

Refinements to the Base Year 2006 Emission Inventory for  
the Denver  
8-hour Ozone NAA SIP

Tuesday, February 26, 2008  
Regional Air Quality Council

**Oil & Gas Stakeholder Meeting**

Dale Wells

APCD

Technical Services



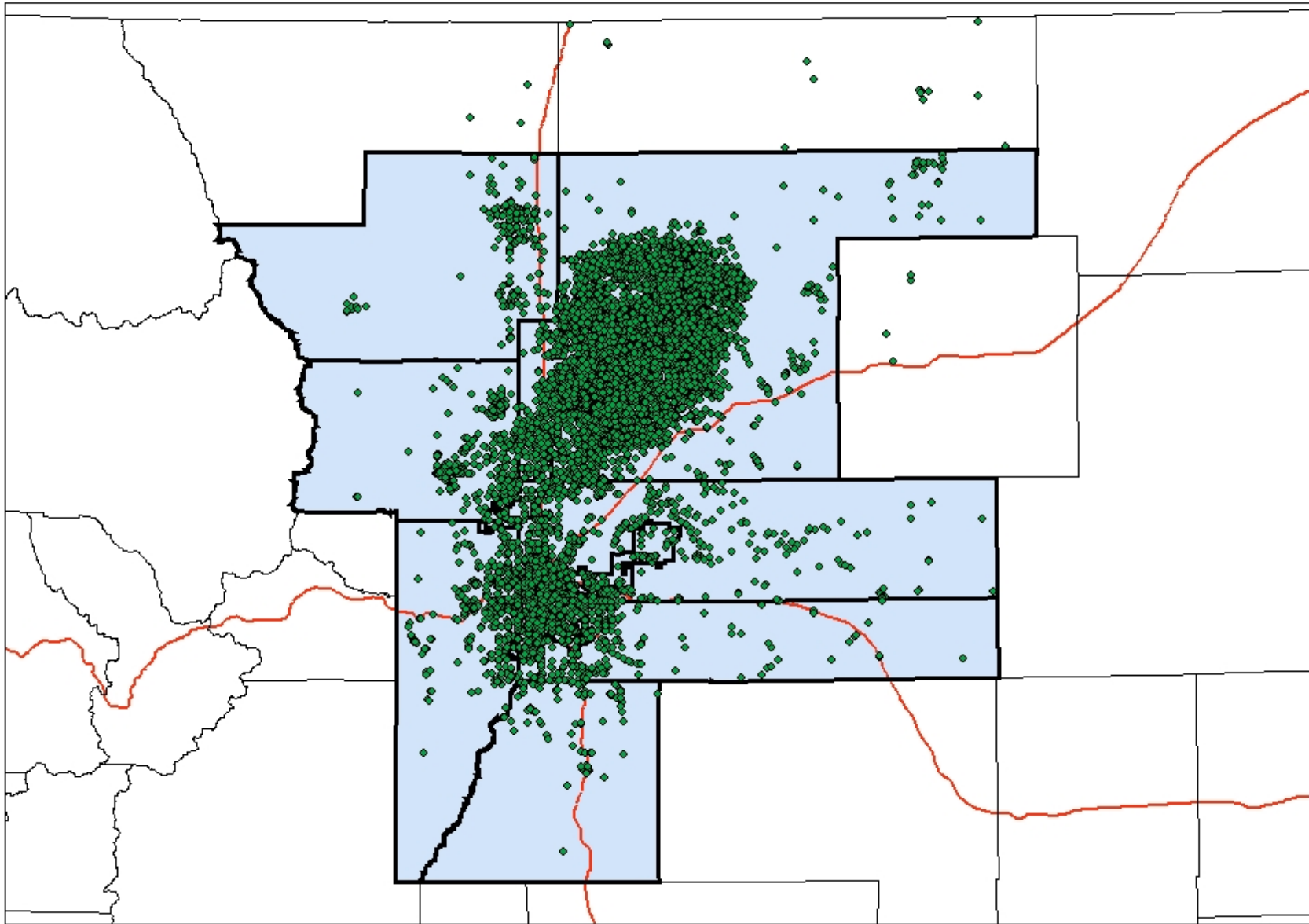
# Outline

- Source of Inventory Data
- Integration of IPAMS report into the 8-hour Ozone SIP inventory
- Overall summary of the 2006 EI
- Quantification of Emissions from the O&G area sources
- Point Source Growth to 2010

# Inventory Sources

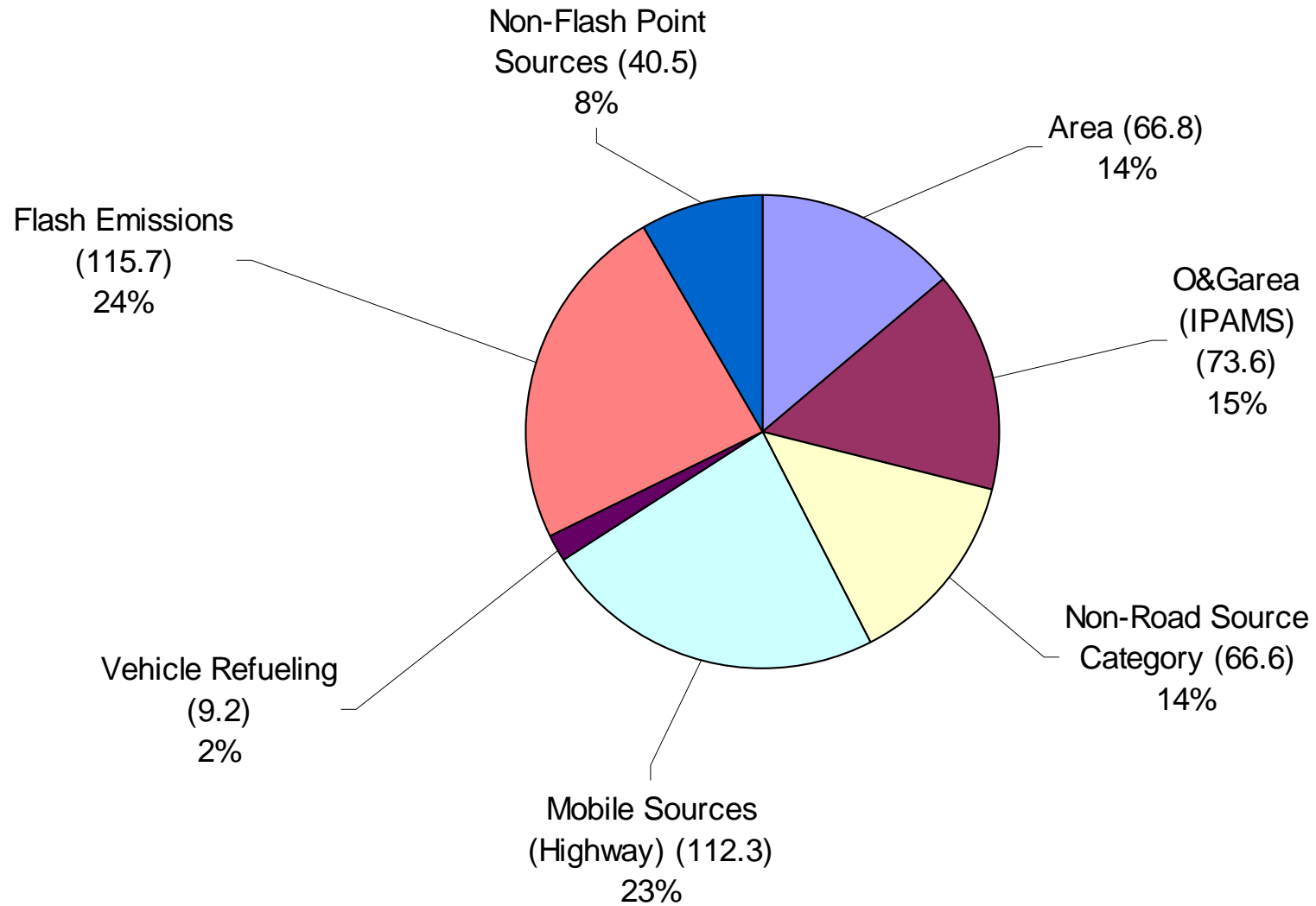
- Point Source Data  
Stationary Sources Program Permit System (APENS)
- Highway Vehicles  
Vehicle Miles Traveled And EPA Mobile62 Model
- Non-Road Engines  
EPA NonRoad Model
- Area Sources  
EPA National Emissions Inventory  
DIA emissions from **Airport Emissions Inventory**  
**Denver International Airport**, Ricondo & Associates, Inc. June 29, 2005
- Oil and Gas Area Sources  
**DEVELOPMENT OF BASELINE 2006 EMISSIONS**  
**FROM OIL AND GAS ACTIVITY IN THE DENVER-JULESBURG**  
**BASIN (IPAMS)**, ENVIRON International Corporation
- Flash Emissions  
Air Pollution Control Division, Oil and Gas Team, Regulation 7 Report

# Ozone Nonattainment Area

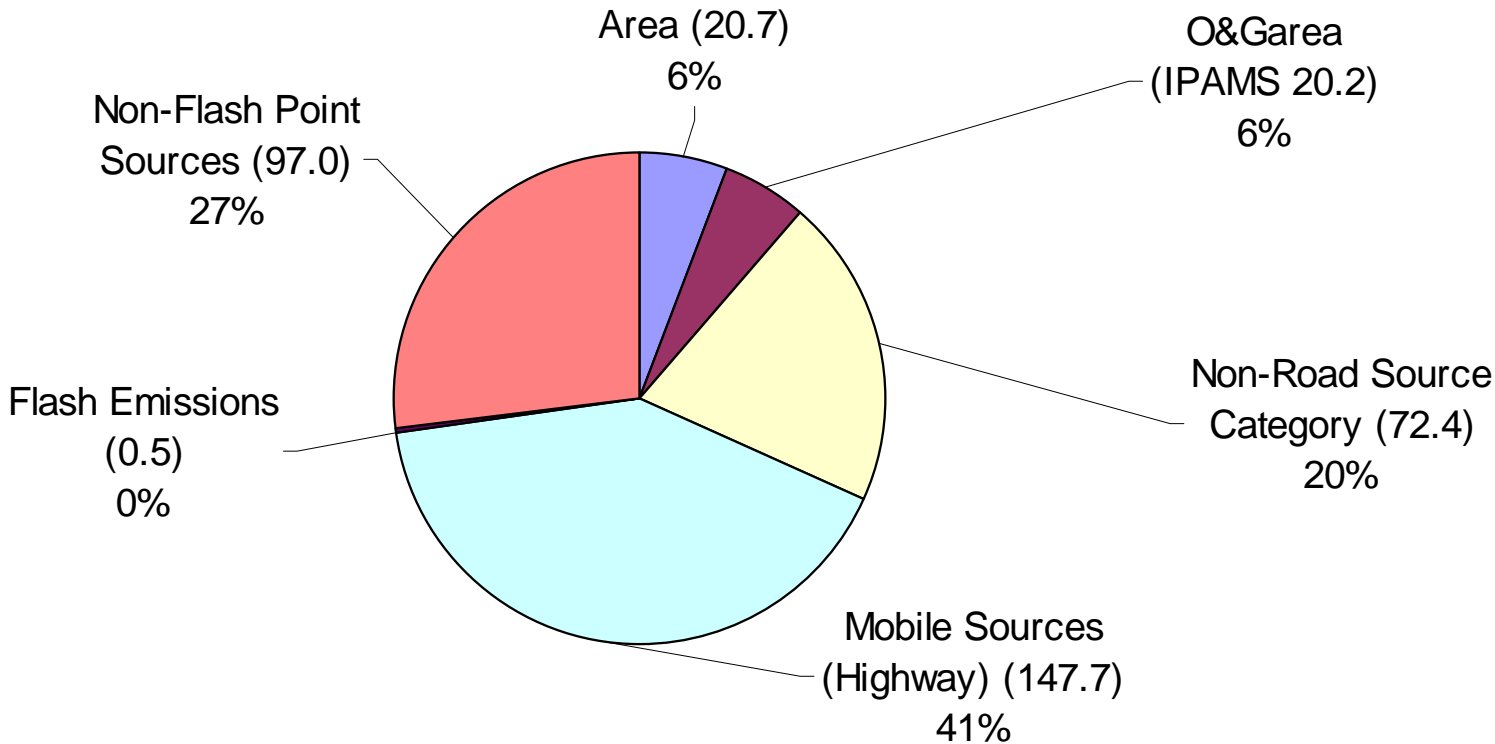


Point Sources (APENs)

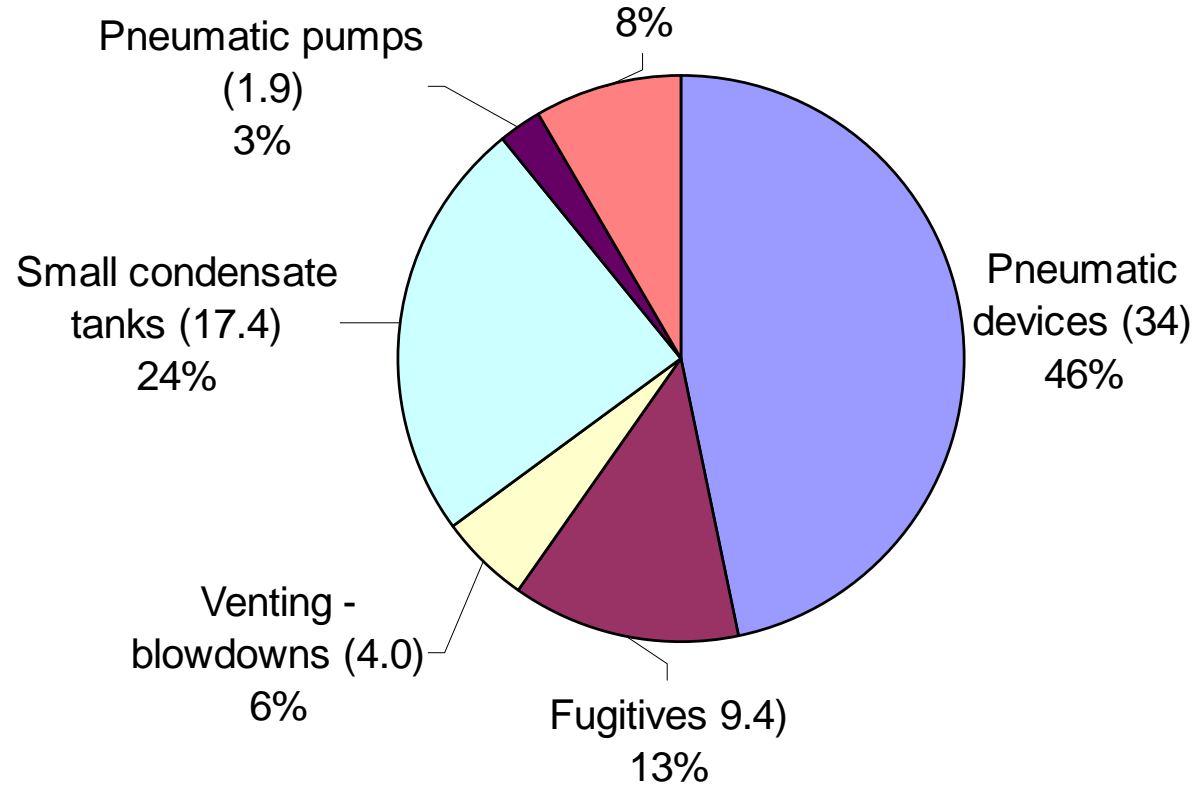
# VOC (483.7 tons/day)



# Nox (358.2 tons/day)

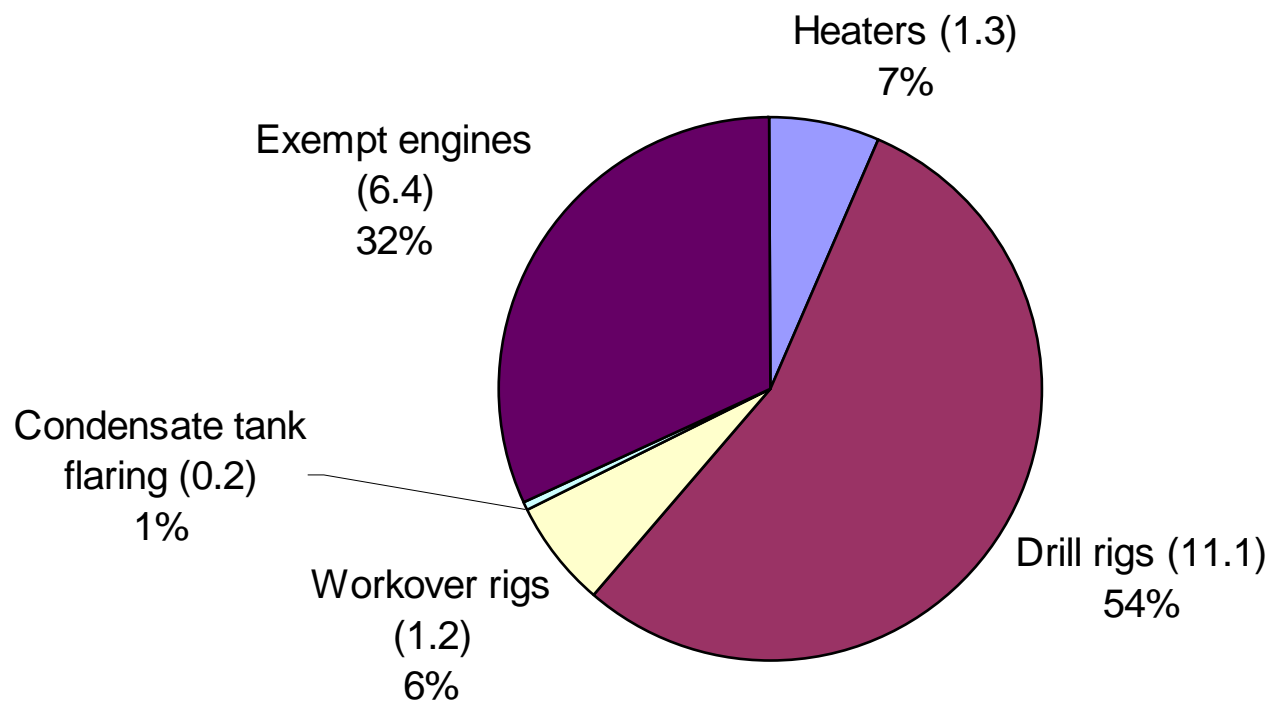


# O&G AREA (IPAMS) VOC (72.6 tons/day)



O&G AREA (IPAMS) VOC	
OTHER	TPD
Water tank losses	<0.1
Spills	0.2
Heaters	0.1
Workover rigs	0.1
Venting - recompletions	1.4
Venting - initial completions	1.1
Truck loading of condensate	2.0
Drill rigs	0.8
Exempt engines	0.5
Total	6.1

### O&G IPAMS NOX (20 tons/day)



## Nonattainment Area Emissions

O&G IPAMS (Tons Per Day)			
Description	CO	Nox	VOC
Heaters	1.1	1.3	0.1
Drill rigs	6.0	10.9	0.8
Workover rigs	0.5	1.2	0.1
Pneumatic devices	0.0	0.0	33.9
Fugitives	0.0	0.0	9.4
Truck loading of condensate liquid	0.0	0.0	2.0
Venting - initial completions	0.0	0.0	1.1
Venting - recompletions	0.0	0.0	1.4
Venting - blowdowns	0.0	0.0	4.0
Small condensate tanks	0.0	0.0	17.4
Condensate tank flaring	0.9	0.2	0.0
Exempt engines	4.1	6.4	0.5
Pneumatic pumps	0.0	0.0	1.9
Spills	0.0	0.0	0.2
Water tank losses	0.0	0.0	0.0
Total	12.6	20.0	72.6

# Point Source Growth to 2010

- Most categories grown using the EPA “EGAS” economic model
- 19 new permitted facilities will be explicitly added
  - Includes 3 gas processing facilities
- Oil and gas production sources (including area sources) to be grown based on growth in oil and gas production
  - 2000 to 2006 oil and gas production from Colorado Oil and Gas Conservation Commission extrapolated to 2010
  - Oil production growth used for flash emissions