This Report is dedicated
to all those who have died
in Columbiana County, Ohio in the year 2009
to their families, their loved ones
and their friends

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Mission Statement:

This office is committed to represent those who can no longer represent themselves.

Goals:

To Continue to bring the best skills of medical science to coroner investigations. Continue to serve the needs of law and justice as well as the citizens of Columbiana County

Annual Report – 2009

Office of the Coroner

Columbiana County
8473 County Home Road
Lisbon, Ohio 44432

This publication marks the ninth annual report of the Office of the Coroner for Columbiana County. The report will take a somewhat different approach to reporting the statistics for the year 2009. Currently there are 9383 cases entered in the database partially representing known data from the years 1934 through 2010.

We will first present a short synopsis of general information about the coroner's duties and how those duties may involve you. We will next report and graph data generated in 2009. We will next compare this data to that data collected from 1989 thru 2009. Lastly we will take a short look at deaths surrounding railroad trains.

For those readers unfamiliar with the mechanics of statistics, namely **Normal Distribution** and **Standard Deviation (SD)**, we provide a quick review in Appendix A.

General Information:

When to Report a Death

When a person dies under any of the below circumstances, the death must be reported to the local Office of the Coroner.

Accidental Deaths
If the death occurs when in apparent good health or in any suspicious or unusual manner including:

- Asphyxiation by gagging on foreign substance, including food in airway; compression of the airway or chest by hand, material, or ligature; drowning; handling cyanide; exclusion of oxygen; carbon monoxide; and/or other gasses causing suffocation.
- Blows or other forms of mechanical violence
- Burns from fire, liquid, chemical, radiation or electricity Carbon monoxide poisoning. (Resulting from natural gas, automobile exhaust or other.)
- Cutting, stabbing or gunshot wounds.
- Death from electrocution.
- Drowning (actual or suspected).

- Drug overdose from medication, chemical or poison ingestion, (actual or suspected). This includes any medical substance, narcotic or alcoholic beverage, whether sudden, short or long term survival has occurred.
- Electrical shock
- Explosion
- Falls, including hip fractures or other injury.
- Firearm injuries
- Stillborn or newborn infant death where there is a recent or past traumatic event involving the mother, such as vehicular accident, homicide, suicide attempt, or drug ingestion that may have precipitated delivery or had a detrimental effect to the newborn.
- Vehicular accidents, including auto, bus, train, motorcycle, bicycle, watercraft, snowmobile or aircraft, including driver, passenger, or related non-passenger, (e.g. such as being struck by parts flying or thrown from a vehicle).
- Weather related death (e.g. lightning, heat exhaustion, hypothermia or tornado).

Homicidal Deaths

- By any means, suspected or known.

Suicidal Deaths

- By any means, suspected or known.

Occupational Deaths

Instances in which the environment of present or past employment may have caused or contributed to death by trauma or disease. Deaths in this classification include caisson disease (bends), industrial infections, pneumoconiosis, present or past exposure to toxic waste or product (e.g. nuclear products, asbestos or coal dust), fractures, burns or any other injury received during employment or as a result of past employment, which may have contributed to death.

Sudden Deaths

If the death occurs when in apparent good health or in any suspicious or unusual manner including:

- DOA: Any person pronounced dead on arrival at any hospital, emergency room of a hospital or doctor's office shall be reported.
- Infants and young children: Any infant or young child found dead shall be reported, including Sudden Infant Death Syndrome (5.1.0.5. or Crib Death).
- All stillborn infants where there is suspected or actual injury to the mother.
- All deaths occurring within 24 hours of admission to a hospital unless the patient has been under the continuous care of a physician.
- Deaths occurring while in any jail, confinement or custody.
- All deaths occurring within 24 hours of admission to a hospital unless the patient has been under the continuous care of a physician.
- Deaths under unknown circumstances whenever there are no witnesses or where little or no information can be elicited concerning the deceased person.

- Sudden death on the street, at home, in a public place, or at place of employment.
- Alcoholism.
- Drug abuse, habitual use of drugs or drug addiction.

Special Circumstances

Any death involving allegations of suspicious medical malpractice or possibly poor medical/surgical care.

- Any maternal or infant death where there is suspicious or illegal interference by unethical or unqualified persons or self-induction.
- "Delayed death," an unusual type of case, where the immediate cause of death may actually be from natural disease. However, injury may have occurred days, weeks, months, or even years before death and is responsible for initiating the sequence of medical conditions or events leading to death. This would be considered a Coroner's case and is therefore reportable. The most common examples of this type of case are 1) past traffic accidents with debilitating injury and long-term care in a nursing home and 2) hip fractures of the elderly where there is a downward course of condition after the injury.

Therapeutic Deaths

- Death occurring under the influence of anesthesia, during the anesthetic induction, during the post-anesthetic period without the patient regaining consciousness (including death following long-term survival if the original incident is thought to be related to the surgical procedure and/or anesthetic agent).
- Death during or following any diagnostic or therapeutic procedure, whether medical or survival time, if death is thought to be directly related to the procedure or complications from said procedure.
- Death due to the administration of a drug, serum, vaccine, or any other substance for any diagnostic, therapeutic or immunological purpose.

Any Death Where There is a Doubt, Question or Suspicion Not all reported cases fall into the above noted categories. After the investigation is completed, many will be returned to the jurisdiction or institution where the death certificate will be signed by the attending physician as a natural death.

Only the Coroner can legally sign a death certificate of a person who has died as a direct or indirect result of any cause listed in the previously noted reportable deaths.

How to Report a Death

In order to report a death, call the Office of your respective County Coroner, day or night, and state "I wish to report a death."

It is requested that the following information, if known, be provided:

- Name and address of the deceased
- Age and date of birth
- Sex and race
- Social Security number
- Marital status
- Next-of-kin, name, address, phone number
- Place and manner of occurrence
- Date and time of occurrence
- Date and time of death
- Name of person pronouncing death
- Name of person reporting death
- Any other information which may be helpful
- Location of the body
- Name of funeral home

Laws / Attorney General Opinion

Click on the link below to view the entire Ohio Revised Code Coroner Chapter.

Ohio Revised Code

The following selected sections of the Ohio Revised Code (ORC) are listed so that the responsible individual may fully understand that providing information to the Coroner is to comply with the law and that failure to do so would place that person in jeopardy of prosecution.

ORC 313.01 ELECTED; TERM

A coroner shall be elected quadrennially in each county, who shall hold his office for a term of four years, beginning on the first Monday of January next after his election. As used in the Revised Code, unless the context otherwise requires, "coroner" means the coroner of the county in which death occurs or the dead human body is found.

ORC 313.02 QUALIFICATIONS FOR CORONER; CONTINUING EDUCATION

(A) No person shall be eligible to the office of coroner except a physician who has been licensed to practice as a physician in this state for a period of at least two years immediately preceding election or appointment as a coroner, and who is in good standing in the person's profession, or is a person who was serving as coroner on October 12, 1945.

B)(1) Beginning in calendar year 2000 and in each fourth year thereafter, each newly elected coroner, after the general election but prior to commencing the term of office to which elected, shall attend and successfully

complete sixteen hours of continuing education at programs sponsored by the Ohio state coroners association. Within ninety days after appointment to the office of coroner under section 305.02 of the Revised Code, the newly appointed coroner shall attend and successfully complete sixteen hours of continuing education at programs sponsored by the association. Hours of continuing education completed under the requirement described in division (B)(1) of this section shall not be counted toward fulfilling the continuing education requirement described in division (B)(2) of this section.

As used in division (B) (1) of this section, "newly elected coroner" means a person who did not hold the office of coroner on the date the person was elected coroner.

(2) Except as otherwise provided in division (B)(2) of this section, beginning in calendar year 2001, each coroner, during the coroner's four-year term, shall attend and successfully complete thirty-two hours of continuing education at programs sponsored by the Ohio state coroners association. Except as otherwise provided in division (B)(2) of this section, each coroner shall attend and successfully complete twenty-four of these thirty-two hours at statewide meetings, and eight of these thirty-two hours at regional meetings, sponsored by the association. The association may approve attendance at continuing education programs it does not sponsor but, if attendance is approved, successful completion of hours at these programs shall be counted toward fulfilling only the twenty-four-hour requirement described in division (B)(2) of this section.

(3) Upon successful completion of a continuing education program required by division (B) (1) or (2) of this section, the person who successfully completes the program shall receive from the association or the sponsoring organization a certificate indicating that the person successfully completed the program.

ORC 313.14 NOTICE TO RELATIVES; DISPOSITION OF PROPERTY

The coroner shall notify any known relatives of a deceased person who meets death in the manner described by section 313.12 of the Revised Code by letter or otherwise. The next of kin, other relatives, or friends of the deceased person, in the order named, shall have prior right as to disposition of the body of such deceased person. If relatives of the deceased are unknown, the coroner shall make a diligent effort to ascertain the next of kin, other relatives, or friends of the deceased person. The coroner shall take charge and possession of all moneys, clothing, and other valuable personal effects of such deceased person, found in connection with or pertaining to such body, and shall store such possessions in the county coroner's office or such other suitable place as is provided for such storage by the board of county commissioners. If the coroner considers it advisable, he may [,] after taking adequate precautions for the security of such possessions, store the possessions where he finds them until other storage space becomes available. After using such of the clothing as is necessary in the burial of the body, in case the cost of the burial is paid by the county, the coroner shall sell at public auction the valuable personal effects of such deceased persons, found in connection with or pertaining to the unclaimed dead body, except firearms, which shall be disposed of as provided by section 313.141 [313.14.1] of the Revised Code, and he shall make a verified inventory of such effects. Such effects shall be sold within eighteen months after burial, or after delivery of such body in accordance with section 1713.34 of the Revised Code. All moneys derived from such sale shall be deposited in the county treasury. A notice of such sale shall be given in one newspaper of general circulation in the county, for five days in succession, and the sale shall be held immediately thereafter. The cost of such advertisement and notices shall be paid by the board upon the submission of a verified statement therefore, certified to the coroner.
This section does not invalidate section 1713.34 of the Revised Code.

Frequently Asked Questions

How long does it take for a death ruling to be made?
This procedure is handled differently by various Counties. However, in most cases, a signed death certificate accompanies the body when it is released by the Coroner. When there is insufficient information available to complete the death certificate, pending Findings, Fact and Verdict death certificate is issued that accompanies the body. This death certificate enables the funeral services and burial to take place while additional chemical, microscopic slide preparation and examination, and investigation continues. At the culmination of these tests and investigation, the ruling is made based on all available information. A supplemental death certificate is then issued with the cause of death and ruling which supersedes the pending death certificate.

When will the autopsy report be completed?
The autopsy report, also called the protocol, usually takes about four weeks to be completed after the autopsy. If microscopic and chemical tests are performed, this time period can lengthen to six to eight weeks.

Where may the clothing of the deceased be located?
Usually, the clothing of the deceased is released to the funeral director for disposal or use as the family requests. In cases of homicide, various suicides, or vehicular deaths, the clothing may be held by the Coroner or the investigating law enforcement agency for use as evidence.

How is a funeral director selected?
Most often, the next-of-kin discusses the selection of the funeral director with the other family members, clergy or friends. The Office of the Coroner is prohibited from recommending a funeral director. A listing of funeral directors is available in the telephone book as well as other sources.

What is an autopsy and is there a charge for it?
An autopsy is a systematic examination by a qualified physician of the body of a deceased person for the purpose of determining the cause of death. A record is made of the findings of the autopsy, including microscopic and toxicological laboratory tests. These laboratory tests are conducted before the release of the body to the next-of-kin for burial. There is no charge to the next-of-kin for an autopsy, nor for any of the tests that may be conducted by the Coroner.

Does the Coroner need permission from the next-of-kin for an autopsy?
Ohio Law (ORC 2108-52) provides that the Coroner does not need permission for an autopsy. The Office of the Coroner will attempt to comply with the wishes of the next-of-kin, provided this does not conflict with the duties of the Coroner as charged by Ohio Law including due regard for the deceased's religious persuasion.

When is an autopsy performed?
Not all persons brought to the Coroner's Office are autopsied. Certain cases are not autopsied where no foul play is suspected and evidence of a natural death is present. In other cases where the possibility of legal proceedings may arise as a result of a homicide, accident, suicide, etc., an autopsy will be performed. In these cases, both positive and negative information ordinarily is found which substantiates the ruling and cause of death as signed by the Coroner. Under a recent change in the Ohio Revised Code, any child under the age of two years that is referred to the Coroner's Office with no known potentially lethal disease shall be autopsied unless contrary to the parents' religious beliefs. (ORC 313.131)

Why is a body brought to the Coroner's Office?
The remains of deceased persons are brought to the Coroner's Office because Ohio Law requires that the Coroner investigate deaths of persons dying from criminal violence, by accident, by suicide, suddenly, when unattended by a physician for a reasonable period of time, in detention, or in any suspicious or unusual manner. Another reason that a body may be brought to the Coroner's Office is that the identity of the deceased or the next-of-kin is unknown.

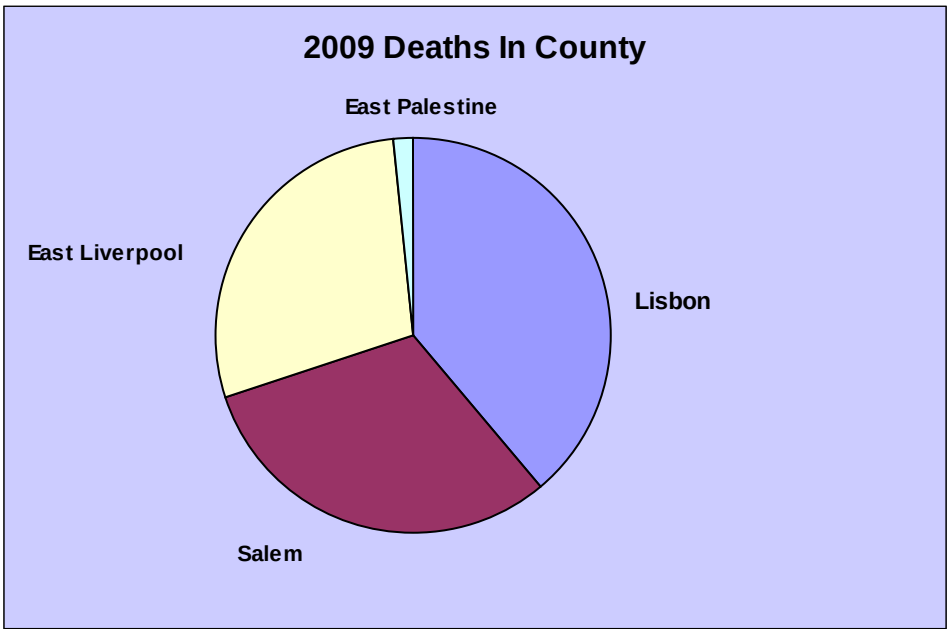
How can the deceased's personal effects and other valuables be obtained?
By Ohio Law (ORC 313.14), the Office of the Coroner will take possession of monies and other personal effects of the deceased. These items are inventoried and released to the next-of-kin. (Money over $100.00 may only be released with a release From Probate Order from the court or a letter of Appointment naming an executor of the estate of the deceased.)

How do I make arrangements for a body to be released from the Office of the County Coroner?
Routinely, the Coroner releases the body to a licensed funeral director. The next-of-kin of the deceased person should notify a funeral director who, in turn, will arrange transportation for the deceased to the funeral home and obtain the necessary documents for burial or cremation.

Where can copies of the death certificate be obtained?
Certified copies of death certificates can be obtained only from the Bureau of Vital Statistics of each respective county.

How can I obtain records, including a Coroner's report, autopsy report, and/or toxicology report, pertaining to a death on a case that was referred to the Coroner?
This procedure differs from County to County. To obtain this information, contact your County Coroner.

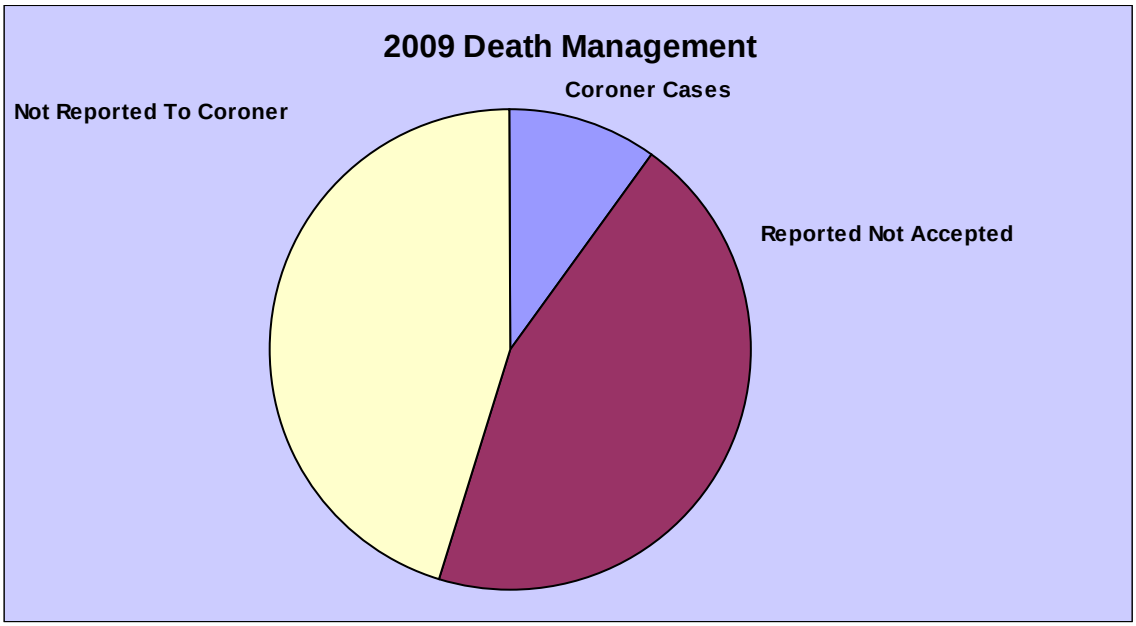
Total Deaths Reported Across the County in 2009



The number of deaths reported from January 1, 2009 to December 31, 2009 in the county totaled 987. This was a slight decrease as compared with the last year total of 1132. The values displayed were acquired from Lisbon, Salem, East Liverpool, and East Palestine health departments. Each reported the following deaths:

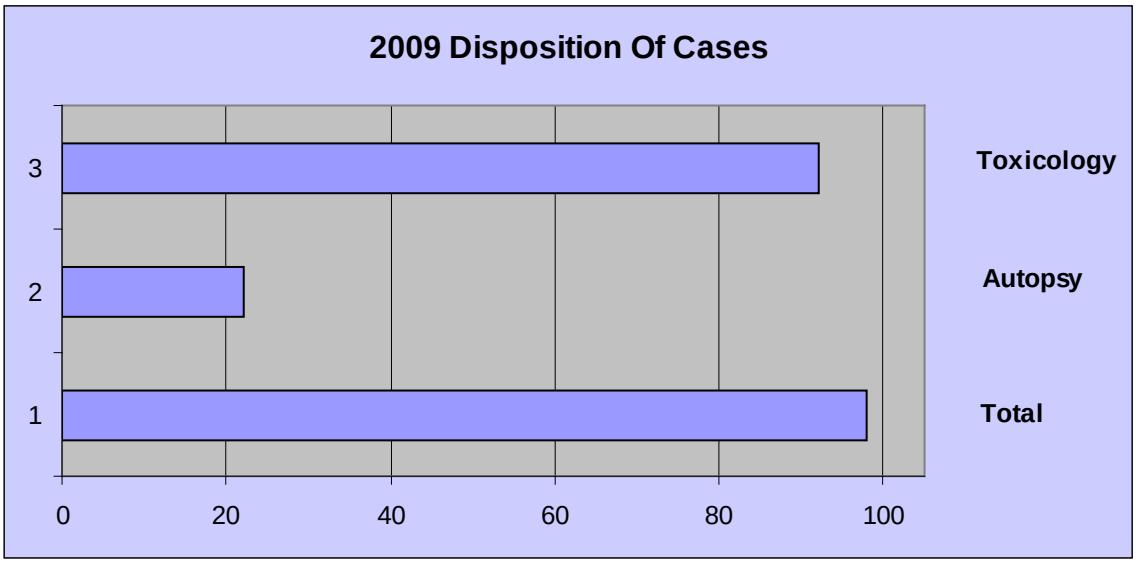
Health Departments Data	
Lisbon	384
Salem	308
East Liverpool	278
East Palestine	17
Total	987

Death Management for Reported Deaths



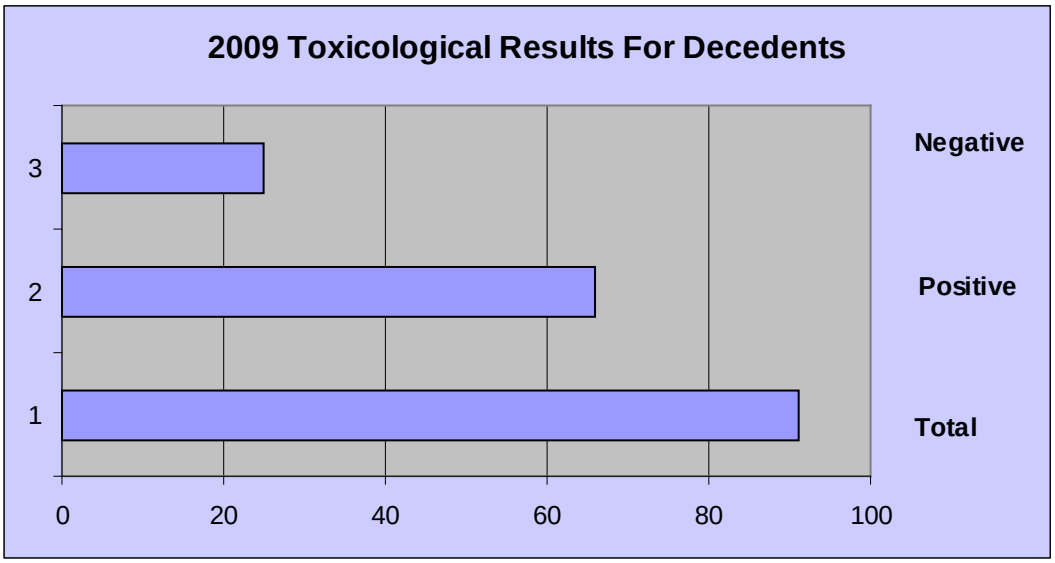
Not all of the cases reported to the coroner are accepted. Some cases do not meet the criteria of a coroner's case, therefore they are recorded as reported to the coroner but do not get investigated by the coroner. However, there are many cases that become coroner cases and for those a full investigation and final determination are rendered. This year there were 98 cases accepted by the coroner, 443 reported but not accepted by the coroner and the rest of the 446 deaths were not reported.

Disposition of Cases Taken by the Coroner



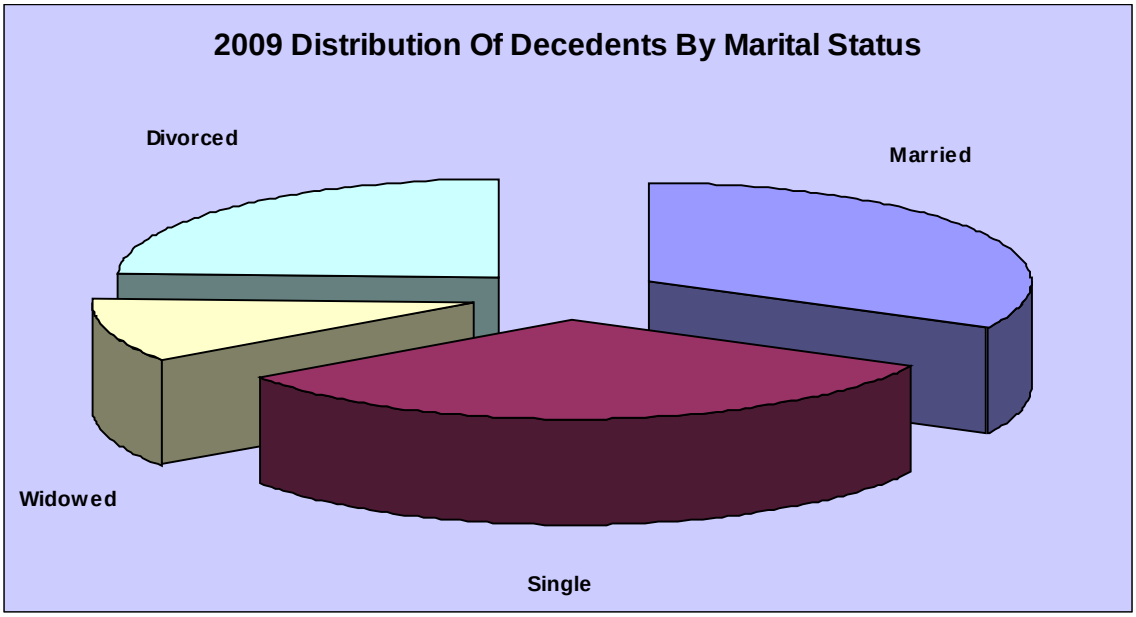
The coroner determines whether or not to run toxicology or do an autopsy on a decedent. Of the 98 coroner cases, 22 were autopsied and had toxicology done as part of the autopsy, and 70 had toxicology testing only. The remaining 6 coroner cases had no toxicology performed.

Toxicological Results of Decedents of 2009



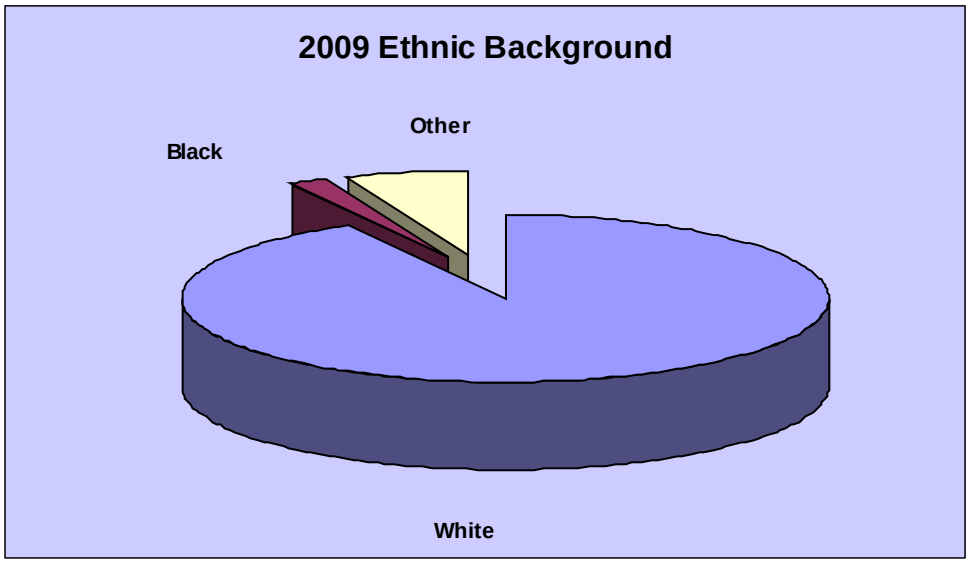
Of the 92 toxicology tests, 67 were positive and 25 where negative.

Distribution of Decedents by Marital Status



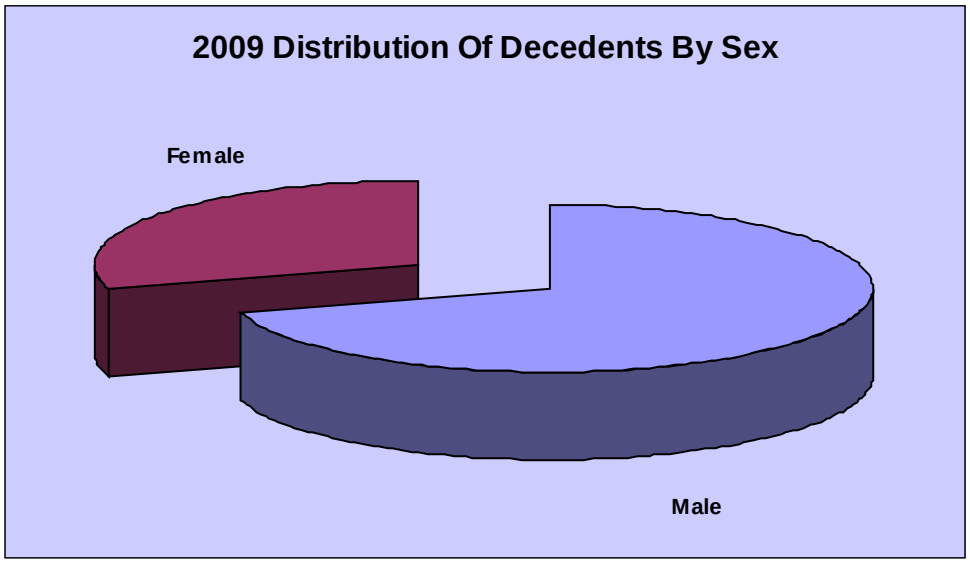
There were 32 people married, 32 single, 24 divorced, and 10 widowed.

Distribution of Decedents Based on Ethnic Background



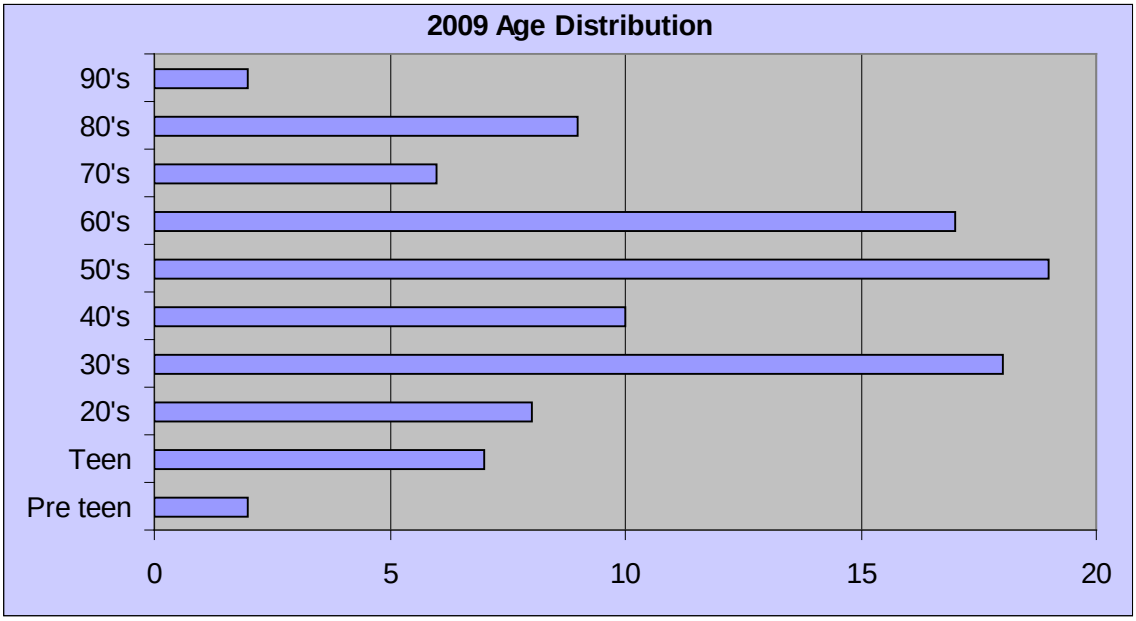
There were mostly white decedents this year with a total of 90, and there were 6 other and 2 black decedents.

Distribution of Decedents by Sex



In 2009, there were twice as many males as females that were accepted as coroner cases. The totals more specifically were 69 males and 29 females.

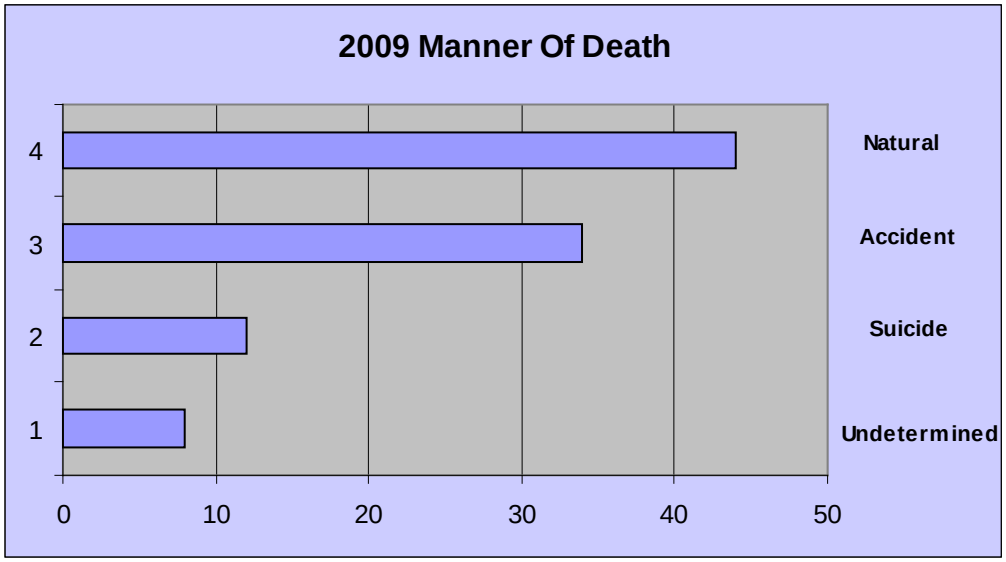
Distribution of the Decedents by Age



The decedent's age ranged from as young as 5 months and 1 day old up to 95 years of age. There were especially high values in the 30-69 age range and a peak from 30-69. The exact values of each range are as follows.

Age (range)	#	Age (range)	#
0-9	2	50-59	19
10-19	7	60-69	17
20-29	8	70-79	6
30-39	18	80-89	9
40-49	10	90-99	2

Distribution for Manner of Death Determined by Coroner



For each of the 98 cases, the coroner had to make a determination as to manner of the decedent's death. In all he came to a conclusion and a final decision was rendered. For the year there were 44 Natural Deaths, 34 Accidents, 12 Suicides, and 8 Undetermined.

The distribution of the manner of death when compared with age is as follows:

Age	Natural	Accident	Suicide	Homicide	Undetermined	Totals
0-9	0	0	0	0	2	2
10-19	1	4	2	0	0	7
20-29	1	5	2	0	0	8
30-39	3	11	4	0	0	18
40-49	6	3	1	0	0	10
50-59	13	3	2	0	1	19
60-69	12	1	0	0	4	17
70-79	3	2	1	0	0	6
80-89	5	3	0	0	1	9
90-99	0	2	0	0	0	2
Totals	44	34	12	0	8	98

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The distribution of the manner of death when compared to sex is as follows:

Sex	Natural	Accident	Suicide	Homicide	Undetermined	Totals
Male	33	21	8	0	7	69
Female	11	13	4	0	1	29
Totals	44	34	12	0	8	98

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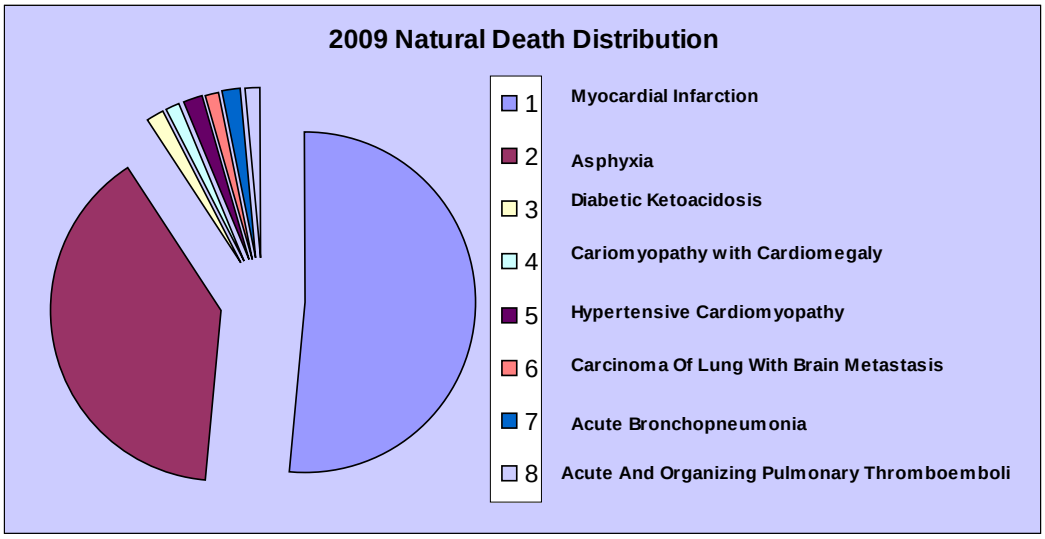
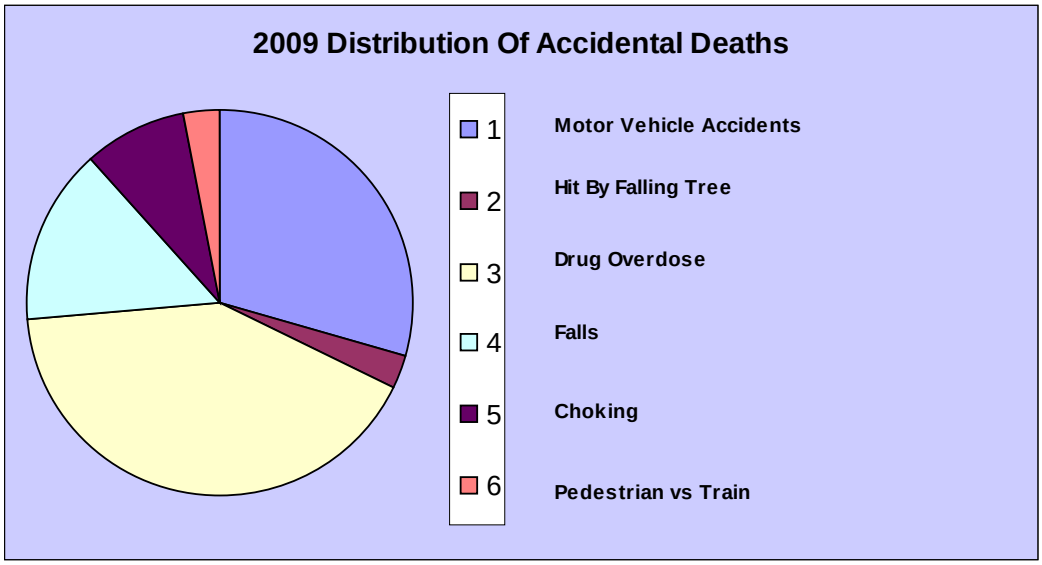
Natural Death Distribution



Each death that is determined to be natural the coroner gives a cause of death. Above are the distributions of the various causes of Natural Deaths for this year and the numbers are as follows:

Myocardial Infarction	34
Asphyxia	26
Hypertensive Cardiomyopathy	1
Diabetic Ketoacidosis	1
Acute BronchoPneumonia	1
Cardiomyopathy With Cardiomegaly	1
Acute And Organizing Pulmonary Thromboemboli	1
Carcinoma Of Lung With Brain Metastasis	1

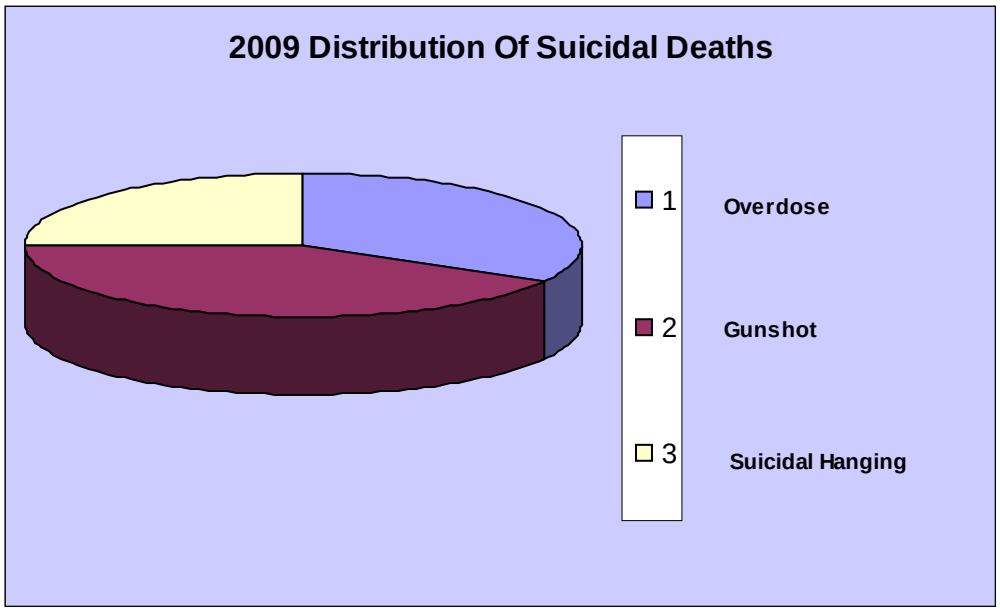
Distribution of Accidental Deaths



Accidental deaths are graphed above and listed below.

Moving Vehicle Accident	10	Hit by Falling Tree	1
Drug Overdose	14	Choking	1
Falls	5	Pedestrian vs Train	1

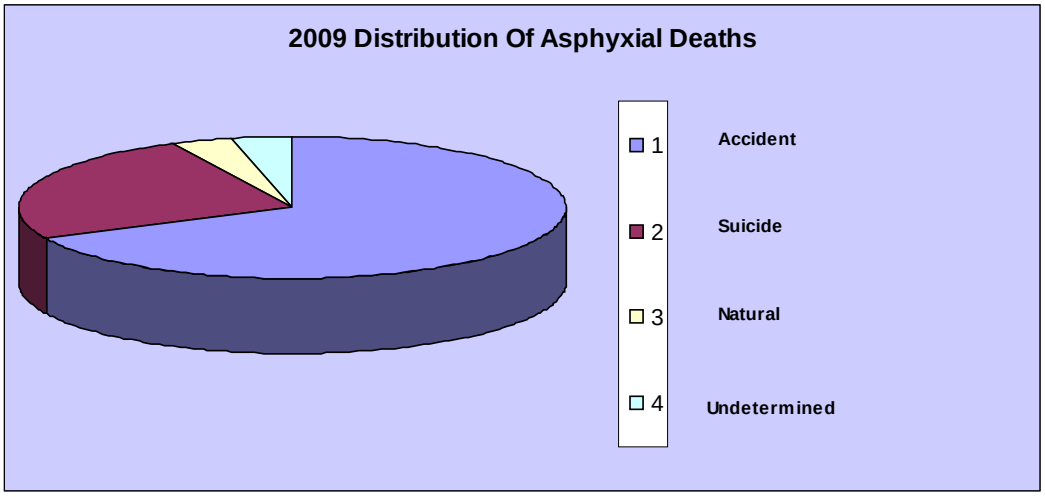
Distribution of Suicidal Deaths



The causes of death of the 12 Suicides were also determined by the coroner and they are as follows:

Drug Overdose	4	Suicidal Hanging	3
Gunshot Wound	5		

Distribution of Asphyxial Deaths



Of the 28 Asphyxial deaths for 2009, the following manner of death was determined:

Suicide	7
Accident	19
Natural	1
Undetermined	1

Distribution of Deaths by Town

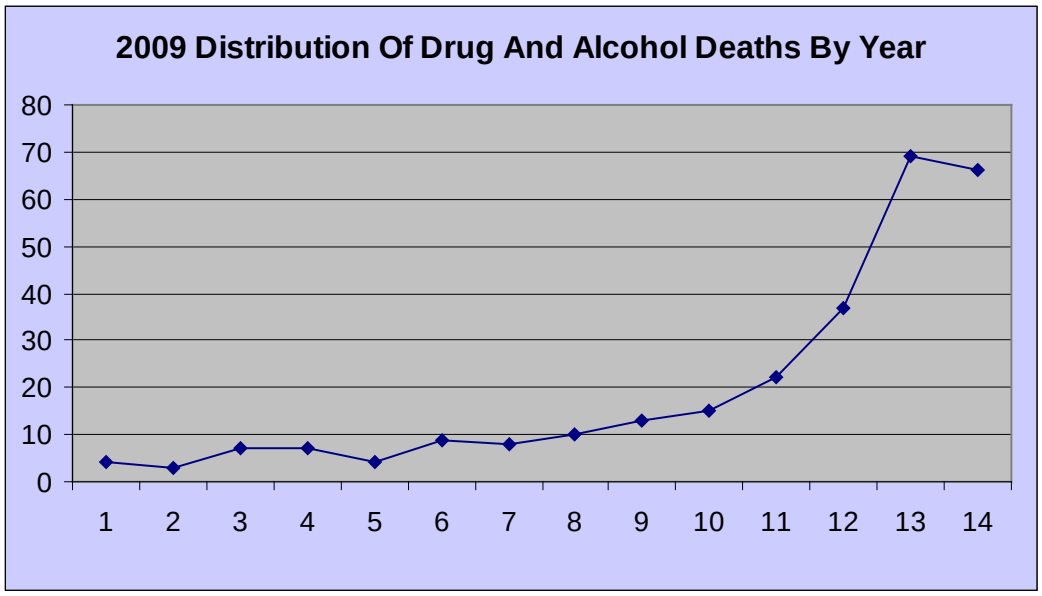
Town	Natural	Accident	Suicide	Homicide	Undetermined	Pending	Total
Salem	7	9	1	0	2	0	19
East Liverpool	9	3	4	0	1	0	17
Lisbon	1	4	2	0	0	0	7
Columbiana	3	1	0	0	0	0	4
East Palestine	1	2	1	0	1	0	5
Salineville	3	2	0	0	0	0	5
Alliance	1	0	0	0	1	0	2
Rogers	1	0	0	0	0	0	1
Weirton,W.Va	0	1	0	0	0	0	1
Lawrenceburg, Ky	0	1	0	0	0	0	1
Beliot	1	0	0	0	0	0	1
Wellsville	6	4	1	0	2	0	13
Hanover ton	1	0	0	0	0	0	1
Kensington	0	1	1	0	0	0	2
Linden,Ca	0	0	1	0	0	0	1
Waynesburg, Pa	0	0	0	0	1	0	1
New Waterford	0	0	1	0	0	0	1
Elkton	1	0	0	0	0	0	1
Hookstown, Pa	0	1	0	0	0	0	1
Canfield	1	0	0	0	0	0	1
North Ridgeville, Oh	1	0	0	0	0	0	1
Minerva	1	0	0	0	0	0	1
Newell, W.Va	1	0	0	0	0	0	1
Campbell,OH	1	0	0	0	0	0	1
Berlin Center	1	0	0	0	0	0	1
Crestveiw, Fl	1	0	0	0	0	0	1
Poland	0	1	0	0	0	0	1
Chester, W.Va.	1	2	0	0	0	0	3
New Cumberland W.Va	0	2	0	0	0	0	2
Pittsburgh, Pa	1	0	0	0	0	0	1
Totals	**44**	**34**	**12**	**0**	**8**	**0**	**98**

Distribution of Deaths by Zip Code

Zip Code	Natural	Accident	Suicide	Homicide	Undetermined	Pending	Total
44460	7	9	1	0	2	0	19
43920	9	3	4	0	1	0	17
44432	1	4	2	0	0	0	7
44408	3	3	0	0	0	0	4
44413	1	2	1	0	1	0	5
43945	3	2	0	0	0	0	5
44423	1	0	0	0	0	0	1
26062	0	1	0	0	0	0	1
44601	1	0	0	0	1	0	2
44427	0	1	1	0	0	0	2
40342	0	1	0	0	0	0	1
44445	0	0	1	0	0	0	1
44455	1	0	0	0	0	0	1
95236	0	0	1	0	0	0	1
44609	1	0	0	0	0	0	1
15370	0	0	0	0	1	0	1
43968	6	4	1	0	2	0	13
44415	1	0	0	0	0	0	1
44657	1	0	0	0	0	0	1
26034	1	2	0	0	0	0	3
26050	1	0	0	0	0	0	1
15050	0	1	0	0	0	0	1
44406	1	0	0	0	0	0	1
44039	1	0	0	0	0	0	1
44401	1	0	0	0	0	0	1
44405	1	0	0	0	0	0	1
15219	1	0	0	0	0	0	1
26047	0	2	0	0	0	0	2
32539	1	0	0	0	0	0	1
44514	0	1	0	0	0	0	1
Totals	**44**	**34**	**12**	**0**	**8**	**0**	**98**

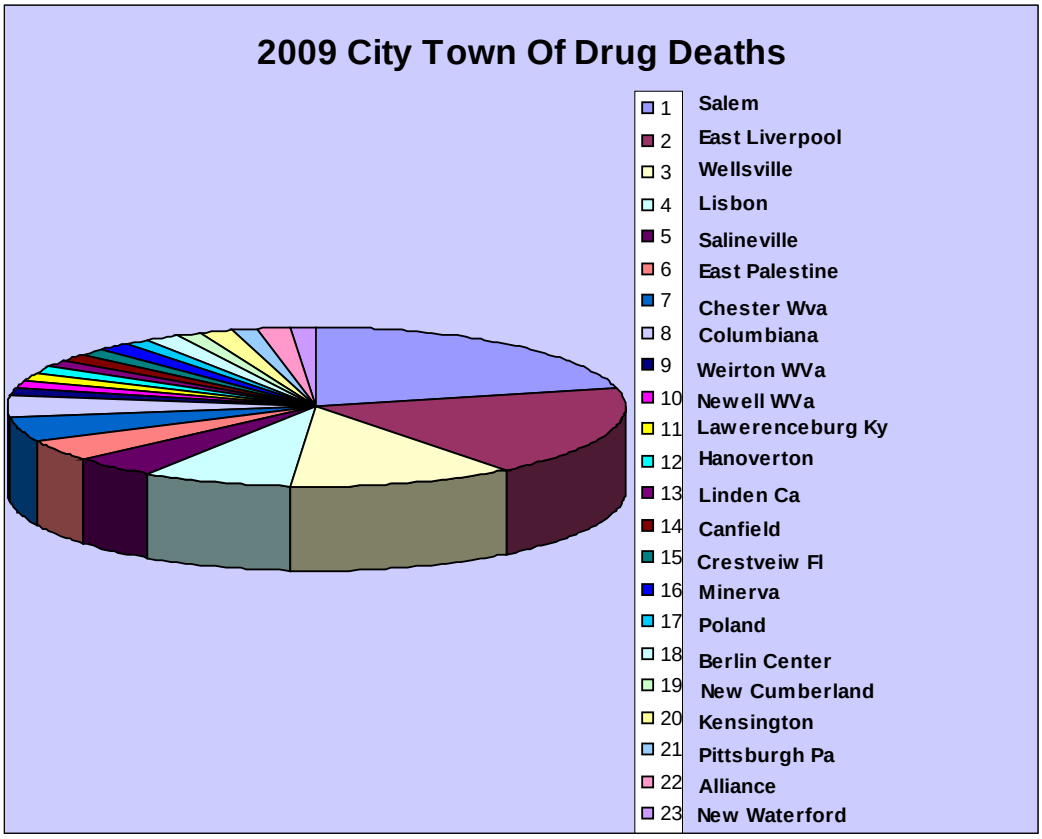
The previous tables display the distribution of manner of death in the cities and zip codes from where the decedents died in 2009.

Distribution of Drug and Alcohol Deaths by Year



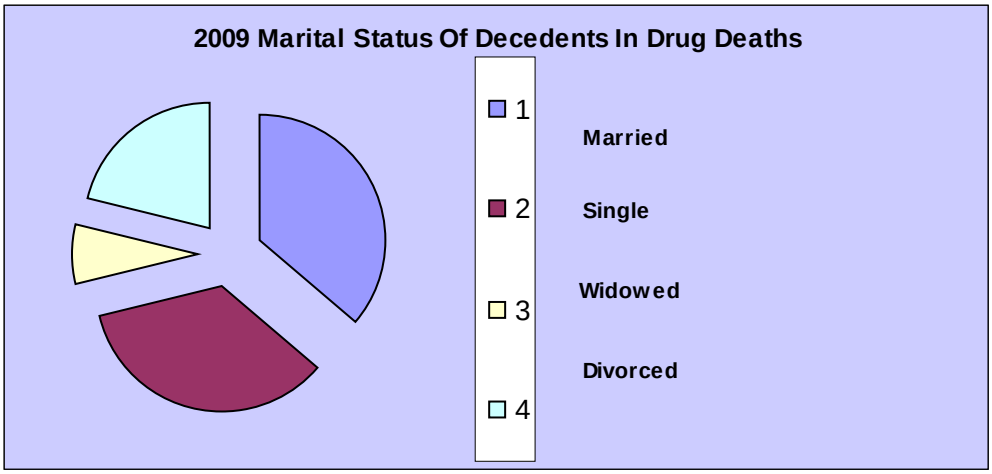
This graph displays the deaths where drugs and/or alcohol directly caused the decedents' deaths for the past 14 years and shows a slight decrease from 69 to 66 for this year.

2009 -City or Town of Drug Deaths



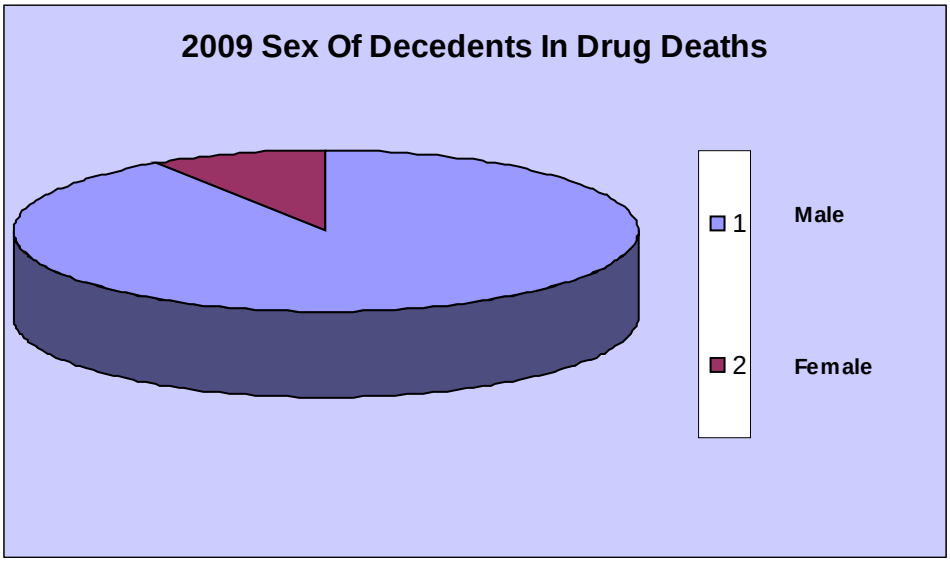
For the drug deaths in 2009 the city where the decedent's died was evaluated and recorded. Of the 66 deaths, East Liverpool had 12, Salem had 14, and Wellsville had 8 and the rest of the cities are less. These results displayed East Liverpool and Salem were the top two of the deaths.

2009-Marital Status of Decedents in Drug Deaths



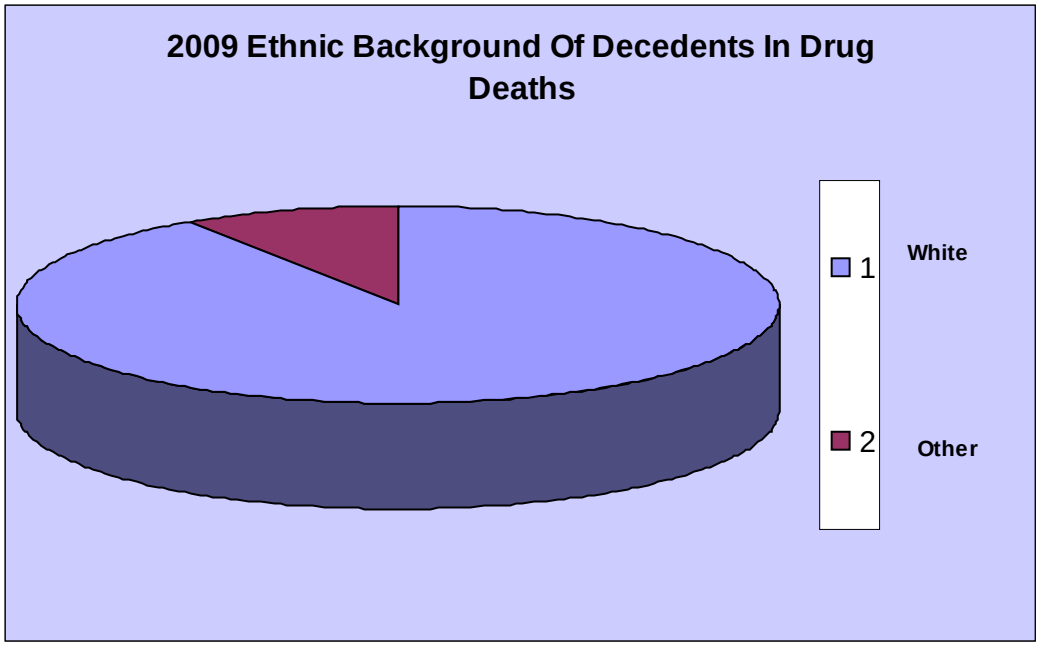
This shows the marital status of the decedents that died in a drug related deaths. Of the 67 decedents, 24 were single, 24 were married, 14 were divorced, and 5 were widowed.

2009-Sex of Decedents in Drug Deaths



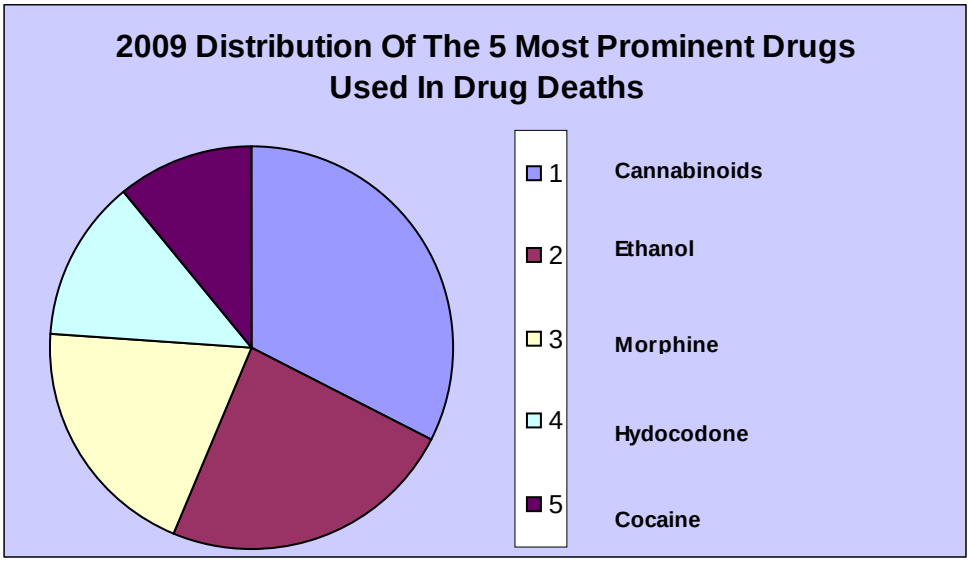
This graph shows the ratio of male to females in drug related deaths. There were 46 males and 21 females of the 67 drug related deaths.

2009-Race of Decedents in Drug Deaths



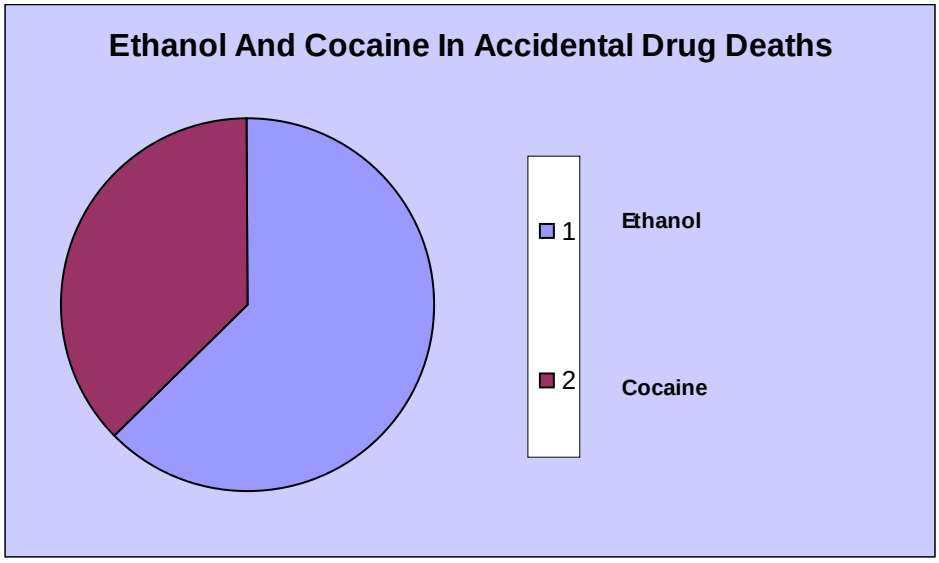
The ethnic background of the decedents was overwhelmingly white. There were 61 white individuals and 6 other decedents involved with drug related deaths.

Distribution of the 5 Most Prominent Drugs for Drug Deaths in 2009



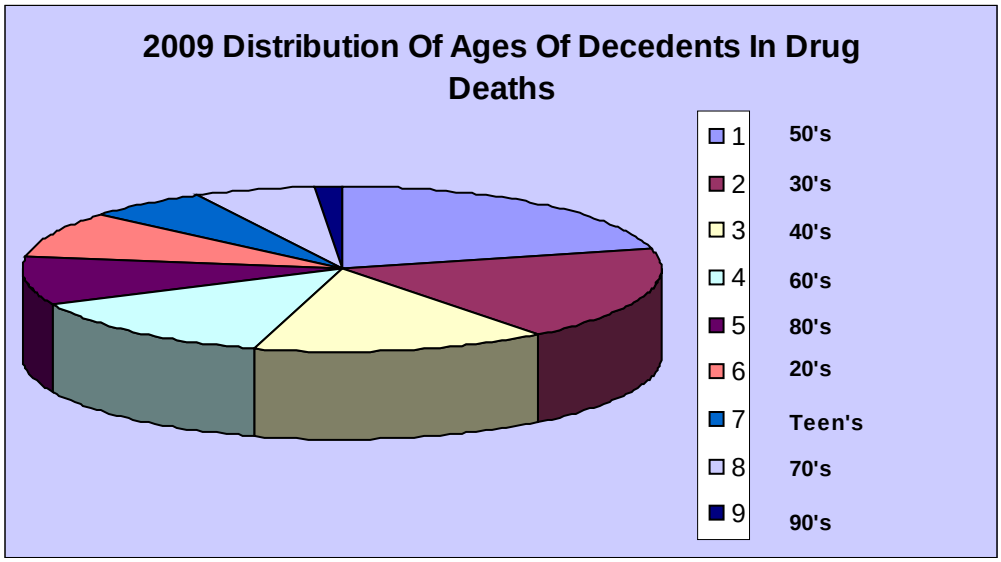
The prominent drugs for 2009 were Cannabinoids, Ethanol, Morphine, Hydrocodone and Cocaine.

Distribution of Ethanol and Cocaine among the Accidental Drug Deaths in 2009



Of the 67 drug related deaths 26 were accidental. For the 26 accidental deaths there were 5 for ethanol only, and 3 for cocaine only.

Distribution of Ages of Decedents in Drug Deaths in 2009



The decedents' ages in drug deaths were interesting to consider. Most decedents were in their 50s. There were 4 people in their teens, 6 in their twenties, 13 in their thirties, 10 in their forties, 14 in their fifty's, 9 in their sixties, 4 in their seventies, 6 in their eighties and 1 that was in their nineties. Drug related deaths peak in the 50 year range.

Having seen the data and the graphs of the year 2009 … we ask the question, "Was 2009 a 'normal' year?" We will answer this question by comparing it to the previous 20 years of data. We will use the statistical tools of **Normal Distribution** and **Standard Deviation (SD)**. Refer to appendix A for a quick refresher course if needed.

Let's look first at the number of cases for the year 2009:

Year	Total Cases	Male	Female	Ratio
1989	94	69	25	0.734043
1990	99	76	23	0.767677
1991	78	51	27	0.653846
1992	90	60	30	0.666667
1993	78	64	14	0.820513
1994	73	50	23	0.684932
1995	89	68	21	0.764045
1996	120	95	25	0.791667
1997	88	66	22	0.750000
1998	88	57	31	0.647727
1999	98	71	27	0.724490
2000	86	56	30	0.651163
2001	96	64	32	0.666667
2002	117	73	44	0.623932
2003	94	66	28	0.702128
2004	108	78	30	0.722222
2005	82	58	24	0.707317
2006	111	83	28	0.747748
2007	122	91	31	0.745902
2008	123	88	35	0.715447
2009	98	69	29	0.704082
Sum	1934	1296	515	13.572683
Mean	96.700000	68.21053	27.105263	0.714352
SD	14.980320	12.059410	5.866001	0.052503
- 3 SD	51.759039	32.032297	9.507259	0.556842
- 2 SD	66.739359	44.091707	15.373260	0.609345
2009	98	69	29	0.704082
+ 2 SD	126.660641	92.329346	38.837266	0.819358
+ 3 SD	141.640961	104.38876	44.703267	0.871862

The total number of cases is 98, 1.3 above the average for the past 20 years, and falls well within the + or - 2SD of 66.7 and126.6, so we must label this value as "*normal*". .

Now let's look at the number of homicides in the year 2009:

Year	Homicide	Male	Female	Ratio
1989	2	0	2	0
1990	2	0	2	0
1991	0	0	0	
1992	3	1	2	0.333333
1993	2	1	1	0.5
1994	1	1	0	1
1995	5	3	2	0.6
1996	3	2	1	0.666667
1997	2	0	2	0
1998	2	1	1	0.5
1999	1	1	0	1
2000	1	0	1	0
2001	2	1	1	0.5
2002	4	2	2	0.5
2003	1	1	0	1
2004	2	1	1	0.5
2005	2	1	1	0.5
2006	2	1	1	0.5
2007	2	1	1	0.5
2008	6	4	2	0.666667
2009	0	0	0	0
Sum	45	18	21	8.6
Mean	2.25	1.1	1.15	0.487719
SD	1.409554	0.779864	0.737468	0.325998
- 3 SD	-1.97866	-1.23959	-1.06241	-0.49027
- 2 SD	-0.56911	-0.45973	-0.32494	-0.16428
2009	0	0	0	0
+ 2 SD	5.069108	2.659727	2.624937	1.139715
+ 3 SD	6.478662	3.439591	3.362405	1.465712

Last year there 6 homicides, and this year there were zero. Looking at our chart only in 1991 were there no homicides. Count our blessings!

The next data set involves Suicides in the year 2009:

Year	Suicide	Male	Female	Ratio
1989	13	12	1	0.923077
1990	11	9	2	0.818182
1991	18	15	3	0.833333
1992	12	10	2	0.833333
1993	12	10	2	0.833333
1994	12	11	1	0.916667
1995	11	9	2	0.818182
1996	17	15	2	0.882353
1997	15	12	3	0.800000
1998	17	9	8	0.529412
1999	8	6	2	0.750000
2000	9	9	0	1.000000
2001	13	11	2	0.846154
2002	12	7	5	0.583333
2003	16	14	2	0.875000
2004	12	9	3	0.750000
2005	20	17	3	0.850000
2006	15	12	3	0.800000
2007	14	13	1	0.928571
2008	21	18	3	0.857143
2009	12	8	4	0.666667
Sum	278	228	50	16.428073
Mean	13.9	11.4	2.5	0.821404
SD	3.447348	3.185493	1.670172	0.108963
- 3 SD	3.557955	1.84352	-2.51052	0.494514
- 2 SD	7.005303	5.029013	-0.84034	0.603477
2009	12	8	4	0.666667
+ 2 SD	20.7947	17.77099	5.840344	1.03933
+ 3 SD	24.24204	20.95648	7.510515	1.148293

The suicide numbers of 12, 8, 4, and 0.666667 are all within plus or minus 2 standard deviations and thus must be considered “normal”.

The next data set involves Accidents in the year 2009:

Year	Accident	Male	Female	Ratio
1989	31	22	9	0.709677
1990	32	26	6	0.812500
1991	18	10	8	0.555556
1992	20	17	3	0.850000
1993	25	21	4	0.840000
1994	22	12	10	0.545455
1995	22	16	6	0.727273
1996	28	21	7	0.750000
1997	19	16	3	0.842105
1998	21	14	7	0.666667
1999	18	10	8	0.555556
2000	21	13	8	0.619048
2001	20	15	5	0.750000
2002	19	15	4	0.789474
2003	24	12	12	0.500000
2004	24	14	10	0.583333
2005	21	16	5	0.761905
2006	30	21	9	0.700000
2007	42	31	11	0.738095
2008	30	21	9	0.700000
2009	34	21	13	0.617647
Sum	487	343	144	13.996642
Mean	24.35	17.15	7.2	0.699832
SD	6.123939	5.421934	2.64774	0.107841
- 3 SD	5.978182	0.884198	-0.74322	0.376309
- 2 SD	12.10212	6.306132	1.90452	0.484150
2009	34	21	13	0.617647
+ 2 SD	36.59788	27.99387	12.49548	0.915514
+ 3 SD	42.72182	33.4158	15.14322	1.023355

The statistical evaluation of total accidents, 34, is well within the "normal" range. The male total, 21, is also within the "normal" range. The female total, 13, is outside the normal range. The male to female range, 0.617647 is "normal".
The female total of 13 is above the 2SD value of 12.498548 and is thus "abnormal". The value of 13 is 5.8 above the mean of 7.2.

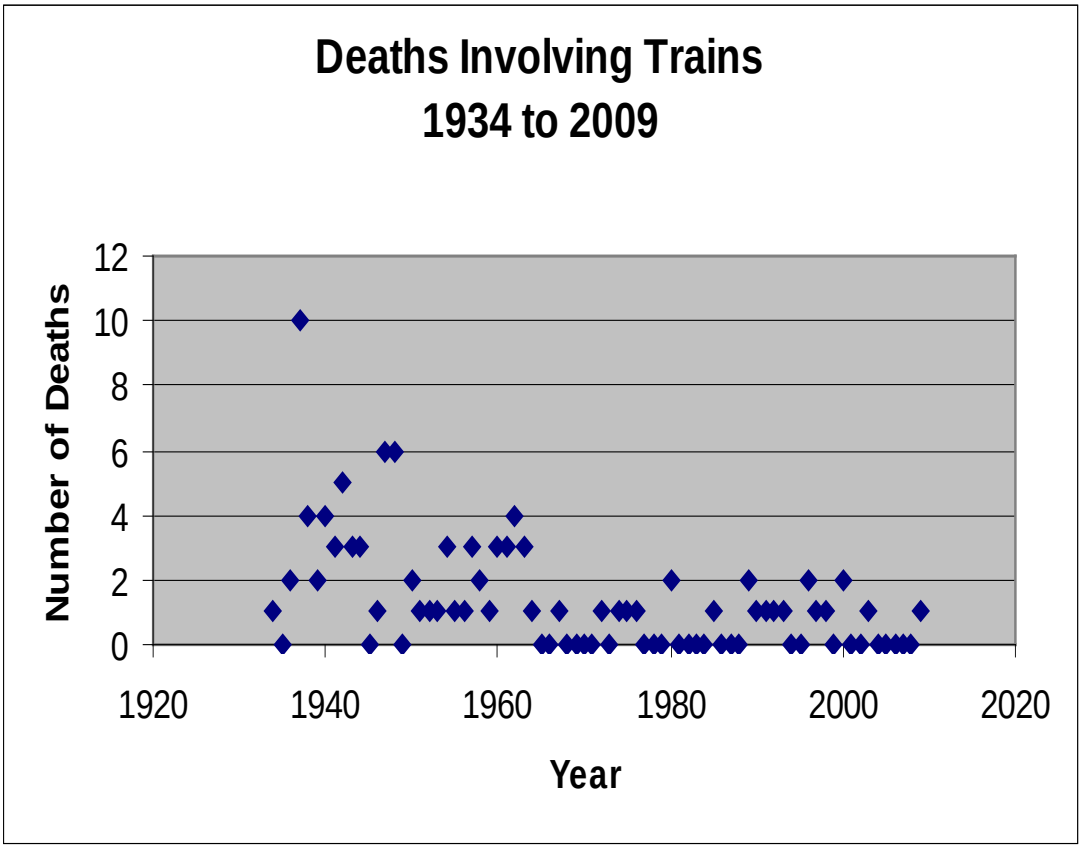
The next data set involves Natural Deaths in the year 2009:

Year	Natural	Male	Female	Ratio
1989	47	34	13	0.723404
1990	51	39	12	0.764706
1991	42	26	16	0.619048
1992	55	32	23	0.581818
1993	38	31	7	0.815789
1994	38	26	12	0.684211
1995	51	40	11	0.784314
1996	69	55	14	0.797101
1997	52	37	15	0.711538
1998	48	33	15	0.6875
1999	69	53	16	0.768116
2000	49	32	17	0.653061
2001	57	36	21	0.631579
2002	77	44	33	0.571429
2003	52	38	14	0.730769
2004	67	52	15	0.776119
2005	38	24	14	0.631579
2006	58	44	14	0.758621
2007	59	44	15	0.745763
2008	61	42	19	0.688525
2009	44	33	11	0.750000
Sum	1078	762	316	14.12499
Mean	53.9	38.1	15.8	0.706249
SD	10.99234	8.854972	5.327189	0.072583
- 3 SD	20.92297	11.53508	-0.18157	0.488501
- 2 SD	31.91532	20.39006	5.145621	0.561084
2009	44	33	11	0.750000
+ 2 SD	75.88468	55.80994	26.45438	0.851415
+ 3 SD	86.87703	64.66492	31.78157	0.923998

The statistical evaluation of natural deaths for the year 2009 reveals all values within the "*normal*" range, that is to say, all values fall within the range of -2SD and +2SD.

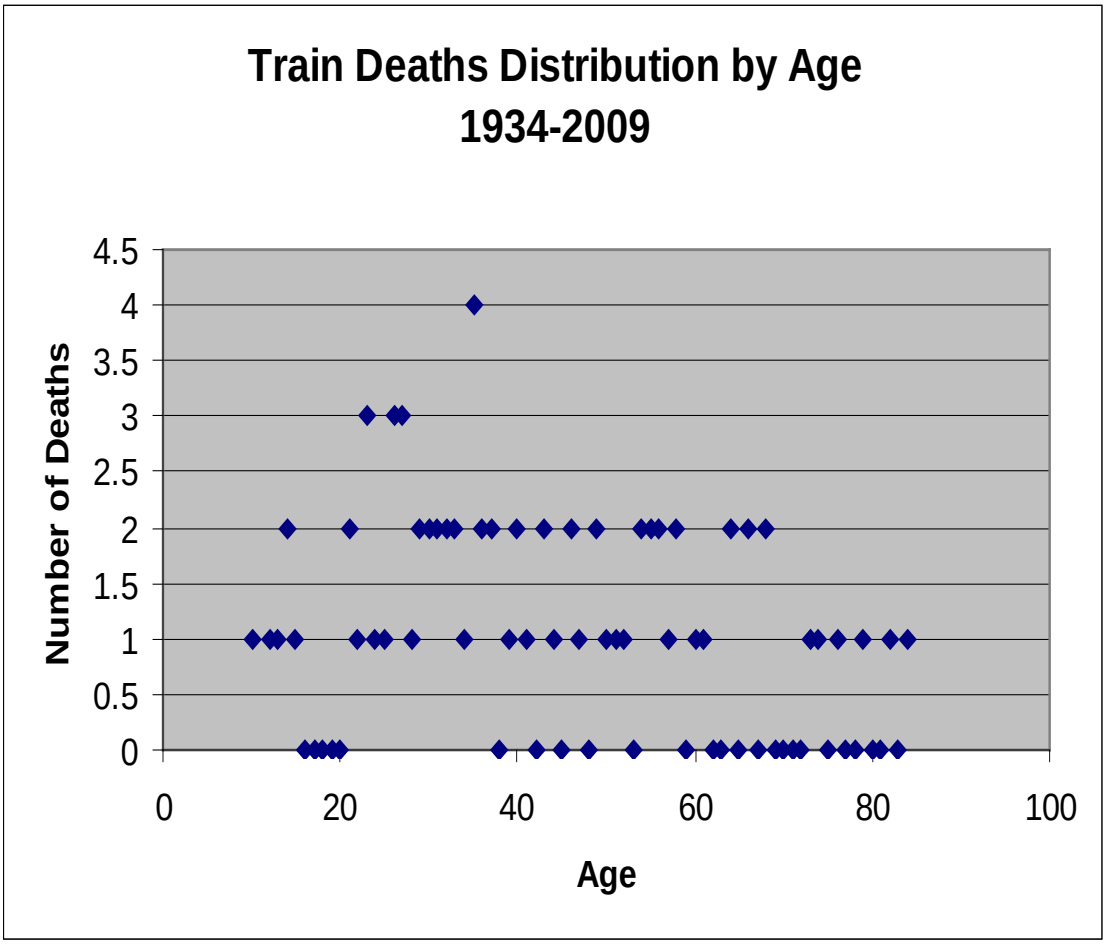
Train Deaths in Columbiana County, Ohio

At 01:20 A.M. in the early morning hours of June 21, 2009 a 29 year old man was struck by a train in Salem, Ohio. He was heavily intoxicated and was accompanied by a couple of his friends. Why he was on the train tracks is still a mystery. He was the only train death of the year. Such train deaths are not uncommon. The following graph depicts the 102 train deaths in our County from 1934 to 2009:

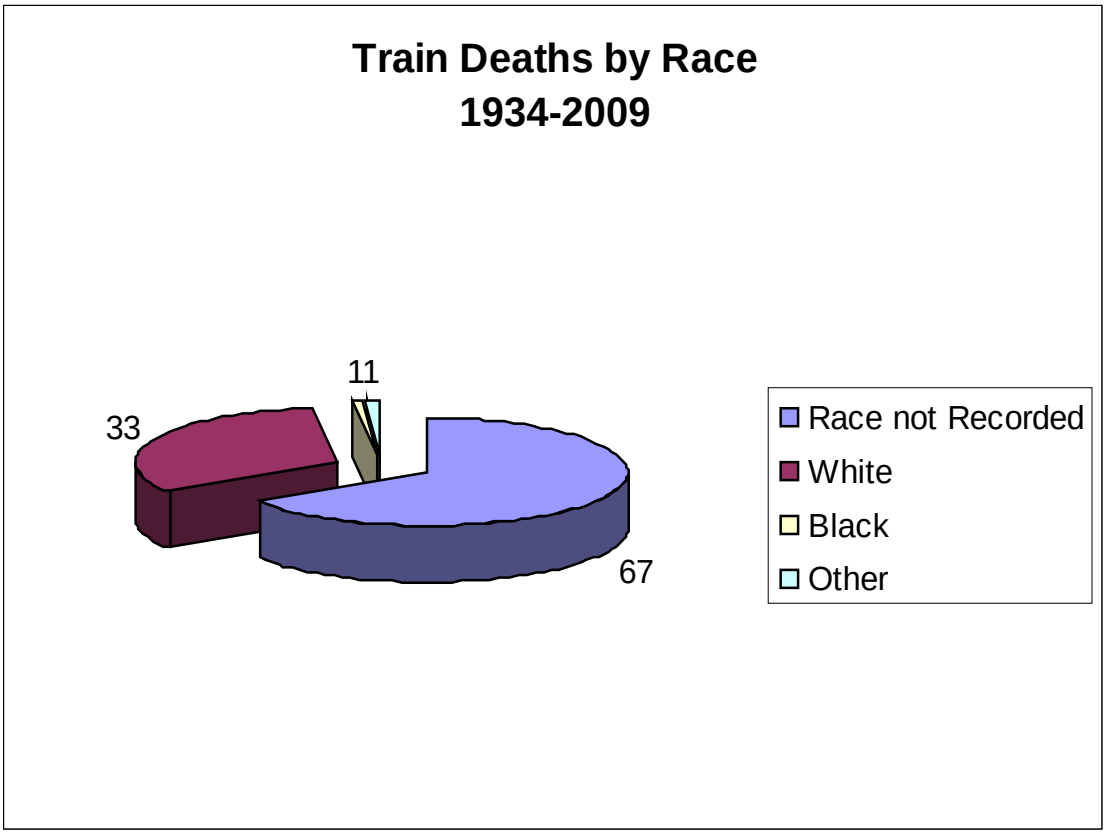


The average number of train deaths per year is 1.342 and the standard deviation is 1.770. Thus, in statistical terms, it would be "normal to have 0 to 4.882 deaths by train per year. This graph shows a very large number, 10, for the year 1937, and shows in addition "abnormal" numbers of 5 for the year 1942 and 6 for the years 1947 and 1948.

The age of the decedents runs the gamut from 10 to 84. The age of 35 holds the greatest number of 4, while the ages of 23, 26, and 27 a large number of 3. The average age of the decedents is 48.85 years The following graph depicts the distribution by age of people killed by train in Columbiana County.



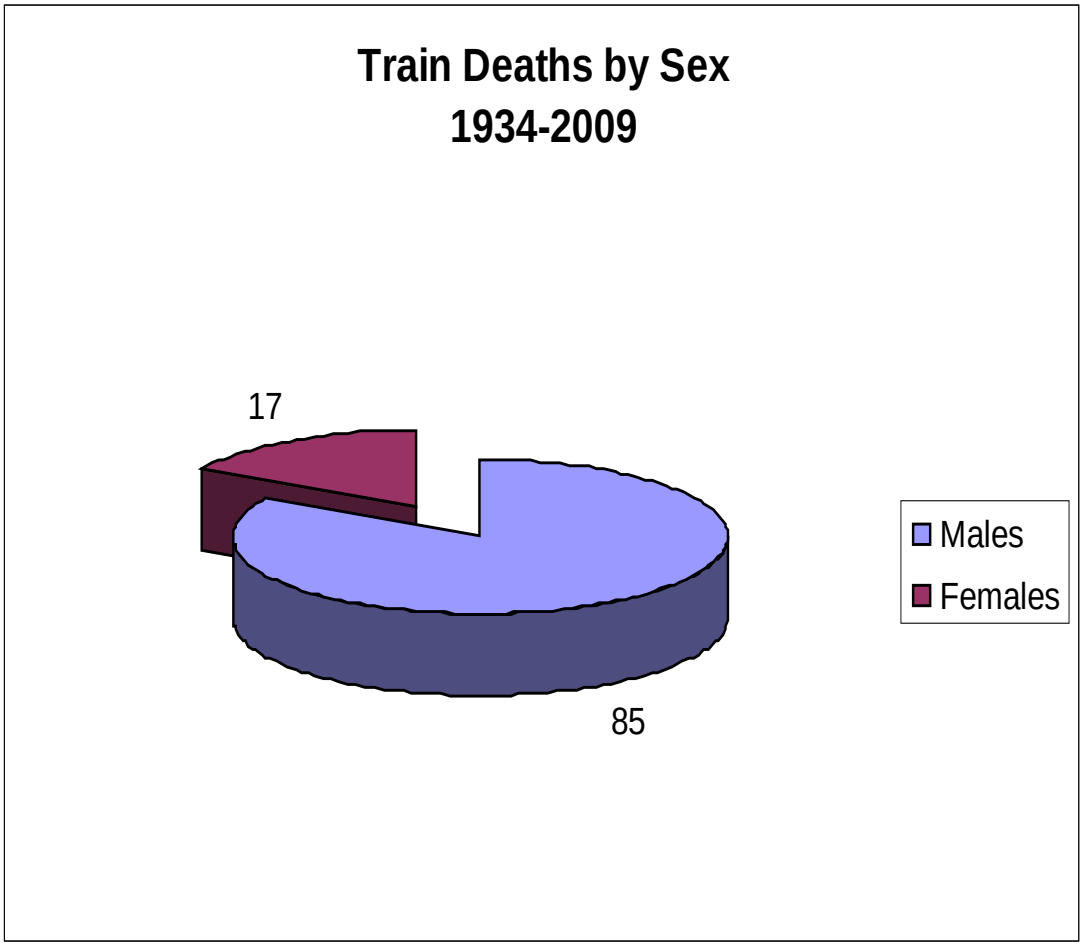
The following graph's shows the characterization of the kind of people killed by trains. In short a white male, walking on the train tracks who is a resident of Ohio.



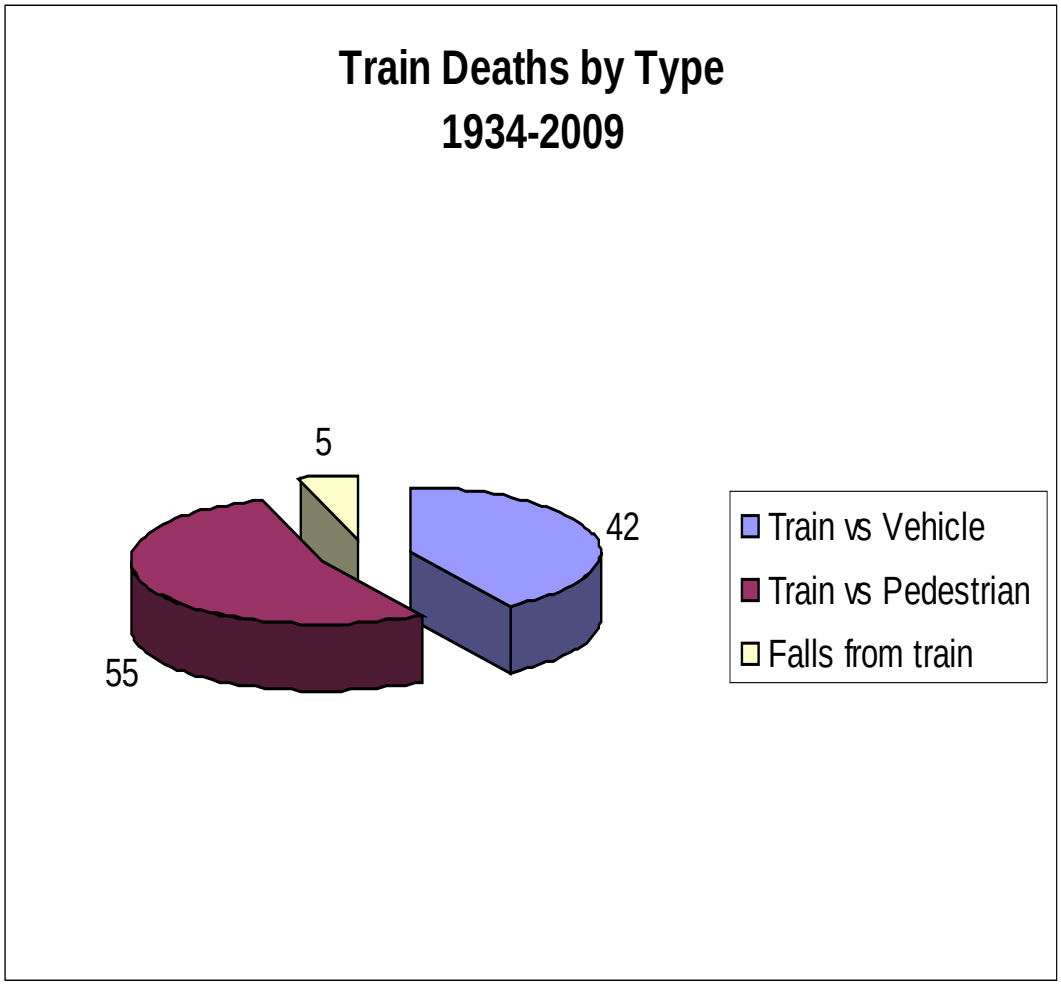
Race not Recorded	67
White	33
Black	1
Other	1

Of the 102 deaths only 35 had a race recorded. Of those recorded 33 were white, 1 was black, and the last recorded as "other".

The breakdown by sex shows predominantly males (85) and to a lesser extent females (17).

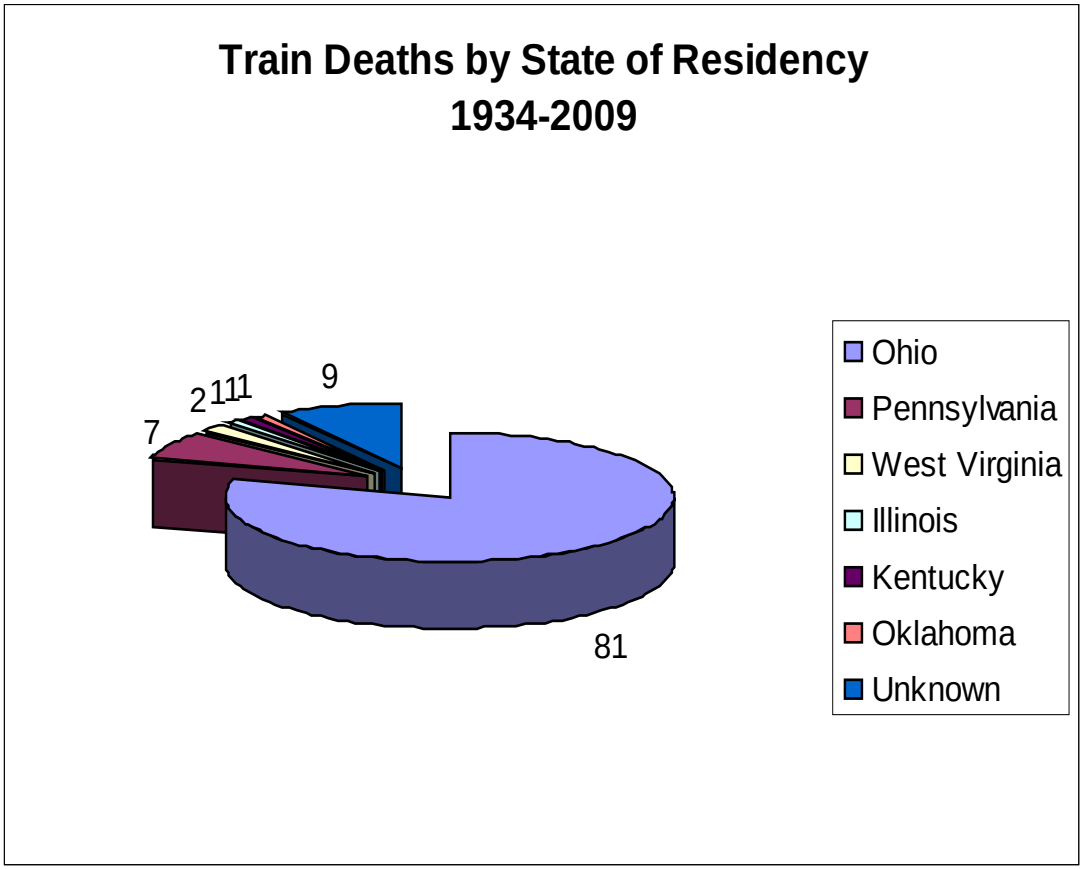


The train accidents can be loosely segregated by type as follows: Train versus Vehicle, Train versus Pedestrian, and Falls from train.



The exact breakdown is 55 train versus Pedestrian, 42 train versus Vehicle, and lastly 5 Falls from the train.

Seven different States contribute to the death toll. They are depicted in the following graph:



The breakdown is shown below:

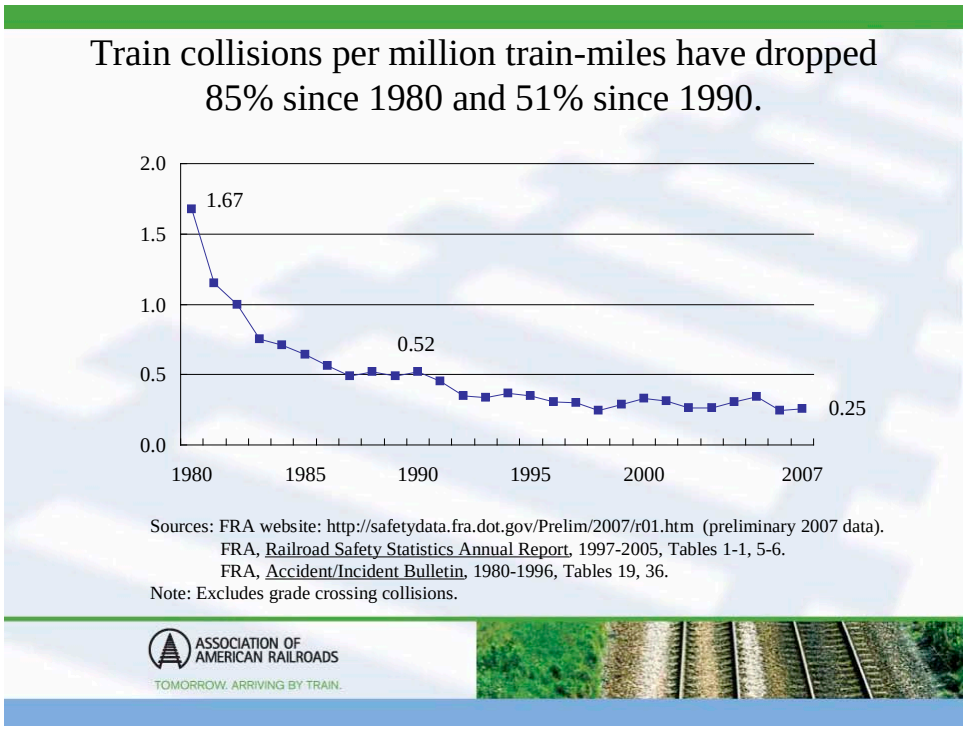
Ohio	81
Pennsylvania	7
West Virginia	2
Illinois	1
Kentucky	1
Oklahoma	1
Unknown	9

The following direct quotes from a news paper article and from a powerpoint presentation are included because of their relevance to the subject of train accidents, though not necessarily in Columbiana County.

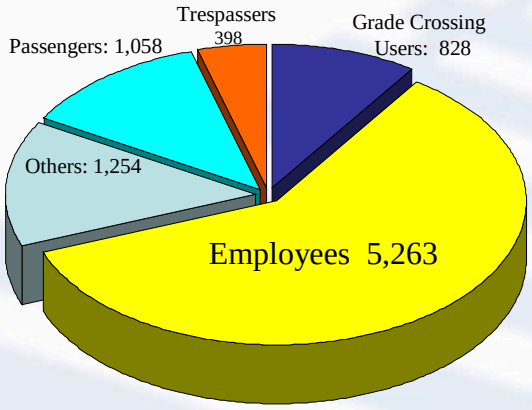
“Ohio Ranked 7th For Train Accidents - 7/9/2010

Ohio can compete with any state in the country when it comes to train traffic and rail crossings, so it's no surprise it's near the top of the list for railroad crossing accidents. The Federal Rail Administration wants Ohio and a number of other states to come up with a plan to reduce these accidents. Ohio ranked 7th in the country in accidents and fatalities at rail crossings, which doesn't shock local leaders because of the high volume of rail traffic in the state.

The regional planning commission studies different rail lines in Allen county on an annual basis, then sends its recommendations to the pertinent players, which includes local, state and federal agencies. The ultimate decision to put up signals or gates is the railroads and unfortunately sometimes takes a tragedy to get the upgrades done. “



In 2007, 60% of rail-related injuries were incurred by employees on duty.



Sources: FRA website: http://safetydata.fra.dot.gov/Prelim/2007/r03.htm (preliminary 2007 data).
FRA, Railroad Safety Statistics Annual Report 2005, Table 1-3.

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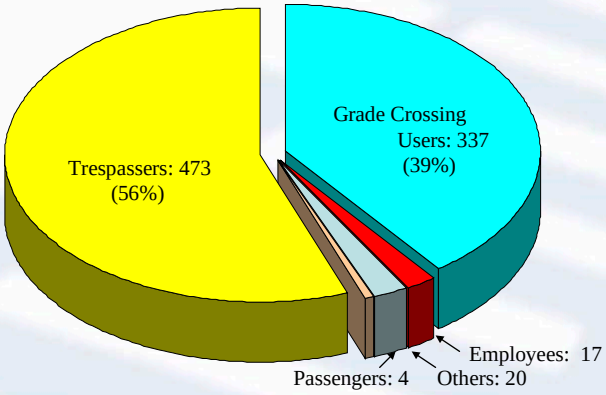
In 2007, 95% of rail-related fatalities were grade crossing users and trespassers.



Sources: FRA website: http://safetydata.fra.dot.gov/Prelim/2007/r03.htm (preliminary 2007 data).
FRA, Railroad Safety Statistics Annual Report 2005, Table 1-3.

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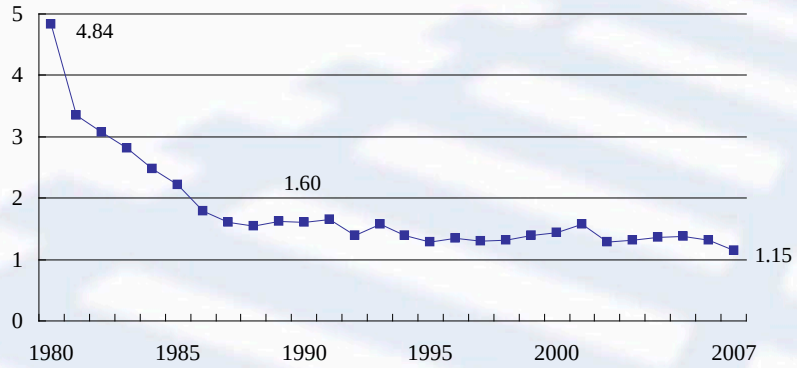
Track-caused accidents per million train-miles have dropped 76% since 1980 and 28% since 1990, to a new low.



Sources: FRA website: http://safetydata.fra.dot.gov/Prelim/2007/r01.htm & r02.htm (preliminary 2007 data)
FRA, Railroad Safety Statistics Annual Report, 1997-2005, Tables 1-1, 5-9.
FRA, Accident/Incident Bulletin, 1980-1996, Tables 19, 36.
Note: Excludes grade crossing accidents.

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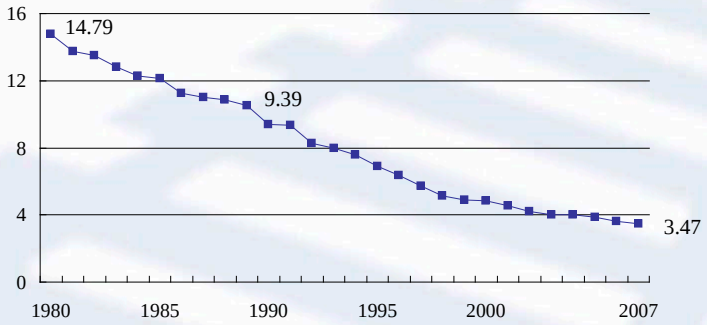
Grade crossing collision rates have declined for 29 consecutive years, 77% since 1980 and 63% since 1990.

Grade Crossing Collisions per Million Train-Miles



Sources: FRA, Railroad Safety Statistics Annual Report, 1997-2005, Table 1-1.
FRA Highway/Rail Crossing Accident/Incident & Inventory Bulletin, 1980-1996, Table S.
FRA website: http://safetydata.fra.dot.gov/Prelim/2007/r01.htm & r02.htm (preliminary 2007 data)
Note: Includes accidents involving pedestrians and collisions at private crossings.

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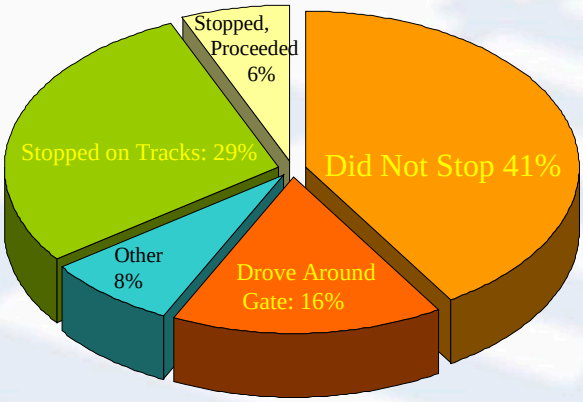
Grade crossing collisions are usually caused by motorist error.



Sources: AAR Analysis of Highway-Rail Incident Database for 2007 (July 2008).
FRA, Railroad Safety Statistics Annual Report 2005, Table 8-6.
Note: Motor vehicle highway-rail incidents at public crossings.

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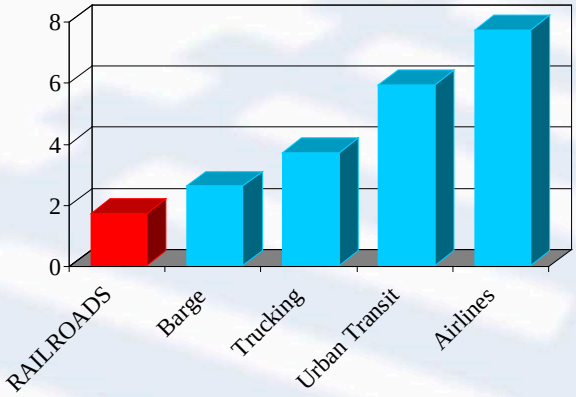
Railroads have lower employee injury rates than do other transportation modes.

Lost Workday Injuries & Illnesses per 100 Full Time Employees, 2006



Source: Bureau of Labor Statistics, http://www.bls.gov/iif/oshwc/osh/os/ostb1765.pdf

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In total, the accident death rates both in Columbiana County and nation-wide, have been decreasing over the past years. As a mode of travel it is still safer than travel by barge, trucking, urban transit or airlines.

SUMMARY

1. The Ohio Revised Code concerning the Office of the Coroner was reviewed. Emphasis was placed on when to report a death, how to report a death, laws/attorney general's opinion, and frequently asked questions.

2. The statistical review showed that the calendar year 2009 was an eventful and busy year. Of the deaths reported in the County, 446 were not reported to the Coroner, 443 were reported to the Coroner, and of those 98 were accepted by the Coroner. Of the 98 accepted by the Coroner, 22 were autopsied and 70 had toxicology only performed, and 6 with neither autopsy nor toxicology. The classifications of these deaths were as follows:

Natural	44
Accident	34
Homicide	0
Suicide	12
Not determined	8
Total Cases	98

Of the 98, 69 were male and 29 were female. The marital status was as follows:

Married	32
Single	32
Divorced	24
Widowed	10
Separated	0

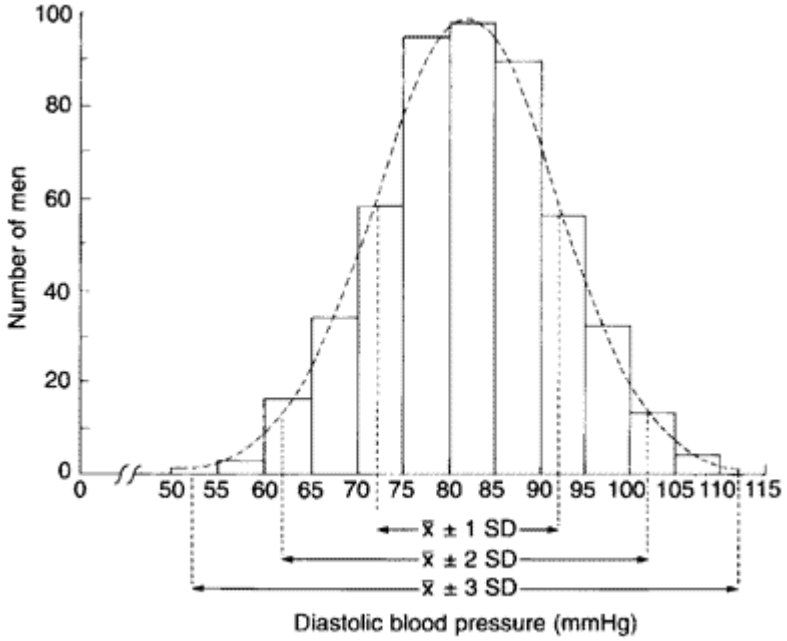
The ethnic background and age distribution by manner of death are described. As in previous years cardiac disease was the major "natural" killer, and gunshot wounds were the predominant cause of suicidal deaths.

A review of the Drug/Alcohol deaths for 2009 was reported. A slight decrease this year, the rate of deaths is noted over the past 14 years, with 2008 being the largest jump.

Railroad train deaths from 1934 until 2009 was reviewed.

Appendix A:

Many biological measurements conform to a **Normal Distribution** – for example, heights of adult men and women, blood pressures in a healthy population, random errors in many types of laboratory measurements, and biochemical data. The figure below shows a Normal curve calculated from the diastolic blood pressures of 500 men, mean 82 mmHg, **Standard Deviation** 10 mmHg. The ranges representing +/-1SD, +/-2SD, and +/-3SD about the mean are marked.



The reason why **Standard Deviation (SD)** is such a useful measure of the scatter of the observations is this: if the observations follow a **Normal distribution**, a range covered by one standard deviation above the mean and one standard deviation below it includes about 68% of the observations; a range of two standard deviations above and two below about 95% of the observations; and of three standard deviations above and three below about 99.7% of the observations. Thus, when one encounters statistical values greater than 2SD or 3SD, a **significant observation has been found**.

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http://bmj.com/collections/statbk/2.shtml for the statistical primer
http://www.crashstuff.com/train-accident-statistics/ for the train versus vehicle photos
http://www.accidents.com.news/link/ohio-ranked-7th-for-train for the news article

and a

Powerpoint presentation by:
Peter W. French: AVP- Safety & Performance Analysis Association of American Railroads, July 29, 2008 U.S. Railroad Safety Statistics and Trends

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