

Approved: February 11, 2009  
Date

MINUTES OF THE SENATE UTILITIES COMMITTEE

The meeting was called to order by Chairman Pat Apple at 1:30 p.m. on January 26, 2009, in Room 446-N of the Capitol.

All members were present except  
Sen. Emler, Excused  
Sen. McGinn, Excused.

Committee staff present:  
Ann McMorris, Committee Assistant  
Raney Gilliland, Kansas Legislative Research Department  
Cindy Lash, Kansas Legislative Research Department  
Mike Corrigan, Office of the Revisor of Statutes  
Melissa Doeblin, Office of the Revisor of Statutes

Conferees appearing before the committee:  
Tom Gross, Section Chief, KDHE Bureau of Air and Radiation

Others attending:  
See attached list.

KDHE Overview of Mercury, Nitrogen Oxides and Sulfur Dioxide and Report on Mercury Deposition Monitoring by Tom Gross, Section Chief, Bureau of Air and Radiation

Tom Gross discussed those pollutants that are under established regulations. His presentation covered background on the Kansas Air Quality Program, Federal Clean Air Act, and Kansas Air Quality Regulations. He described the various air pollutants (Nitrogen Oxides, Ozone, Sulfur Dioxide), their health effects, sources and issues. He explained air quality permits and the permitting process. His explanation of Mercury covered the various forms, sources and health effects. (Attachment 1)

Kansas Corporation Commission distributed the report concerning availability of Broadband services in Kansas as directed by the 2008 Legislature in **SB 570**, Section 6(a). (Attachment 2)

KCC response to a question by Senator Janis Lee in regard to statutory authority to consider what it will cost to construct a transmission line when considering competing proposals was distributed to the committee. (Attachment 3)

The next meeting is scheduled for January 27, 2009.

The meeting was adjourned at 2:25 p.m.

Respectfully submitted,

Ann McMorris  
Committee Assistant

Attachment - 3

GUEST LIST  
 SENATE UTILITIES COMMITTEE  
 JANUARY 26, 2009

<u>NAME</u>	<u>COMPANY</u>
Lon Stanton	NORTHERN NATURAL GAS Co
Maui Harvest	CEP
Berend Koops	Hein Law Firm
Carolyn Mendenhall	K's St No Assn
Shari Abbott	KDHE
Rick Brunetti	KDHE
Josh Smith	Intern Sen. Pyle
Tom Coos	KDHE
Mari Tucker	Dept of Commerce
Callie Coos	Kearney Associates, Inc
Scott Jones	KCPK
Wendy <del>Stum</del>	KAPA
Tom Day	KCC
Tom <del>Thompson</del>	Sierra Club
Jim Gortner	AT&T
Deanne Peacock	Suffolk
Mike Rees	Jack's Brader
Andy Sanchez	KS AFL-CIO
Mark Schreiber	Westar

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# Senate Utilities Committee NO<sub>x</sub>, SO<sub>2</sub> and Hg Update

Thomas Gross, Bureau of Air and Radiation  
Kansas Department of Health and Environment

January 26, 2009

## Kansas Air Quality Program

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Statutory/Regulatory Basis  
Air Pollutants  
Emission Inventory  
Monitoring  
Modeling  
Construction Permits  
Operating Permits  
Compliance and Enforcement  
Planning / State Implementation Plans  
Outreach



Senate Utilities Committee  
January 26, 2009  
Attachment 1-1

## Acronyms

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NAAQS – National Ambient Air Quality Standards  
NSPS – New Source Performance Standard  
NESHAPS – National Emission Standards for  
Hazardous Air Pollutants  
RACT – Reasonably Achievable Control Technology  
HAPs – Hazardous Air Pollutants  
MACT – Maximum Achievable Control Technology  
PSD – Prevention of Significant Deterioration  
BACT – Best Available Control Technology  
BART – Best Available Retrofit Technology  
SIP – State Implementation Plan



## Federal Clean Air Act

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### Title I - Standards

National Ambient Air Quality Standards  
State Implementation Plans

### Title II – Mobile Sources

### Title III – Air Toxics

Hazardous Air Pollutants  
Maximum Achievable Control Technology (MACT)

### Title IV – Acid Rain

### Title V – Operating Permits

### Title VI – Stratospheric Ozone

CFC phase out





## Kansas Air Quality Regulations

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Definitions	K.A.R. 28-19-200 - 201
RACT rules	K.A.R. 28-19-63 thru 77 K.A.R. 28-19-714 thru 719
Emissions fee	K.A.R. 28-19-202
Construction Permits	K.A.R. 28-19-300
PSD	K.A.R. 28-19-350
General Permits	K.A.R. 28-19-400
Operating Permits	K.A.R. 28-19-500
NSPS	K.A.R. 28-19-720
MACT	K.A.R. 28-19-750



## Air Pollutants

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Nitrogen Oxides (NOX)  
Sulfur Dioxide (SO<sub>2</sub>)  
Ozone  
Particulate Matter (PM)  
Carbon Monoxide (CO)  
Lead  
188 Air toxics  
Mercury



# Nitrogen Oxides (NO<sub>x</sub>)

## Health Effects

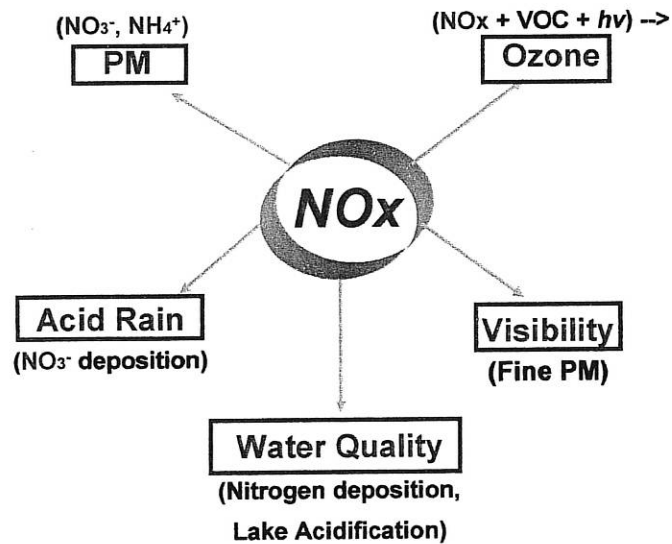
- Emphysema
- Nose and eye irritation
- Lung tissue damage
- Bronchitis and pneumonia
- Aggravate existing heart disease

## Sources

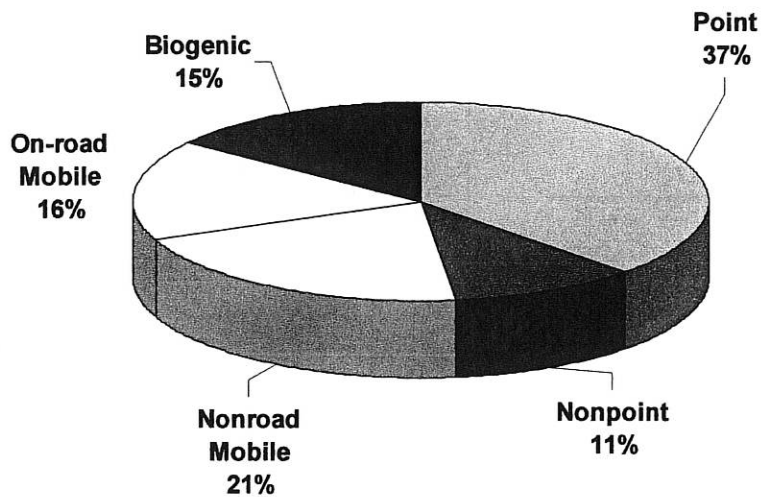
- Produced by combustion of fossil fuels
  - Electric utilities
  - Motor vehicles
  - Industry
  - Commercial and residential fuel
- Microbial action in soils



# NO<sub>x</sub> Related Air Quality Issues

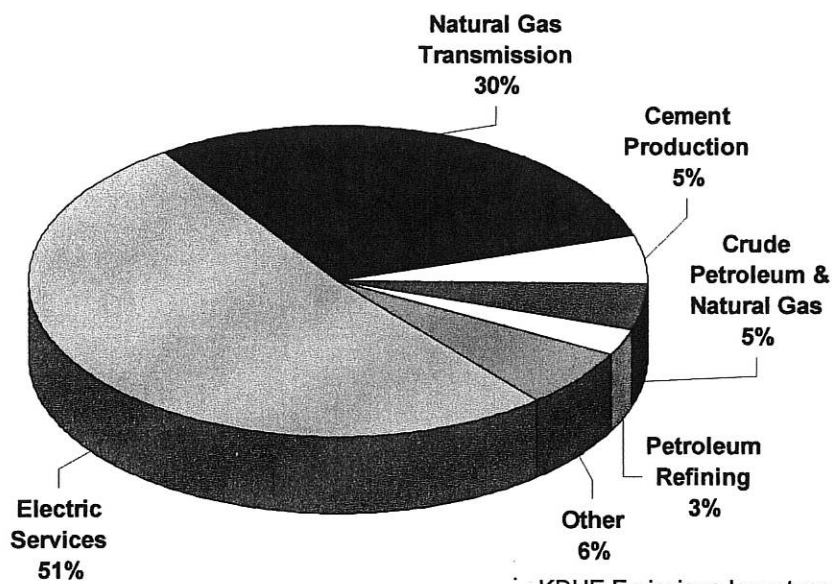


## 2005 Kansas NOx Emissions



EPA National Emissions Inventory (NEI)

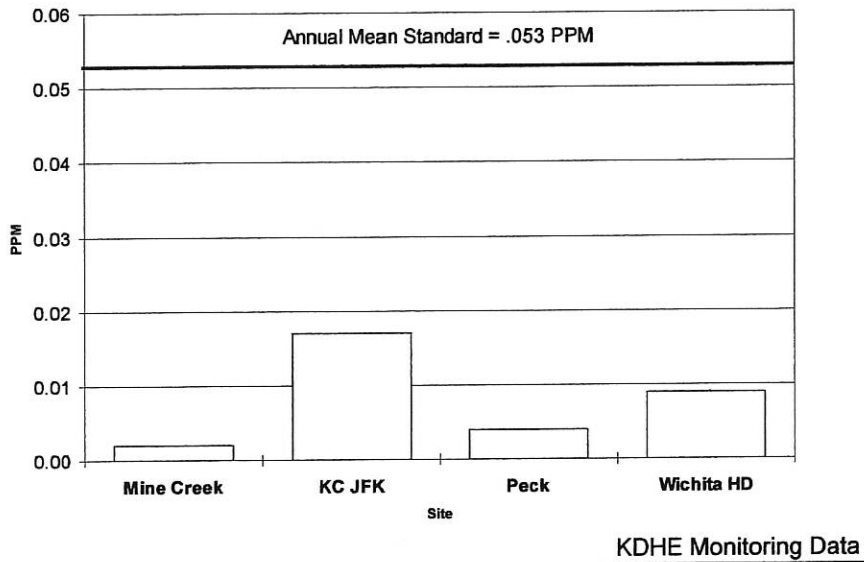
## 2007 Kansas NOx Point Source Emissions



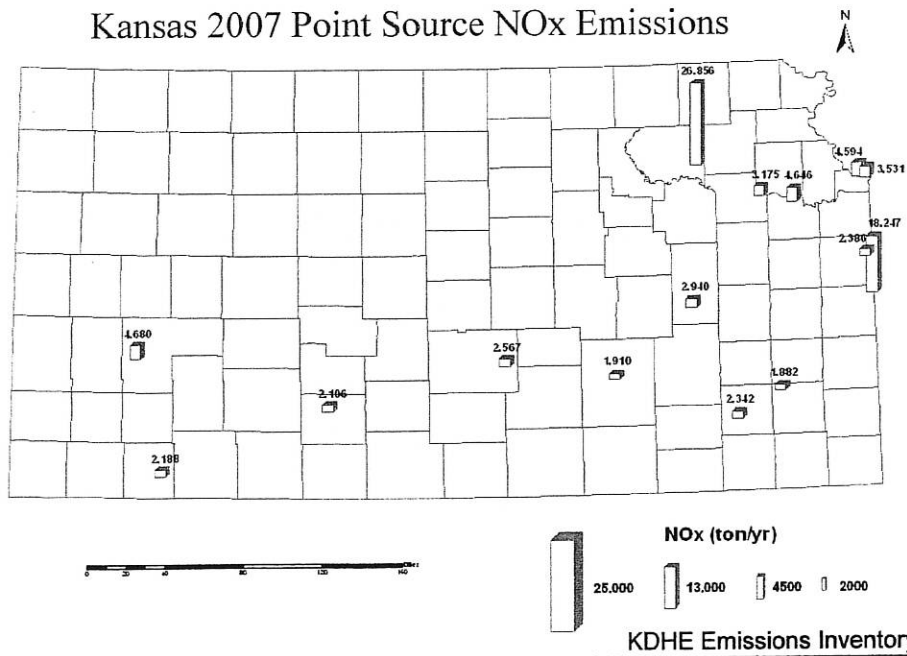
KDHE Emissions Inventory

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# Nitrogen Oxides 2008 Hourly Average



# Kansas 2007 Point Source NOx Emissions



## NOx Standards

Ambient standard (NAAQS) - 0.053 ppm (annually)

NSPS = 0.10 – 0.80 lbs/MMBtu

Varies with size, fuel type, and date of construction

Acid Rain – Phase II = 0.40 - 0.86 lbs/MMBtu

Varies with boiler type

PSD

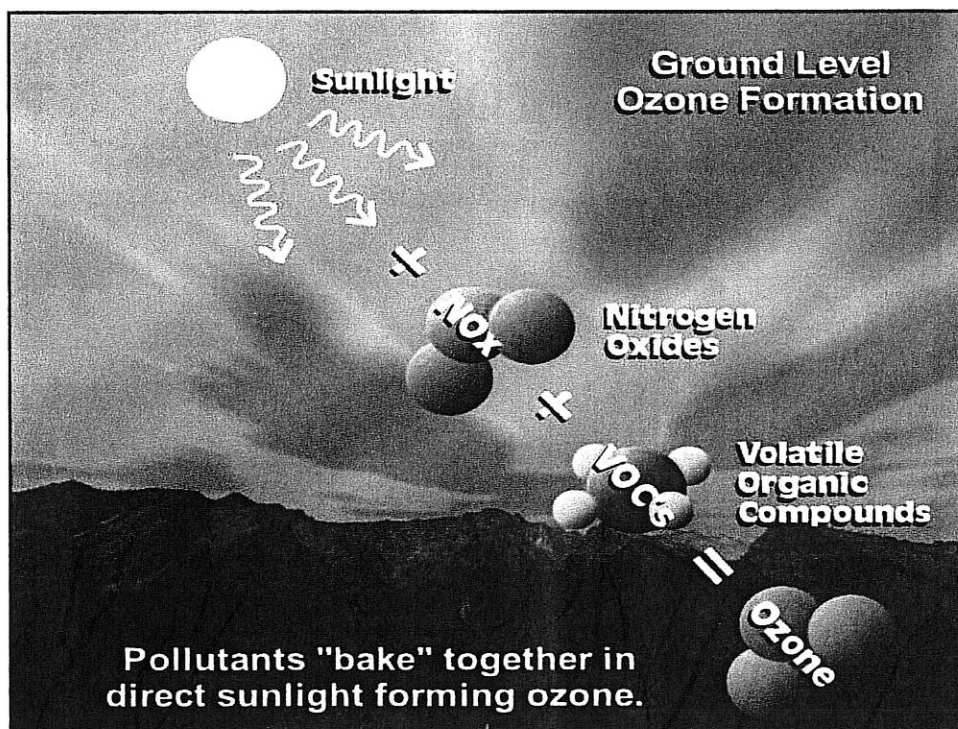
BACT analysis

Regional Haze

BART analysis

KC Ozone SIP

Varies with size and type of boiler



## Ozone (O<sub>3</sub>)

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### Health Effects:

Lung damage

Eye and respiratory irritant

Reduced lung function causing breathing difficulties

Chronic exposure can cause asthma, reduces lung capacity, and bronchitis

### Environmental Effects:

Damage to vegetation

Reduce crop yields

March 12, 2008 – EPA announced final 8-hour ozone standard of 0.75 ppm

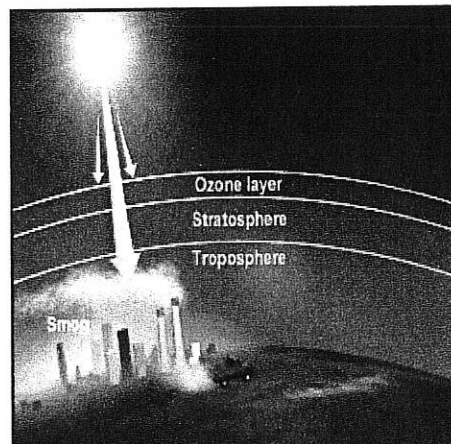


## Two Types of Ozone

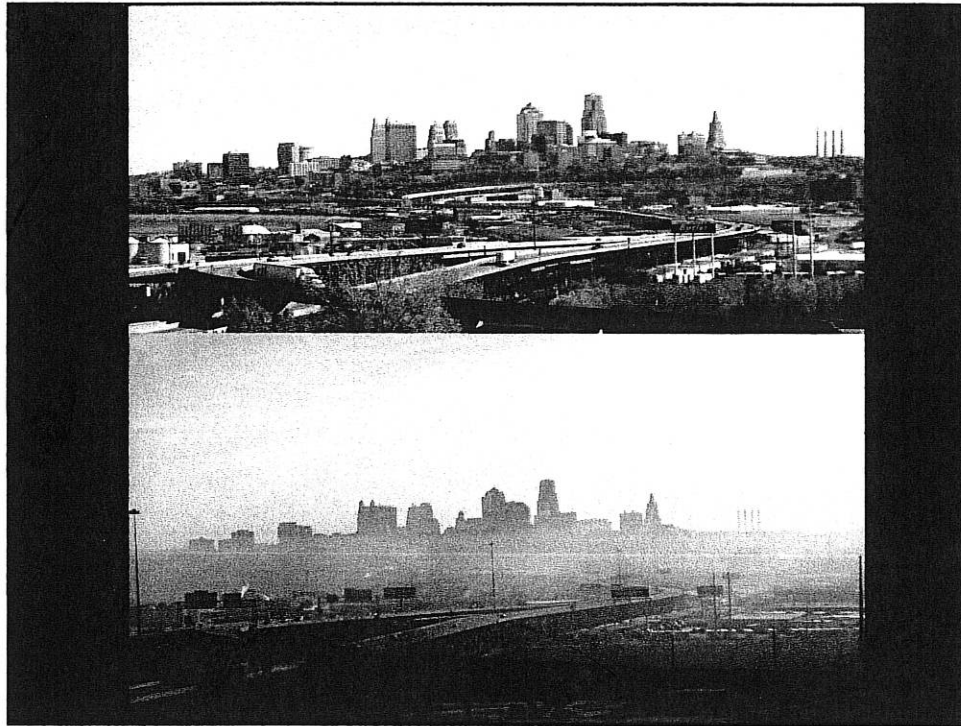
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**Good Ozone:** Ozone in the stratosphere high above the earth protects human health

**Bad Ozone:** Ground Level ozone is a respiratory irritant to human health



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## Sulfur Dioxide (SO<sub>2</sub>)

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### Health Effects:

- Respiratory illness
- Difficulty breathing
- Ear/Nose/Throat irritation
- Aggravates existing heart disease

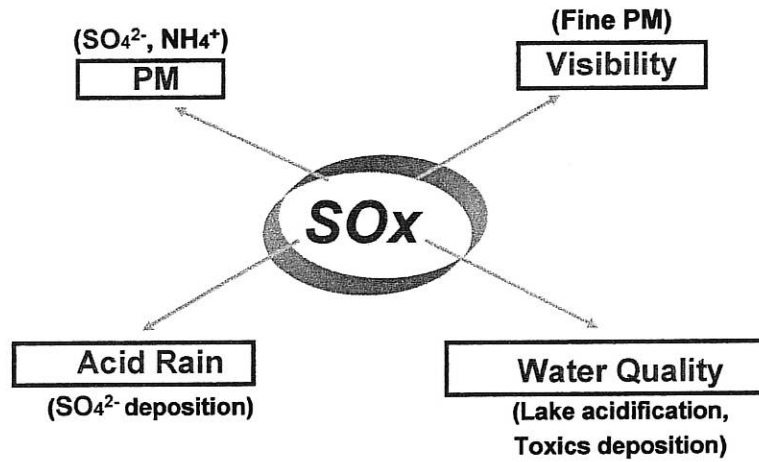
### Sources:

- From sulfur in fuels (coal and oil)
  - Utilities
  - Refineries
  - Diesel engines
- Geothermal sources (volcanoes)

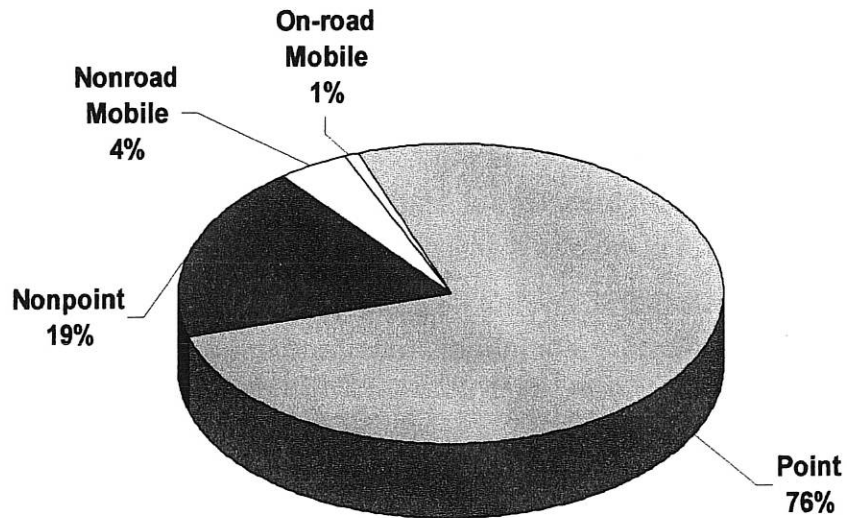




## SO<sub>2</sub> Related Air Quality Issues



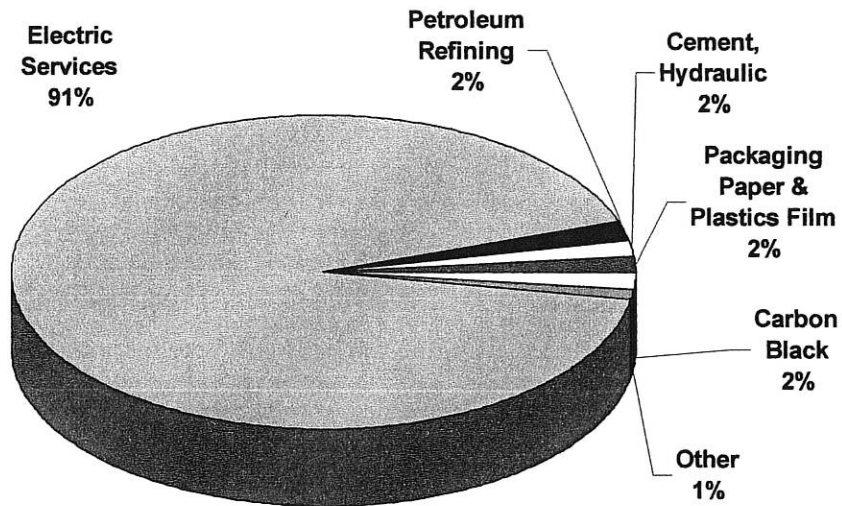
## 2005 Kansas SO<sub>2</sub> Emissions



EPA National Emissions Inventory (NEI)

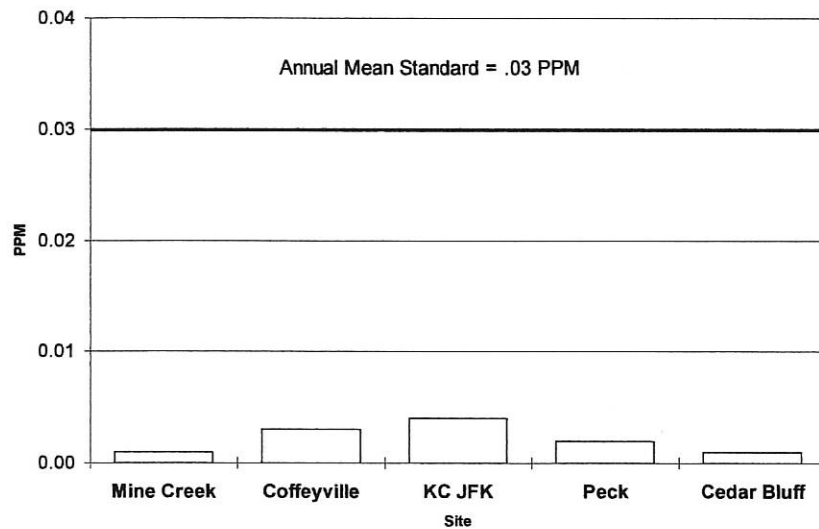
1-10

## 2007 Kansas Point Source SO<sub>2</sub> Emissions



Kansas Emission Inventory

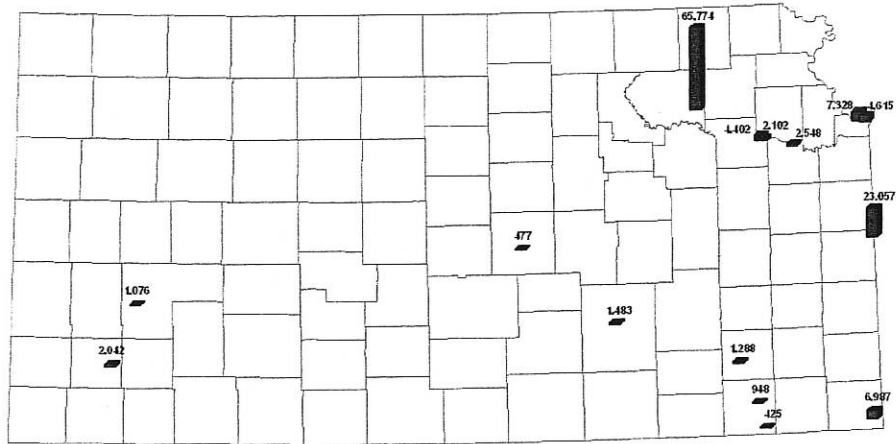
## Sulfur Dioxide 2008 Hourly Average



KDHE Monitoring Data

1-11

## Kansas 2007 Point Source SO<sub>2</sub> Emissions



KDHE Emissions Inventory

## SO<sub>2</sub> Standards

Ambient standard (NAAQS) - 0.03 ppm (annually),  
0.14 ppm (24 hour)

NSPS = 0.15 – 1.2 lbs/MMBtu

Varies with size, fuel type, and date of construction

Acid Rain = 1.2 lbs/MMBtu heat input baseline

Cap & Trade Program

Varies with boiler type

PSD

BACT analysis

Regional Haze

BART analysis



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## Air Quality Permits

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### Construction permits

Approvals

Permits

Prevention of Significant Deterioration

### Operating permits

Class I

Class II

General



## Air Quality Permitting Process

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Application Received

Review & Finalize Application

Determine Application Complete

Draft Permit

Public Notice/Hearing

Review/Respond to Comments

Final Permit Determination



## Prevention of Significant Deterioration

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When potential emissions exceed major source thresholds

Best Available Control Technology – Consider energy, environmental, and economic impacts

Changes over time as new technologies are demonstrated.

Can apply to new plant or existing plant that makes changes



## Control Technologies

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### NOx

Best Combustion Practices

Low NOx burners

Over fire air

Neural network

Selective Catalytic Reduction (SCR)

### SO<sub>2</sub>

Scrubber

### Mercury

Carbon Injection



# Mercury

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Naturally occurring element present throughout the environment

Forms: elemental, organic and inorganic

Sources:

Coal-fired utility boilers

Cement kilns

Hazardous waste combustors

Incinerators

Natural processes (volcano eruptions, evaporation)

The majority of exposure in the U.S. is from methylmercury in fish



# Mercury Health Effects

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Neurotoxin

Causes learning problems, memory loss, numbness, loss of muscle coordination, tremors, deafness and changes in vision

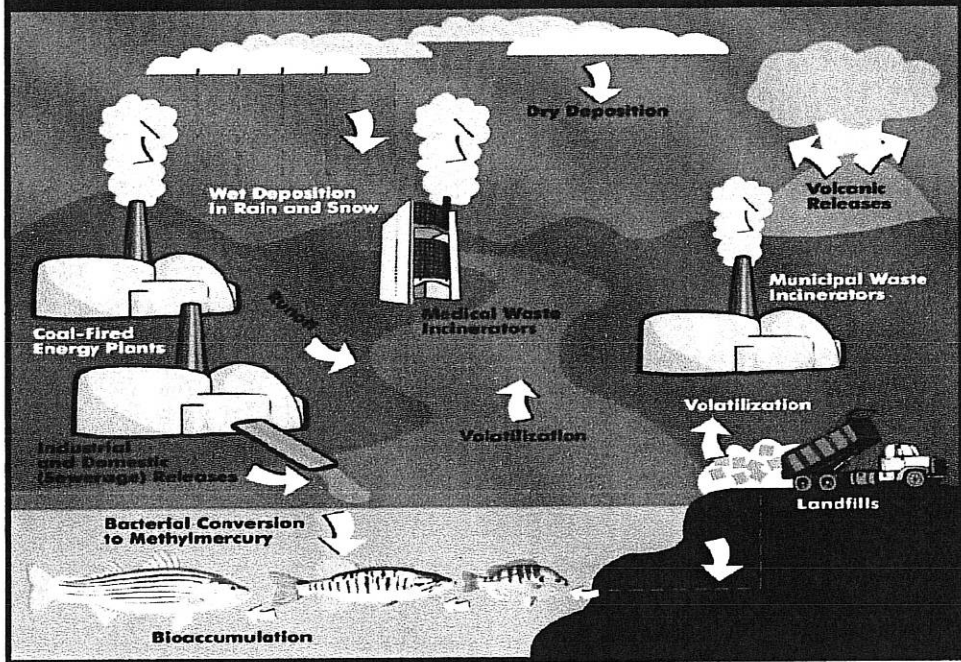
Exposure in the womb linked to mental retardation, cerebral palsy and heart disease

Potential cardiovascular, immune system, and reproductive effects

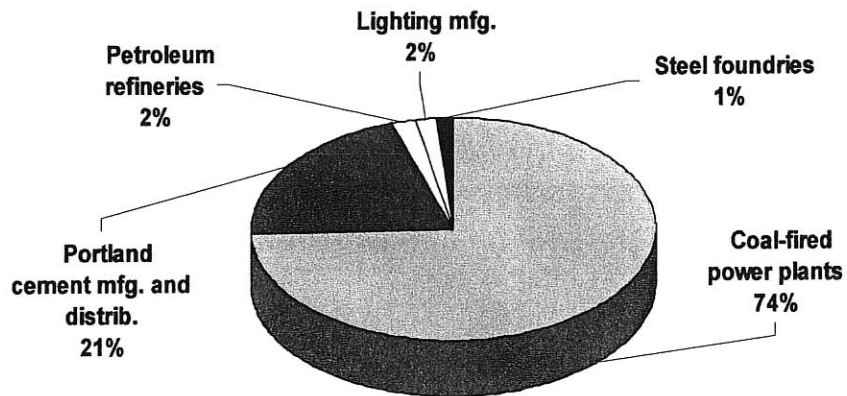


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# The Mercury Cycle



## 2007 Kansas Point Source Mercury Emissions



EPA Toxics Release Inventory (TRI)

1-16



## Mercury Deposition Background

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Update is a requirement of K.S.A. 75-5673

H.B. 2526 passed in 2007

K.S.A. 75-5673 requires KDHE to establish a statewide atmospheric mercury deposition monitoring network

No fewer than six sites in Kansas

At least two sites to measure mercury deposition entering the state from prevailing winds

Contract with a proven laboratory

Data and analysis reports provided to the public via web



## Mercury Network Siting Process

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### Site selection

Find location meeting siting criteria

Locate owner, obtain permits, negotiate use agreement

Obtain national MDN approval

Find operator and negotiate contract

### Site development

Install electrical service

Install equipment

Conduct operational tests

### Operator training

Schedule and conduct operator training session

### Routine operation



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## Site Partners

Sac and Fox Nation of Missouri in KS and NE

Glen Elder State Park – KDWP

Lake Scott State Park – KDWP/Private Contract Operator

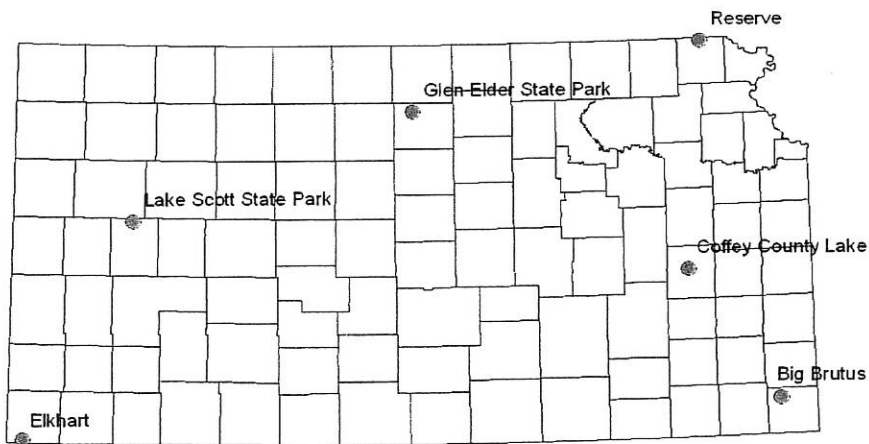
Cimarron National Grassland – USDA

Big Brutus, Inc. – Big Brutus Board

Coffey County Lake – Wolf Creek/KDHE



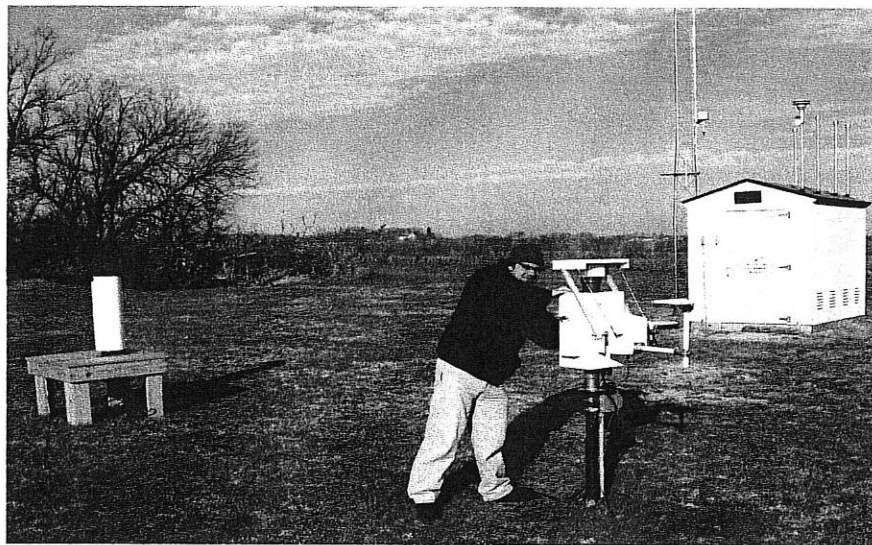
## Mercury Wet Deposition Network



KDHE Monitoring Data

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## Reserve, Kansas Site



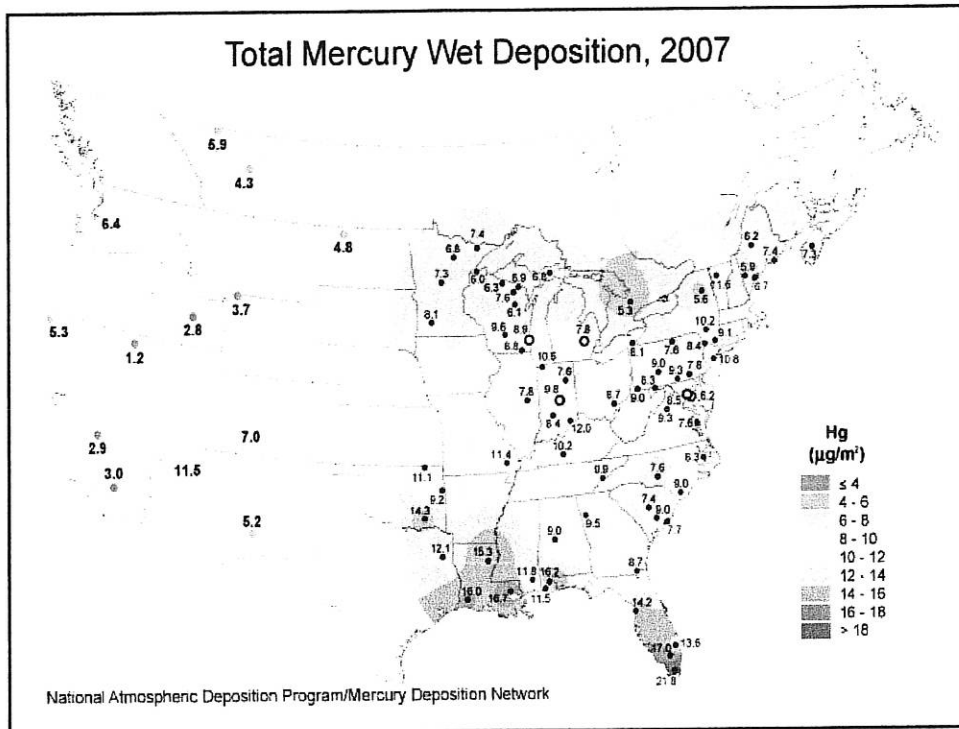
## Mercury Wet Deposition Data

Concentration, expressed in nanograms per liter (ng/L) of precipitation collected. This is the amount of mercury present in the water collected by the sampler.

Deposition, expressed in micrograms per square meter ( $\mu\text{g}/\text{m}^2$ ). This is the amount of mercury deposited by precipitation on each square meter of ground at the sampling site.



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## Kansas Mercury Monitoring Budget

Network development: June 1, 2007 – Dec. 31, 2008	
Salaries:	\$ 35,537
Equipment:	\$ 59,128
Training:	\$ 1,400
Site development:	\$ 5,958
Total:	\$ 102,023
Operating costs: Jan. 1, 2008 – Dec. 31, 2008	
Salaries:	\$ 28,909
Supplies & travel:	\$ 484
Operator & Site use fees:	\$ 12,788
Sample shipping:	\$ 5,162
Laboratory analysis:	\$ 29,957
Total:	\$ 77,300
Estimated total costs for 2009	
First full year of network operation:	\$141,821



Susan Kannarr, Chief Clerk  
Kansas House of Representatives  
Statehouse  
Topeka, Kansas 66612

January 7, 2009


Pat Saville, Secretary  
Kansas Senate  
Statehouse  
Topeka, Kansas 66612

RE: Report to the Legislature concerning the availability of Broadband services in the State of Kansas, as directed by the 2008 Legislature in Senate Bill No. 570, Section 6(a).

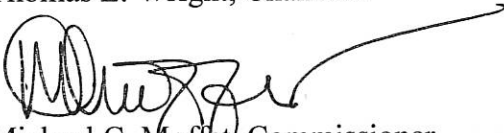
Senate Bill No. 570, Section 6(a), directed the Kansas Corporation Commission (Commission) to report to the Legislature on broadband service availability in the state of Kansas. Specifically, the report is to include: "(1) A report by census tract or other identifiable geographic unit indicating whether broadband service is available and the number of providers that offer service in each census tract;" The attached report is responsive to that directive.

This report was prepared by the Telecommunications Section of the Commission's staff. Mr. Guy McDonald, 271-3230, [g.mcdonald@kcc.ks.gov](mailto:g.mcdonald@kcc.ks.gov) and/or Ms. Janet Buchanan, 271-3293, [j.buchanan@kcc.ks.gov](mailto:j.buchanan@kcc.ks.gov) are familiar with its contents and preparation.

Sincerely,



Thomas E. Wright, Chairman



Michael C. Moffet, Commissioner



Joe F. Harkins, Commissioner

Senate Utilities Committee  
January 26, 2009  
Attachment 2-1

cc: File Docket 09-GIMT-045-GIT

A Report to the 2009 Legislature Concerning the  
Availability of Broadband Service in the State of Kansas

# Availability of Broadband Service in the State of Kansas

Senate Bill No. 570, (SB 570) Section 6(a), directed the Kansas Corporation Commission (Commission) to report to the Legislature on broadband service being provided in the state of Kansas. Specifically, the report is to include: “(1) A report by census tract or other identifiable geographic unit indicating whether broadband service is available and the number of providers that offer service in each census tract;” This report is responsive to that directive.

Because of its broad social/economic impact, deployment of broadband services has become a national priority and has been the focus of much legislative and regulatory attention in recent years. Typically this service is used by an end user consumer to access the Internet. This service has been declared to be an interstate service by the Federal Communications Commission (FCC) and thus is not under the jurisdiction of state public service commissions.

In order to clarify provisions of SB 570 and to provide guidance to the industry and staff, the Commission opened a general investigation (Docket No. 09-GIMT-045-GIT) into the implementation of SB 570. The proceeding culminated with an Order dated October 1, 2008:

- Relieving the broadband service providers of their obligation to report deployment information to the commission no later than October 1, 2008, due to paralleling action by the FCC in its Report and Order and Further Notice of Proposed Rulemaking (FCC 08-89), released June 2, 2008.
- Accepting the FCC’s definition of broadband service as being *any synchronous or asynchronous transmission technology capable of speeds of at least 200 kilobits per second in at least one direction* for the current reporting period. Staff notes that future reporting will be by eight distinct speed categories, thus providing a more precise view of broadband deployment.
- Directing staff to develop a Legislative Broadband Service Report utilizing the latest ZIP code information available from the FCC, with subsequent Reports to be based on census tract data collected by the FCC.
- Directing staff to evaluate and report on the use of an independent third party in the gathering and reporting of broadband data.

The reader may access the entire proceeding, including industry responses, through the Commission’s website at <http://www.kcc.ks.gov/docket/docket.htm> and entering 09-GIMT-045-GIT in the “Docket # Search” window.

## **How does Kansas compare?**

In order to track and determine the deployment status of this service, the FCC has established a data gathering process whereby all facilities based service providers (wireline, cable, wireless, etc.) report, semi-annually, selected data concerning their high-speed/broadband service offerings. This process is facilitated by use of the FCC’s Form 477 *Local Telephone Competition and Broadband Reporting*. The broadband deployment portion of this data collection is based on geographical ZIP codes in which the reporting service provider has at least one connection.



**How does Kansas compare?** (Continued)

By relying on FCC data the reader is assured of definitional consistency between states and historical consistency. Following are brief excerpts from the FCC's most recent report of June 30, 2007, data<sup>1</sup>:

Number of Broadband Service Providers, by Technology, as of 6-30-2007 (Table 8).

<u>State</u>	<u>ADSL</u>	<u>Cable</u>	<u>Other *</u>	<u>Total No. Unduplicated Providers</u>	<u>+/- from 12-06</u>
Kansas	38	24	72	81	- 2
Missouri	40	17	80	88	+ 5
Oklahoma	40	10	56	72	+ 3
Colorado	28	11	59	62	- 1
Nebraska	34	15	55	65	- 2

\* Other includes wire-line technologies, other than ADSL, fiber optics to the subscriber's premises, satellite, terrestrial wireless systems, Power Line, etc.

This table data shows that Kansas has attracted 81 broadband service providers (a loss of 2 from Dec. 2006) and compares favorably with adjacent states.

Percentage of ZIP Codes with Broadband Lines in Service, a/o 6-30-2007 (Table 17)

<u>State</u>	----- Number of Service Providers -----								
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>9</u>	<u>&gt;10</u>
Kansas	0%	0%	5%	12%	14%	15%	11%	8%	17%
Missouri	0	2	5	12	15	17	13	7	11
Oklahoma	0	1	4	8	17	17	13	8	11
Colorado	0	0	1	4	7	14	15	5	33
Nebraska	0	0	1	6	18	22	19	7	7
Nationwide	0	1	4	7	11	14	13	7	23

These data indicate another favorable comparison with adjacent states and nationally, with all geographical ZIP codes in Kansas having at least two service providers and 15% having five providers. With the availability of new and developing technologies, it is expected that additional deployment will continue and additional choices will be made available to consumers.

<sup>1</sup> Federal Communications Commission news release dated March 19, 2008, *Federal Communications Commission Releases Data on High-Speed Services for Internet Access.* <http://www.fcc.gov/wcb/iatd/stats.html>

## How does Kansas look internally?

Attachment A to this report presents the number of service providers in each Kansas geographical ZIP code having at least one broadband subscriber, by county. A review of the detailed data reinforces the FCC's summation presented above in Table 17, wherein 0% of Kansas ZIP codes are shown to have either zero or one broadband subscriber. This is not to suggest that broadband service is ubiquitously available through out the state. Within ZIP code boundaries, some of which cover many square miles, there are un-served population pockets; however, the FCC's current data collection methodology is not sufficiently sensitive to identify those un-served pockets.

Attachment B is a one page ZIP code map showing the number of broadband service providers with at least one broadband subscriber within the respective ZIP codes.

### Broadband Lines (in service) by Technology, as of 6-30-2007 (Table 9)

Kansas:	<u>ADSL</u>	<u>Cable</u>	<u>Other *</u>	<u>Total</u>
- 12/06	202,751	349,684	203,487	755,922
- 6/07	216,800 (+7%)	351,371 (+.5%)	300,940 (+48%)	869,111 (+15%)
% of Total	25%	40%	35%	

National:				
- 12/06	19.5M	25.5M	25.1M	82.5M
- 6/07	27.5M (+8%)	34.4M (+7.5%)	38.3M (+28.7%)	100.2M (+21.5%)
% of Total	28%	34%	38%	

\*Other includes wire-line technologies, other than ADSL, fiber optics to the subscriber's premises, satellite, terrestrial wireless systems, Power Line, etc.

Clearly the predominate technology used in Kansas for delivery of broadband service is cable (40%), followed by a mix of other technologies (35%) with asymmetric digital subscriber line (ADSL), typically provided by facilities-based local exchange carriers, accounting for 25%.

The data indicates that the technology mix in Kansas is consistent with national deployment trends and that the overall six month growth rate (15% v. 21%) for Kansas is slightly less than the national rate.

## Ongoing activity

As stated above, deployment of broadband service has become a national priority and has been the focus of much legislative and regulatory attention. Continuing its role in fostering the deployment of broadband service, the FCC recently released an Order<sup>2</sup> amending its Form 477 data-collection process. These revisions are expected to "greatly improve the ability of the Commission to understand the extent of broadband deployment, and will enable the Commission

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2 Report and Order and Further Notice of Proposed Rulemaking (FCC 08-89), released June 12, 2008.

## Ongoing activity (Continued)

to continue to develop and maintain appropriate broadband policies, in particular to carry out its obligation under section 706 of the Telecommunications Act of 1996 to determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.<sup>3</sup> Among other revisions, the Report and Order:

- “Amend[s] our local telephone competition and broadband data collection (FCC Form 477) to refine and expand the information collected in a variety of ways. Enhancing the granularity in the data we currently collect, and combining that data with new information about subscribership, will greatly improve our own understanding of the state of broadband services in this country and enable us to assist others in fostering broadband deployment.”<sup>4</sup>

More specifically the Report and Order requires:

- “facilities-based providers of wired, terrestrial fixed wireless, and satellite broadband connections to report the number of connections that they have in service to households and businesses in each of the Census Tracts in which they operate. We require these providers to report subscriptions in separate categories based on the speeds of the services. This information will provide us with a highly detailed and reliable account of broadband subscription and deployment nationwide, enabling us to make more informed policy determinations and to support more effectively the efforts of states and others seeking to promote broadband services. Because of the volume of information being reported, we require providers to supply, in a standardized database format, the number of subscribers in each Census Tract, broken down by technology type and upload and download speed.”<sup>5</sup>

This change in reporting will occur with the March 2009, reporting of December 31, 2008 data and is expected to provide interested parties with additional analytical and demographic information regarding the deployment of broadband services; however, some geographical granularity may be lost, especially in rural counties, due to the non alignment of ZIP code and census tract boundaries which are sized for very different purposes. The Commission’s staff will be monitoring this data closely.

In addition to the shift in data collection from ZIP code boundaries to Census Tract boundaries, the FCC is also pursuing a standard mapping program with the objective of creating a detailed map of broadband availability nationwide<sup>7</sup>.

In a closely related order<sup>5</sup>, the FCC highlighted actions taken since its Fourth Order<sup>6</sup> to facilitate and advance the deployment of broadband. Those actions include:

- Developments in last-mile technologies (Part III of the Fifth Order), consisting mainly of advancing technical standards and improvements in all involved technologies.

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3 Id at Parg. 1

4 Id at Parg. 9

5 Id at Parg. 14

5 *Fifth Report* (FCC 08-88), released June 12, 2008.

6 *Fourth Report* (FCC 04-208), released September 9, 2004.

7 *Report and Order and Further Notice of Proposed Rulemaking* (FCC 08-89), released June 12, 2008, Pargs. 34-35.

**Ongoing activity** (Continued)

- Developments in services, applications and devices (Part IV of the Fifth Order) consisting mainly of significant advancements in software and consumer devices used to access the Internet, and.
- FCC action(s) (Part V, B, of the Fifth Order) consisting mainly of revised regulatory rules pertaining to fiber in the loop, reassignment of radio frequency spectrum for additional licensed and unlicensed broadband technologies and allocation of additional spectrum for satellite based broadband service

**Third Party Data Gathering**

During the course of the general investigation into this data gathering and reporting effort, it was recommended that the Commission consider utilizing the service of an independent third party, such as Connected Nation. Staff determined that it had the needed resources to meet the initial data gathering and reporting requirements of SB 570; however, staff is amiable to use of an independent third party for subsequent reporting.

Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
Allen	- Elsmore	66732	1 to 3
	- Humboldt	66748	7
	- Iola	66749	12
	- La Harpe	66751	5
	- Moran	66755	7
	- Savonburg	66772	4
Anderson	- Centerville	66014	5
	- Colony	66015	6
	- Garnett	66032	7
	- Greeley	66033	5
	- Kincaid	66039	5
	- Welda	66091	4
	- Westphalia	66093	5
Atchison	- Atchison	66002	13
	- Cummings	66016	7
	- Effingham	66023	6
	- Lancaster	66041	4
	- Muscotah	66058	1 to 3
Barber	- Hardtner	67057	1 to 3
	- Hazelton	67061	1 to 3
	- Isabel	67065	5
	- Kiowa	67070	4
	- Lake City	67071	1 to 3
	- Medicine Lodge	67104	9
	- Sharon	67138	1 to 3
	- Sun City	67143	1 to 3
Barton	- Albert	67511	4
	- Claflin	67525	5
	- Ellinwood	67526	7
	- Great Bend	67530	10
	- Hoisington	67544	5
	- Olmitz	67564	1 to 3
	- Pawnee Rock	67567	5
Bourbon	- Fort Scott	66701	9
	- Bronson	66716	5
	- Fulton	66738	5

Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
Brown	- Garland	66741	5
	- Mapleton	66754	1 to 3
	- Redfield	66769	1 to 3
	- Uniontown	66779	1 to 3
	- Everest	66424	1 to 3
	- Fairview	66425	5
	- Hiawatha	66434	9
	- Horton	66439	7
	- Morrill	66515	5
	- Powhattan	66527	5
Butler	- Robinson	66532	1 to 3
	- Cassoday	66842	5
	- Andover	67002	11
	- Augusta	67010	11
	- Benton	67017	11
	- Douglass	67039	10
	- El Dorado	67042	12
	- Latham	67072	1 to 3
	- Leon	67074	9
	- Potwin	67123	4
	- Rosalia	67132	4
	- Rose Hill	67133	10
	- Towanda	67144	11
	- Whitewater	67154	10
Chase	- Cedar Point	66843	1 to 3
	- Cottonwood Falls	66845	6
	- Elmdale	66850	1 to 3
	- Matfield Green	66862	1 to 3
	- Strong City	66869	8
Chautauqua	- Cedar Vale	67024	7
	- Niotaze	67355	6
	- Peru	67360	4
Cherokee	- Sedan	67361	6
	- Baxter Springs	66713	5
	- Columbus	66725	8
	- Crestline	66728	1 to 3

Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
	- Galena	66739	8
	- Riverton	66770	1 to 3
	- Scammon	66773	6
	- Treece	66778	1 to 3
	- Weir	66781	6
Cheyenne	- Bird City	67731	9
	- Saint Francis	67756	8
Clark	- Ashland	67831	4
	- Englewood	67840	1 to 3
	- Minneola	67865	6
Clay	- Clay Center	67432	9
	- Green	67447	6
	- Longford	67458	7
	- Morganville	67468	6
	- Wakefield	67487	8
Cloud	- Concordia	66901	10
	- Clyde	66938	6
	- Jamestown	66948	8
	- Aurora	67417	7
	- Glasco	67445	4
	- Miltonvale	67466	4
Coffey	- Neosho Falls	66758	1 to 3
	- Burlington	66839	7
	- Gridley	66852	6
	- Lebo	66856	6
	- Le Roy	66857	5
	- Waverly	66871	6
Comanche	- Coldwater	67029	7
	- Protection	67127	4
	- Wilmore	67155	1 to 3
Cowley	- Arkansas City	67005	11
	- Atlanta	67008	1 to 3
	- Burden	67019	4
	- Cambridge	67023	4
	- Dexter	67038	4
	- Maple City	67102	1 to 3



Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
Crawford	- Rock	67131	1 to 3
	- Udall	67146	6
	- Winfield	67156	11
	- Arcadia	66711	5
	- Arma	66712	4
	- Cherokee	66724	4
	- Farlington	66734	1 to 3
	- Franklin	66735	1 to 3
	- Girard	66743	5
	- Hepler	66746	1 to 3
	- Mc Cune	66753	6
	- Mulberry	66756	5
	- Pittsburg	66762	12
	- Frontenac	66763	8
Decatur	- Walnut	66780	1 to 3
	- Dresden	67635	4
	- Jennings	67643	1 to 3
	- Norcatur	67653	7
	- Oberlin	67749	8
Dickinson	- Abilene	67410	11
	- Chapman	67431	10
	- Enterprise	67441	9
	- Herington	67449	9
	- Hope	67451	6
	- Solomon	67480	8
	- Talmage	67482	7
	- Woodbine	67492	4
Doniphan	- Bendena	66008	1 to 3
	- Denton	66017	1 to 3
	- Highland	66035	5
	- Troy	66087	7
	- Wathena	66090	9
	- White Cloud	66094	5
Douglas	- Baldwin City	66006	10
	- Eudora	66025	9
	- Lawrence	66044	11

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
	- Lawrence	66045	4
	- Lawrence	66046	10
	- Lawrence	66047	7
	- Lawrence	66049	10
Edwards	- Belpre	67519	4
	- Kinsley	67547	8
	- Lewis	67552	5
	- Offerle	67563	4
Elk	- Elk Falls	67345	4
	- Grenola	67346	4
	- Howard	67349	6
	- Longton	67352	1 to 3
	- Moline	67353	4
Ellis	- Hays	67601	12
	- Catharine	67627	5
	- Ellis	67637	6
	- Pfeifer	67660	1 to 3
	- Victoria	67671	4
	- Walker	67674	1 to 3
Ellsworth	- Ellsworth	67439	7
	- Holyrood	67450	1 to 3
	- Kanopolis	67454	5
	- Lorraine	67459	5
	- Wilson	67490	5
Finney	- Garden City	67846	10
	- Holcomb	67851	5
	- Pierceville	67868	1 to 3
Ford	- Dodge City	67801	13
	- Bucklin	67834	6
	- Ford	67842	1 to 3
	- Spearville	67876	4
	- Wright	67882	6
Franklin	- Lane	66042	6
	- Ottawa	66067	13
	- Pomona	66076	7
	- Princeton	66078	7

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
	- Rantoul	66079	5
	- Richmond	66080	6
	- Wellsville	66092	9
	- Williamsburg	66095	6
Geary	- Junction City	66441	13
	- Fort Riley	66442	8
	- Milford	66514	7
Gove	- Gove	67736	1 to 3
	- Grainfield	67737	1 to 3
	- Grinnell	67738	1 to 3
	- Park	67751	1 to 3
	- Quinter	67752	4
Graham	- Bogue	67625	1 to 3
	- Hill City	67642	4
	- Morland	67650	1 to 3
	- Penokee	67659	1 to 3
Grant	- Ulysses	67880	6
Gray	- Cimarron	67835	4
	- Copeland	67837	4
	- Ensign	67841	1 to 3
	- Ingalls	67853	1 to 3
	- Montezuma	67867	1 to 3
Greeley	- Tribune	67879	4
Greenwood	- Hamilton	66853	6
	- Madison	66860	6
	- Virgil	66870	5
	- Eureka	67045	9
	- Fall River	67047	4
	- Piedmont	67122	4
	- Severy	67137	4
Hamilton	- Coolidge	67836	4
	- Kendall	67857	1 to 3
	- Syracuse	67878	1 to 3
Harper	- Anthony	67003	7
	- Attica	67009	6
	- Bluff City	67018	1 to 3

Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
Harvey	- Danville	67036	1 to 3
	- Freeport	67049	1 to 3
	- Harper	67058	6
	- Waldron	67150	1 to 3
	- Burrton	67020	9
	- Halstead	67056	13
	- Hesston	67062	8
	- Newton	67114	14
	- North Newton	67117	7
	- Sedgwick	67135	11
	- Walton	67151	6
Haskell	- Satanta	67870	1 to 3
	- Sublette	67877	6
Hodgeman	- Hanston	67849	1 to 3
	- Jetmore	67854	4
Jackson	- Circleville	66416	6
	- Delia	66418	6
	- Denison	66419	6
	- Holton	66436	9
	- Hoyt	66440	8
	- Mayetta	66509	7
	- Netawaka	66516	5
	- Soldier	66540	7
	- Whiting	66552	1 to 3
Jefferson	- Mc Louth	66054	8
	- Nortonville	66060	8
	- Oskaloosa	66066	9
	- Ozawkie	66070	7
	- Perry	66073	8
	- Valley Falls	66088	8
	- Winchester	66097	7
	- Grantville	66429	6
	- Meriden	66512	10
Jewell	- Burr Oak	66936	5
	- Esbon	66941	6
	- Formoso	66942	5

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
Johnson	- Jewell	66949	6
	- Mankato	66956	7
	- Randall	66963	5
	- Webber	66970	5
	- De Soto	66018	9
	- Edgerton	66021	10
	- Gardner	66030	12
	- New Century	66031	5
	- Olathe	66061	13
	- Olathe	66062	16
	- Spring Hill	66083	12
	- Stilwell	66085	10
	- Mission	66202	13
	- Shawnee	66203	11
	- Overland Park	66204	11
	- Mission	66205	12
	- Leawood	66206	9
	- Overland Park	66207	10
	- Prairie Village	66208	8
	- Leawood	66209	9
	- Overland Park	66210	12
	- Leawood	66211	13
	- Overland Park	66212	11
	- Overland Park	66213	13
	- Overland Park	66214	11
	- Lenexa	66215	14
	- Shawnee	66216	10
	- Shawnee	66217	8
- Shawnee	66218	6	
- Lenexa	66219	8	
- Lenexa	66220	8	
- Overland Park	66221	8	
- Overland Park	66223	11	
- Overland Park	66224	10	
- Shawnee	66226	7	
- Lenexa	66227	7	

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>	
Kearny	- Deerfield	67838	1 to 3	
	- Lakin	67860	1 to 3	
Kingman	- Cunningham	67035	8	
	- Kingman	67068	10	
	- Murdock	67111	5	
	- Nashville	67112	1 to 3	
	- Norwich	67118	5	
	- Spivey	67142	5	
	- Zenda	67159	1 to 3	
Kiowa	- Greensburg	67054	7	
	- Haviland	67059	6	
	- Mullinville	67109	5	
Labette	- Altamont	67330	6	
	- Bartlett	67332	1 to 3	
	- Chetopa	67336	7	
	- Dennis	67341	1 to 3	
	- Edna	67342	5	
	- Mound Valley	67354	5	
	- Oswego	67356	6	
	- Parsons	67357	12	
	- Dighton	67839	1 to 3	
Lane	- Healy	67850	4	
	- Basehor	66007	7	
Leavenworth	- Easton	66020	10	
	- Fort Leavenworth	66027	8	
	- Lansing	66043	9	
	- Leavenworth	66048	12	
	- Linwood	66052	8	
	- Tonganoxie	66086	8	
	Lincoln	- Barnard	67418	4
		- Beverly	67423	4
- Lincoln		67455	6	
- Sylvan Grove		67481	4	
Linn	- Blue Mound	66010	5	
	- La Cygne	66040	7	
	- Mound City	66056	7	

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>	
Logan	- Parker	66072	6	
	- Pleasanton	66075	5	
	- Prescott	66767	5	
	- Oakley	67748	8	
	- Winona	67764	5	
Lyon	- Emporia	66801	14	
	- Admire	66830	6	
	- Allen	66833	4	
	- Americus	66835	5	
	- Hartford	66854	7	
	- Neosho Rapids	66864	5	
	- Olpe	66865	5	
	- Reading	66868	8	
	Marion	- Burns	66840	8
		- Florence	66851	5
Marion		- Lincolnville	66858	1 to 3
	- Lost Springs	66859	1 to 3	
	- Marion	66861	7	
	- Peabody	66866	5	
	- Goessel	67053	4	
	- Hillsboro	67063	9	
	- Lehigh	67073	4	
	- Durham	67438	4	
	- Ramona	67475	4	
	- Tampa	67483	5	
	Marshall	- Axtell	66403	4
		- Beattie	66406	4
		- Blue Rapids	66411	9
		- Bremen	66412	4
- Frankfort		66427	6	
- Home		66438	1 to 3	
- Marysville		66508	9	
- Oketo		66518	1 to 3	
- Summerfield		66541	1 to 3	
- Vermillion		66544	1 to 3	
- Waterville		66548	5	

Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
McPherson	- Moundridge	67107	7
	- Canton	67428	6
	- Galva	67443	1 to 3
	- Lindsborg	67456	9
	- McPherson	67460	11
	- Marquette	67464	5
	- Roxbury	67476	4
	- Windom	67491	5
	- Inman	67546	10
Meade	- Fowler	67844	6
	- Meade	67864	8
	- Plains	67869	6
Miami	- Bucyrus	66013	12
	- Fontana	66026	6
	- Louisburg	66053	10
	- Osawatomie	66064	9
	- Paola	66071	14
Mitchell	- Beloit	67420	10
	- Cawker City	67430	5
	- Glen Elder	67446	4
	- Hunter	67452	4
	- Simpson	67478	1 to 3
	- Tipton	67485	1 to 3
Montgomery	- Independence	67301	9
	- Caney	67333	7
	- Cherryvale	67335	8
	- Coffeyville	67337	12
	- Elk City	67344	5
	- Havana	67347	4
	- Liberty	67351	5
Morris	- Burdick	66838	1 to 3
	- Council Grove	66846	6
	- Dwight	66849	5
	- White City	66872	5
	- Wilsey	66873	1 to 3
Morton	- Elkhart	67950	4



Number of Broadband Service Providers,  
By Zip Code

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<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
Nemaha	- Richfield	67953	1 to 3
	- Rolla	67954	4
	- Baileyville	66404	5
	- Bern	66408	5
	- Centralia	66415	5
	- Corning	66417	5
	- Goff	66428	8
	- Oneida	66522	1 to 3
	- Sabetha	66534	9
	- Seneca	66538	9
Neosho	- Wetmore	66550	6
	- Chanute	66720	10
	- Erie	66733	9
	- Galesburg	66740	5
	- Saint Paul	66771	5
	- Stark	66775	1 to 3
	- Thayer	66776	4
Ness	- Arnold	67515	1 to 3
	- Bazine	67516	1 to 3
	- Beeler	67518	1 to 3
	- Brownell	67521	1 to 3
	- Ness City	67560	4
	- Ransom	67572	1 to 3
	- Utica	67584	1 to 3
	- Almena	67622	4
Norton	- Clayton	67629	5
	- Lenora	67645	1 to 3
	- Norton	67654	7
	- Burlingame	66413	9
Osage	- Carbondale	66414	10
	- Lyndon	66451	7
	- Melvern	66510	6
	- Osage City	66523	10
	- Overbrook	66524	8
	- Quenemo	66528	6
	- Scranton	66537	9

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Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
Osborne	- Vassar	66543	6
	- Downs	67437	5
	- Osborne	67473	5
	- Portis	67474	4
	- Alton	67623	4
Ottawa	- Natoma	67651	1 to 3
	- Bennington	67422	6
	- Delphos	67436	5
	- Minneapolis	67467	8
Pawnee	- Tescott	67484	6
	- Burdett	67523	1 to 3
	- Garfield	67529	1 to 3
	- Larned	67550	10
Phillips	- Rozel	67574	1 to 3
	- Agra	67621	1 to 3
	- Glade	67639	4
	- Kirwin	67644	5
	- Logan	67646	1 to 3
	- Long Island	67647	1 to 3
	- Phillipsburg	67661	8
	- Prairie View	67664	4
	Pottawatomie	- Belvue	66407
- Emmett		66422	4
- Havensville		66432	4
- Olsburg		66520	6
- Onaga		66521	5
- Saint George		66535	5
- Saint Marys		66536	8
- Wamego		66547	7
- Westmoreland		66549	6
Pratt	- Byers	67021	1 to 3
	- Coats	67028	4
	- Iuka	67066	1 to 3
	- Pratt	67124	12
Rawlins	- Sawyer	67134	5
	- Atwood	67730	9

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
Reno	- Herndon	67739	4
	- Ludell	67744	5
	- Mc Donald	67745	6
	- Hutchinson	67501	12
	- Hutchinson	67502	12
	- South Hutchinson	67505	7
	- Abbyville	67510	1 to 3
	- Arlington	67514	6
	- Buhler	67522	7
	- Haven	67543	8
	- Nickerson	67561	8
	- Partridge	67566	4
	- Plevna	67568	1 to 3
	- Pretty Prairie	67570	7
	- Sylvia	67581	4
- Turon	67583	8	
Republic	- Agenda	66930	4
	- Belleville	66935	7
	- Courtland	66939	5
	- Cuba	66940	5
	- Munden	66959	5
	- Narka	66960	4
	- Norway	66961	1 to 3
	- Republic	66964	4
	- Scandia	66966	7
	Rice	- Bushton	67427
- Geneseo		67444	5
- Little River		67457	1 to 3
- Alden		67512	1 to 3
- Chase		67524	5
- Lyons		67554	9
- Raymond		67573	1 to 3
- Sterling		67579	7
Riley		- Leonardville	66449
	- Manhattan	66502	14
	- Manhattan	66503	11

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>	
Rooks	- Manhattan	66506	5	
	- Ogden	66517	7	
	- Riley	66531	7	
	- Randolph	66554	6	
	- Damar	67632	4	
	- Palco	67657	1 to 3	
	- Plainville	67663	9	
	- Stockton	67669	7	
Rush	- Woodston	67675	4	
	- Alexander	67513	1 to 3	
	- Bison	67520	4	
	- La Crosse	67548	8	
	- Liebenthal	67553	4	
	- Mc Cracken	67556	4	
	- Nekoma	67559	1 to 3	
	- Otis	67565	4	
	- Rush Center	67575	4	
	Russell	- Bunker Hill	67626	5
- Dorrance		67634	4	
- Gorham		67640	4	
- Lucas		67648	5	
- Luray		67649	4	
- Paradise		67658	5	
- Russell		67665	6	
- Waldo		67673	1 to 3	
Saline		- Salina	67401	11
		- Assaria	67416	5
	- Brookville	67425	7	
	- Falun	67442	6	
	- Gypsum	67448	8	
	- New Cambria	67470	6	
Scott	- Scott City	67871	7	
Sedgwick	- Andale	67001	8	
	- Bentley	67016	6	
	- Cheney	67025	11	
	- Clearwater	67026	9	

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
	- Colwich	67030	10
	- Derby	67037	13
	- Garden Plain	67050	8
	- Goddard	67052	11
	- Greenwich	67055	5
	- Haysville	67060	11
	- Kechi	67067	9
	- Maize	67101	9
	- Mount Hope	67108	7
	- Mulvane	67110	13
	- Peck	67120	8
	- Valley Center	67147	10
	- Viola	67149	7
	- Wichita	67202	12
	- Wichita	67203	10
	- Wichita	67204	9
	- Wichita	67205	11
	- Wichita	67206	11
	- Wichita	67207	10
	- Wichita	67208	9
	- Wichita	67209	11
	- Wichita	67210	9
	- Wichita	67211	11
	- Wichita	67212	10
	- Wichita	67213	12
	- Wichita	67214	11
	- Wichita	67215	10
	- Wichita	67216	10
	- Wichita	67217	11
	- Wichita	67218	10
	- Wichita	67219	10
	- Wichita	67220	10
	- McConnell AFB	67221	6
	- Wichita	67223	8
	- Wichita	67226	11
	- Wichita	67227	10

Number of Broadband Service Providers,  
By Zip Code

<u>County</u> (1)	<u>City</u> (1)	<u>Geographical Zip Codes</u> (1)	<u>Number of Broadband Svc. Providers</u> (2)
	- Wichita	67228	10
	- Wichita	67230	11
	- Wichita	67232	8
	- Wichita	67235	9
	- Wichita	67260	5
Seward	- Kismet	67859	4
	- Liberal	67901	9
Shawnee	- Lecompton	66050	8
	- Auburn	66402	10
	- Berryton	66409	9
	- Rossville	66533	8
	- Silver Lake	66539	8
	- Tecumseh	66542	9
	- Wakarusa	66546	8
	- Topeka	66603	13
	- Topeka	66604	11
	- Topeka	66605	12
	- Topeka	66606	10
	- Topeka	66607	10
	- Topeka	66608	11
	- Topeka	66609	9
	- Topeka	66610	10
	- Topeka	66611	12
	- Topeka	66612	12
	- Topeka	66614	13
	- Topeka	66615	11
	- Topeka	66616	9
	- Topeka	66617	12
	- Topeka	66618	13
	- Topeka	66619	9
Sheridan	- Hoxie	67740	8
	- Selden	67757	4
Sherman	- Edson	67733	1 to 3
	- Goodland	67735	10
	- Kanorado	67741	5
Smith	- Athol	66932	1 to 3

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>	
Stafford	- Kensington	66951	5	
	- Lebanon	66952	5	
	- Smith Center	66967	7	
	- Cedar	67628	4	
	- Gaylord	67638	1 to 3	
	- Hudson	67545	1 to 3	
	- Macksville	67557	5	
	- Saint John	67576	5	
Stanton	- Stafford	67578	5	
	- Johnson	67855	1 to 3	
	- Manter	67862	1 to 3	
Stevens	- Hugoton	67951	5	
	- Moscow	67952	1 to 3	
Sumner	- Argonia	67004	4	
	- Belle Plaine	67013	10	
	- Caldwell	67022	6	
	- Conway Springs	67031	7	
	- Geuda Springs	67051	7	
	- Mayfield	67103	5	
	- Milan	67105	1 to 3	
	- Milton	67106	6	
	- Oxford	67119	7	
	- South Haven	67140	4	
	- Wellington	67152	12	
	Thomas	- Colby	67701	9
		- Brewster	67732	1 to 3
- Gem		67734	6	
- Levant		67743	4	
- Rexford		67753	6	
Trego	- Collyer	67631	1 to 3	
	- Ogallah	67656	1 to 3	
	- WaKeeney	67672	4	
Wabaunsee	- Alma	66401	9	
	- Eskridge	66423	9	
	- Harveyville	66431	6	
	- Maple Hill	66507	6	

Number of Broadband Service Providers,  
By Zip Code

<u>County (1)</u>	<u>City (1)</u>	<u>Geographical Zip Codes (1)</u>	<u>Number of Broadband Svc. Providers (2)</u>
	- Paxico	66526	5
	- Alta Vista	66834	6
Wallace	- Sharon Springs	67758	6
	- Wallace	67761	6
	- Weskan	67762	5
Washington	- Barnes	66933	5
	- Clifton	66937	7
	- Greenleaf	66943	4
	- Haddam	66944	5
	- hanover	66945	6
	-Hollenberg	66946	4
	- Linn	66953	4
	- Mahaska	66955	4
	- Morrowville	66958	4
	- Palmer	66962	1 to 3
	- Washington	66968	7
Wichita	- Leoti	67861	5
	- Marienthal	67863	4
Wilson	- Altoona	66710	4
	- Benedict	66714	1 to 3
	- Buffalo	66717	1 to 3
	- Fredonia	66736	7
	- Neodesha	66757	6
	- New Albany	66759	1 to 3
Woodson	- Piqua	66761	1 to 3
	- Toronto	66777	5
	- Yates Center	66783	7
Wyandotte	- Bonner Springs	66012	9
	- Kansas City	66101	11
	- Kansas City	66102	9
	- Kansas City	66103	7
	- Kansas City	66104	8
	- Kansas City	66105	7
	- Kansas City	66106	9
	- Kansas City	66109	9
	- Kansas City	66111	9



Number of Broadband Service Providers,  
By Zip Code

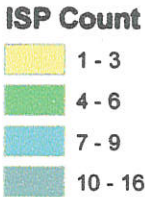
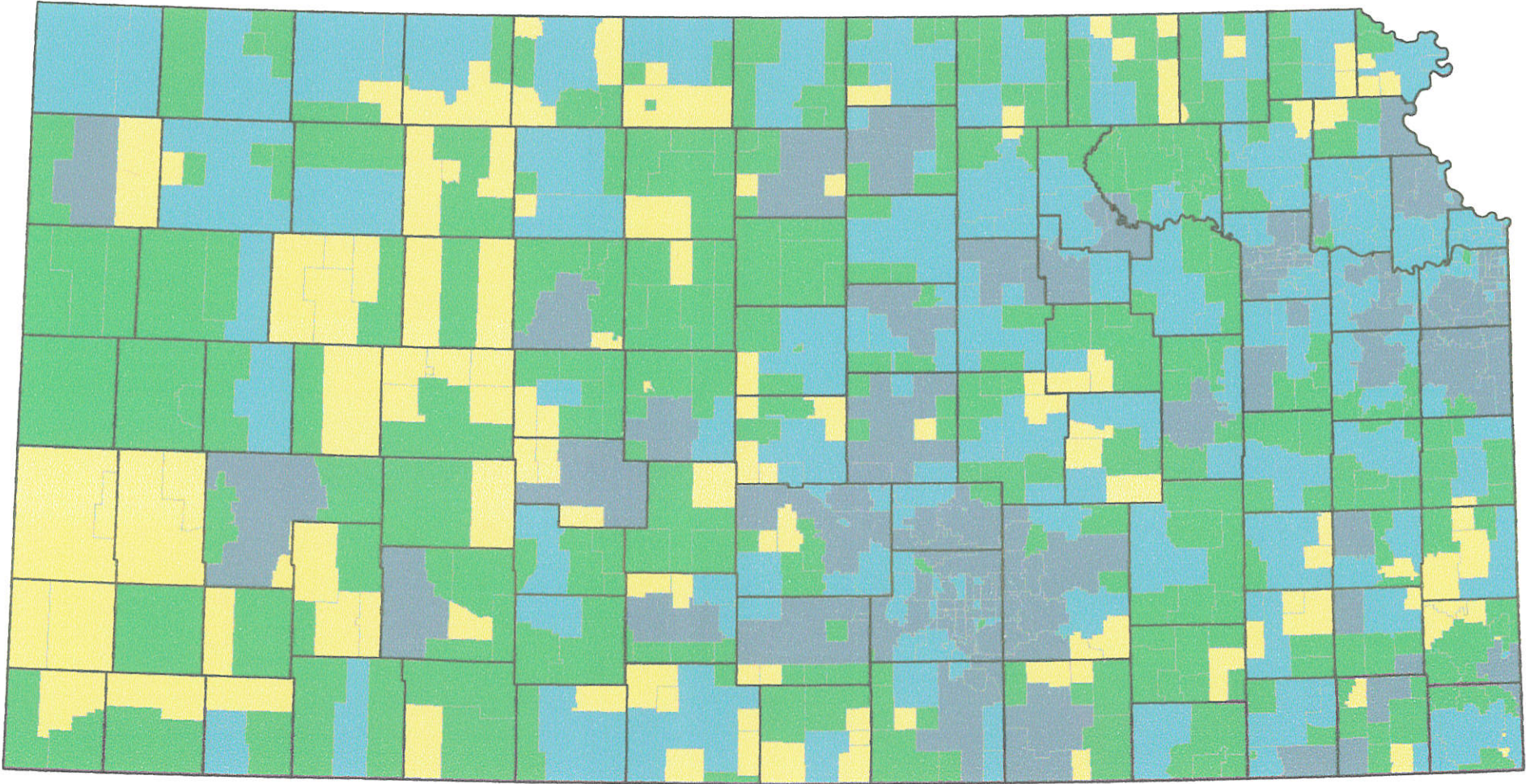
<u>County</u> (1)	<u>City</u> (1)	<u>Geographical</u> <u>Zip Codes</u> (1)	<u>Number of</u> <u>Broadband Svc.</u> <u>Providers</u> (2)
	- Kansas City	66112	9
	- Edwardsville	66113	6
	- Kansas City	66115	7
	- Kansas City	66118	7
	- Kansas City	66160	1 to 3

Sources:

1. Assigned geographical Zip codes by Counties and Cities, [http://www.brainyzip.com/state/zip\\_kansas.htm](http://www.brainyzip.com/state/zip_kansas.htm)  
Zip codes assigned to P.O Boxes, unique high volume recipients and military units are not included in this data collection and tabulation process.
2. Number of providers, with at least one connection in the zip code,  
[http://www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/IAD/hzip0607.pdf](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hzip0607.pdf)  
The 1 to 3 notation is used by the FCC to further protect the service provider's confidentiality.

# Broadband Providers by Zip Code

2-28







Kathleen Sebelius, Governor  
Thomas E. Wright, Chairman  
Michael C. Moffet, Commissioner  
Joseph F. Harkins, Commissioner

January 22, 2009

The Honorable Janis Lee  
State Capitol – Room 162-E  
Topeka, KS 66612

Dear Senator Lee:

When we visited recently, you asked if the Corporation Commission has statutory authority to consider what it will cost to construct a transmission line when considering competing proposals. K.S.A. 66-1247(d) discusses recovery of costs for construction and upgrade of electric transmission lines. This statute explicitly allows the Commission to consider "factors such as the speed with which Kansas electric consumers will benefit from the transmission facility and the long-term benefits of the transmission facility to Kansas electric consumers, or both, and whether such factors outweigh other less costly options." Also, the broad powers given to the Commission implicitly include its ability to take costs into account in determining what is in the public interest.

The Legislature has given the Commission full power, authority and jurisdiction to supervise and control electric public utilities doing business in Kansas and has empowered the Commission to do all things necessary and convenient for the exercise of such power, authority and jurisdiction. K.S.A. 66-101. The Legislature has required that all power, authority and jurisdiction granted to the Commission in regulating electric public utilities "shall be liberally construed" and further granted to and conferred upon the Commission "all incidental powers" needed to carry its power, authority and jurisdiction into effect. K.S.A. 66-101g. All public utilities must obtain a certificate of public convenience from the Commission before conducting business within Kansas. K.S.A. 66-131. *Central Kansas Power Co. v. State Corp. Commission*, 206 Kan. 670, 676, 482 P.2d 1 (1971) (An Applicant for a certificate of public convenience must show that public convenience and necessity will be promoted by authorization of the plan for the electric facilities envisioned in the application.).

Cost is a factor the Commission can and does take into account when evaluating projects under the public interest test. In examining the public interest test in the transmission dockets, the Commission recently articulated several different aspects of costs that will be reviewed in determining what is in the public interest. KCC Docket Nos 08-ITCE-936-COC (08-936) and 08-PWTE-1022-COC (08-1022), Order, filed December 18, 2008. While this Order does not specifically list a factor of "which line is cheaper to build," the Commission did list factors that include (1) the effect of the construction project on customers, (2) whether the project will be beneficial to state and local economies and to communities served by the resulting operations in

Senate Utilities Committee  
January 26, 2009  
Attachment 3-1

the state, and (3) whether the transaction will reduce the possibility of economic waste. December 18, 2008 Order, pp. 28-29. These factors will take into account evidence offered by the parties that the Commission anticipates will relate to overall costs of proposed projects, a cost-benefit analysis defining the need for the line, any duplication of services and possible overbuilding of facilities. As the Commission noted, in deciding whether to grant a certificate of convenience, its primary concern is the public convenience. December 18, 2008 Order, pp. 15-16. *Kansas Gas & Electric Co. v. Public Service Commission*, 122 Kan. 462, 466-68, 251 Pac. 1097 (1927).

In the December 18, 2008 Order, pp. 12-13, the Commission listed five additional factors to be addressed in comparing the two proposed transmission projects during Phase 2. Several of these will consider cost factors. First, the Commission will consider which Applicant is better able, financially and managerially, to construct and maintain the line; financial ability to complete construction of the line is critical to this consideration. Second, the Commission has asked the companies and parties to address whether one Applicant is more qualified and better situated to construct a 765 kV line; the Commission anticipates that costs will be included within the scope of this inquiry. Third, the Commission has asked parties to address whether it is more cost effective for one entity to construct and operate the entire line; the alternative would be for Applicants to divide construction of the line and, in that way, share the costs of construction. Each of these factors involves different aspects of cost consideration.

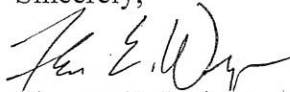
In response to your proposal to offer legislation giving the Commission the ability to consider costs when evaluating competing transmission line applications, I offer a few thoughts. First, our broad authority allows us to consider all aspects of project costs in evaluating applications. Therefore, we recommend no change in current provisions. Second, attempts to define costs to consider when evaluating projects often results in unintended consequences. Statements that appear broad and general may be interpreted as limiting and confining. For example, specifics included in K.S.A. 2007 Supp. 66-2201 to 2204, which details the procedure for natural gas utilities to recover costs using the Gas Service Reliability Surcharge, has inhibited the Commission's ability to consider other items that seem appropriate to review in evaluating these application.

Another example is the Legislature's provision for a transmission delivery charge in K.S.A. 2007 Supp. 66-1237. The Commission interpreted and applied this statute in the last Westar rate case, KCC Docket No. 05-WSEE-981-RTS, relying upon its understanding of the Legislature's intent in enacting this provision based upon KCC Staff's work with the House and Senate utilities committees. The Court of Appeals interpreted the "plain language of the statute" to have a different meaning than the Commission's decision and refused to consider legislative history supporting the Commission's interpretation. As you will recall, this case resulted in a lengthy appeal that overturned the Commission's decision and remanded the case for further action on this and other issues.

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January 22, 2009  
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In trying to define costs, the Commission's experience is that each company develops its proposals separately, resulting in the parties presenting apples and oranges -- or even apples and baseballs -- for comparison. The Commission is doubtful the Legislature can provide this agency with enough manpower to develop and design a transmission line proposal with adequate specifications to allow an across-the-board comparison that can be put out for bid. Not only would this require a much larger KCC Staff, but also the delay would be lengthy. Instead, the Commission believes the current statutory framework provides adequate authority for the Commission to review and compare competing proposals, including numerous cost factors.

Sincerely,



Thomas E. Wright  
Chairman

TEW:jp

cc: Senate Utilities Committee Members