

Ozone and Carbon Monoxide 1996-98 Air Quality Data Update

The following is a brief summary of EPA's 1998 air quality update for ozone and carbon monoxide nonattainment areas.

Ozone (O₃): Today's list updates ozone air quality monitoring data for the three year period, 1996-98. During this current three year period,

- C 36 of the original 98 areas designated nonattainment for the 1-hour O₃ National Ambient Air Quality Standard (NAAQS) in 1991 failed to meet the NAAQS in 1996-98 (Table 1).
- C 11 additional counties failed to meet the 1-hour O₃ NAAQS in 1996-98 (Table 2).
- C 300 counties have average annual 4th maximum 8-hour daily maximum O₃ concentrations greater than the level of the 8-hour O₃ NAAQS (Table 3).

EPA set the 1-hour O₃ standard at 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. Compliance with the 1-hour ozone standard is judged on the basis of the most recent three years of ambient air quality monitoring data. The 1-hour ozone standard is not met at a monitoring site if the average number of estimated exceedances of the ozone standard is greater than 1.0 (1.05 rounds up). The level of the 8-hour O₃ NAAQS is 0.08 ppm. The 8-hour O₃ standard is not met if the 3-year average of the annual 4th highest daily maximum 8-hour O₃ concentration is greater than 0.08 ppm (0.085 rounds up).

Carbon Monoxide (CO): Today's list updates CO air quality data for the two year period, 1997-98. During this two year period,

- C 3 of the original 42 areas designated nonattainment for the 8-hour CO NAAQS in 1991 failed to meet the CO NAAQS in 1997-98 (Table 4).
- C 3 additional areas failed to meet the CO NAAQS in 1997-98 (Table 4).

EPA's National Ambient Air Quality Standard for carbon monoxide is 9 parts per million (ppm) nonoverlapping 8-hour average concentration not to be exceeded more than once per year. The CO standard is not met at a monitoring site if there are two or more exceedances of the level of the CO NAAQS in either of the two most recent calendar years of monitoring data.

Table 1. List of original nonattainment areas not meeting 1-hr ozone NAAQS in 1996-98

State	Nonattainment Area ⁽¹⁾	O ₃ Design Value ⁽²⁾ (ppm)	Avg. Expected Exceedance Rate ⁽³⁾
		1996-98	1996-98
GA	Atlanta NA Area	0.146	7.0
MD	Baltimore NA Area	0.141	4.1
LA	Baton Rouge NA Area	0.127	1.4
TX	Beaumont-Port Arthur NA Area	0.133	2.0
AL	Birmingham NA Area	0.128	2.1
NC	Charlotte-Gastonia NA Area	0.131	1.7
WI	Chicago-Gary-Lake County NA Area	0.136	1.7
TX	Dallas-Fort Worth NA Area	0.135	2.0
TX	El Paso NA Area	0.123	1.1
CT	Greater Connecticut NA Area	0.139	2.7
TX	Houston-Galveston-Brazoria NA	0.196	8.6
WV	Huntington-Ashland NA Area	0.129	2.0
MD	Kent County and Queen Anne's Co.	0.126	1.7
TN	Knoxville NA Area	0.134	3.7
CA	Los Angeles South Coast Air Basin	0.217	50.1
IN	Louisville NA Area	0.130	2.1
WI	Manitowoc Co, WI NA Area	0.128	1.7
WI	Milwaukee-Racine NA Area	0.136	1.7
TN	Nashville NA Area	0.127	2.0
NY	New York-N. New Jersey-Long Island, NY-NJ-CT	0.139	3.4
MD	Philadelphia-Wilmington-Trenton, PA-NJ-DE	0.152	3.1
AZ	Phoenix NA Area ⁽⁴⁾	0.126	1.3
OR	Portland-Vancouver AQMA NA Area	0.133	1.3
VA	Richmond-Petersburg NA Area	0.125	1.3
CA	Sacramento Metro NA Area	0.148	5.6
CA	San Diego NA Area	0.135	3.7
CA	San Francisco-Bay NA Area	0.138	4.7
CA	San Joaquin Valley NA Area	0.161	17.2
CA	Santa Barbara - Santa Maria - Lompoc, CA	0.130	1.8
WI	Sheboygan NA Area	0.130	1.3
CA	Southeast Desert Modified AQMD, CA	0.170	25.3
MA	Springfield (W. Mass) NA Area	0.128	1.3
MO	St. Louis NA Area	0.131	1.3

State	Nonattainment Area ⁽¹⁾	O ₃ Design Value ⁽²⁾ (ppm)	Avg. Expected Exceedance Rate ⁽³⁾
		1996-98	1996-98
DE	Sussex Co NA Area, DE	0.125	1.3
CA	Ventura Co NA Area, CA	0.144	6.4
MD	Washington, DC-MD-VA NA Area	0.129	3.2

Notes:

1. Designations and classifications for ozone nonattainment areas as published in the Federal Register, 40 CFR Part 81. *Unclassified and transitional nonattainment areas are not included in Table 1.*

2. The updated air quality design value is estimated for the 1996-98 period using all air quality data reported to EPA's Aerometric Information Retrieval System (AIRS). The computation procedures follow EPA guidance for calculating design values (Laxton Memorandum, June 18, 1990). For sites with three complete years of monitoring data, the air quality design value is the fourth highest daily maximum 1-hour ozone concentration, because the standard allows one exceedance per year on average. It is important to note that the 1990 Clean Air Act Amendments required that nonattainment areas be classified on the basis of the design value at the time the Amendments were passed, generally the 1987-89 period was used.

3. The level of the 1-hour ozone Ambient Air Quality standard is 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. The average estimated number of exceedances column shows the number of days the 0.12 ppm 1-hour ozone standard was exceeded on average at the site recording the highest updated air quality value. This computation is performed after adjustment for any missing sampling days during the 3-year period, 1996-98.

4. Special purpose monitoring data not available in AIRS but cited in "FINAL Technical Support Document for the Notice of Final Rulemaking on Finding of Failure to Attain and Denial of Attainment Date Extension for Ozone in the Phoenix (Arizona) Metropolitan Area", October 27, 1997.

Table 2. Additional counties failing to meet the 1-hour ozone NAAQS in 1996-98

State	County (Area)	O ₃ Design Value ⁽¹⁾ (ppm)	Avg. Expected Exceedance Rate ⁽²⁾
		1996-98	1996-98
CA	Amador Co. (adjacent to Sacramento)	0.128	2.5
CA	Calaveras Co. (adjacent to Stockton)	0.130	1.7
CA	Imperial Co. (Calexico, CA)	0.143	1.9
IN	Hamilton Co. (adjacent to Indianapolis)	0.125	1.3
IN	La Porte Co. (adjacent to Chicago)	0.128	1.3
MI	Berrien Co. (Benton Harbor, MI)	0.125	1.4
MS	De Soto Co. (adjacent to Memphis)	0.131	1.3
NC	Rowan Co. (adjacent to Charlotte)	0.126	1.3
TN	Hamilton Co. (Chattanooga) ⁽³⁾	0.125	1.3
TN	Jefferson Co. (adjacent to Knoxville)	0.126	2.0
TX	Gregg Co. (Longview-Marshall)	0.128	2.0

Notes:

1. The updated air quality design value is estimated for the 1996-98 period using all air quality data reported to EPA's Aerometric Information Retrieval System (AIRS). The computation procedures follow EPA guidance for calculating design values (Laxton Memorandum, June 18, 1990). For sites with three complete years of monitoring data, the air quality design value is the fourth highest daily maximum 1-hour ozone concentration, because the standard allows one exceedance per year on average. It is important to note that the 1990 Clean Air Act Amendments required that nonattainment areas be classified on the basis of the design value at the time the Amendments were passed, generally the 1987-89 period was used.

2. The level of the 1-hour ozone Ambient Air Quality standard is 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. The average estimated number of exceedances column shows the number of days the 0.12 ppm 1-hour ozone standard was exceeded on average at the site recording the highest updated air quality value. This computation is performed after adjustment for any missing sampling days during the 3-year period, 1996-98.

3. An exceedance of the level of the 1-hour ozone standard in 1998, and the possible influence of the Central American fires, is the subject of an ongoing analysis and discussion by Hamilton County, Tennessee and EPA.

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1996-98

Listed by State then County

State	County	Design Value (ppb)	Located in, adjacent to or near:
Alabama			
	Clay Co	85	E of Birmingham
	Jefferson Co	93	Birmingham, AL
	Madison Co	86	Huntsville, AL
	Mobile Co	86	Mobile, AL
	Shelby Co	95	Birmingham, AL
Arizona			
	Maricopa Co	91	Phoenix-Mesa, AZ
Arkansas			
	Crittenden Co	90	Memphis, TN-AR-MS
California			
	Alameda Co	89	San Francisco-Oakland-San Jose, CA
	Amador Co	95	Sacramento
	Calaveras Co	96	San Joaquin
	El Dorado Co	103	Sacramento-Yolo, CA
	Fresno Co	115	San Joaquin Valley, CA
	Imperial Co	93	San Diego
	Kern Co	115	San Joaquin Valley, CA
	Kings Co	105	San Joaquin/Fresno
	Los Angeles Co	133	Los Angeles South Coast Air Basin, CA
	Mariposa Co	95	San Joaquin
	Merced Co	96	San Joaquin Valley, CA
	Nevada Co	95	Sacramento/Yuba City
	Orange Co	88	Los Angeles South Coast Air Basin, CA
	Placer Co	95	Sacramento-Yolo, CA
	Riverside Co	127	Southeast Desert Modified AQMA, CA
	Sacramento Co	95	Sacramento-Yolo, CA
	San Benito Co	86	Monterey NAA/SJ/SF/Fresno
	San Bernardino Co	154	Los Angeles South Coast Air Basin, CA
	San Diego Co	102	San Diego, CA
	San Joaquin Co	87	San Joaquin Valley, CA
	San Luis Obispo Co	85	San Luis Obispo-Atascadero-Paso Robles,
CA			
	Santa Barbara Co	87	Santa Barbara-Santa Maria-Lompoc, CA
	Santa Clara Co	85	San Francisco-Oakland-San Jose, CA
	Shasta Co	95	Redding, CA
	Stanislaus Co	98	San Joaquin Valley, CA
	Sutter Co	91	Yuba City, CA
	Tehama Co	86	Chico/Redding
	Tulare Co	102	San Joaquin Valley, CA
	Tuolumne Co	92	San Joaquin
	Ventura Co	112	in LA CMSA

Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1996-98

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State	County	Design Value (ppb)		Located in, adjacent to or near:
Connecticut				
	Fairfield Co	98		New York-N. New Jersey-L. Island, NY-NJ-
	Litchfield Co	95		Greater Connecticut, CT
	Middlesex Co	93		Greater Connecticut, CT
	New Haven Co	100		Greater Connecticut, CT
	New London Co	94		Greater Connecticut, CT
	Tolland Co	92		Greater Connecticut, CT
Delaware				
	Kent Co	96		Philadelphia-Wilmin-Atlantic
	New Castle Co	95		Philadelphia-Wilmin-Atlantic
	Sussex Co	97		Phil/Dover E of Wash
Dist. Columbia				
	Washington	95		Washington, DC-MD-VA
Florida				
	Escambia Co	86		Pensacola, FL
	Hillsborough Co	85		Tampa-St. Petersburg-Clearwater, FL
Georgia				
	Bibb Co	100	**	Macon, GA
	De Kalb Co	102		Atlanta, GA
	Douglas Co	100	**	Atlanta, GA
	Fulton Co	113		Atlanta, GA
	Gwinnett Co	95		Atlanta, GA
	Paulding Co	94		Atlanta, GA
	Richmond Co	91		Augusta-Aiken, GA-SC
	Rockdale Co	107		Atlanta, GA
Illinois				
	Cook Co	86		Chicago-Gary-Kenosha, IL-IN-WI
	Jersey Co	85		St Louis, MO-IL
	Madison Co	87		St Louis, MO-IL
Indiana				
	Allen Co	90		Fort Wayne, IN
	Clark Co	94		Louisville, KY-IN
	Elkhart Co	87		South Bend-Elkhart, IN
	Floyd Co	92		Louisville, KY-IN
	Hamilton Co	98		Indianapolis, IN
	Hancock Co	94		Indianapolis, IN
	Johnson Co	87	**	Indianapolis, IN
	Lake Co	90		Chicago-Gary-Kenosha, IL-IN-WI
	La Porte Co	97		Chicago/SBend/Benton Harbor
	Madison Co	92		Indianapolis, IN
	Marion Co	93		Indianapolis, IN

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State	County	Design Value (ppb)		Located in, adjacent to or near:
	Morgan Co	89	**	Indianapolis, IN
	Porter Co	91		Chicago-Gary-Kenosha, IL-IN-WI
	Posey Co	89	**	Evansville-Henderson, IN-KY
	St. Joseph Co	92		South Bend-Elkhart, IN
	Vanderburgh Co	92		Evansville-Henderson, IN-KY
	Vigo Co	88		Terre Haute, IN
	Warrick Co	93		Evansville-Henderson, IN-KY
Kentucky				
	Boyd Co	85	*	Huntington-Ashland, WV-KY-OH
	Bullitt Co	89		Louisville, KY-IN
	Campbell Co	88		Cincinnati-Hamilton, OH-KY-IN
	Daviess Co	86		Owensboro, KY
	Edmonson Co	88		N. of Nashville
	Fayette Co	85		Lexington, KY
	Hancock Co	89		Owensboro
	Jefferson Co	91		Louisville, KY-IN
	Kenton Co	87		Cincinnati-Hamilton, OH-KY-IN
	Livingston Co	89		Paducah NAA/NW of Clarksville
	Oldham Co	91		Louisville, KY-IN
	Simpson Co	86		Nashville
Louisiana				
	Ascension Par	87		Baton Rouge, LA
	East Baton Rouge Par	93		Baton Rouge, LA
	Iberville Par	94		Baton Rouge
	Livingston Par	87		Baton Rouge, LA
	West Baton Rouge Par	85		Baton Rouge, LA
Maine				
	Cumberland Co	91		Portland, ME
	Hancock Co	87		Hancock-WaldoNAA/Bangor
	Sagadahoc Co	92		PortlandNAA/Lewiston
	York Co	90		Portland, ME
Maryland				
	Anne Arundel Co	104		Baltimore, MD
	Baltimore Co	94		Baltimore, MD
	Calvert Co	87		Washington, DC-MD-VA
	Carroll Co	92		Baltimore, MD
	Cecil Co	107		Philadelphia-Wilmin-Atlantic
	Charles Co	98		Washington, DC-MD-VA
	Harford Co	104		Baltimore, MD
	Kent Co	96		Kent-QueenAnns NAA/Dover-Phil
	Montgomery Co	92		Washington, DC-MD-VA
	Prince George's Co	101		Washington, DC-MD-VA
	Baltimore city	103	*	Baltimore, MD

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State	County	Design Value (ppb)	Located in, adjacent to or near:
Massachusetts			
	Barnstable Co	93	Boston-Lawrence-Worcester (E. MA)
	Bristol Co	89	Boston-Lawrence-Worcester (E. MA)
	Essex Co	91	Boston-Lawrence-Worcester (E. MA)
	Hampden Co	89	Springfield (Western MA), MA
	Hampshire Co	96	Springfield (Western MA), MA
	Middlesex Co	88	Boston-Lawrence-Worcester (E. MA)
	Worcester Co	87	Boston-Lawrence-Worcester (E. MA)
Michigan			
	Allegan Co	94	Grand Rapids-Muskegon-Holland, MI
	Benzie Co	85	On Lake MI
	Berrien Co	96	Benton Harbor, MI
	Cass Co	92	Benton Harbor, MI S Bend/Kal
	Genesee Co	86	Detroit-Ann Arbor-Flint, MI
	Kalamazoo Co	86	Kalamazoo-Battle Creek, MI
	Kent Co	85	Grand Rapids-Muskegon-Holland, MI
	Macomb Co	93	Detroit-Ann Arbor-Flint, MI
	Mason Co	90	On Lake MI
	Muskegon Co	91	Grand Rapids-Muskegon-Holland, MI
	Ottawa Co	85	Grand Rapids-Muskegon-Holland, MI
	St. Clair Co	86	Detroit-Ann Arbor-Flint, MI
	Wayne Co	89	Detroit-Ann Arbor-Flint, MI
Mississippi			
	De Soto Co	89	Memphis, TN-AR-MS
	Jackson Co	91	Biloxi-Gulfport-Pascagoula, MS
Missouri			
	Clay Co	93	Kansas City, MO-KS
	Jefferson Co	87	St Louis, MO-IL
	Platte Co	86	Kansas City, MO-KS
	St. Charles Co	95	St Louis, MO-IL
	Ste. Genevieve Co	88	St Louis
	St. Louis Co	87	St Louis, MO-IL
New Hampshire			
	Hillsborough Co	86	Boston-Lawrence-Worcester (E. MA), MA-NH
	Rockingham Co	91	Boston-Lawrence-Worcester (E. MA), MA-NH
New Jersey			
	Atlantic Co	97	Philadelphia-Wilmin-Atlantic
	Bergen Co	94 *	New York-N. New Jersey-L.Island
	Camden Co	103	Philadelphia-Wilmin-Atlantic
	Cumberland Co	96	Philadelphia-Wilmin-Atlantic
	Essex Co	88	New York-N. New Jersey-L.Island
	Gloucester Co	99	Philadelphia-Wilmin-Atlantic
	Hudson Co	93	New York-N. New Jersey-L.Island

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State	County	Design Value (ppb)	Located in, adjacent to or near:
	Hunterdon Co	96	New York-N. New Jersey-L.Island
	Mercer Co	97	Philadelphia-Wilmin-Atlantic
	Middlesex Co	99	New York-N. New Jersey-L.Island
	Monmouth Co	94	New York-N. New Jersey-L.Island
	Morris Co	95	New York-N. New Jersey-L.Island
	Ocean Co	104	New York-N. New Jersey-L.Island
New York			
	Chautauqua Co	87	Jamestown, NY
	Dutchess Co	89	New York-N. New Jersey-L.Island
	Jefferson Co	85	Syracuse
	Orange Co	89	New York-N. New Jersey-L.Island
	Putnam Co	91	New York-N. New Jersey-L.Island
	Queens Co	91 *	New York-N. New Jersey-L.Island
	Richmond Co	100	New York-N. New Jersey-L.Island
	Suffolk Co	97	New York-N. New Jersey-L.Island
	Westchester Co	91	New York-N. New Jersey-L.Island
North Carolina			
	Caldwell Co	88 **	Hickory-Morganton-Lenoir, NC
	Caswell Co	93	Greensboro
	Chatham Co	87	Raleigh-Durham-Chapel Hill, NC
	Cumberland Co	88	Fayetteville, NC
	Davie Co	92	Greensboro-Winston Salem-High Point, NC
	Durham Co	86	Raleigh-Durham-Chapel Hill, NC
	Edgecombe Co	86	Rocky Mount, NC
	Forsyth Co	92	Greensboro-Winston Salem-High Point, NC
	Franklin Co	93	Raleigh-Durham-Chapel Hill, NC
	Granville Co	97	Raleigh
	Guilford Co	88	Greensboro-Winston Salem-High Point, NC
	Haywood Co	91	Ashville
	Johnston Co	89	Raleigh-Durham-Chapel Hill, NC
	Lincoln Co	86	Charlotte-Gastonia-Rock Hill, NC-SC
	Mecklenburg Co	103	Charlotte-Gastonia-Rock Hill, NC-SC
	Northampton Co	87 **	Eastern NC
	Pitt Co	91	Greenville, NC
	Rockingham Co	89	Greensboro
	Rowan Co	96	Charlotte-Gastonia-Rock Hill, NC-SC
	Wake Co	95	Raleigh-Durham-Chapel Hill, NC
Ohio			
	Allen Co	88	Lima, OH
	Ashtabula Co	87	Cleveland-Akron, OH
	Butler Co	92	Cincinnati-Hamilton, OH-KY-IN
	Clark Co	97	Dayton-Springfield, OH
	Clermont Co	91	Cincinnati-Hamilton, OH-KY-IN
	Clinton Co	98	Cincinnati

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Listed by State then County

State	County	Design Value (ppb)		Located in, adjacent to or near:
	Cuyahoga Co	88		Cleveland-Akron, OH
	Delaware Co	94	**	Columbus, OH
	Franklin Co	90		Columbus, OH
	Geauga Co	89	**	Cleveland-Akron, OH
	Greene Co	94	**	Dayton-Springfield, OH
	Hamilton Co	92		Cincinnati-Hamilton, OH-KY-IN
	Knox Co	91		Columbus/Mansfield
	Lake Co	98		Cleveland-Akron, OH
	Lawrence Co	89		Huntington-Ashland, WV-KY-OH
	Licking Co	93		Columbus, OH
	Lorain Co	88		Cleveland-Akron, OH
	Lucas Co	89		Toledo, OH
	Madison Co	93		Columbus, OH
	Mahoning Co	90		Youngstown-Warren-Sharon, PA-OH
	Medina Co	89		Cleveland-Akron, OH
	Miami Co	90		Dayton-Springfield, OH
	Montgomery Co	93		Dayton-Springfield, OH
	Portage Co	90		Cleveland-Akron, OH
	Stark Co	89		Canton-Massillon, OH
	Summit Co	92		Cleveland-Akron, OH
	Trumbull Co	94		Youngstown-Warren-Sharon, PA-OH
	Warren Co	95	**	Cincinnati-Hamilton, OH-KY-IN
	Washington Co	87		Parkersburg-Marietta, WV-OH
Oklahoma				
	Oklahoma Co	85		Oklahoma City, OK
	Tulsa Co	87		Tulsa, OK
Pennsylvania				
	Allegheny Co	99		Pittsburgh, PA
	Beaver Co	90		Pittsburgh, PA
	Berks Co	91		Reading, PA
	Blair Co	92		Altoona, PA
	Bucks Co	97		Philadelphia-Wilmin-Atlantic
	Cambria Co	91		Johnstown, PA
	Centre Co	86		State College, PA
	Clearfield Co	89		Johnstown/State College
	Dauphin Co	88		Harrisburg-Lebanon-Carlisle, PA
	Delaware Co	97		Philadelphia-Wilmin-Atlantic Ci
	Erie Co	88		Erie, PA
	Franklin Co	92		Washington/Harrisburg
	Greene Co	96	**	Pittsburg
	Lackawanna Co	86		Scranton-Wilkes-Barre-Hazleton, PA
	Lancaster Co	96		Lancaster, PA
	Lehigh Co	96		Allentown-Bethlehem-Easton, PA
	Luzerne Co	89		Scranton-Wilkes-Barre-Hazleton, PA
	Mercer Co	96		Youngstown-Warren-Sharon, PA-OH

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Listed by State then County

State	County	Design Value (ppb)	Located in, adjacent to or near:
Pennsylvania	Monroe Co	95 **	Seranton/Allentown
	Montgomery Co	100	Philadelphia-Wilmin-Atlantic Ci
	Northampton Co	88	Allentown-Bethlehem-Easton, PA
	Perry Co	86	Harrisburg-Lebanon-Carlisle, PA
	Philadelphia Co	95	Philadelphia-Wilmin-Atlantic Ci
	Washington Co	99	Pittsburgh, PA
	York Co	90	York, PA
Rhode Island			
	Kent Co	90	Providence-Fall River-Warwick, RI-MA
South Carolina			
	Aiken Co	89	Augusta-Aiken, GA-SC
	Anderson Co	91	Greenville-Spartanburg-Anderson, SC
	Barnwell Co	86	Augusta
	Cherokee Co	88	Greenville-Spartanburg-Anderson, SC
	Chester Co	87	Charlotte
	Pickens Co	87	Greenville-Spartanburg-Anderson, SC
	Richland Co	89	Columbia, SC
	Spartanburg Co	90	Greenville-Spartanburg-Anderson, SC
Tennessee			
	Anderson Co	85	Knoxville, TN
	Blount Co	98	Knoxville, TN
	Davidson Co	88	Nashville, TN
	Hamilton Co	93	Chattanooga, TN-GA
	Haywood Co	88	Memphis/Jackson
	Jefferson Co	99	Knoxville
	Knox Co	100	Knoxville, TN
	Putnam Co	87 **	E. of Nashville
	Sevier Co	97	Knoxville, TN
	Shelby Co	93	Memphis, TN-AR-MS
	Sullivan Co	90	Johnson City-Kingsport-Bristol, TN-VA
	Sumner Co	101	Nashville, TN
	Williamson Co	94 **	Nashville, TN
	Wilson Co	88	Nashville, TN
Texas			
	Bexar Co	85	San Antonio, TX
	Collin Co	98	Dallas-Fort Worth, TX
	Dallas Co	91	Dallas-Fort Worth, TX
	Denton Co	94	Dallas-Fort Worth, TX
	Ellis Co	87	Dallas-Fort Worth, TX
	Galveston Co	91	Houston-Galveston-Brazoria, TX
	Gregg Co	92	Longview-Marshall, TX
	Harris Co	116	Houston-Galveston-Brazoria, TX
	Jefferson Co	91	Beaumont-Port Arthur, TX

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Listed by State then County

State	County	Design Value (ppb)	Located in, adjacent to or near:
	Smith Co	87	Tyler, TX
	Tarrant Co	97	Dallas-Fort Worth, TX
Utah			
	Davis Co	87	Salt Lake City-Ogden, UT
	Salt Lake Co	88	Salt Lake City-Ogden, UT
Virginia			
	Arlington Co	92	Washington, DC-MD-VA
	Caroline Co	88	Richmond/Wash
	Charles City Co	92	Richmond-Petersburg, VA
	Chesterfield Co	87	Richmond-Petersburg, VA
	Fairfax Co	92	Washington, DC-MD-VA
	Frederick Co	88	Washington
	Hanover Co	92	Richmond-Petersburg, VA
	Henrico Co	92	Richmond-Petersburg, VA
	Madison Co	92	Charlottesville/Wash
	Prince William Co	88	Washington, DC-MD-VA
	Roanoke Co	85	Roanoke, VA
	Stafford Co	88	Washington, DC-MD-VA
	Alexandria city	89	** Washington, DC-MD-VA
	Hampton city	90	Norfolk-Virginia Beach-Newport News
West Virginia			
	Cabell Co	92	Huntington-Ashland, WV-KY-OH
	Greenbrier Co	89	E. of Charleston
	Ohio Co	85	Wheeling, WV-OH
	Wood Co	89	Parkersburg-Marietta, WV-OH
Wisconsin			
	Door Co	93	On Lake MI
	Kenosha Co	90	Chicago-Gary-Kenosha, IL-IN-WI
	Kewaunee Co	91	On Lake MI/Green Bay
	Manitowoc Co	94	Sheboygan/Appleton
	Milwaukee Co	88	Milwaukee-Racine, WI
	Ozaukee Co	93	Milwaukee-Racine, WI
	Racine Co	88	Milwaukee-Racine, WI
	Sheboygan Co	89	Sheboygan, WI

Notes:

** Based on 2 years of data

* Based on 1995-97 data

The level of the 8-hour ozone (O₃) National Ambient Air Quality Standard (NAAQS) is 0.08 parts per million (ppm). The air quality design value for the 8-hour O₃ NAAQS is the 3-year average of the annual 4th highest daily maximum 8-hour

average O₃ concentration. The 8-hour O₃ NAAQS is not met when the 8-hour ozone design value is greater than 0.08 ppm (85 ppb rounds up).

Table 4. Areas not meeting the 8-hour Carbon Monoxide National Ambient Air Quality Standard, 1997-98

Metropolitan Area	1997-98 Design Value ⁽¹⁾ (ppm)	1997		1998	
		2nd Max ⁽²⁾	# Exc ⁽³⁾	2nd Max ⁽²⁾	# Exc ⁽³⁾
Designated CO nonattainment areas					
Fairbanks, AK	12.1	12.1	3	10.2	2
Las Vegas, NV	10.1	8.1	1	10.1	2
Los Angeles-Long Beach, CA	15.0	15.0	12	11.5	13
Additional areas					
Calexico, CA	16.7	16.7	12	13.3	8
Des Moines, IA	10.1	8.1	0	10.1	2
Weirton, WV	13.2	8.8	1	13.2	6
Number of areas not meeting the NAAQS	6		3		6

Notes:

1. The level of the 8-hour National Ambient Air Quality Standard for carbon monoxide is 9 parts per million (ppm) not to be exceeded more than once per year. The design value for the 8-hour CO NAAQS is the highest annual second maximum nonoverlapping 8-hour concentration during the most recent two years.

2. Annual second highest nonoverlapping 8-hour average CO concentration.

3. Number of nonoverlapping exceedances of the 8-hour CO NAAQS.

SOURCE: U.S. EPA's Aerometric Information Retrieval System (AIRS)