

Ozone in Minnesota: 2014 Proposed Revision to Federal Ozone Standard

**MSBA Environmental, Natural Resources
and Energy Law Section**

Frank Kohlasch

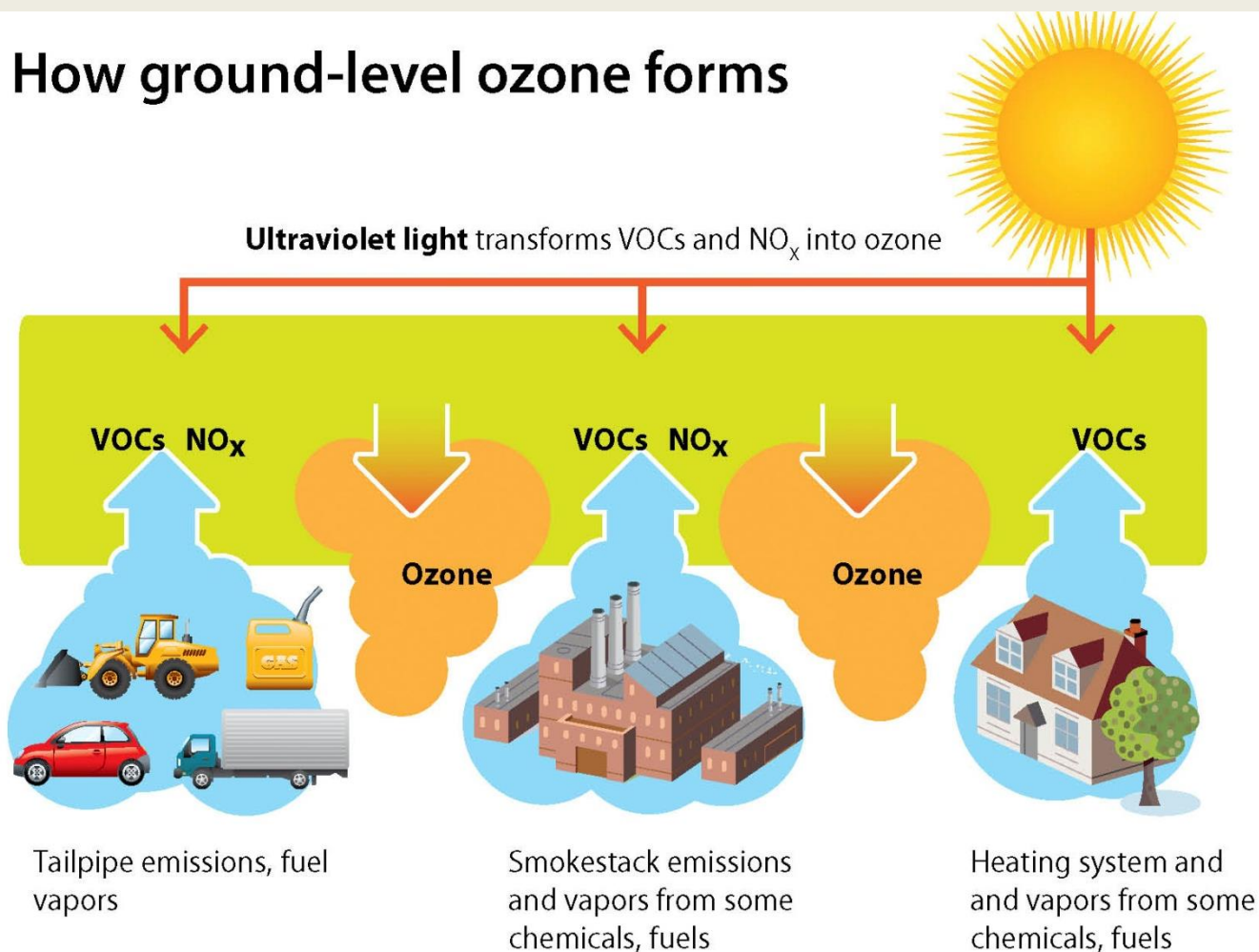
Minnesota Pollution Control Agency

February 25, 2015



Ozone Formation

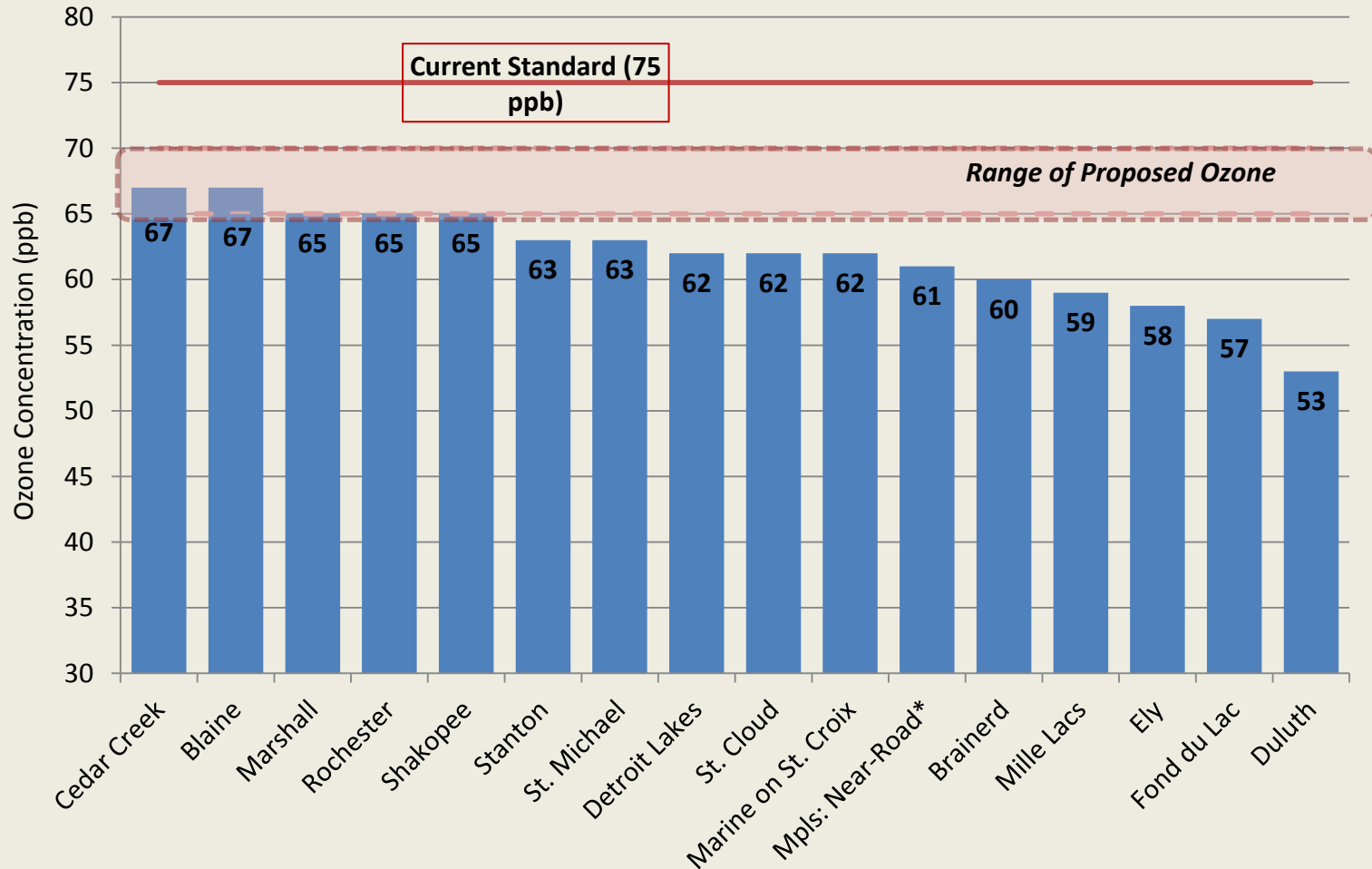
How ground-level ozone forms



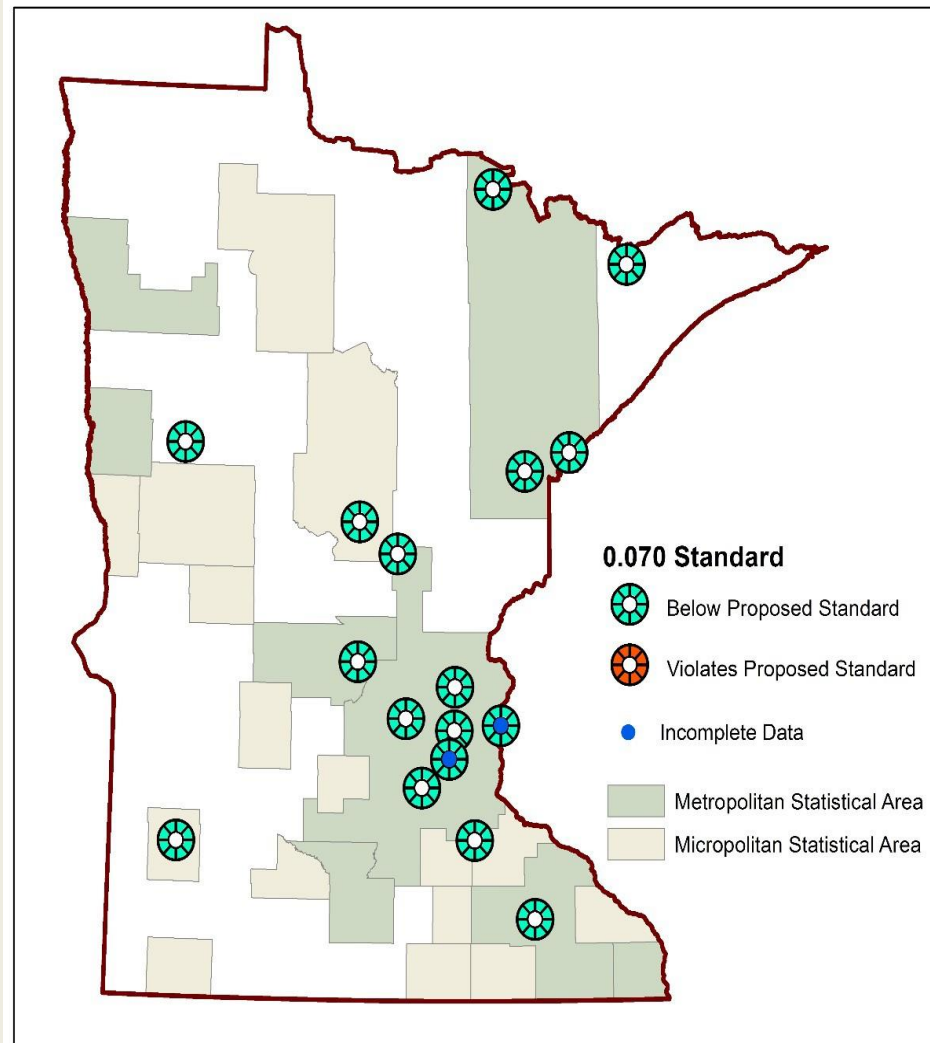
Minnesota's Ozone Concentrations (2012-2014)

Preliminary Ozone Design Values: 2012-2014

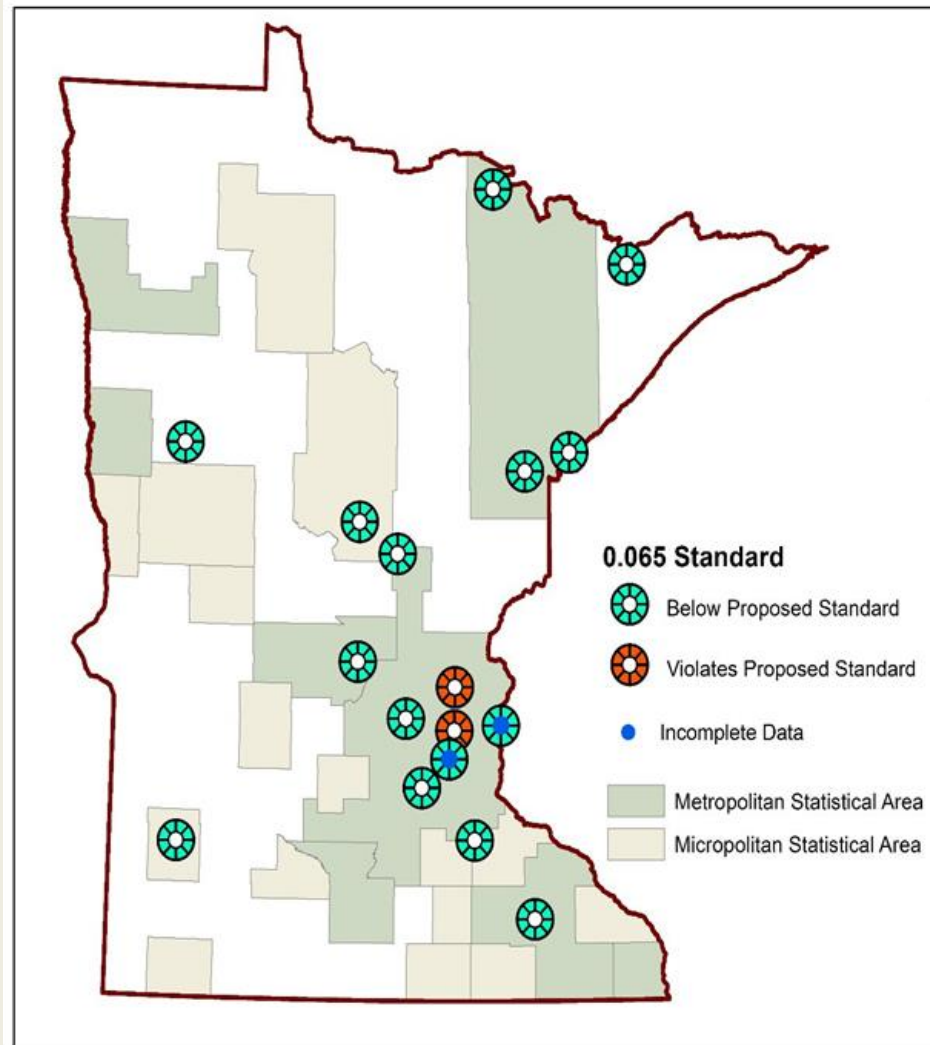
3-year average of the annual 4th high daily maximum 8-hour ozone concentration



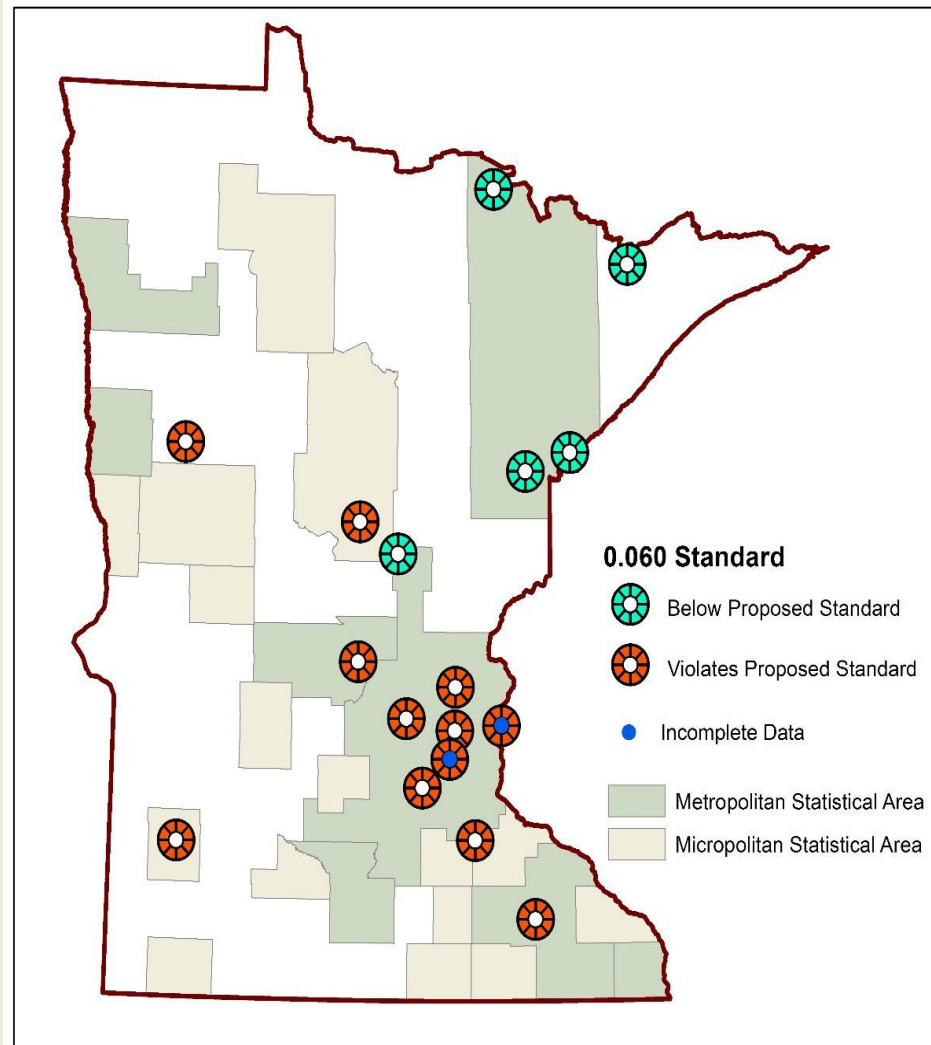
Ozone in Minnesota: 70 ppb standard



Ozone in Minnesota: 65 ppb standard

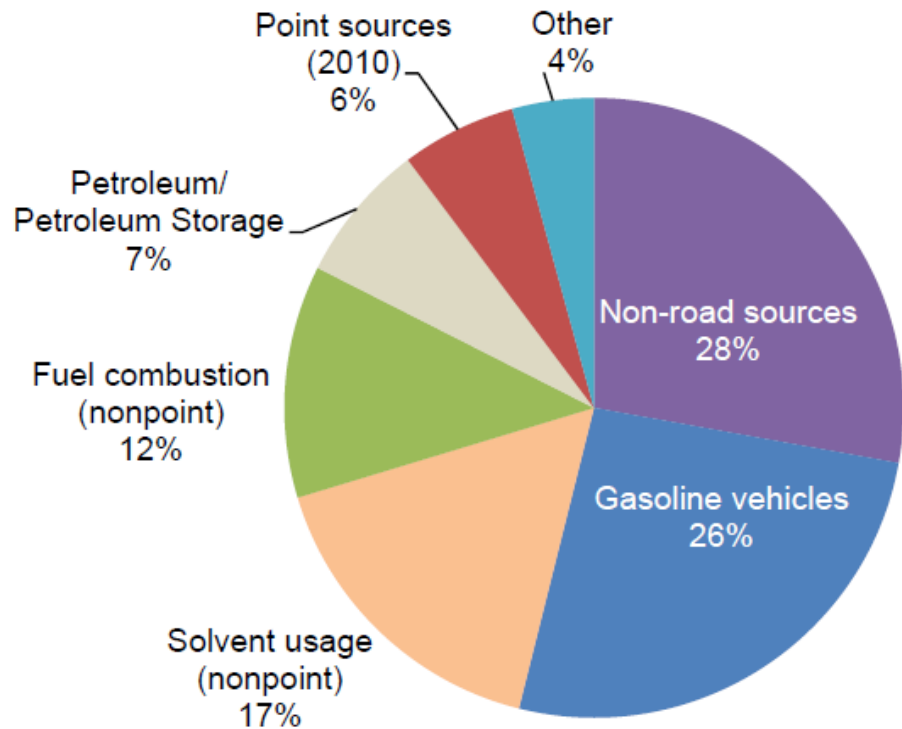


Ozone in Minnesota: 60 ppb standard

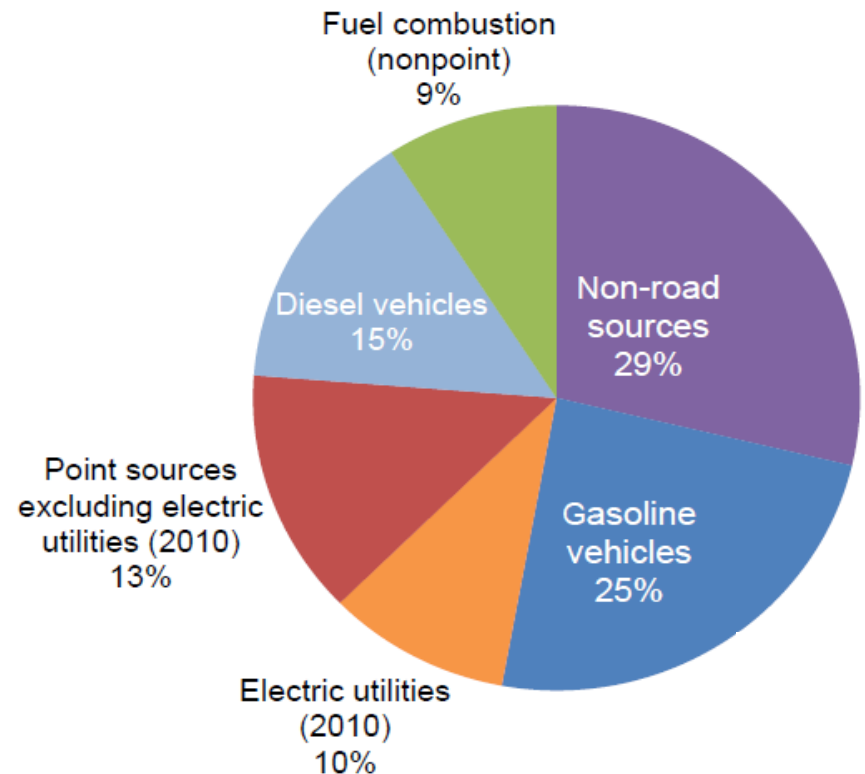


Sources of Ozone in Minnesota

Volatile Organic Compounds (VOCs)



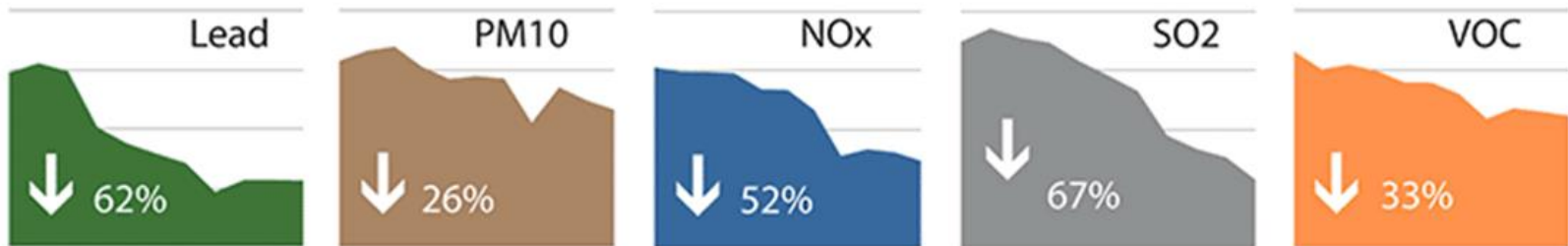
Nitrogen Oxides (NO_x)



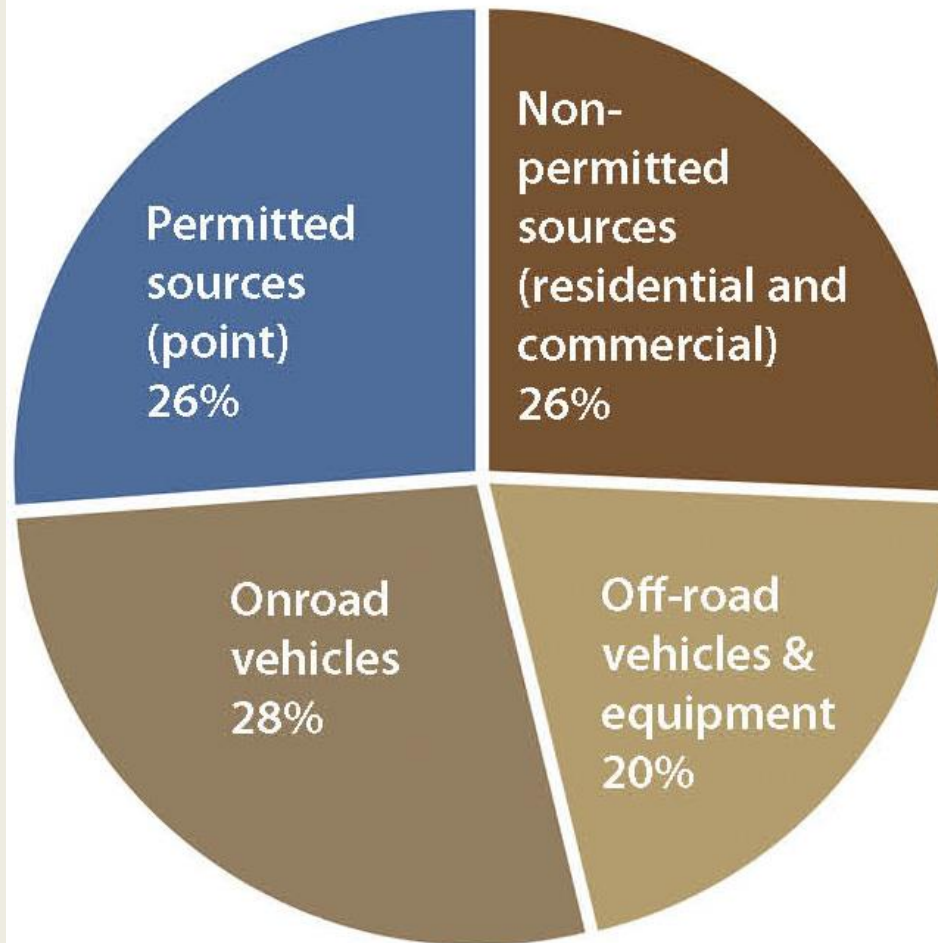
Point Sources Reductions

Point source emissions 2002–2012

Good progress



The “New” Reality



Point sources are becoming a smaller part of the air quality problems in Minnesota.

MN 2008 Emissions Inventory: NO_x , SO_2 , $PM_{2.5}$, VOCs

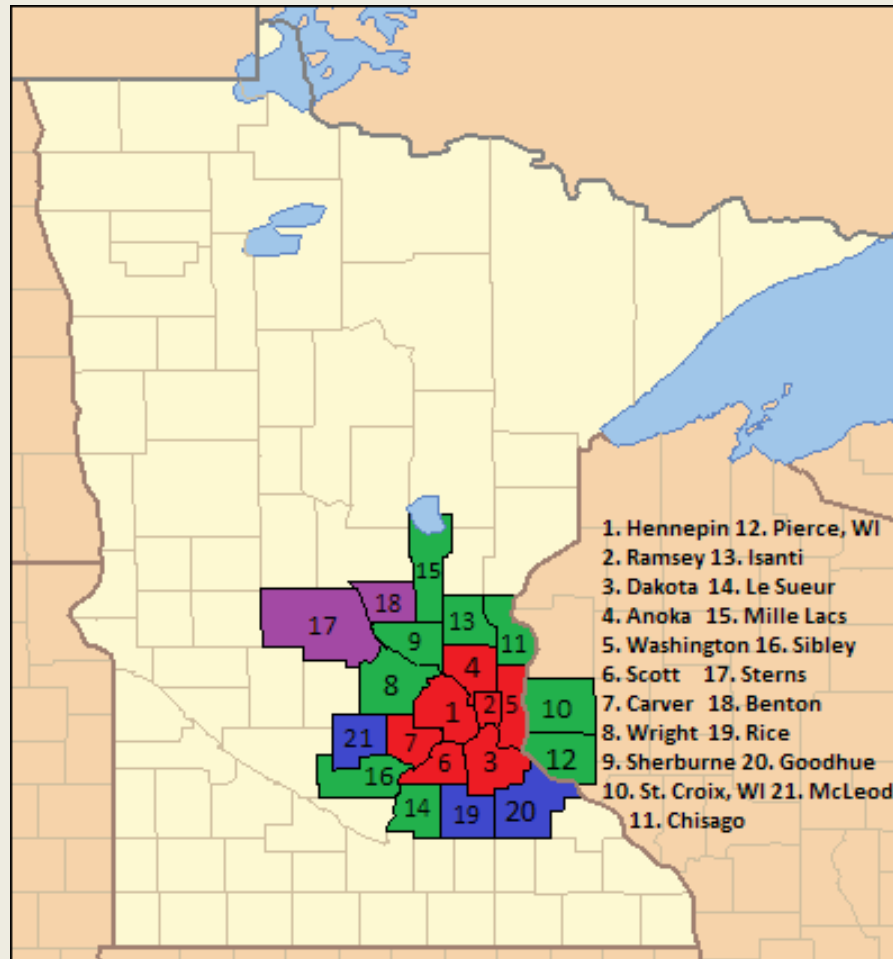


What if the standard is exceeded?

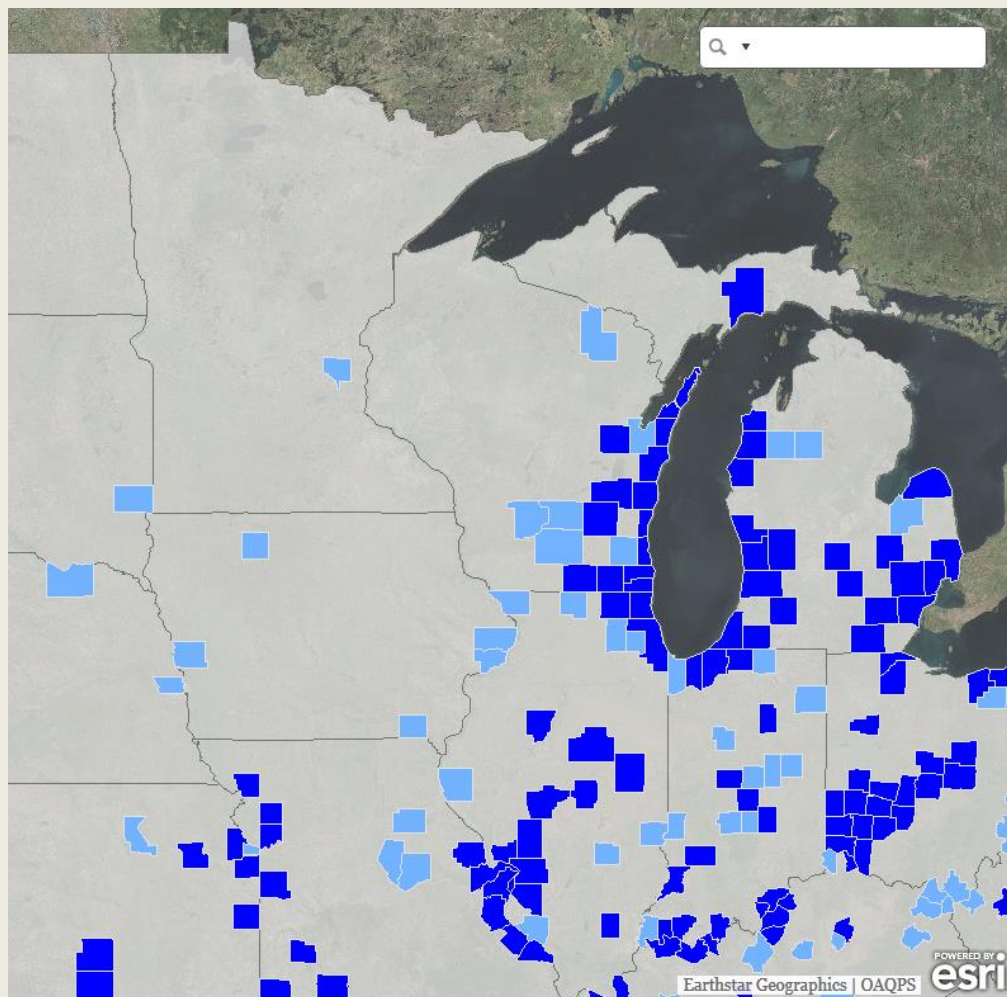
- Nonattainment
- Area that causes or contributes
- State Implementation Plan
- Transportation and general conformity
- Stricter permit requirements
- Control requirements for smaller sources
- Possible vehicle inspection and maintenance program
- Estimated annual cost of nonattainment: between \$189 and \$266 million



Minneapolis-St. Paul core-based statistical area



Are we a Good Neighbor?



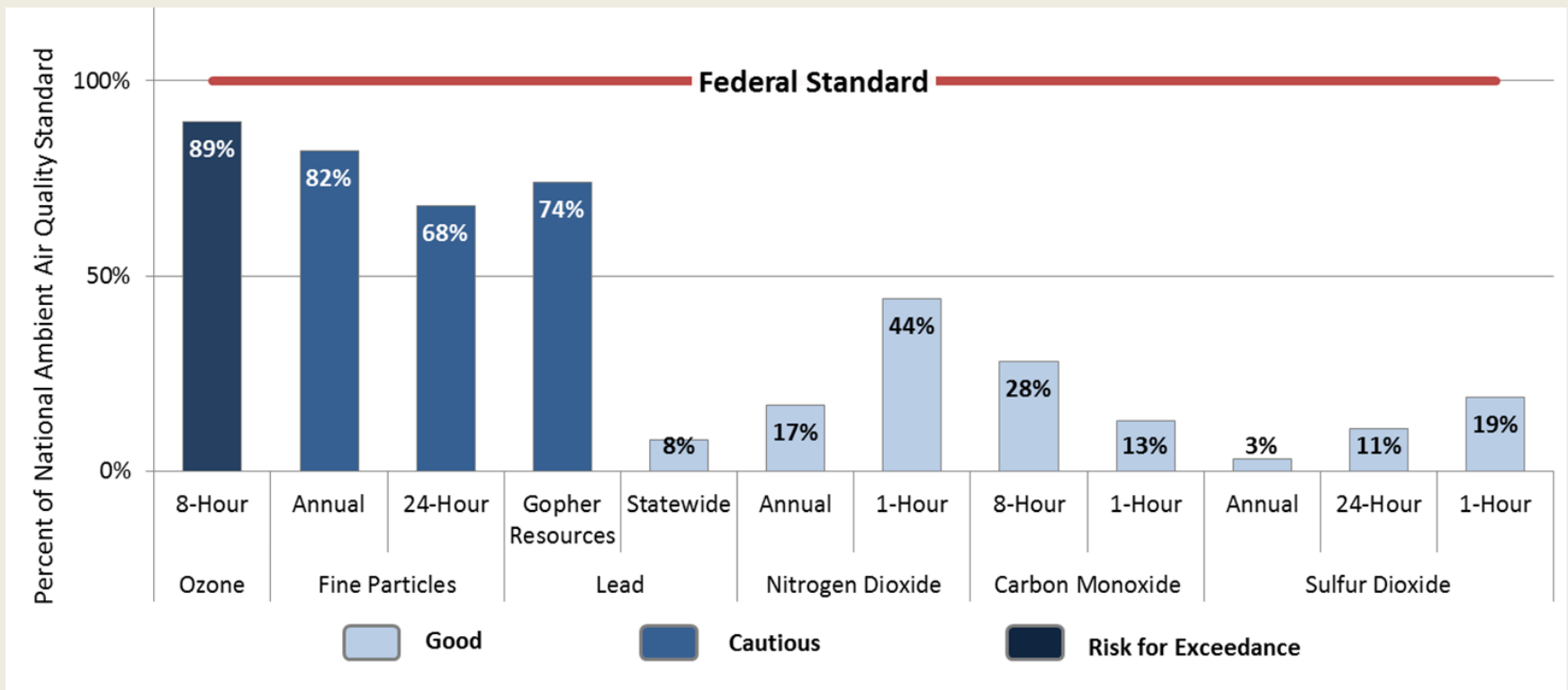
- EPA analysis
- 2011-2013 data

■ counties violating 70 parts per billion (ppb)
■ additional counties violating 65 ppb



All current standards

Minnesota's air quality compared to National Ambient Air Quality Standards



Source: Minnesota NAAQS Design Values, 2013



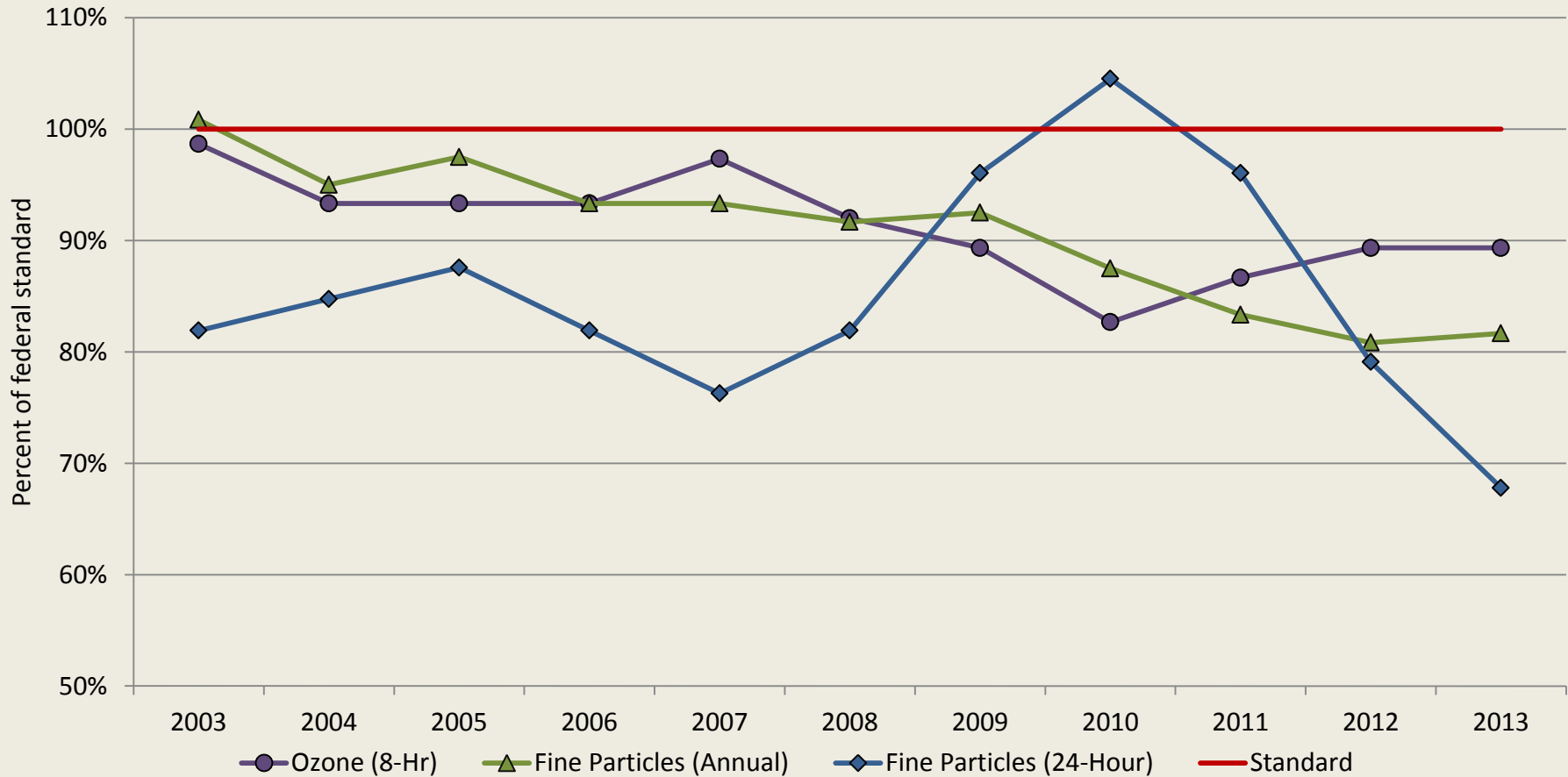
PM_{2.5} and Ozone Trends: Twin Cities

Twin Cities Metropolitan Area Air Quality
Percent of the National Ambient Air Quality Standard

Ozone: 75 ppb

PM2.5 24 hour: 35 µg/m³

PM2.5 Annual: 12 µg/m³



Air Quality in Minnesota Reports:
<http://www.pca.state.mn.us/yhizb6a>



AIR QUALITY
ADVISORY.
AVOID IDLING.

Frank Kohlasch

Air Assessment Section
Environmental Analysis & Outcomes Division
Minnesota Pollution Control Agency
Frank.Kohlasch@state.mn.us
651-757-2500

