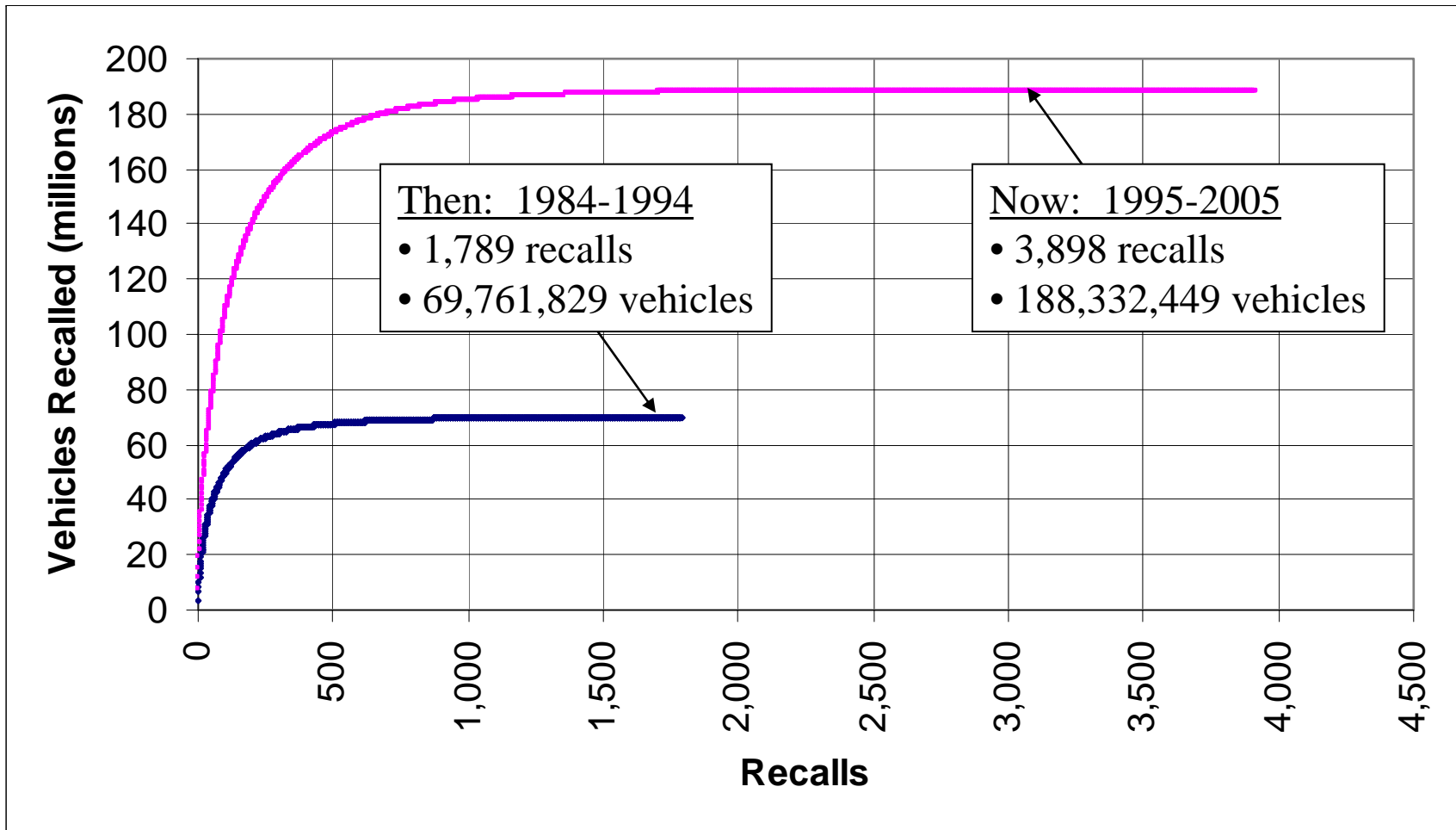
# Vehicle Defect Recalls

## Trends in Average Recall Size



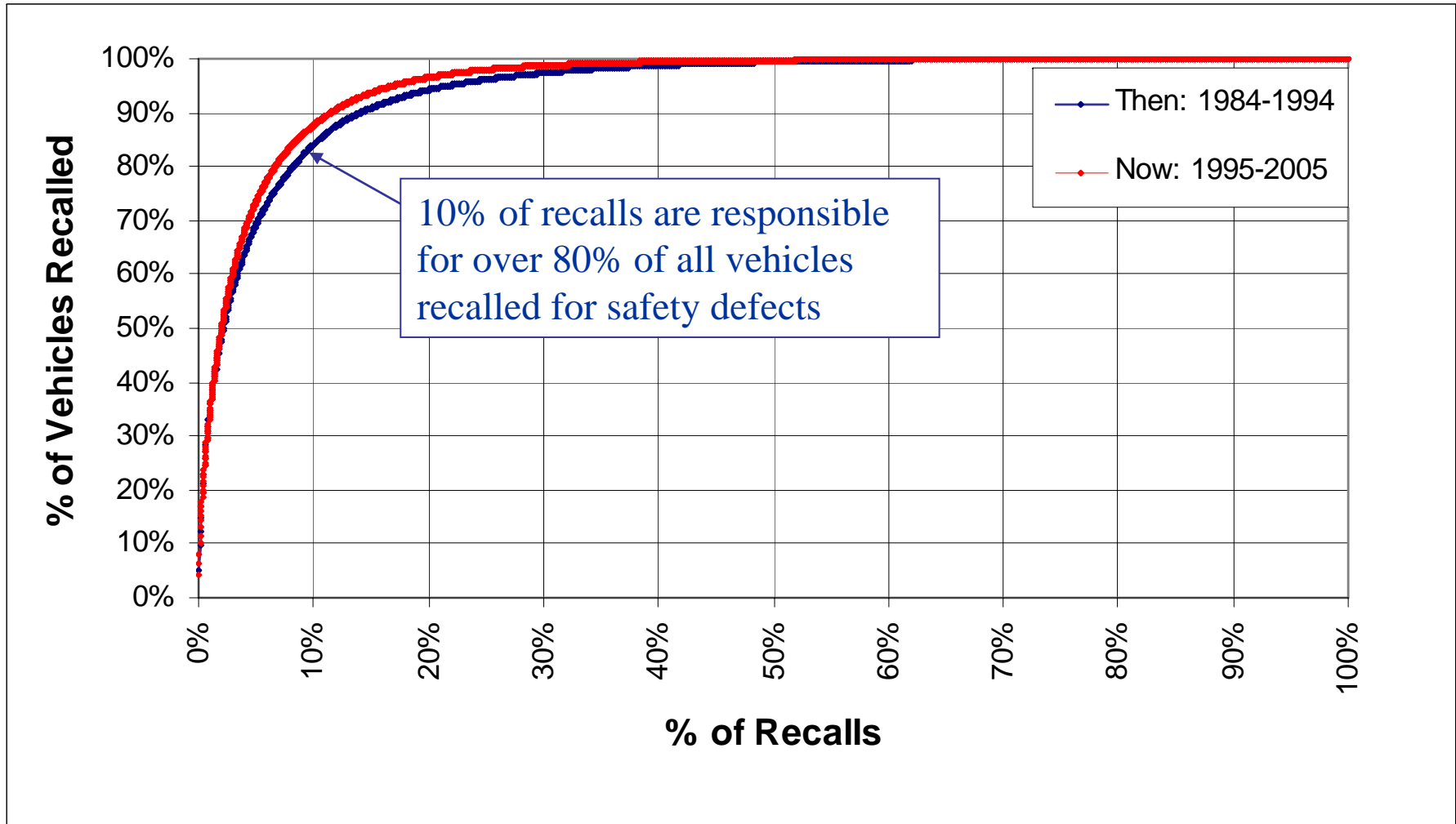
# Vehicle Defect Recalls

## Effect of Large Recalls on Number of Vehicles Recalled



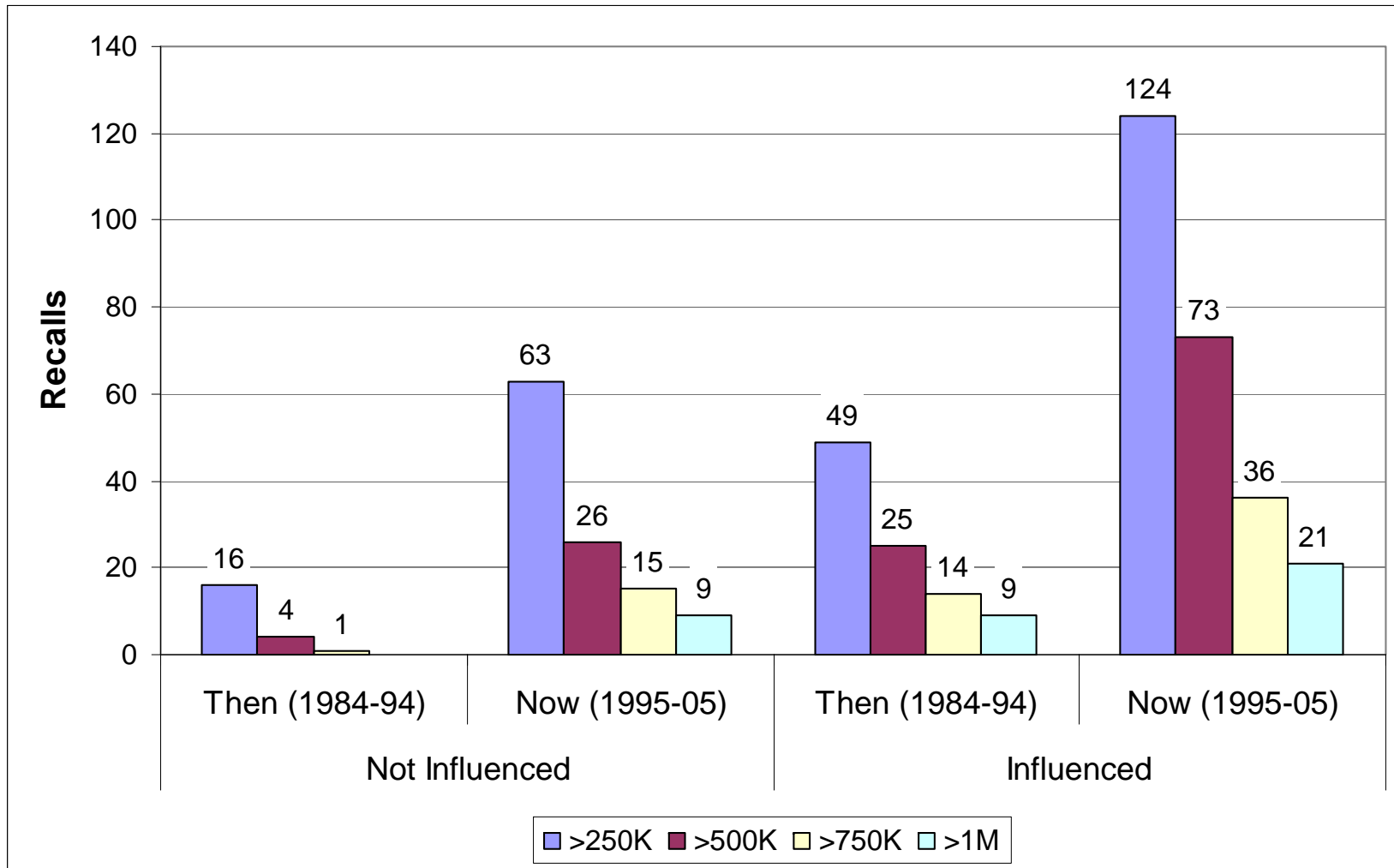
# Vehicle Defect Recalls

## Effect of Large Recalls on Number of Vehicles Recalled



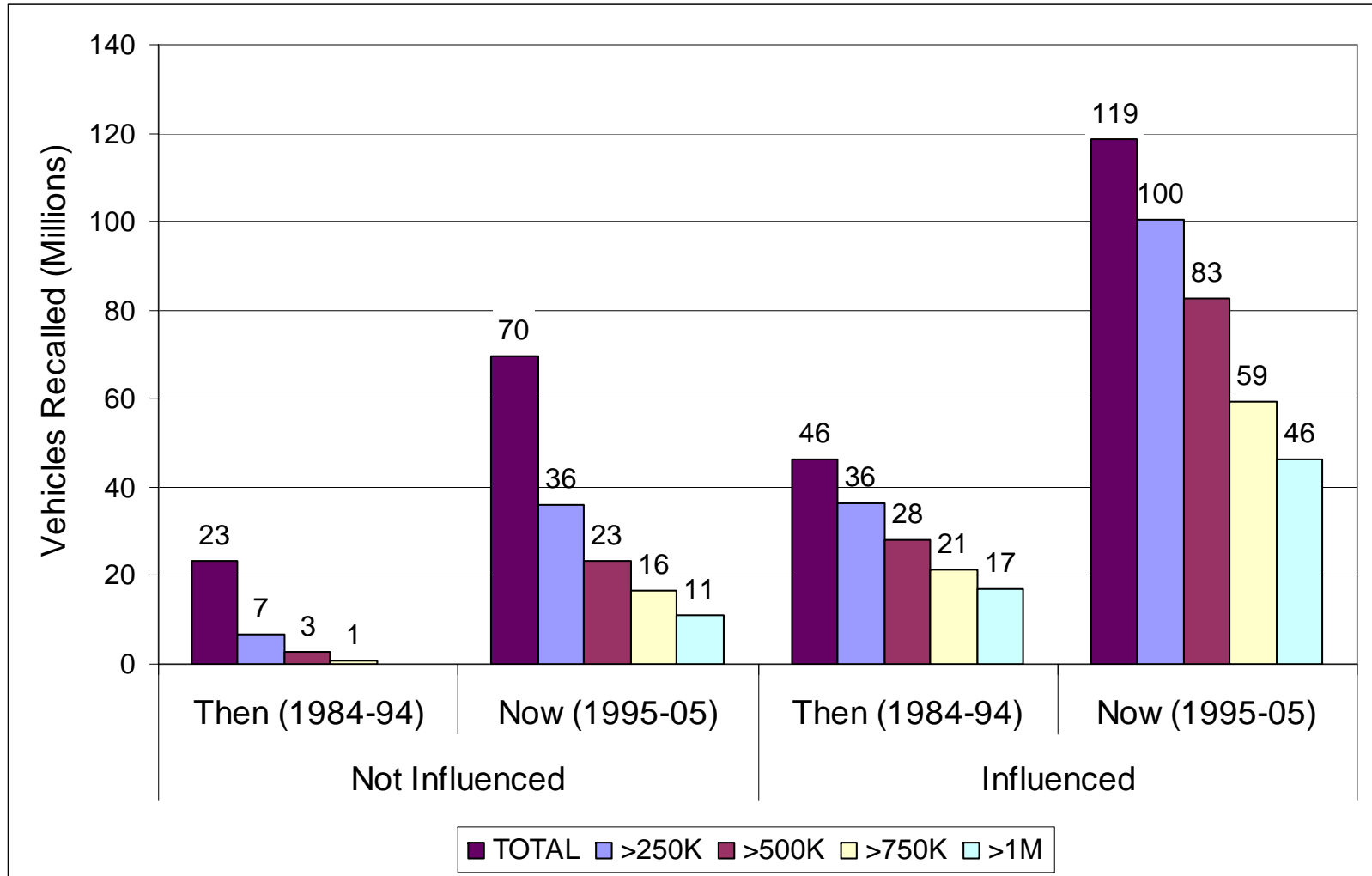
# Vehicle Defect Recalls

## NOW vs. THEN, by Numbers of Large Recalls



# Vehicle Defect Recalls

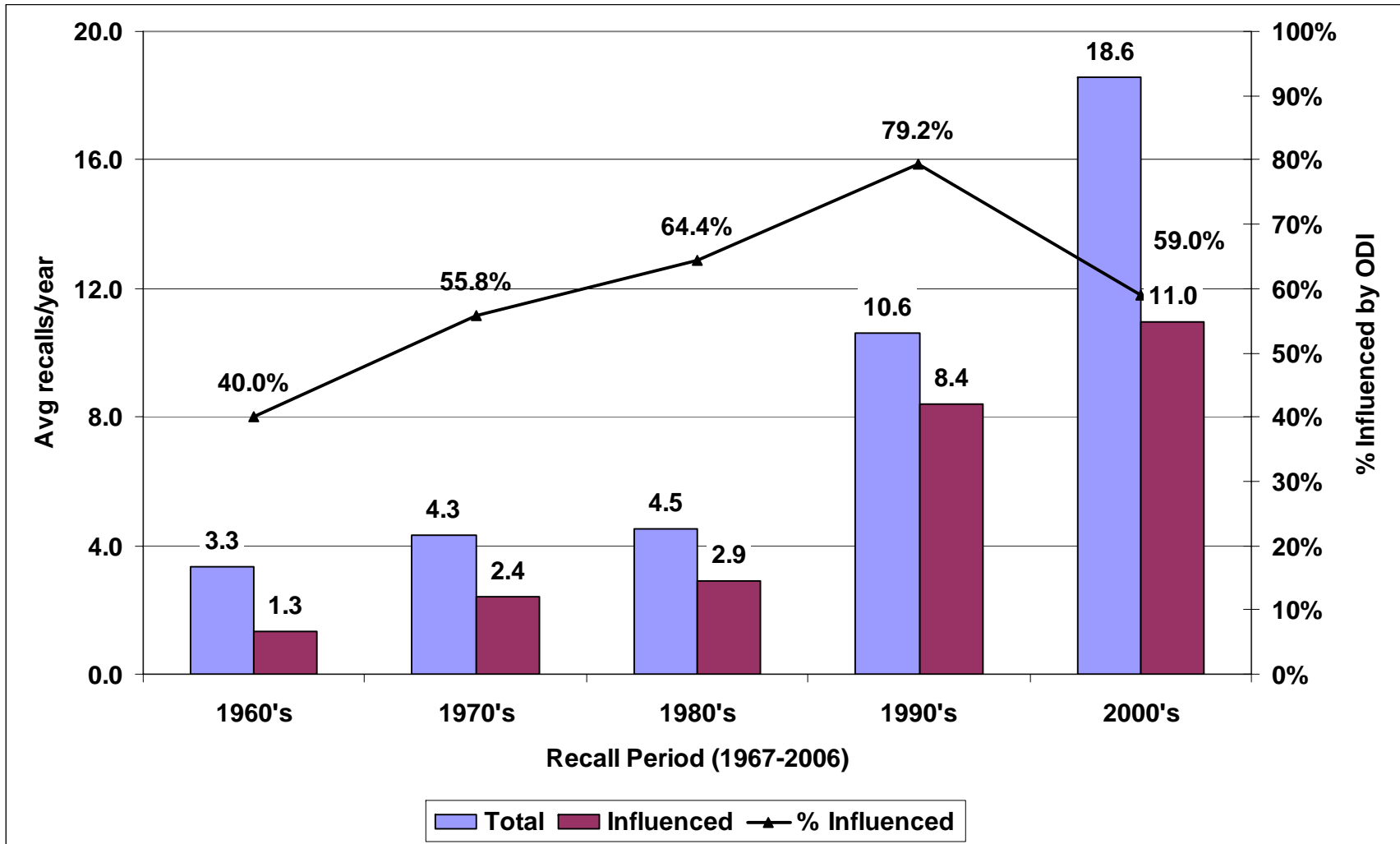
## NOW vs. THEN, by Vehicles Recalled in Large Recalls





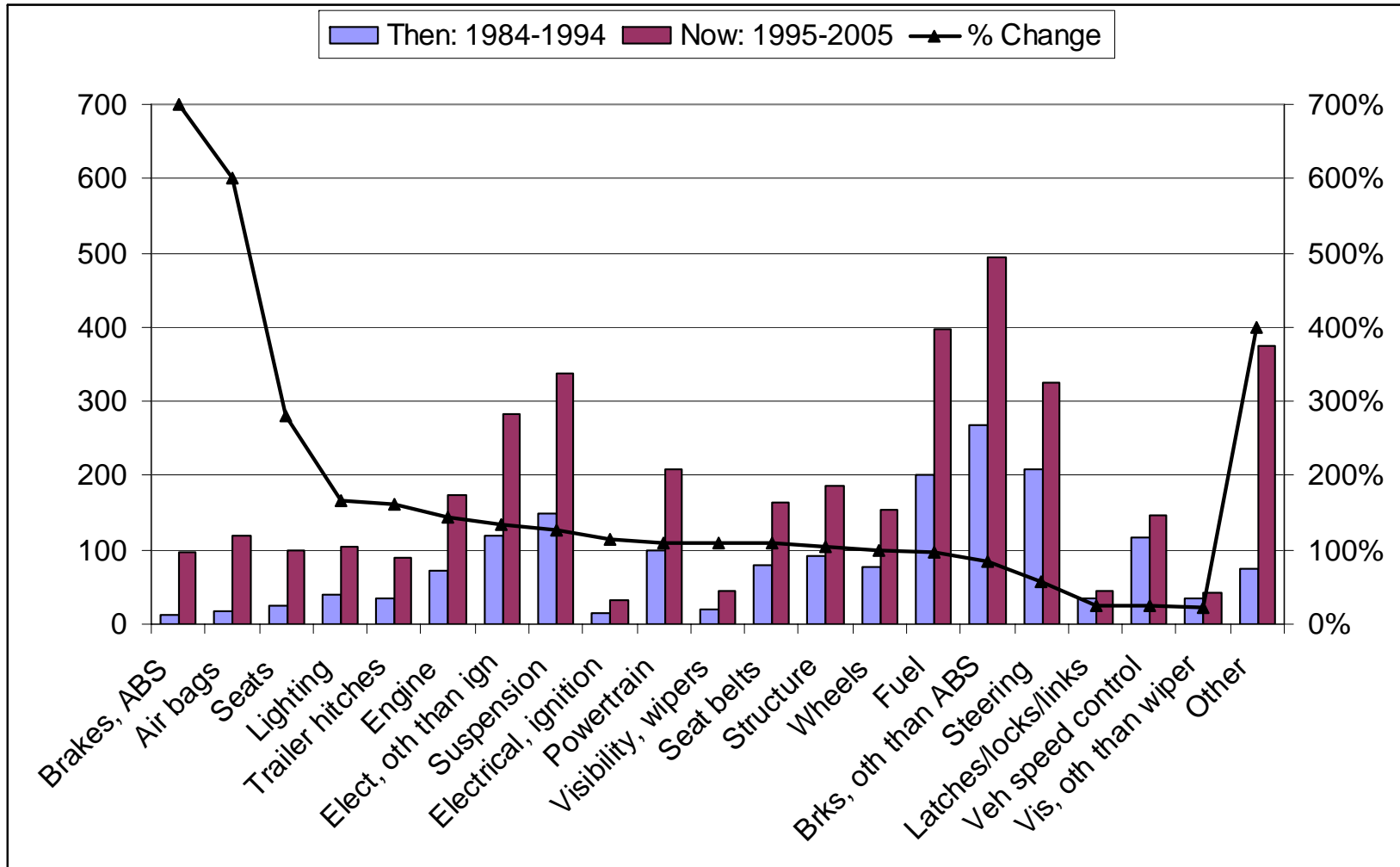
# Vehicle Defect Recalls

## Trends in Large Recalls, Recalls/Year with > 250,000 Vehicles



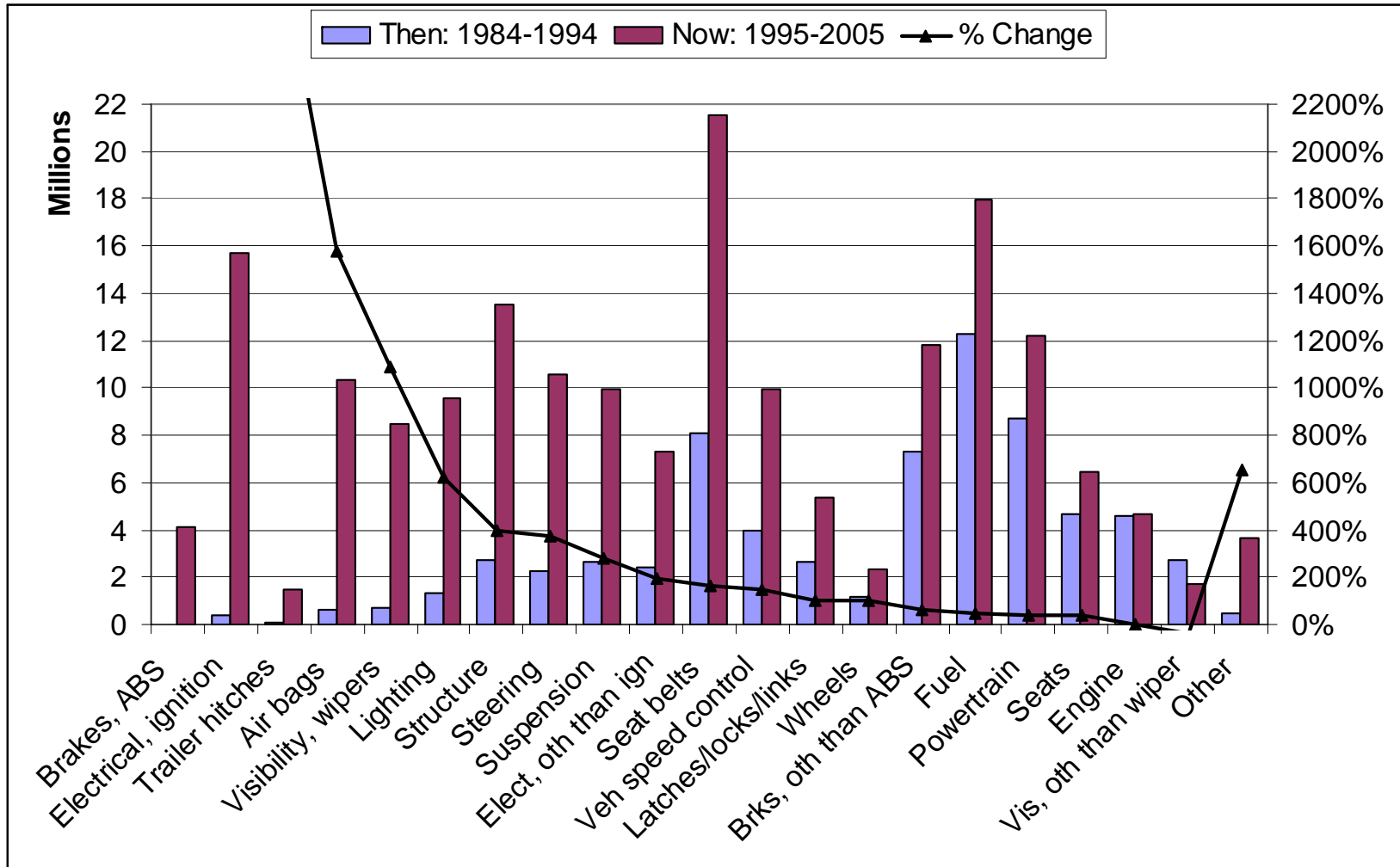
# Vehicle Defect Recalls

## System effect on increase in number of recalls



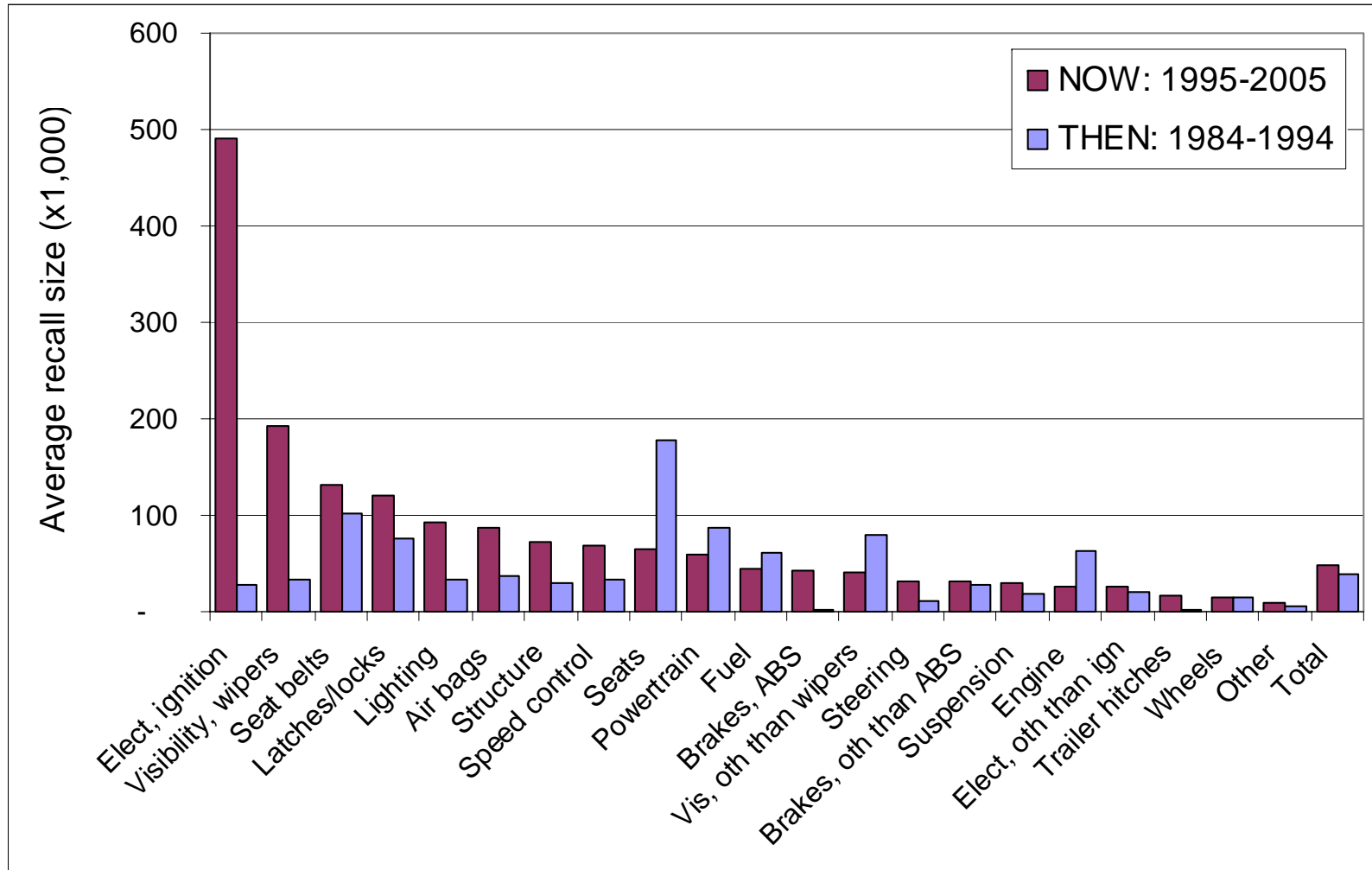
# Vehicle Defect Recalls

## System effect on increase in vehicles recalled



# Vehicle Defect Recalls

## System influence on average recall size



# Vehicle Defect Recalls

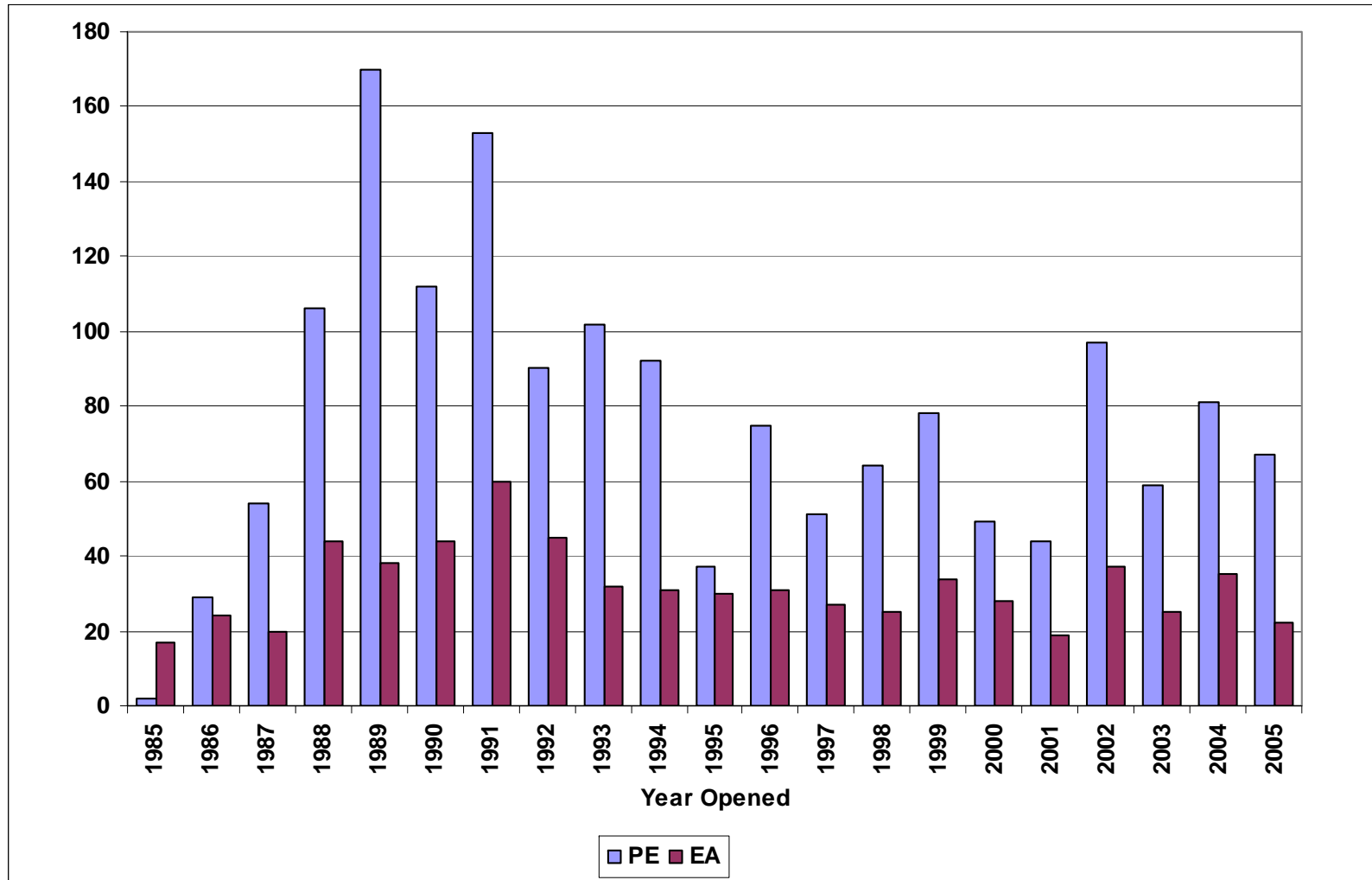
## Effects of selected new technologies

---

System/component	THEN: 1984-94				NOW: 1994-2005			
	Recalls		Vehicles		Recalls		Vehicles	
	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total
Electronics	69	3.9%	2,443,167	3.5%	387	9.9%	18,928,447	10.0%
- Computer control/module	14	0.8%	373,530	0.5%	153	3.9%	5,417,829	2.9%
- Sensors	13	0.7%	612,019	0.9%	91	2.3%	2,854,517	1.5%
- Software/reprogram/reflash	1	0.1%	2,180	0.0%	59	1.5%	1,930,597	1.0%
Side air bags	0	0.0%	0	0.0%	19	0.5%	831,931	0.4%
Advanced braking	0	0.0%	0	0.0%	3	0.1%	347,842	0.2%
Seat belt pretensioners	0	0.0%	0	0.0%	8	0.2%	340,764	0.2%
Electronic throttle control	0	0.0%	0	0.0%	18	0.5%	105,171	0.1%
Electronic stability control	0	0.0%	0	0.0%	4	0.1%	40,496	0.0%
Tire pressure monitoring	0	0.0%	0	0.0%	2	0.1%	1,863	0.0%

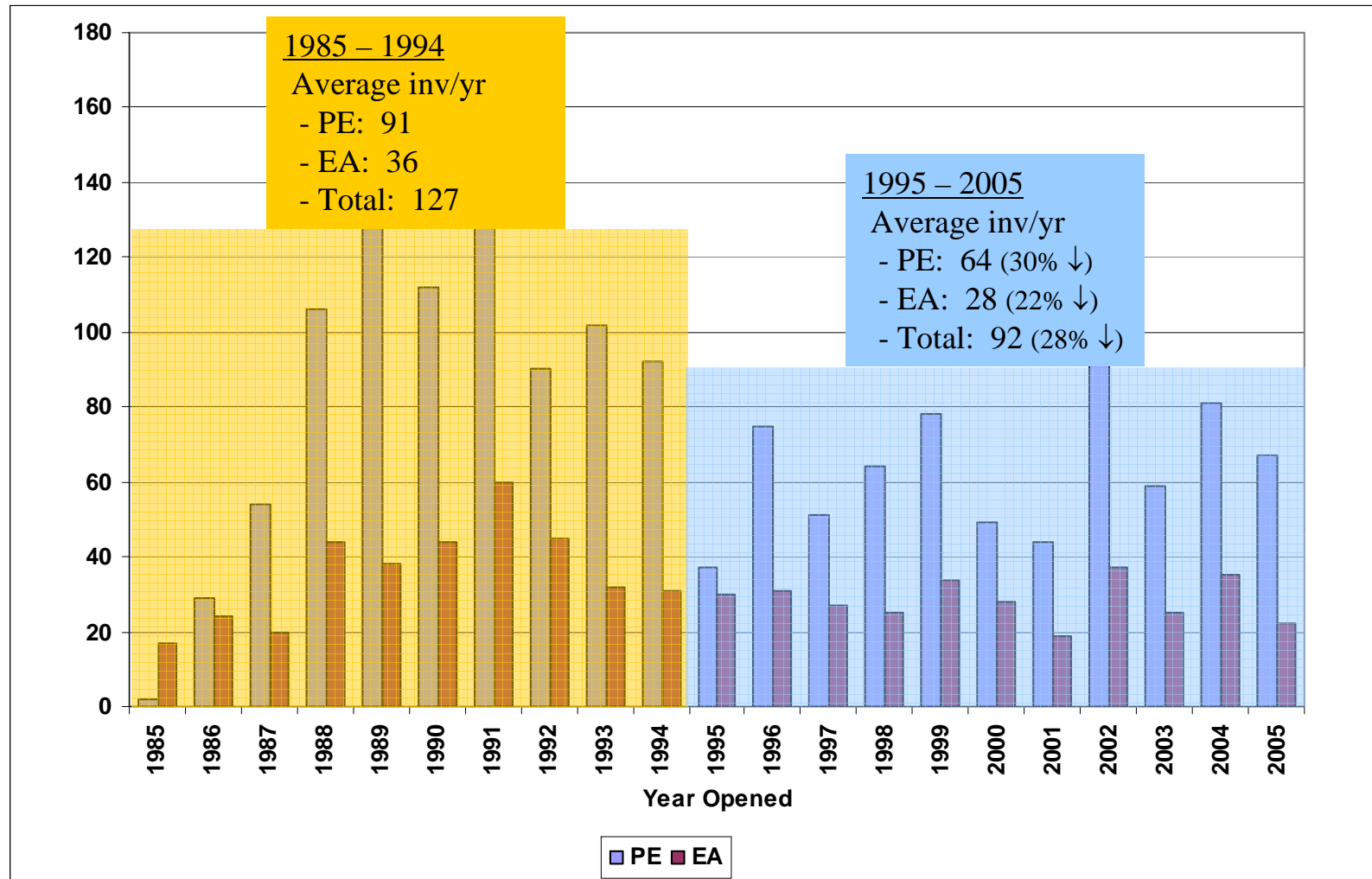
# Defect Investigations

## Trends in Investigations Opened



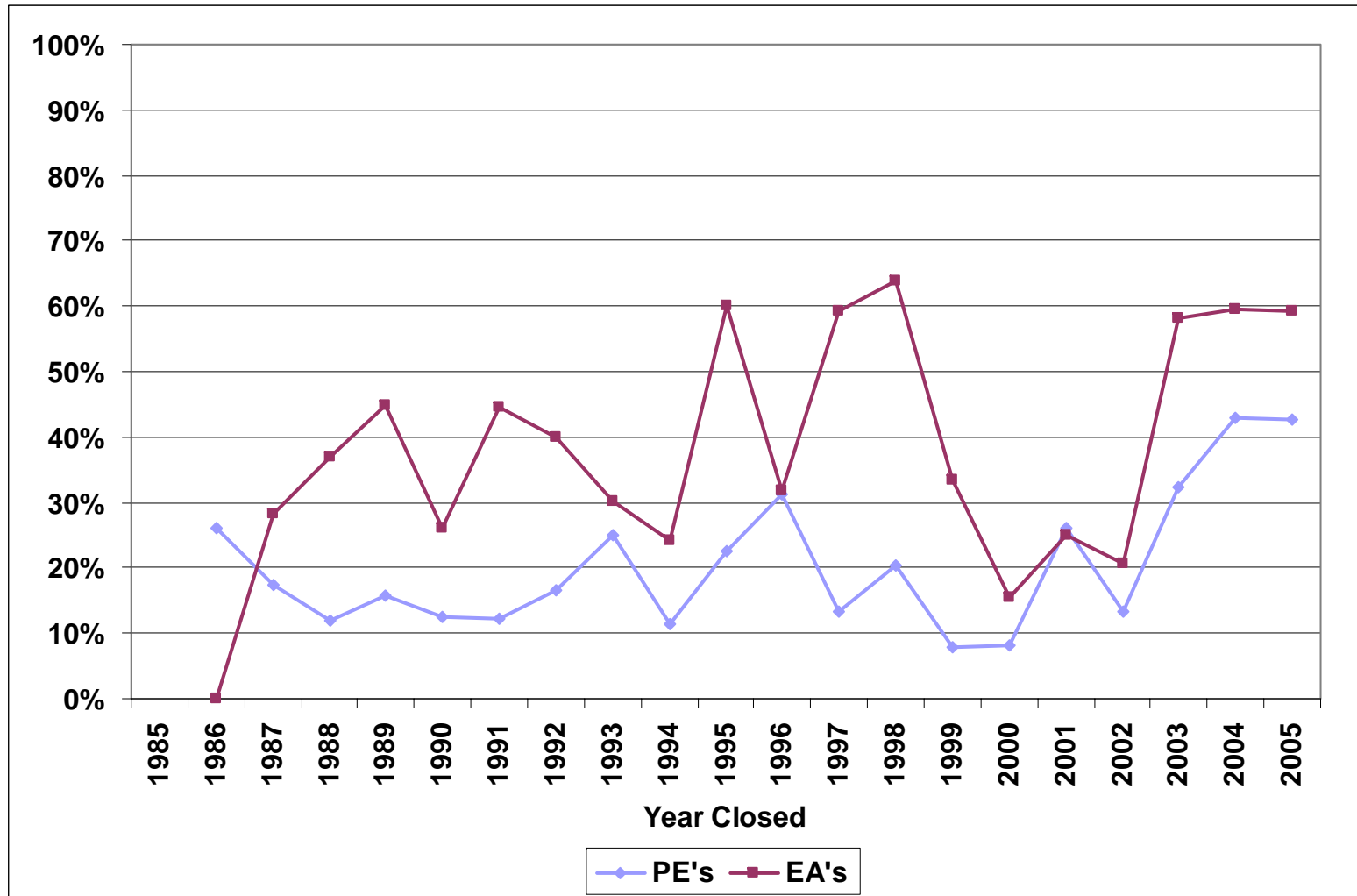
# Defect Investigations

## Trends in Investigations Opened



# Defect Investigations

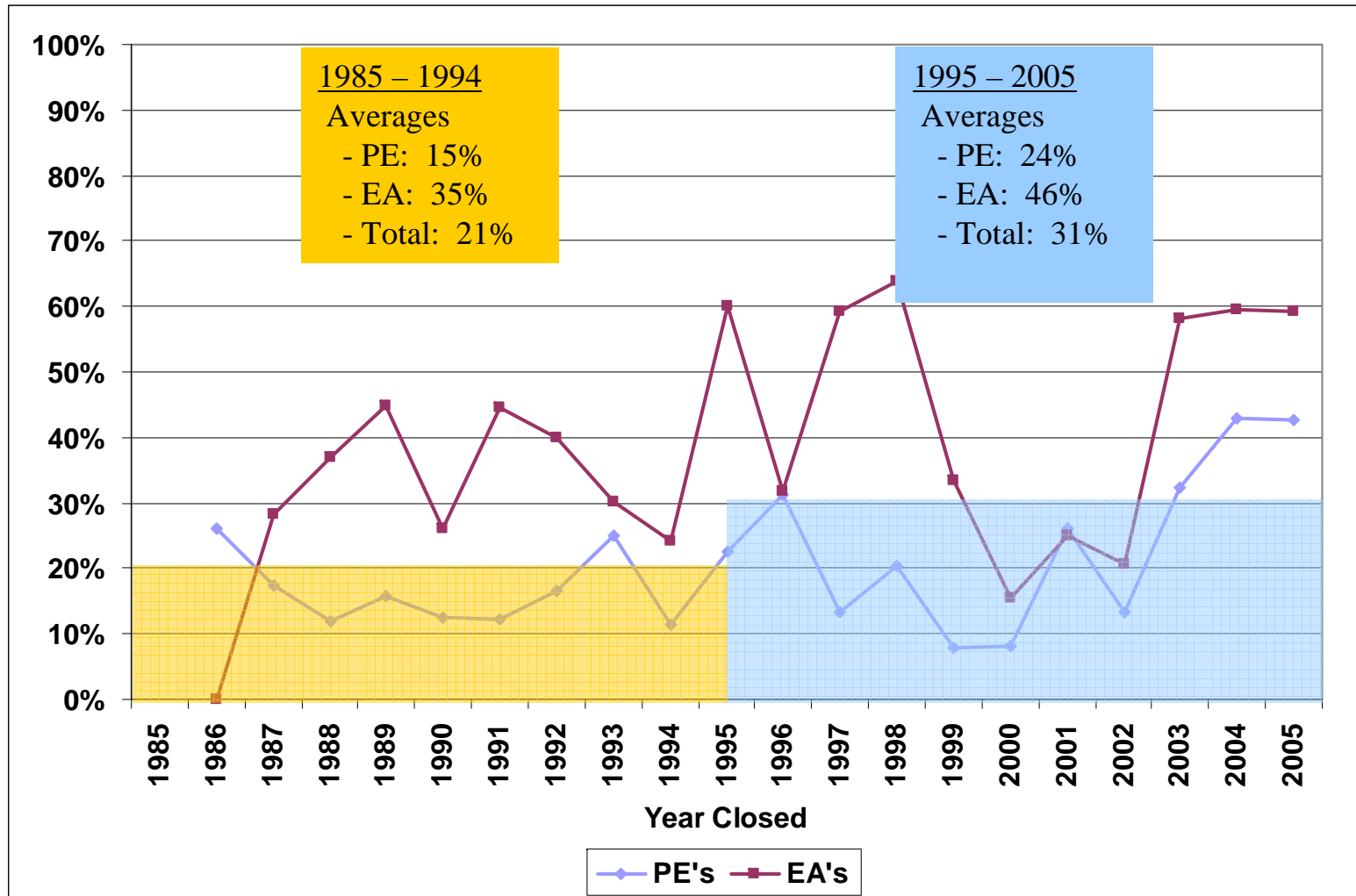
## Trends in Investigations Influencing Recalls, by Year Closed





# Defect Investigations

## Trends in Investigations Influencing Recalls, by Year Closed



# Defect Investigations

## Trends in Investigations Influencing Recalls, by Year Closed

