AGENDA ITEM 94-1-1

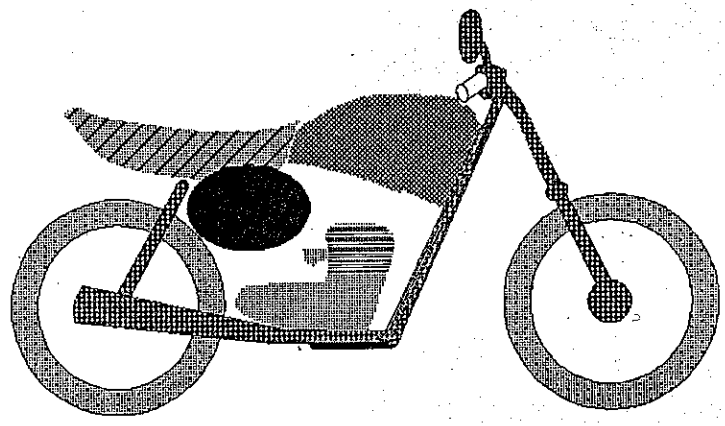
NOTICE OF PUBLIC HEARING TO CONSIDER THE ADOPTION OF EMISSION CONTROL REGULATIONS FOR OFF-HIGHWAY RECREATIONAL VEHICLES AND ENGINES.

Copies of the slide presentation which supported the Air Resources Board's oral staff presentation given by Mr. Emmett.

Attachments

AIR RESOURCES BOARD

Proposal for Controlling Emissions from Off-Highway Recreational Vehicles



January 13, 1994
Sacramento, California

Overview

- Background
- Equipment Description
- Emissions Inventories
- Regulatory Proposal
- Issues of Controversy
- Emission Reductions

California Clean Air Act

- Goal: attain state air quality standards

- Mandates the ARB consider the adoption of emission control regulations for:

  construction & farm equipment
  utility engines
  off-highway motorcycles
  locomotives
  marine vessels
  "other" off-highway vehicles

1992 Control Plan

The Board concluded:

- These vehicles contribute significantly to California's emission inventory.
- Controlling their emissions is necessary and feasible.
- The "other" off-highway category should be subdivided into:
  - * preempted farm & construction equipment
  - * off-highway utility equipment
  - * off-highway recreational vehicles
- The staff shall develop emission standards based upon the most technologically advanced, but currently available engines of similar design, function, and usage.

Off-Highway Recreational Vehicles

off-road motorcycles

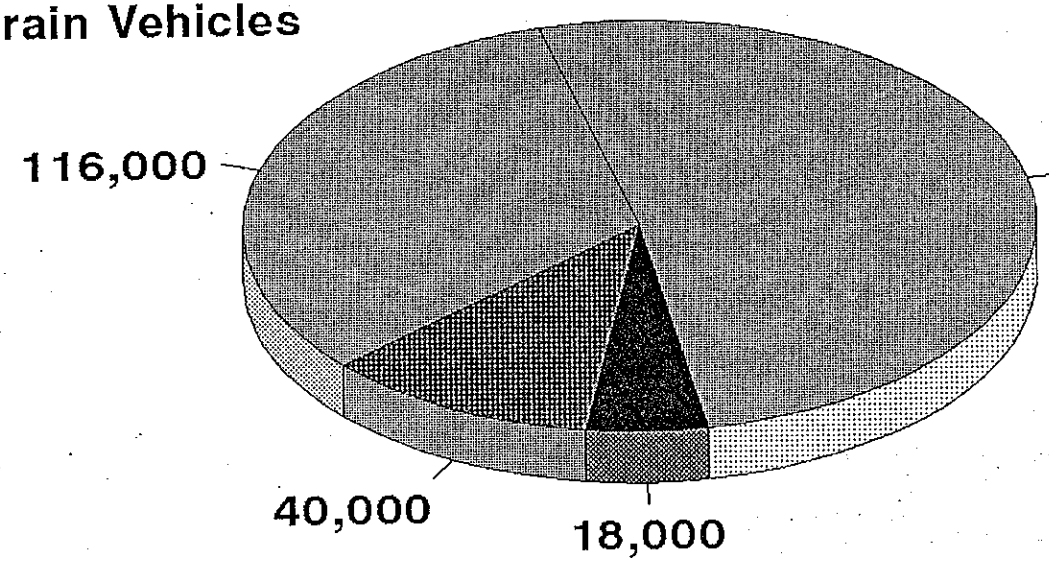
all-terrain vehicles

golf carts

go-karts

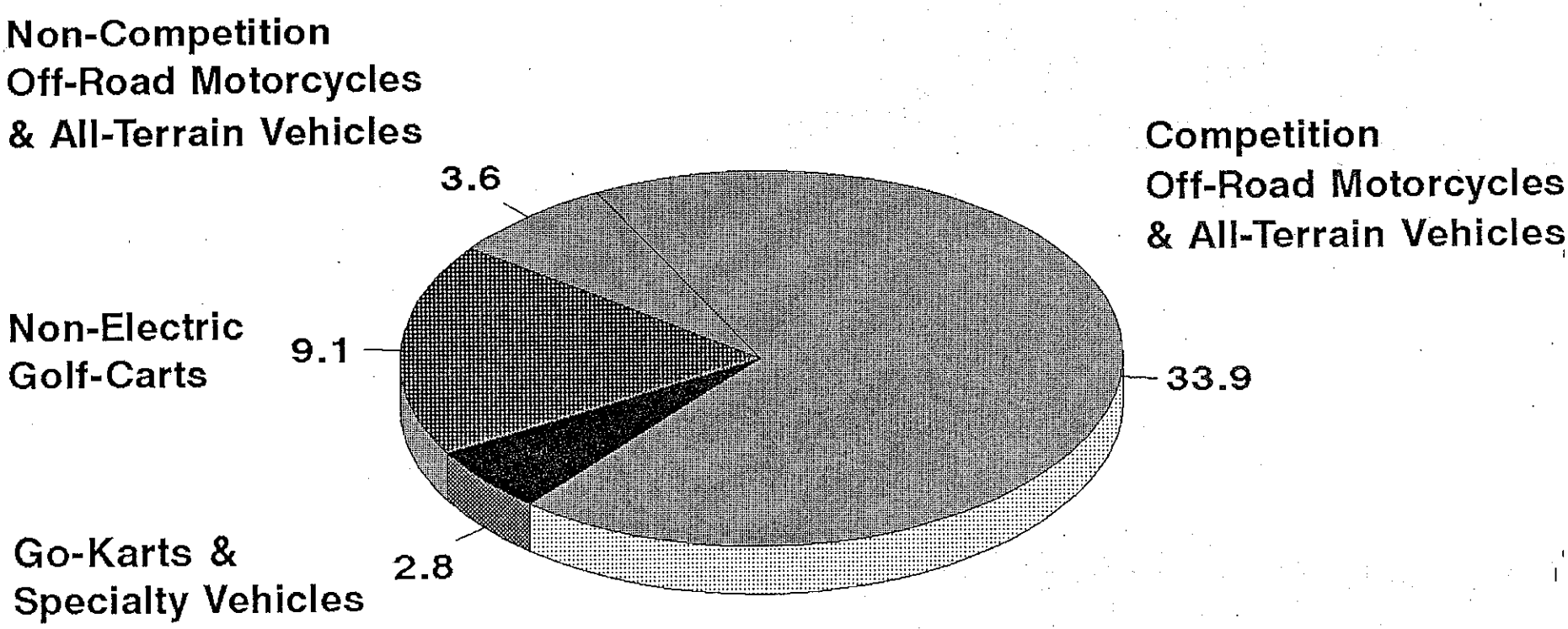
specialty vehicles

1987 Statewide Baseline Population



1987 Statewide Baseline HC + NOx Inventory

Tons Per Day



Off-Road Motorcycle & ATV Emission Control Regulations

- Joint Effort by Staff and Industry
- Proposal is Similar to Those Adopted for Other On- and Off-Road Vehicles

Emission Standards for 1997 and Later Off-Road Motorcycles and ATVs

- 1.2* Grams per Kilometer HC
- 15.0 Grams per Kilometer CO
- No Crankcase Emissions

* Off-Road Corporate Average

Test Cycle

- Utilize the current on-road motorcycle test cycle & procedures.
- Manufacturers will be given the option to certify their ATV engines using the Utility Engine test cycle.

Additional Requirements for Off-Road Motorcycles & ATVs

- Certification/Recall Provisions
- Labeling
- Replacement Engines
- New Registration Requirements

Issues of Controversy

- Inventory
- 90cc Exemption
- Competition Vehicle Definition

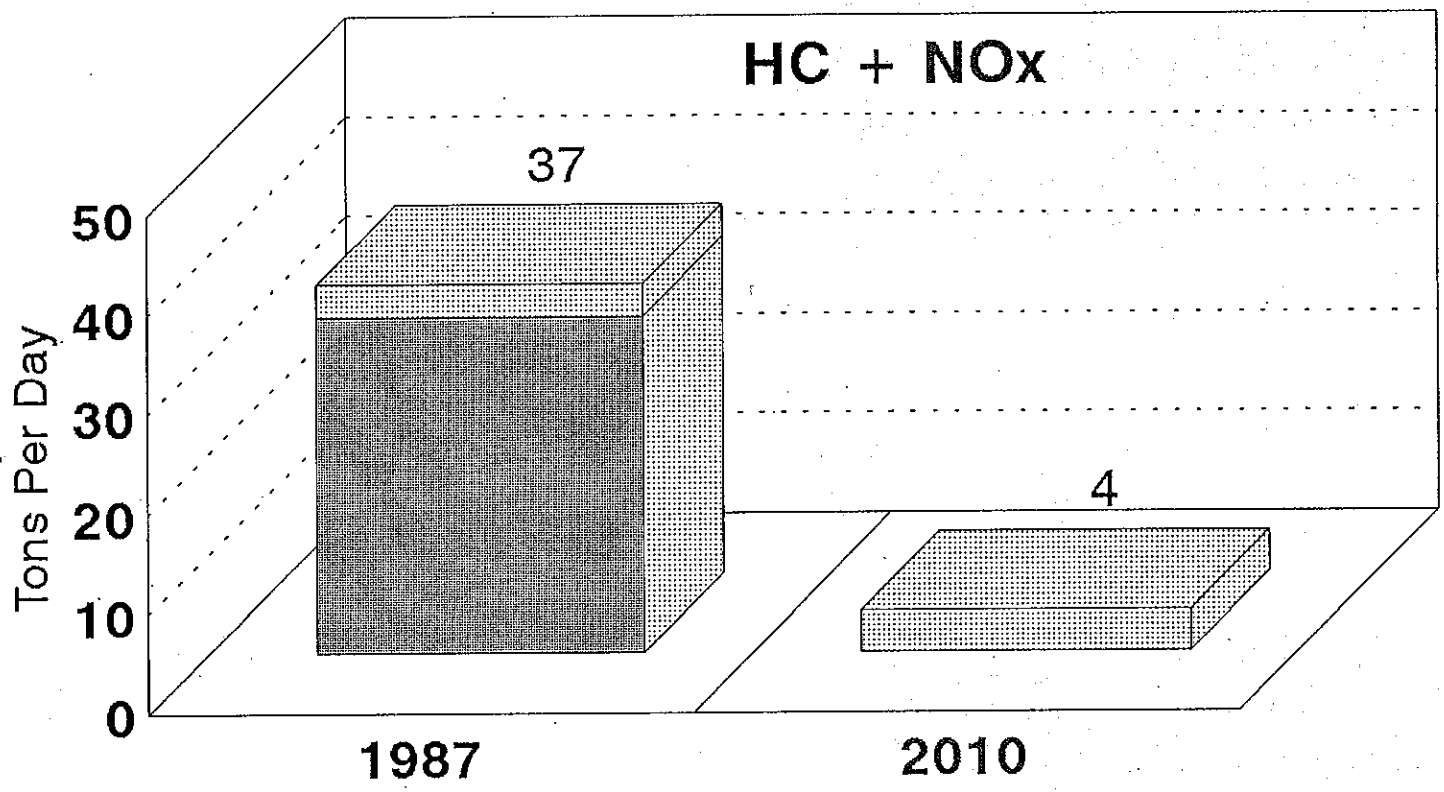
90cc Exemption

- Younger rider appeal/consumer products safety commission
- This exemption would undermine the very premise of this proposal.
- The added size and weight of an equivalent 4-stroke engine would not change the appeal of the product.
- 4-stroke off-highway vehicles <90cc already exist.
- A 5 ton per day combined hydrocarbon plus oxides of nitrogen benefit would be lost.

Competition Definition

"Competition/Racing Vehicle" means those vehicles that are operated exclusively off of the highway on closed courses in organized racing/competition events conducted under the auspices of a sanctioned body or by permit issued by the local government authority having jurisdiction.

Projected Emission Reductions for Off-Road Motorcycles & ATVs



Competition Off-Road Motorcycles & ATVs

Non-Competition Off-Road Motorcycles & ATVs

Off-Road Motorcycle and ATV Cost Effectiveness

- Estimated Cost of Control is $25 to $250 per Vehicle
- $0.03 to $0.35 per Pound of Hydrocarbon Reduced
- Cost Effectiveness for Recently Adopted Hydrocarbon Control Measures
  $2.00 to 5.00 per pound reduced

Emission Control Regulations for New 1997 and Later Golf Carts

- Exhaust Emission Standard
- Certification
- Replacement Engine Restrictions

Exhaust Emission Standards

ZERO exhaust emission standards for all criteria pollutants (HC, CO, NOx)

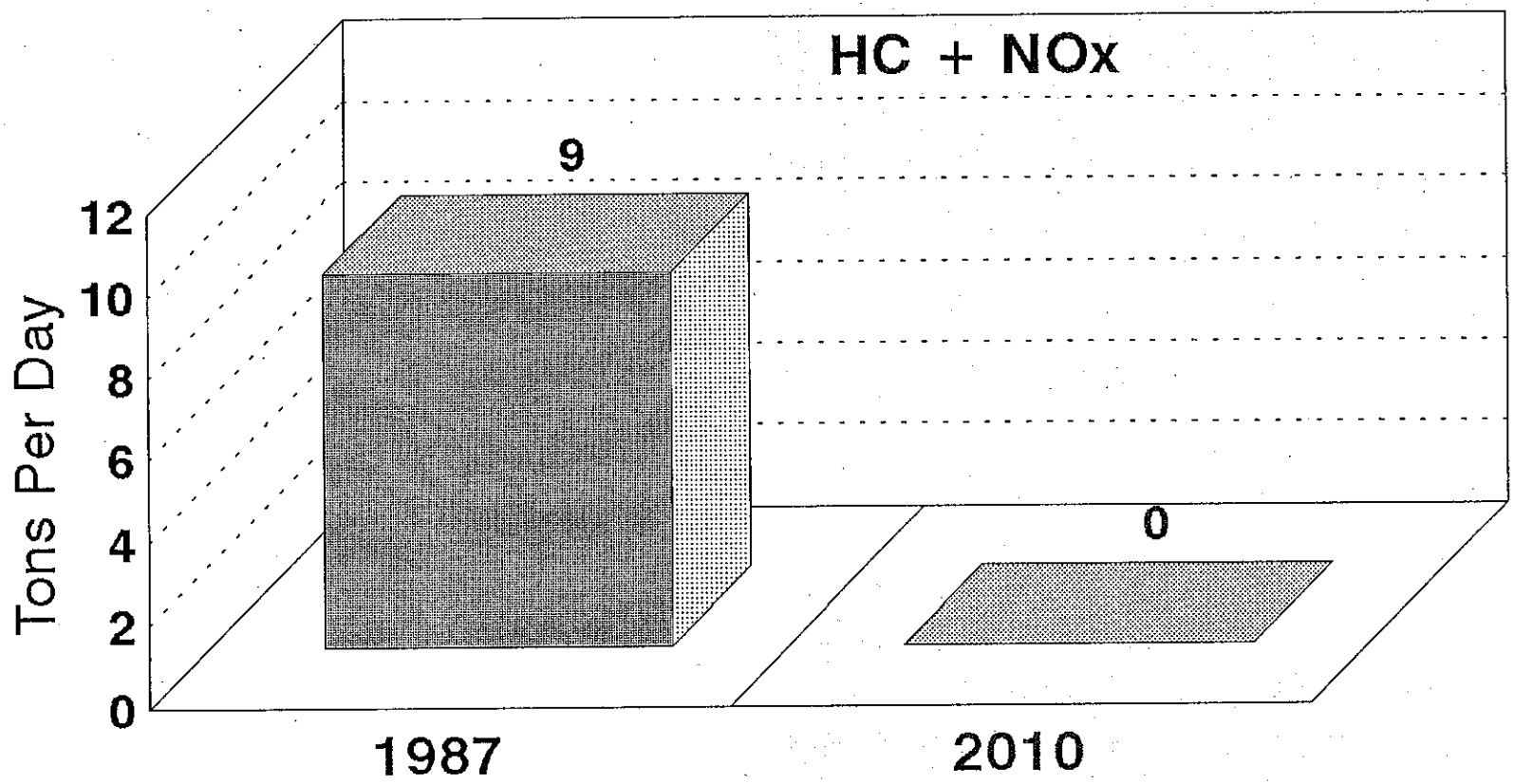
Additional Requirements for Golf Carts

- Minimal certification requirements
- Replacement engines must conform to a zero emission standard
- There are No restrictions on replacement parts for uncontrolled vehicles

Golf Cart
Issues of Controversy

- Equitable Treatment of Golf Carts
- Emissions Inventory
- Cost

Projected Emission Reductions for Golf Carts



Golf Cart
Cost Effectiveness

- Estimated Cost of Control is $167 per Vehicle
- $0.34 per Pound of Combined Hydrocarbons and Oxides of Nitrogen Reduced

Go-Kart and Specialty Vehicle Emission Control Regulations

- Emission Standards
- Test Procedures
- Certification
- Labeling
- Replacement Engines

Exhaust Emission Standards For Engines <25 Horsepower

	G\Bhp-hr		
	HC + NOx	CO	PM*
1995 - 1998			
<225cc	12.0	300	0.9
>225cc	10.0	100	0.25
1999 & LATER ALL ENGINES	3.2	100	0.25

* Applicable to diesel and two-stroke spark ignited engines

Exhaust Emission Standards for Engines ≥25 Horsepower

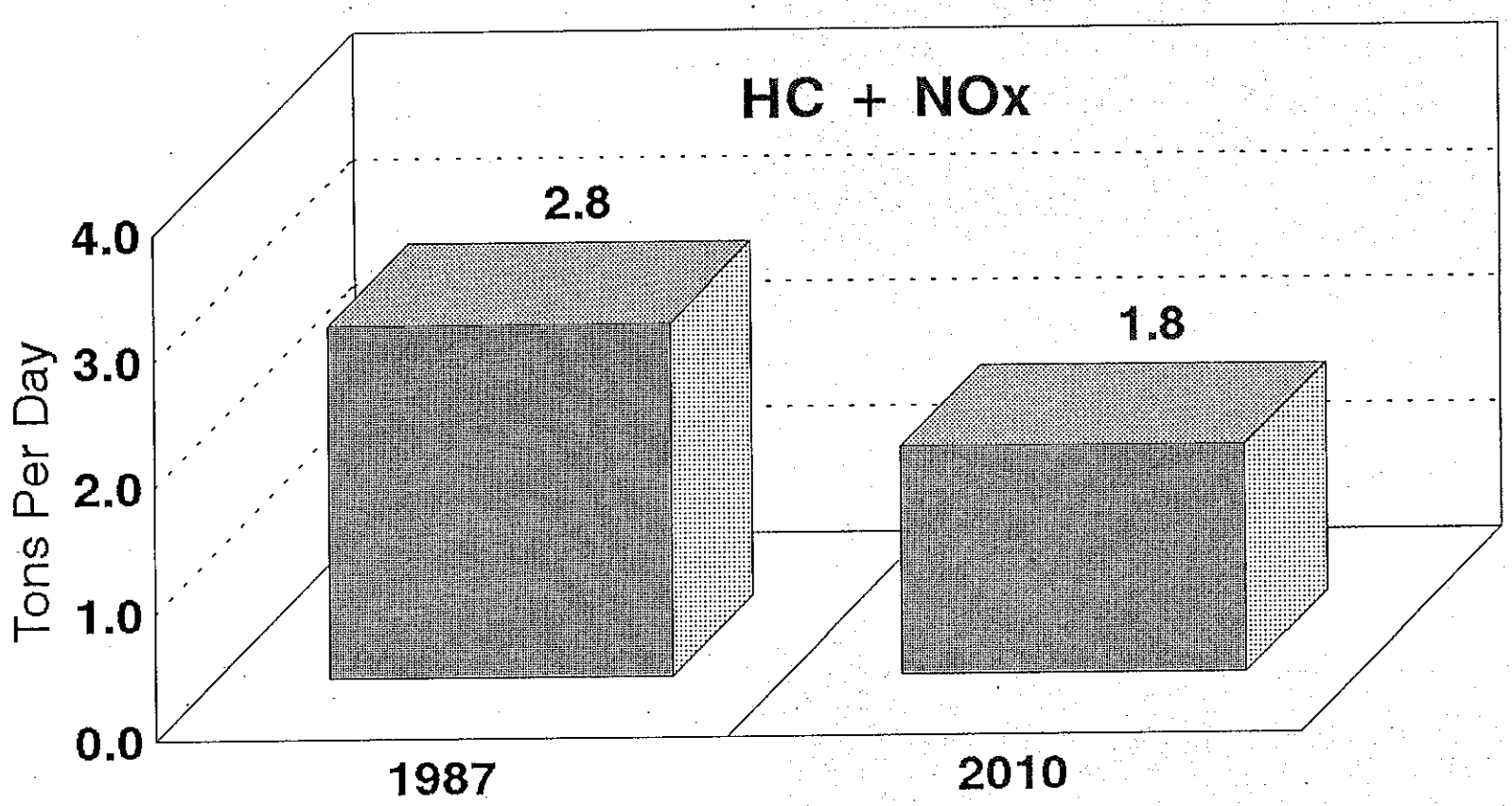
	G\Bhp-hr		
	HC + NOx	CO	PM*
1997 & LATER ALL ENGINES	3.2	100	0.25

* Applicable to diesel and two-stroke spark ignited engines

Additional Requirements for Specialty Vehicles & Go-Karts

- Test Procedures
- Labeling
- Certification
- Replacement Engines

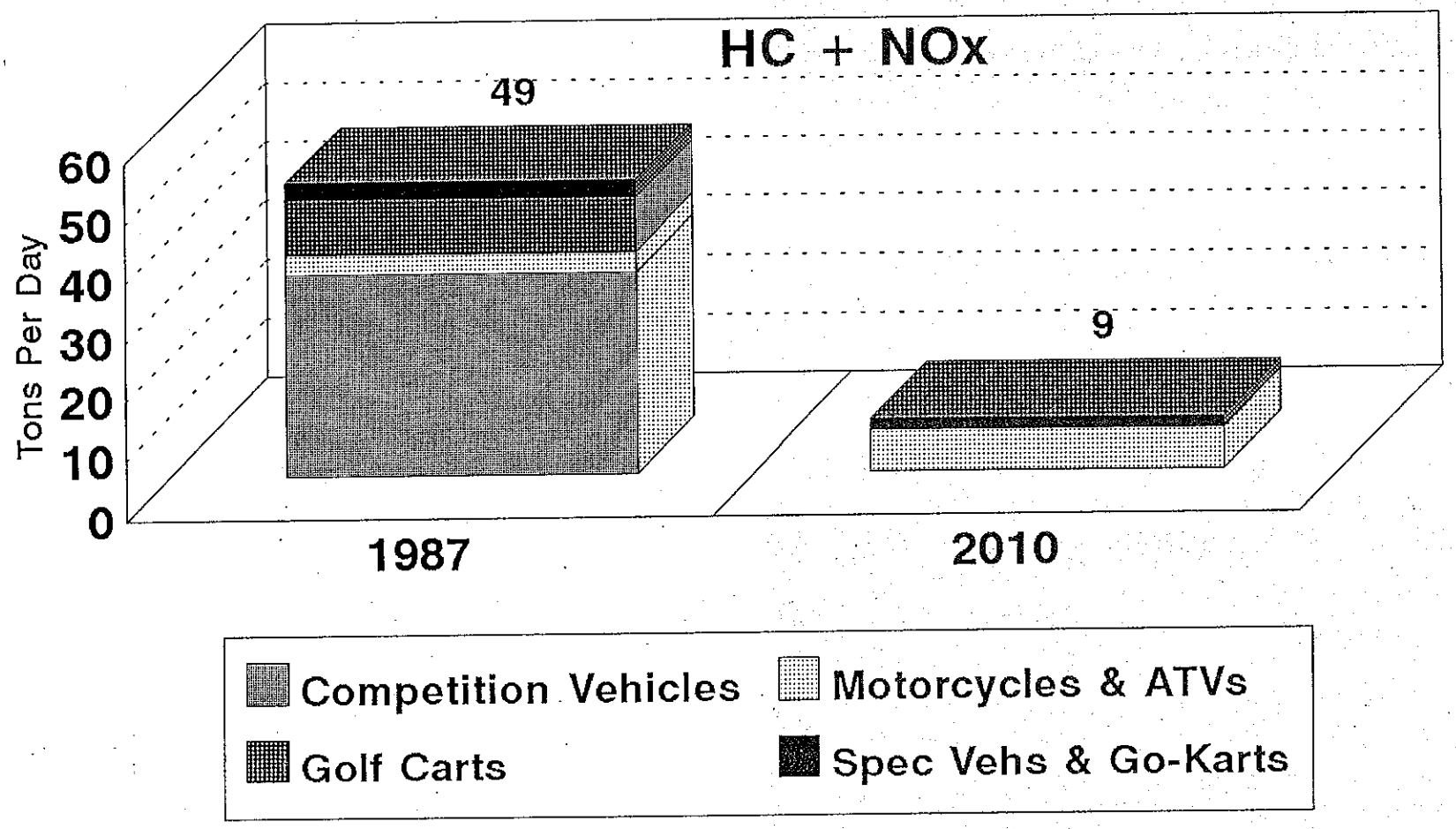
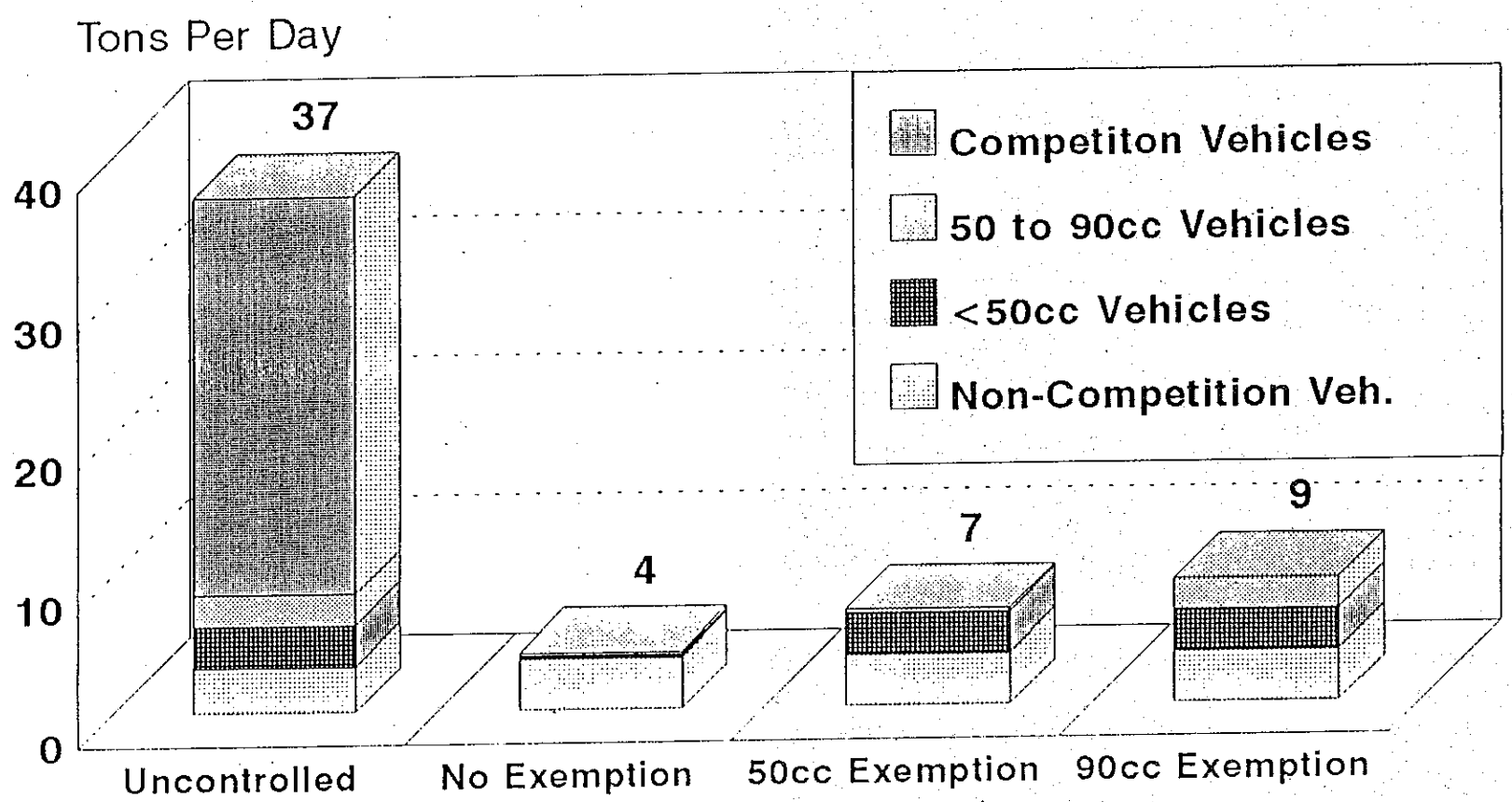
Projected Emission Reductions for Specialty Vehicles & Go-Karts



Go-Kart & Specialty Vehicle Cost Effectiveness

- Cost of Control is $66 - $100 per Vehicle
- $0.18 - $0.27 per Pound of Combined Hydrocarbon and Oxides of Nitrogen Reduced

2010 Statewide Recreational Vehicle Inventory



Projected 2010 Emission Inventory with Selected Exemptions