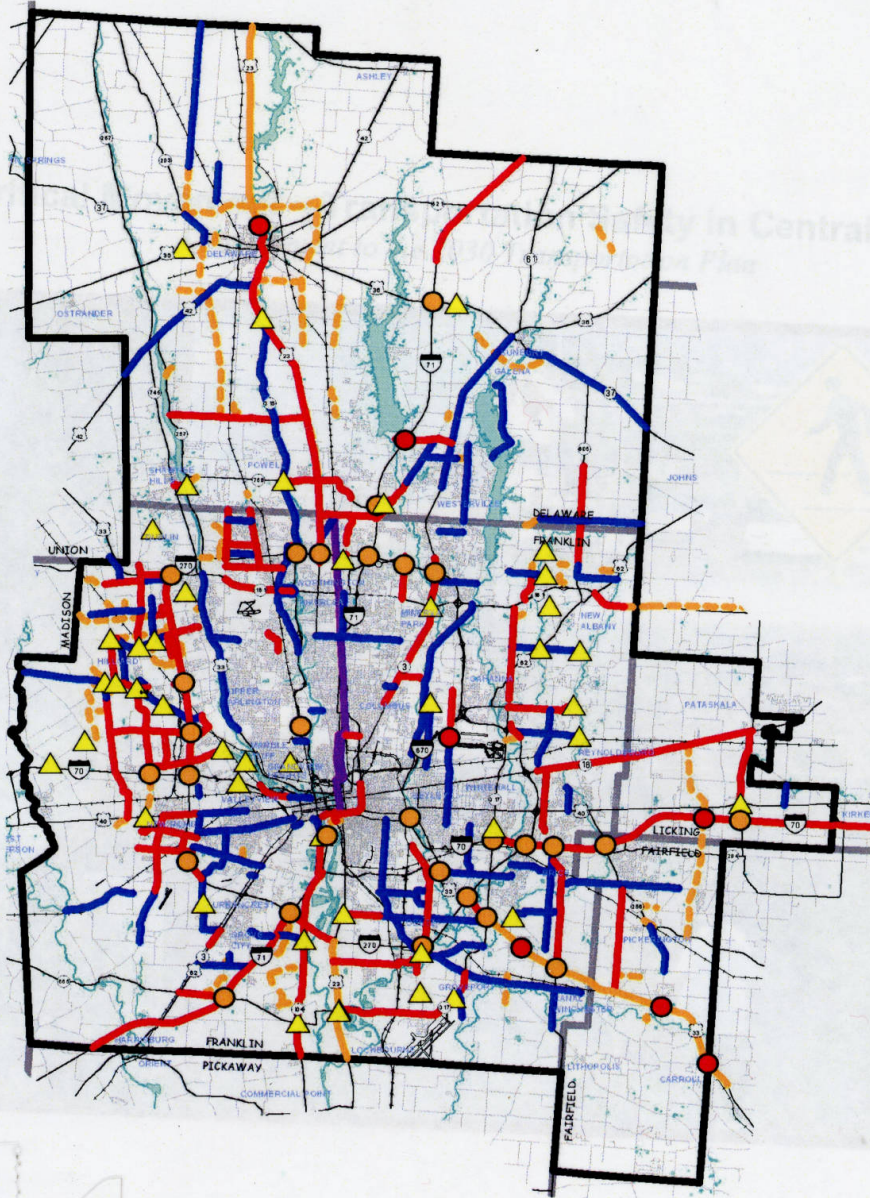


2030 Regional Transportation Plan

5. Critical Movement – Transportation Safety in Central Ohio



Ohio
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Overview of Safety in Central Ohio

Highway Safety

National Trends

Fatalities

Nonfatal Injuries

Unreported Crashes and Injuries

Uninjured Occupants in Injury Crashes

Ohio Trends

The State of Ohio's 2002 Statistics at a Glance

Ohio Crash Trends by Mode

7-County Crash Statistics 2000

Truck and Freight

Critical Movement – Transportation Safety in Central Ohio

A Supplement to the 2030 Transportation Plan



Prepared By:



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Overview of Safety in Central Ohio

During calendar year 2002, a total of approximately 42,800 deaths occurred on highways in the United States. Reducing this number is the top priority of the U.S. DOT, and the FHWA is advancing a set of strategic objectives and strategies in partnership with other U.S. DOT agencies. Nationally, the FHWA is focused on reducing the number and severity of crashes relating to situations which result in the largest number of deaths - namely: roadway departure crashes, intersection crashes, and pedestrian deaths.

In recent years, states have continued to increase their involvement in establishing and enforcing laws related to motor vehicle safety. This is due, in part, to federal legislation enacted in the 1990's. Legislation such as the Transportation Equity Act for the 21st Century (TEA-21) of 1998 allows for additional funds to be granted to states that adopt certain safety programs. The act also encourages the passage of laws by use of a \$500 million federal incentive over a six-year period.

Safety is an issue that impacts the quality of life for all Central Ohioans. Our goals and achievements become meaningless when safety is compromised and tragedy occurs. Frequently safety issues are brought to light, subsequent to a catastrophic event. Only then are deficiencies in our infrastructure exposed and addressed.

While it is not realistic to expect contingencies to be developed to counter all potential negative outcomes, it is the responsibility of leaders and planners to engage in meaningful analysis to effectively minimize the dangers of the built environment.

Our transportation system presents a significant challenge in maintaining safety. The mere volume of transportation activity can make assurance of safety a difficult endeavor. As a society we seem to have learned (to accept the) loss of person and property as part of the cost of efficient transportation. This rationale is not valid when planning the future of our transportation system. Responsible planning should not allow for acceptable levels of avoidable loss. When the value of efficient transportation exceeds the value of human life we have lost our way and must correct our course!

This document will take an overview of current statistics and trends related to safety in our region and nationwide, and identify the current actions to address these issues. This document will also guide the areas of improvement in safety planning, and how the focus of future efforts can benefit from a foundation of safety.

Highway Safety

National Trends

The United States Statistics at a Glance:

- 42,800 persons were killed in 2002
- State of Ohio ranked 8th in traffic accidents for 2002
- 28 million vehicles were damaged in motor vehicle crashes in 2002
- Incidents at public highway at-grade rail crossings caused 311 deaths and 859 injuries In 2002.¹

The economic costs of these crashes totaled \$231 billion for the U.S. Included in calculating these losses are lost productivity, medical costs, legal and court costs, emergency service costs, insurance administration costs, travel delay, property damage, and workplace losses. The \$231 billion cost of motor vehicle crashes represents the equivalent of nearly \$820 for each of the 281 million persons living in the United States, and 2.3 percent of the \$9,900 billion U.S. Gross Domestic Product for 2000.

The societal and economic cost of motor vehicle injury is a big factor with state legislators when they consider new traffic safety laws, changes to existing laws and funding for enforcement of the laws. This information can assist them in making the case to their constituencies as to the relevance of the laws designed to make the population safer. Table 1 shows that Ohio ranked number five overall in 2000 for the economic costs due to motor vehicle crashes.

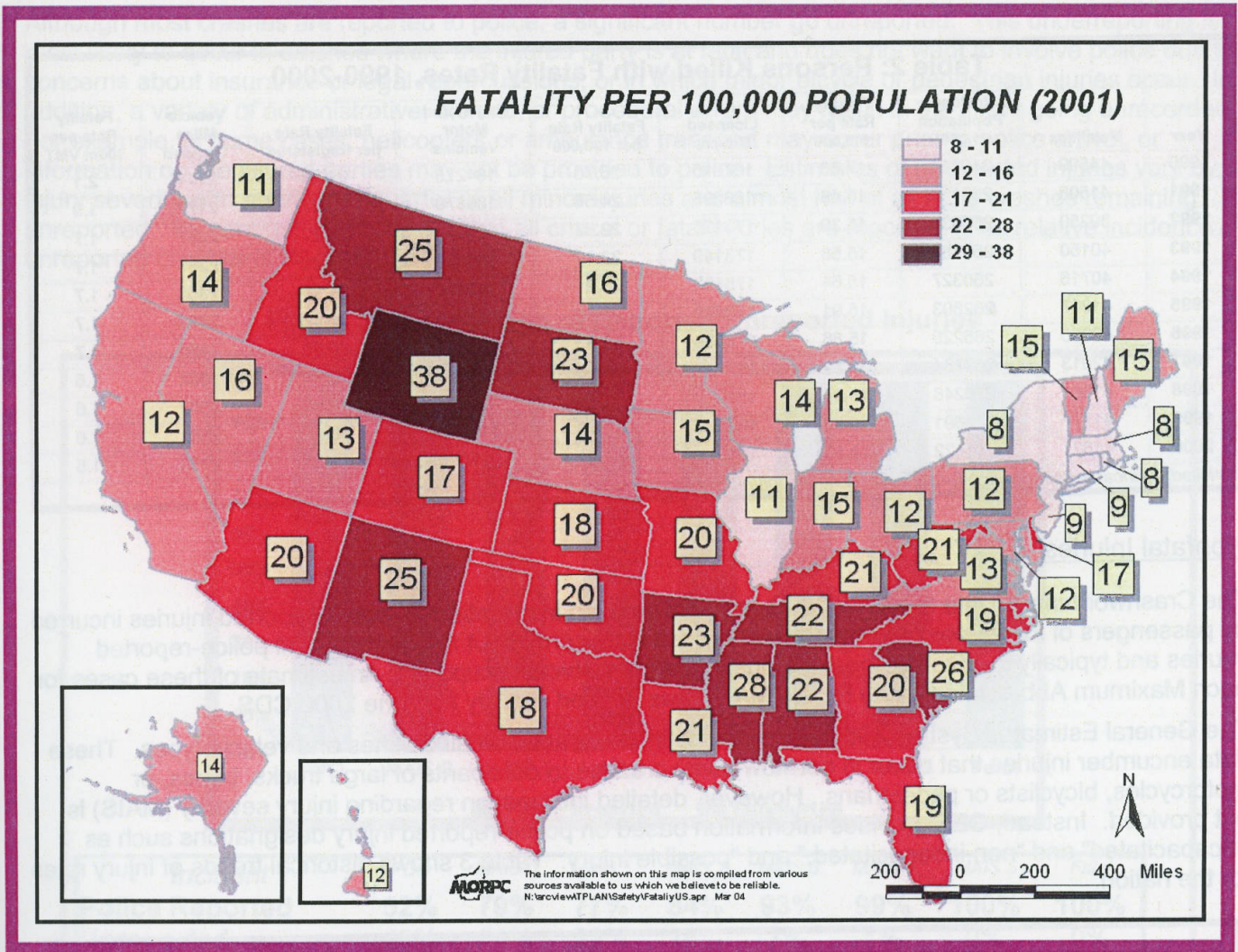
Table 1: Estimated 2000 Economic Costs Due to Motor Vehicle Crashes²

Top 10 States	(Millions \$)	% Total	Cost Per Capita	% Per Capita Personal Income
California	\$20,655	9.00%	\$610	1.90%
Texas	\$19,761	8.60%	\$948	3.40%
New York	\$19,490	8.50%	\$1,027	3.00%
Florida	\$14,403	6.20%	\$901	3.20%
Ohio	\$11,090	4.80%	\$977	3.40%
New Jersey	\$9,336	4.00%	\$1,110	3.00%
Illinois	\$8,984	3.90%	\$723	2.20%
North Carolina	\$8,270	3.60%	\$1,027	3.80%
Pennsylvania	\$8,170	3.50%	\$665	2.30%
Michigan	\$8,069	3.50%	\$812	2.70%
Total	\$230,568	100.00%	\$819	2.80%

The statistics and charts used for the national information were obtained from the United States Department of Transportation (U.S. DOT), and the Federal Highway Administration (FHWA).

¹ U.S. Department of Transportation, *Targeting Highway Fatalities*, January 2004, <http://safety.fhwa.dot.gov/pubs/stats2002/index.htm>

² National U.S. Department of Transportation - NHTSA - *The Economic Impact of Motor Vehicle Crashes 2000 - State Costs* - DOT HS 809 446 - http://www.nhtsa.dot.gov/people/economic/econimpact2000/state_costs.htm
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Map 1: Crash Fatalities per 100,000 Population by State 2001

Fatalities

The data used in this section were obtained from the Fatality Analysis Reporting System (FARS) - a complete census of all the fatal crashes on United States' public roads that resulted in death within 30 days of the crash. In the year 2000, FARS recorded a total of 41,800 deaths in motor vehicle crashes. This total represents 1,100 more individuals than in 1994, the last year for which NHTSA examined economic costs. This represents a 2.7 percent increase over six years. However, during this same period, the resident population increased 8.1 percent, the number of licensed drivers increased by 8.7 percent, and vehicle miles traveled (VMT) increased 16.6 percent. With this increase in exposure, the overall fatality rate actually declined from 1.7 deaths per million VMT in 1994 to 1.5 per million in 2000.

Map 1 shows that fatality rates across the nation vary significantly. The national average for 2001 works out to 15 fatalities per 100,000 population. Ohio is slightly under the average for fatality with 12 per 100,000 population despite having a significant number of fatalities (Ohio -1,378 in 2001 compared to a national average of 826). These data suggest that Ohio fairs better than many states despite having a large and somewhat urban population.

Table 2 shows the historical trend in fatalities, exposure measures, and fatality rates from 1990 to 2000.

Table 2: Persons Killed with Fatality Rates, 1990-2000

Year	Fatalities	Resident Population (1,000)	Fatality Rate per 100,000	Licensed Drivers	Fatality Rate per 100,000	Registered Motor Vehicles	Fatality Rate per Registered	Vehicle Miles Traveled	Fatality Rate per 100m VMT
1990	44599	249464	17.88	167015	26.70	184275	24.20	2144	2.1
1991	41508	252153	16.46	168995	24.56	186370	22.27	2172	1.9
1992	39250	255030	15.39	173125	22.67	184938	21.22	2247	1.7
1993	40150	257783	15.58	173149	23.19	188350	21.32	2296	1.7
1994	40716	260327	15.64	175403	23.21	192497	21.15	2358	1.7
1995	41817	262803	15.91	176628	23.68	197065	21.22	2423	1.7
1996	42065	265229	15.86	179539	23.43	201631	20.86	2486	1.7
1997	42013	267784	15.69	182709	22.99	203568	20.64	2562	1.6
1998	41501	270248	15.36	184980	22.44	208076	19.95	2632	1.6
1999	41717	272691	15.30	187170	22.29	212685	19.61	2691	1.6
2000	41821	281422	14.86	190625	21.94	217028	19.27	2750	1.5

*K=killed; A=incapacitating injury; B=non-incapacitating injury; C=possible injury; O=no injury.

Nonfatal Injuries

The Crashworthiness Data System (CDS) contains detailed information on police-reported injuries incurred by passengers of towed passenger vehicles. These represent about 54 percent of all police-reported injuries and typically involve the most serious injuries to vehicle occupants. An estimate of these cases for each Maximum Abbreviated Injury Scale (MAIS) was derived directly from the 2000 CDS.

The General Estimates System (GES) provides estimates based on all crashes and vehicle types. These data encumber injuries that occur in non-tow-away crashes to occupants of large trucks, buses, or motorcycles, bicyclists or pedestrians. However, detailed information regarding injury severity (MAIS) is not provided. Instead, GES provides information based on police-reported injury designations such as "incapacitated" and "non-incapacitated," and "possible injury." Table 3 shows historical trends of injury rates for the nation.

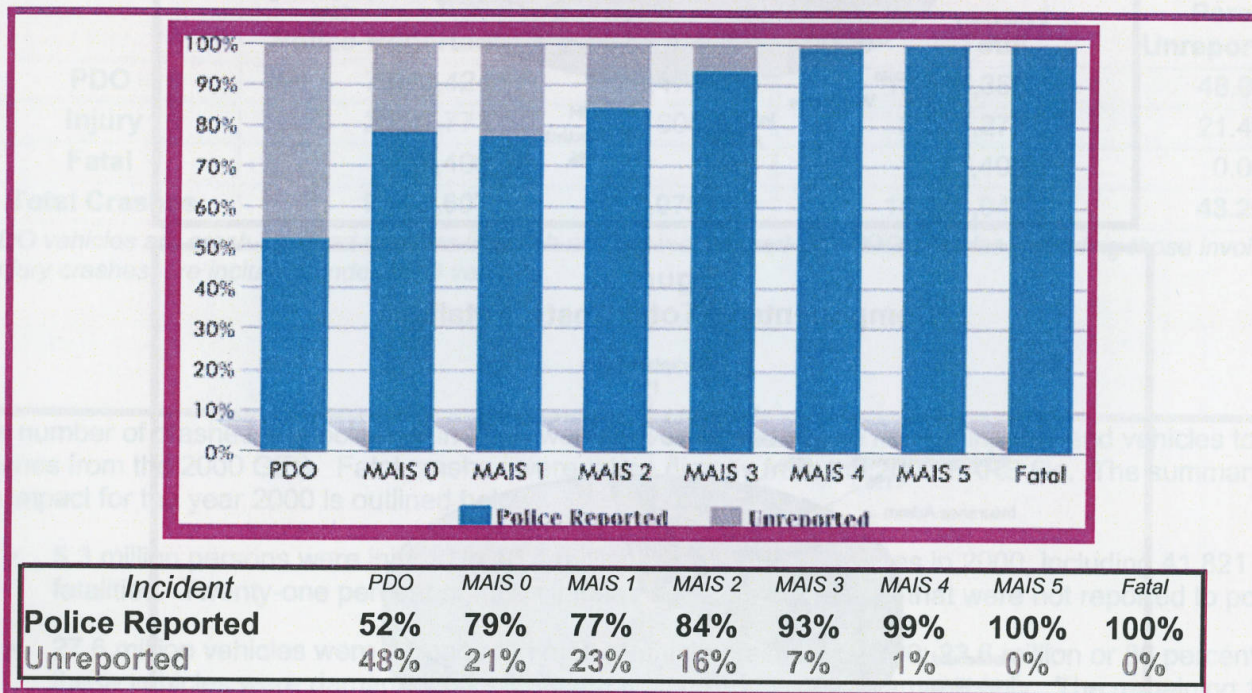
Table 3: Persons Injured with Injury Rates, 1990-2000

Year	Police Reported Injuries	Resident Population (1,000)	Injury Rate per 100,000	Licensed Drivers	Injury Rate per 100,000	Registered Motor Vehicles	Injury Rate per Registered	Vehicle Miles Traveled	Injury Rate per 100m VMT
1990	3231000	249464	1295	167015	1935	184275	1753	2144	151
1991	3097000	252153	1228	168995	1833	186370	1662	2172	143
1992	3070000	255030	1204	173125	1773	184938	1660	2247	137
1993	3149000	257783	1222	173149	1819	188350	1672	2296	137
1994	3266000	260327	1255	175403	1862	192497	1697	2358	139
1995	3465000	262803	1318	176628	1962	197065	1758	2423	143
1996	3483000	265229	1313	179539	1940	201631	1727	2486	140
1997	3348000	267784	1250	182709	1832	203568	1645	2562	131
1998	3192000	270248	1181	184980	1726	208076	1534	2632	121
1999	3236000	272691	1187	187170	1729	212685	1521	2691	120
2000	3189000	281422	1133	190625	1673	217028	1469	2750	116

Unreported Crashes and Injuries

Although most crashes are reported to police, a significant number go unreported. This underreporting is most likely to occur in crashes where the injured party is at fault and does not want to involve police due to concerns about insurance or legal repercussions, or in which minor bicycle or pedestrian injuries occur. In addition, a variety of administrative, clerical, or procedural errors may result in the injury going unrecorded. For example, in some cases, helicopters or ambulance transport may occur prior to police arrival, or information on the injured parties may not be provided to police. Estimates of unreported injuries vary by injury severity with nearly one quarter of all minor injuries and almost half of all PDO crashes remaining unreported. By contrast, it is believed that all critical or fatal injuries are reported. The relative incidence of unreported crashes is illustrated in Figure 1.³

Figure 1: Distribution of Reported/Unreported Injuries⁴



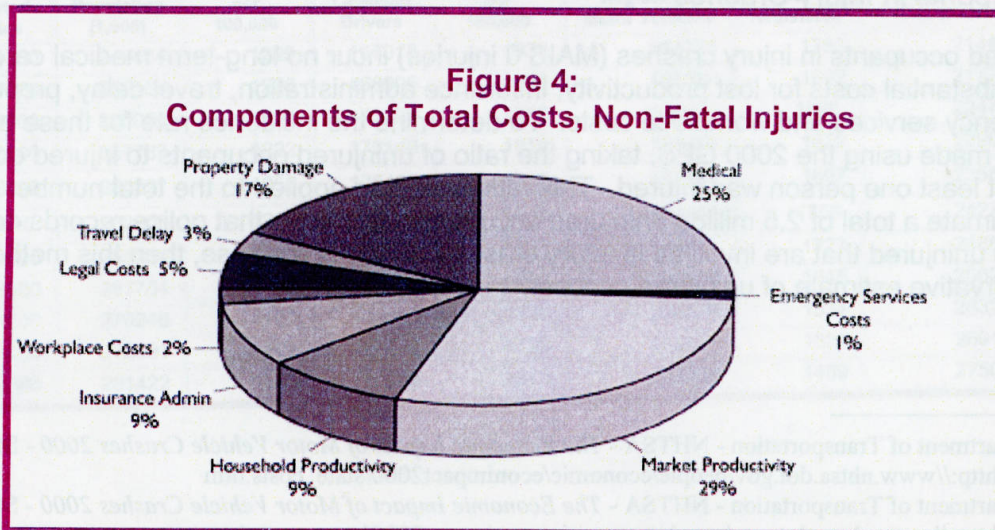
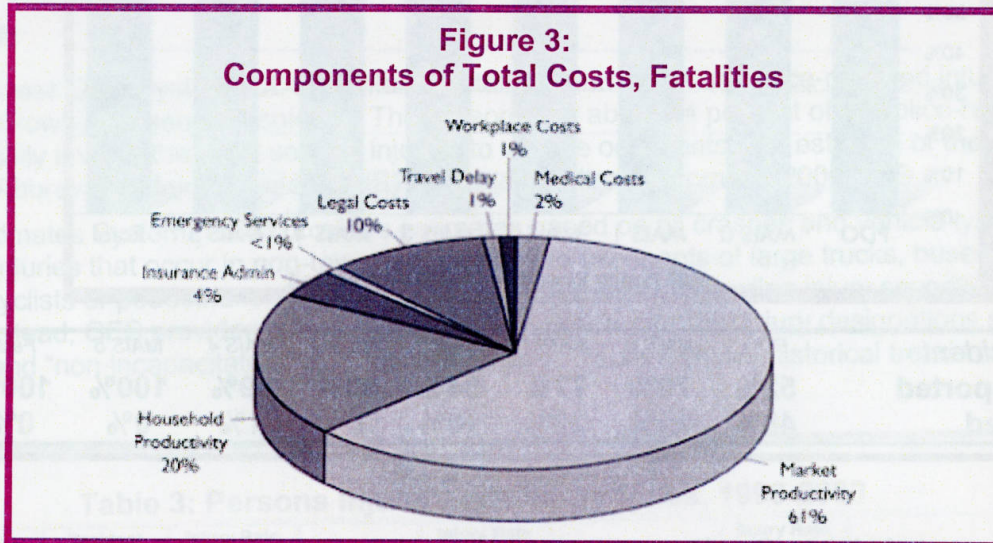
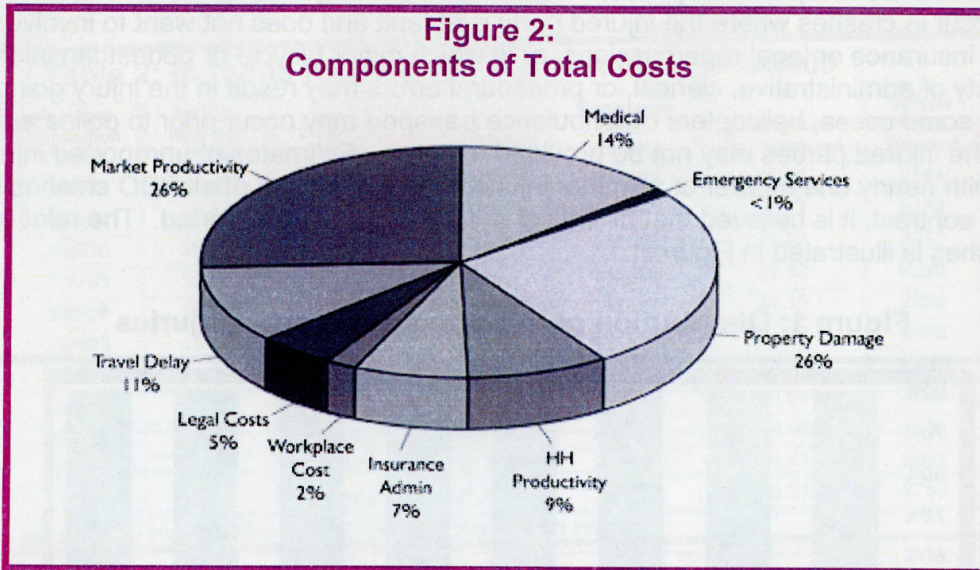
Uninjured Occupants in Injury Crashes

Although uninjured occupants in injury crashes (MAIS 0 injuries) incur no long-term medical care costs, they can incur substantial costs for lost productivity, insurance administration, travel delay, property damage, emergency services and workplace costs. To determine the incidence rate for these occupants, an estimate was made using the 2000 GES, taking the ratio of uninjured occupants to injured occupants in crashes where at least one person was injured. This ratio was then applied to the total number of injured occupants to estimate a total of 2.5 million uninjured occupants. It is likely that police records do not capture all of the uninjured that are involved in injury crashes. If this is the case, then this method will produce a conservative estimate of uninjured occupants in injury crashes.

³ National U.S. Department of Transportation - NHTSA - *The Economic Impact of Motor Vehicle Crashes 2000 - State Costs* - DOT HS 809 446 - http://www.nhtsa.dot.gov/people/economic/econimpact2000/state_costs.htm

⁴ National U.S. Department of Transportation - NHTSA - *The Economic Impact of Motor Vehicle Crashes 2000 - State Costs* - DOT HS 809 446 - http://www.nhtsa.dot.gov/people/economic/econimpact2000/state_costs.htm

The economic impact of the crashes is summarized in Figures 2 - 4. The incidence analysis provided above is summarized in Table 4.



**Table 4:
2000 Total Reported and Unreported Injuries Percent**

VEHICLES

	Police-Reported	Unreported	Total	Percent Unreported
Injury Vehicles	3,080,321	839,486	3,919,807	21.42%
PDO Vehicles*	12,288,482	11,343,214	23,631,696	48.00%
Total Vehicles	15,368,803	12,182,700	27,551,503	44.22%

CRASHES

	Police-Reported	Unreported	Total	Percent Unreported
PDO	7,013,424	6,473,930	13,487,355	48.00%
Injury	2,221,773	605,504	2,827,277	21.42%
Fatal	37,409	0	37,409	0.00%
Total Crashes	9,272,607	7,079,434	16,352,041	43.29%

* PDO vehicles are crash-involved vehicles in which nobody was injured. All PDO vehicles, including those involved in injury crashes, are included under PDO vehicles.

The number of crashes that occurred in 2000 was derived based on the ratio of injuries and vehicles to crashes from the 2000 GES. Fatal crashes were taken directly from the 2000 FARS file. The summary of the impact for the year 2000 is outlined below:

- 5.3 million persons were injured in 16.4 million motor vehicle crashes in 2000, including 41,821 fatalities. Twenty-one percent of these injuries occurred in crashes that were not reported to police.
- 27.6 million vehicles were damaged in motor vehicle crashes in 2000; 23.6 million or 86 percent of these vehicles were damaged in incidents that incurred property damage only. The remaining 14 percent involved injuries to occupants of the vehicle, or to non-occupants such as pedestrians or bicyclists.

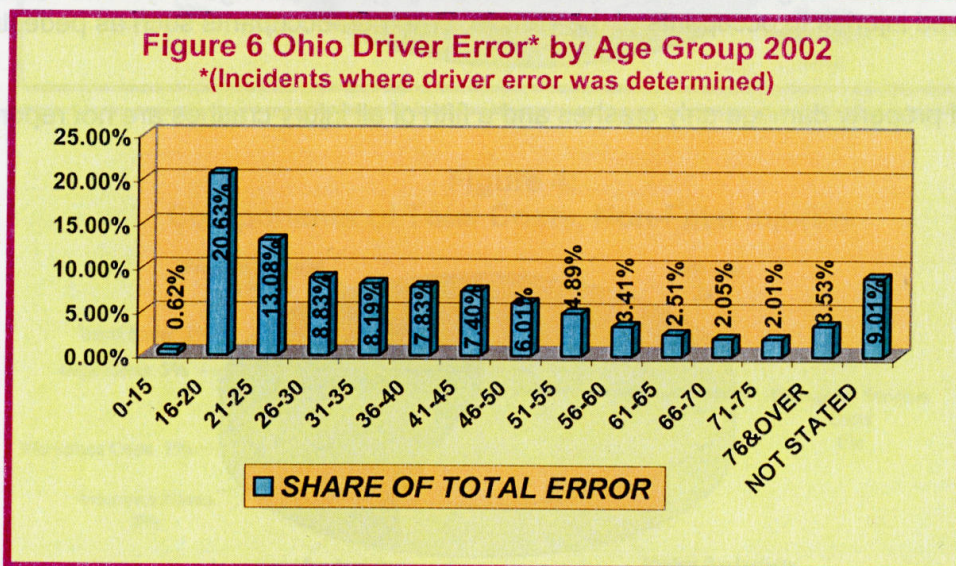
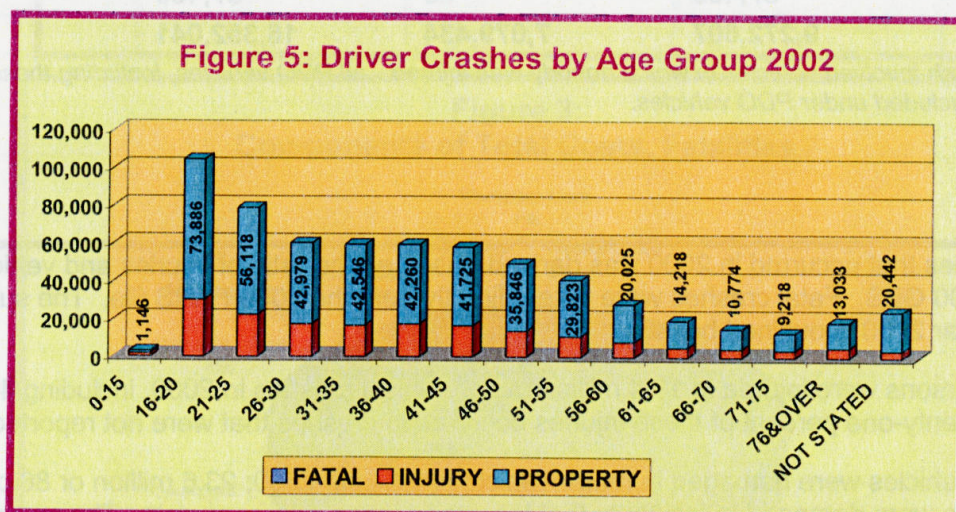
Approximately half of property damage only crashes and a fifth of all injury crashes are not reported to the police.

Ohio Trends

The State of Ohio's 2002 Statistics at a Glance

- Approximately 3.5 fatal crashes each day
- Approximately 3.9 persons were killed each day
- There were 392 persons injured every day.
- Motor vehicles crashes killed 62 children and injured 12,700 children through age 14.
- Ohio's fatality rate is approximately 1.3 per 100 million vehicle miles traveled.

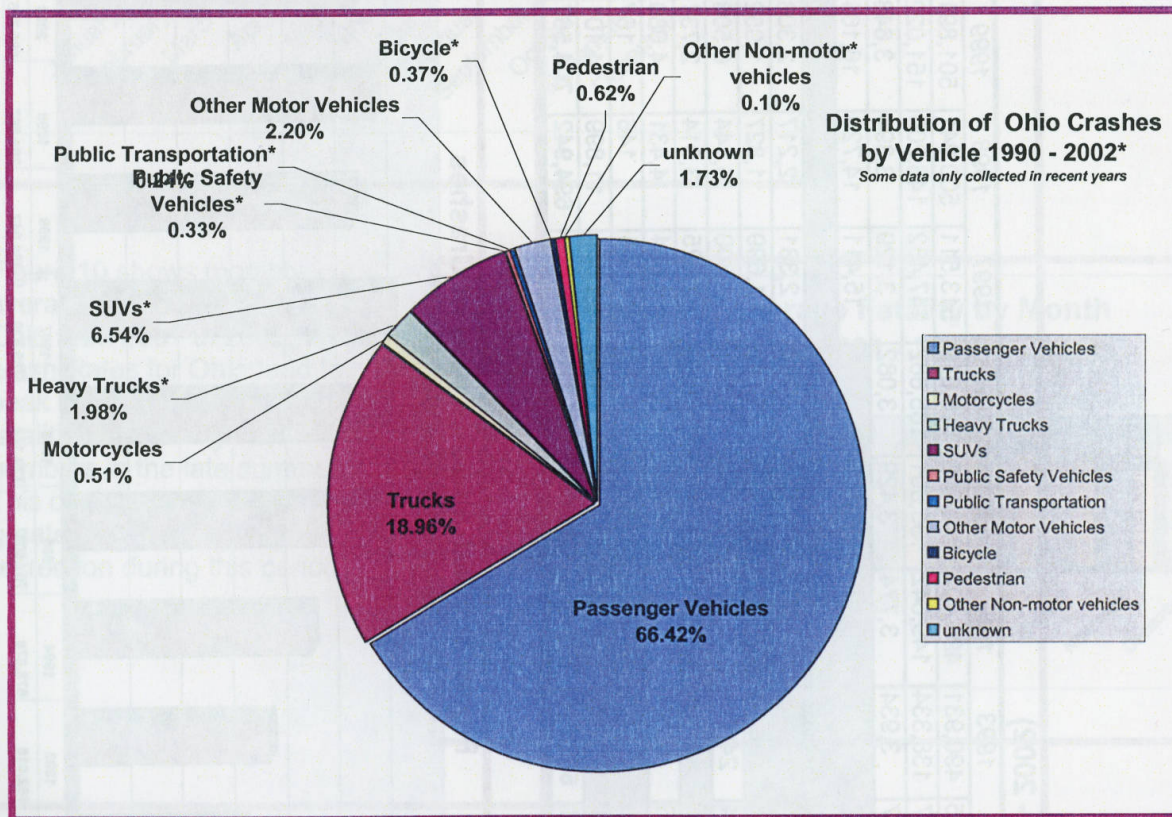
Figure 5 shows the distribution of vehicle crashes in Ohio with injury and fatality by age group for 2002. Figure 6 shows the same distribution for driver error (where error was determined). The most crashes were in the 16-20 age group, with 279 fatal crashes, 29,800 injuries, 73,900 in property damage and a total of 105,400 crashes. Following close behind was the age group 21-25 with 215 fatal crashes, 22,300 injuries, 56,100 in property damage and a total of 80,200 crashes. It should also be noted that comparison of driver error determination for the state shows a strong correlation to the number of incidents and being found at fault by age group.



The state of Ohio's highest crash rate in the last 12 years occurred in 1996 with a total rate of over 724,000 crashes. Programs sponsored through the Ohio Department of Transportation and the Public Safety Department decreased Ohio's crash rate in 2002 to 694,000. There is still a lot of work to be done to lower this number even further. Safety initiatives among the state, local MPO's and local communities are being implemented to coordinate safety projects so that awareness and funding can be better utilized.

Figure 7 shows the distribution of Ohio crashes by vehicle type. While most categories of vehicles showed a decline in crashes over the last two years, SUV crashes have almost doubled - from 32,000 to 61,000. This may be due in part to the increase in popularity of the vehicles.

Figure 7: Ohio Crashes by Vehicle Type 1990 - 2002

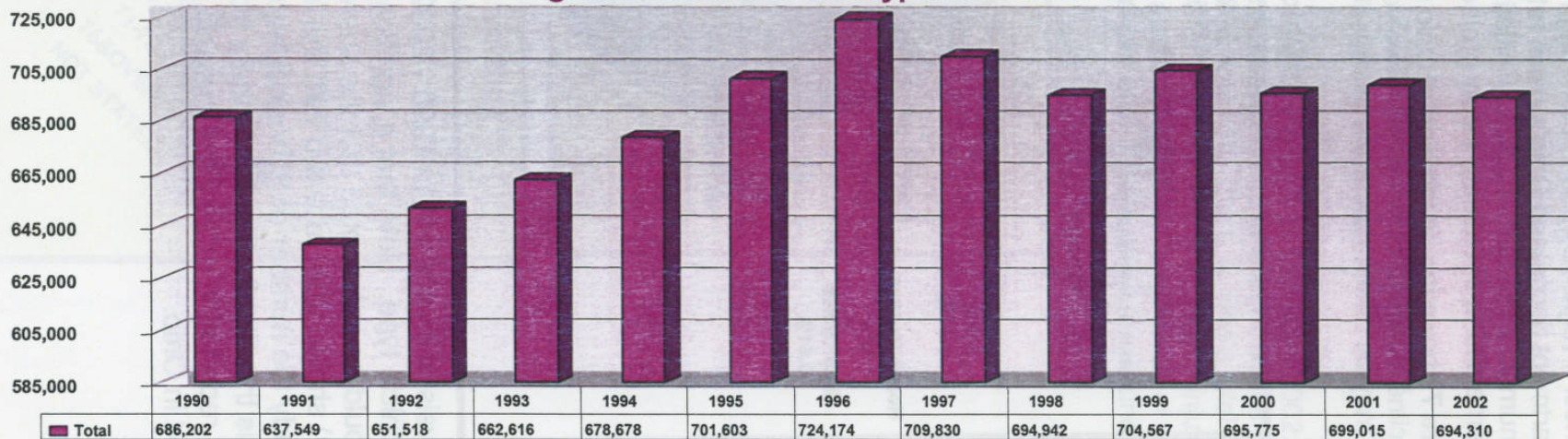


Analysis of crashes from 1990 - 2002 demonstrates a relatively consistent distribution of accidents by vehicle type. Note that a significant amount of these data has only been collected since 1996. It should be anticipated that the share of accidents involving SUVs (data being collected after 2000) should trend upward with the increase in popularity and market share of these vehicles. Already the number of SUV accidents has doubled since being reported separately. Table 5 details this distribution in numbers from 1990 to 2002 (note that some vehicle types have only been reported in more recent years). Figure 8 shows the trend for total crashes for this same time period in Ohio.

Table 5: Ohio Crash by Vehicle Type (1990 - 2002)

Vehicle Type	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Passenger Vehicles	514,932	472,538	488,155	490,931	496,403	512,339	525,013	513,511	500,941	501,891	469,406	467,687
Trucks	134,797	125,193	132,437	138,334	149,642	156,891	165,662	147,482	146,209	151,022	133,754	126,398
Motorcycles	4,862	4,607	3,867	3,934	3,774	3,429	3,082	3,129	3,394	3,648	3,609	4,040
Heavy Trucks								15,411	14,720	16,164	15,045	13,875
SUVs											31,984	52,745
Public Safety Vehicles							2,368	2,331	2,217	2,303	2,569	2,751
Public Transportation							1,748	1,699	1,827	1,952	1,705	1,709
Other Motor Vehicles	26,457	29,948	21,634	24,123	23,737	24,086	5,557	5,800	6,144	6,508	24,095	7,461
Bicycle								2,925	3,014	2,731	2,667	2,603
Pedestrian	5,154	5,263	5,425	5,294	5,122	4,858	5,120	4,684	4,431	4,080	3,377	3,561
Other Non-motor vehicles							3,162	164	146	167	428	522
unknown							12,462	12,694	11,899	14,101	7,136	15,663
Total-All Unit Types	686,202	637,549	651,518	662,616	678,678	701,603	724,174	709,830	694,942	704,567	695,775	699,015

Figure 8: Total-All Unit Types of Crashes



Ohio Crash Trends by Month

Figure 9: Average Total Crashes in Ohio (2001 - 2002)

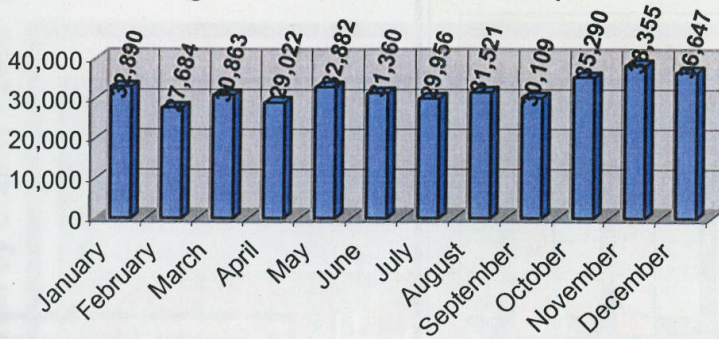


Figure 9 shows monthly averages for total car crashes in Ohio from 2001 to 2002. Crash Rates for Ohio tend to maintain a steady level throughout the year, with some increases in the winter months, when weather and daylight assume a greater role.

Figure 10 shows monthly averages for crash fatalities in Ohio from 2001 to 2002. While crash Rates for Ohio tend to peak in the winter months, fatalities occur in greatest numbers in the late summer. This could be attributed to greater travel activity for recreation during this period.

Figure 10: Average Fatality by Month in Ohio (2001 - 2002)

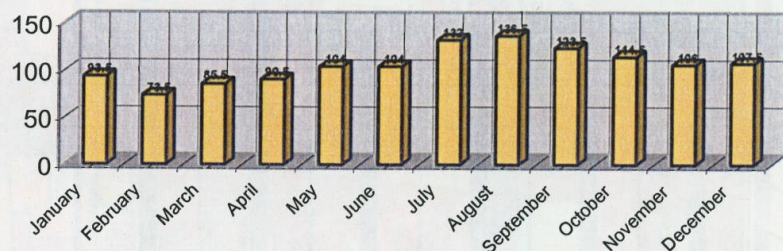


Figure 11: Average Injury by Month in Ohio (2001 - 2002)

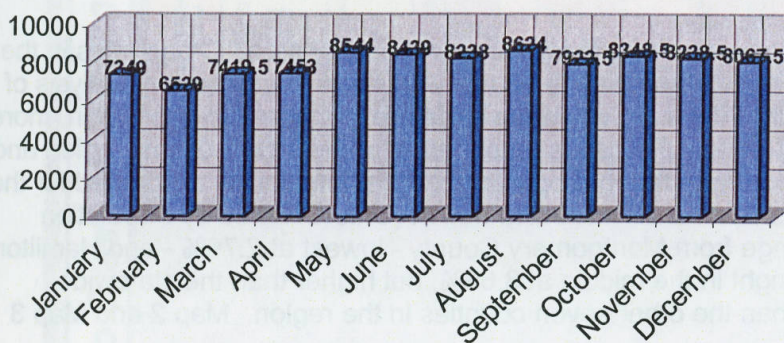


Figure 11 shows monthly averages for crash injuries in Ohio from 2001 to 2002. It is interesting to note that while fatalities have a defined peak in late summer months, injuries are more consistent year-round. Both demonstrate low numbers in the late winter months (February & March). This could be related to poor weather and visibility reducing comfort levels for higher speeds, thus reducing a magnitude of injuries in some accidents.

7-County Crash Statistics 2000

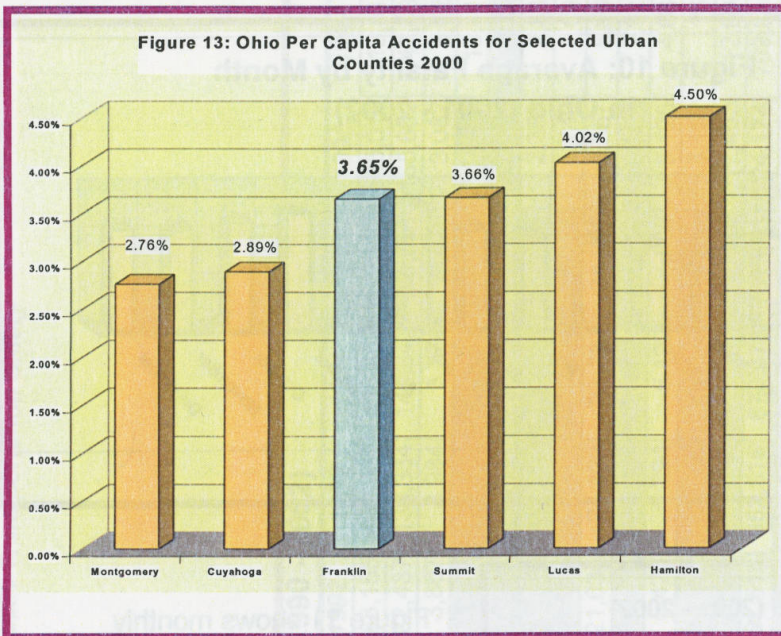
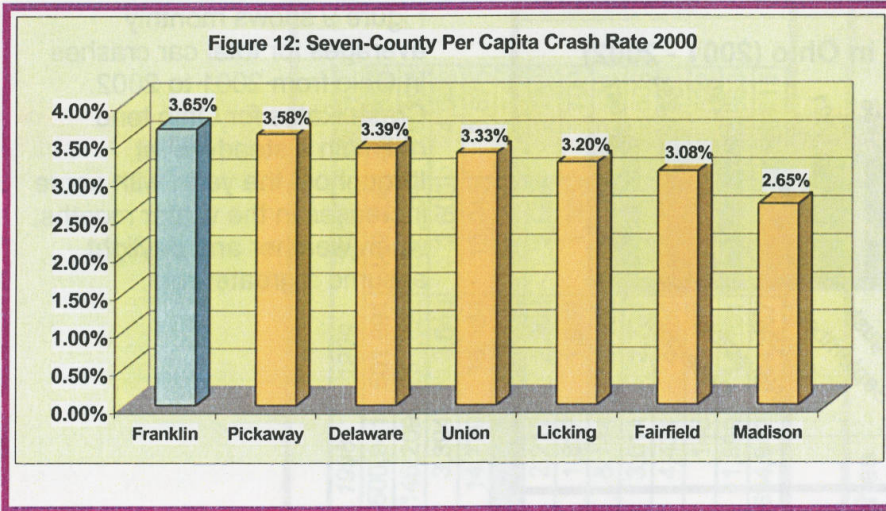
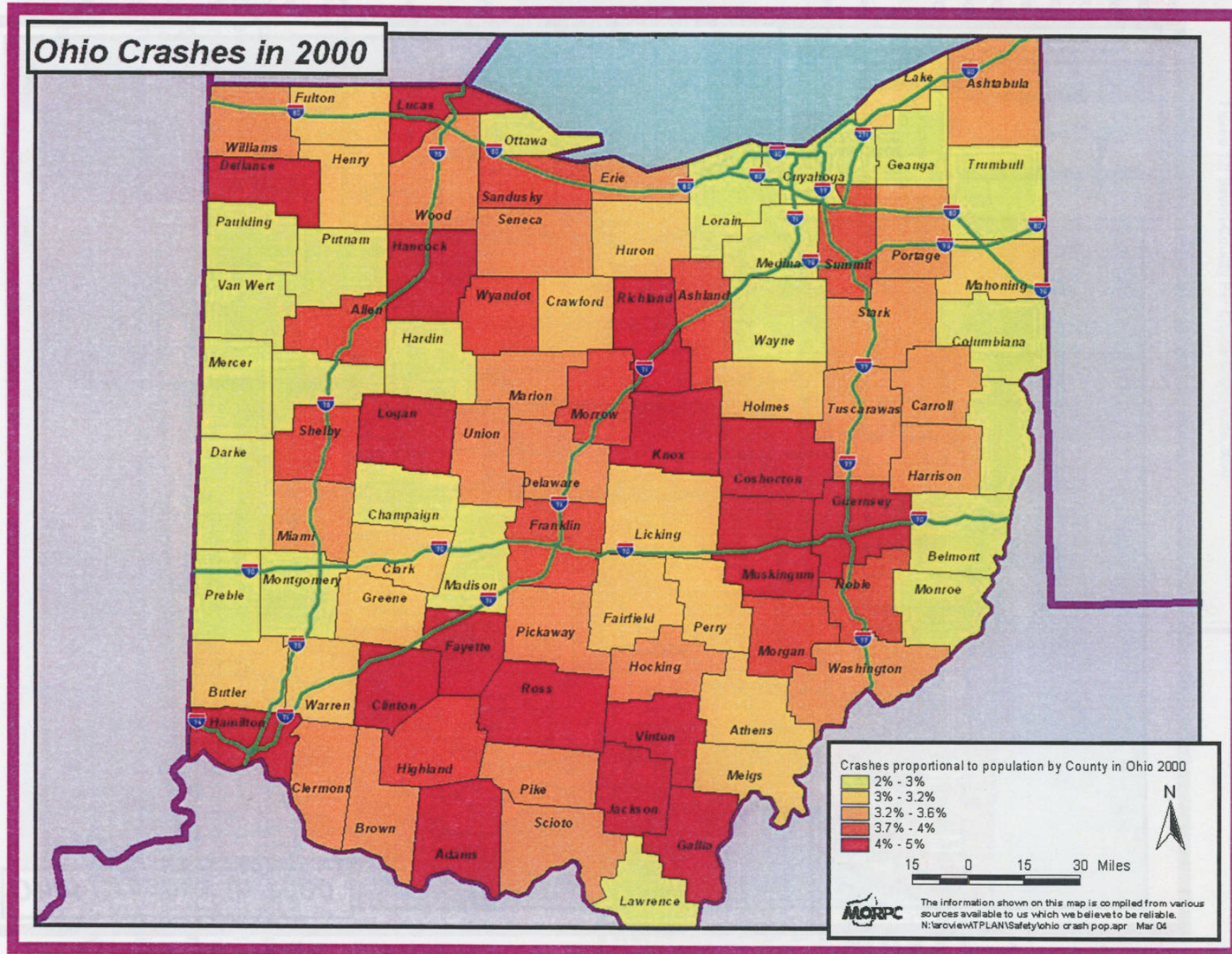


Figure 14: Average Annual Crash Rate by County 1990 – 2000

County	Average
Delaware	3,088
Fairfield	3,724
Franklin	38,259
Licking	4,724
Madison	1,366
Pickaway	1,853
Union	1,269
Statewide	382,068

Figure 14 shows the average number of crashes by county for the seven-county area. Crash rates in the seven-county area roughly correlate to the population of each county with some fluctuations. Analysis of the statewide crashes bears the same result. However, when the rates are compared to population, more significant trends appear. Figures 12 and 13 show per capita crash rates for the seven-county region and the 6 largest metropolitan counties in Ohio. Where the metropolitan counties previously accounted for the vast majority of crashes the per capita rates show a different distribution (Ohio Crashes by Population 2000). The urban counties show a vast range from Montgomery County - lowest at 2.76% - and Hamilton County - high at 4.5%. Franklin County is right in the middle at 3.65%, but higher than the statewide average (3.41%), as well as being higher than the other seven counties in the region. Map 2 and Map 3 show these numbers for the entire state.

Map 3: Ohio Crashes Proportional to Population by County 2000



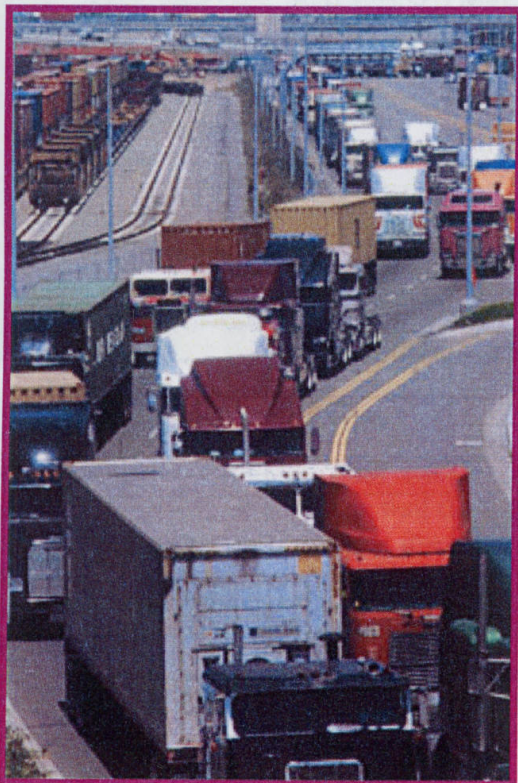
Truck and Freight Trends

Federal Motor Carrier Safety Administration

Freight plays a vital role for everyone in Central Ohio and around the world. The movement of goods to and from the region is the cornerstone of prosperity. The increasing size of the economy results in an increase in freight traffic and activity. Our transportation system must be maintained at adequate levels to ensure safe and efficient delivery of goods and services. Tracking trends in freight activity can be particularly challenging due to the large number of private enterprises engaged in freight activities. The Federal Motor Carrier Safety Administration (FMCSA) is the federal regulatory agency that oversees these activities.

Safety and Fitness Electronic Records (SAFER)

The Safety and Fitness Electronic Records (SAFER) System now makes it possible to offer carrier safety data information electronically. In the past it has only been available via telephone requests from the FMCSA. Access is provided to Carrier Snapshots, a concise electronic record of a carrier's identification, size, commodity information, and safety record, including the safety rating (if any), a roadside out-of-service inspection summary, and crash information. The carrier snapshot is available via an ad-hoc query (one carrier at a time). Developed by the Johns Hopkins University Applied Physics Laboratory and maintained by the Volpe National Transportation Systems Center, under contract to the FMCSA, SAFER uses carrier information from existing government motor carrier safety databases. Presently, it consists of interstate carrier data and several states' intrastate data. Operational data such as inspections and crashes are generally only presented for interstate carriers, but plans are to include them for the intrastate carriers at a later time.



The SAFER system is a component of the Intelligent Transportation System (ITS), which is being designed to increase roadway safety, reduce motorist delays and air pollution, and improve the overall productivity of commercial vehicle operations (CVOs) through the use of advanced technology. The FMCSA is currently testing and evaluating ITS technologies to enhance intrastate and interstate commercial vehicle operations. The current focus is on creating transparent borders for interstate commercial vehicles and improving the safety of commercial vehicle operations.

The SAFER system is now being expanded to include the capability to provide carrier, vehicle, and driver safety and credential information to fixed and mobile roadside inspection stations. This information will allow the roadside inspector to select vehicles and/or drivers for inspection based on the number of prior carrier inspections, as well as carrier, vehicle, and driver safety and credential historical information.⁵

⁵ Federal Motor Carrier Safety Administration (SAFER), *National Large Truck Crash Facts*, 2002

http://ai.volpe.dot.gov/CrashProfile/CrashProfileMainNew.asp?STATE_ID=OH

O:\TPlan\TPLAN04\Reports\Companion Reports\Critical Movement Transportation Safety in Central Ohio.doc

National Statistics: 2002 Large Trucks

- ▶ 4,542 Large Trucks Involved in Fatal Crashes
- ▶ 4,897 Fatalities in Crashes Involving Large Trucks
- ▶ 96,241 Large Trucks Involved in Non-Fatal Crashes
- ▶ 48,955 Large Trucks Involved in Injury Crashes
- ▶ 72,590 Injuries in Crashes Involving Large Trucks

Ohio Statistics: 2002 Large Trucks

- ▶ 186 Large Trucks Involved in Fatal Crashes
- ▶ 201 Fatalities in Crashes Involving Large Trucks
- ▶ 4,319 Large Trucks Involved in Non-Fatal Crashes
- ▶ 2,854 Large Trucks Involved in Injury Crashes



Table 6: Truck Crash Statistics for Franklin/Delaware Counties 2001 - 2002

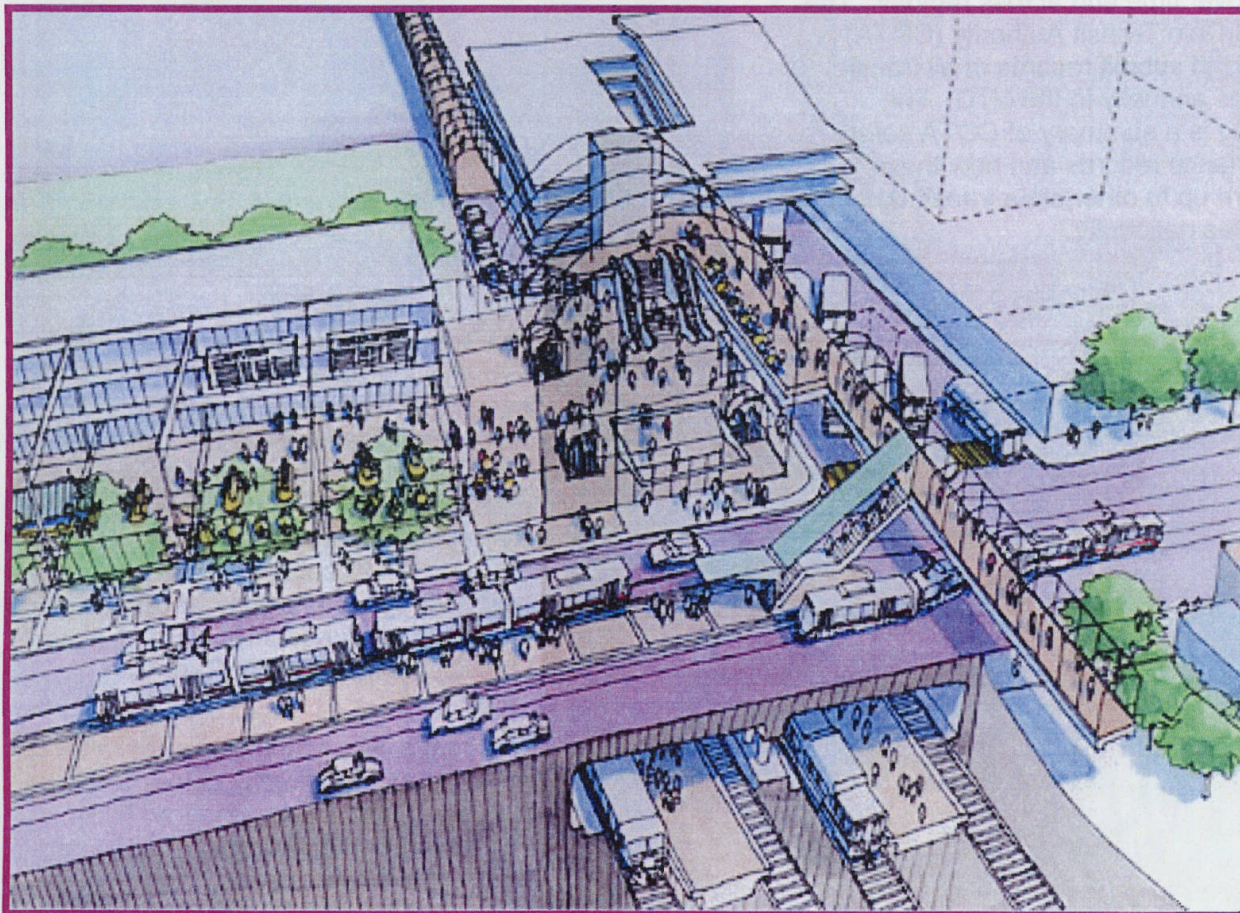
County	Location	Truck Accidents	% of County Total	County Total	% of State
2001					
Franklin	I-71	143	12.86%	1112	8.01%
	I-70	121	10.88%		
	I-270	77	6.92%		
	City of Columbus	784	70.50%		
Delaware	US 23	46	25.99%	177	1.28%
	I-71	34	19.21%		
	City of Delaware	44	24.86%		
State				13875	
2002					
Franklin	I-70	214	19.33%	1107	8.83%
	I-71	155	14.00%		
	I-270	138	12.47%		
	City of Columbus	1044	94.31%		
Delaware	US 23	59	28.92%	204	1.63%
	I-71	55	26.96%		
	City of Delaware	62	30.39%		
State				12533	

- ▶ 4,151 Injuries in Crashes Involving Large Trucks

There was a total of 13,875 heavy truck accidents in Fiscal Year 2001 for the state of Ohio. Franklin County accounted for 8% (1,112) of these accidents, while Delaware County accounted for only 1% (204) of the accidents.

Transit Safety

Transit plays a fundamental role in the lives of a significant portion of Central Ohio residents. Many diverse populations are dependant on transit, either because they lack the resources or ability to drive or because they consciously choose to forego reliance on the automobile. Ensuring transit safety is significant for enabling these populations to maintain independence and sustainability.



Transit Data

Public transportation safety data, collected by the Federal Transit Administration since 1979, include incidents, fatalities, and injuries that do NOT involve criminal activity. It has been impossible to separate out patron-only data for the various types of safety incidents because reported data combined patrons, employees, and other persons (e.g., automobile and other vehicle occupants, pedestrians, bicyclists). Only total patron fatalities data (which are zero 98% of the time) have been reasonably reliable.

In 1995, the FTA improved its efforts to ensure compliance and revised its reporting form to report patron, employee, and other data separately for each type of incident. By 1996 most of the reporting problems had been eliminated.

Mid-Ohio Regional Planning Commission – 2030 Transportation Safety

A key measure to evaluate the level of safety is to analyze the performance of the transit system. Currently records relating to passenger and system safety are maintained by agencies reporting to the National Transit Database (NTD). The NTD establishes a comprehensive resource to evaluate and compare trends in transit safety over time and across regions. The Central Ohio Transit Authority (COTA) is required to submit records of all transit incidents annually to the NTD. The following is a summary of COTA safety performance records and how these measure up to other state transit agencies as well as nationally.

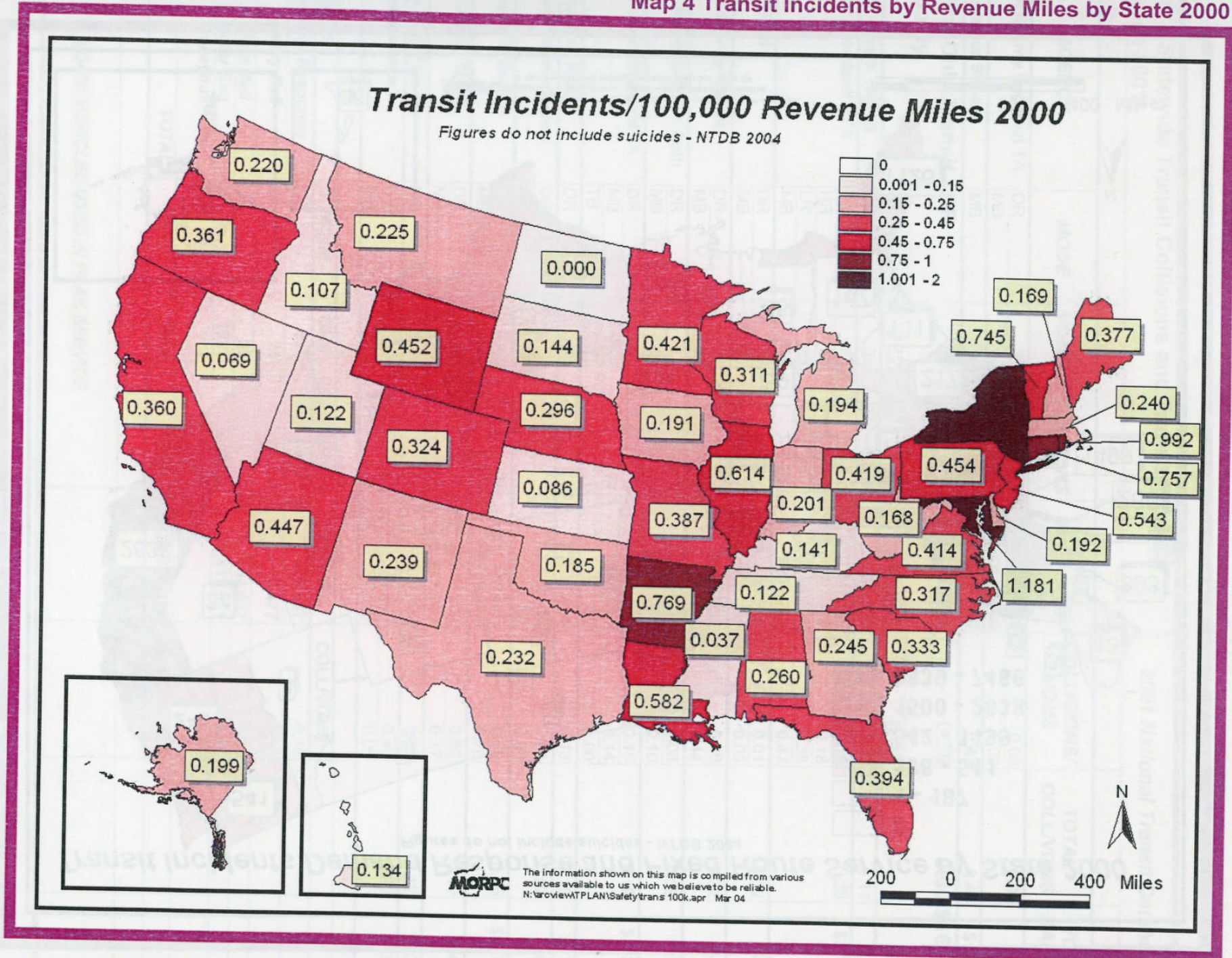


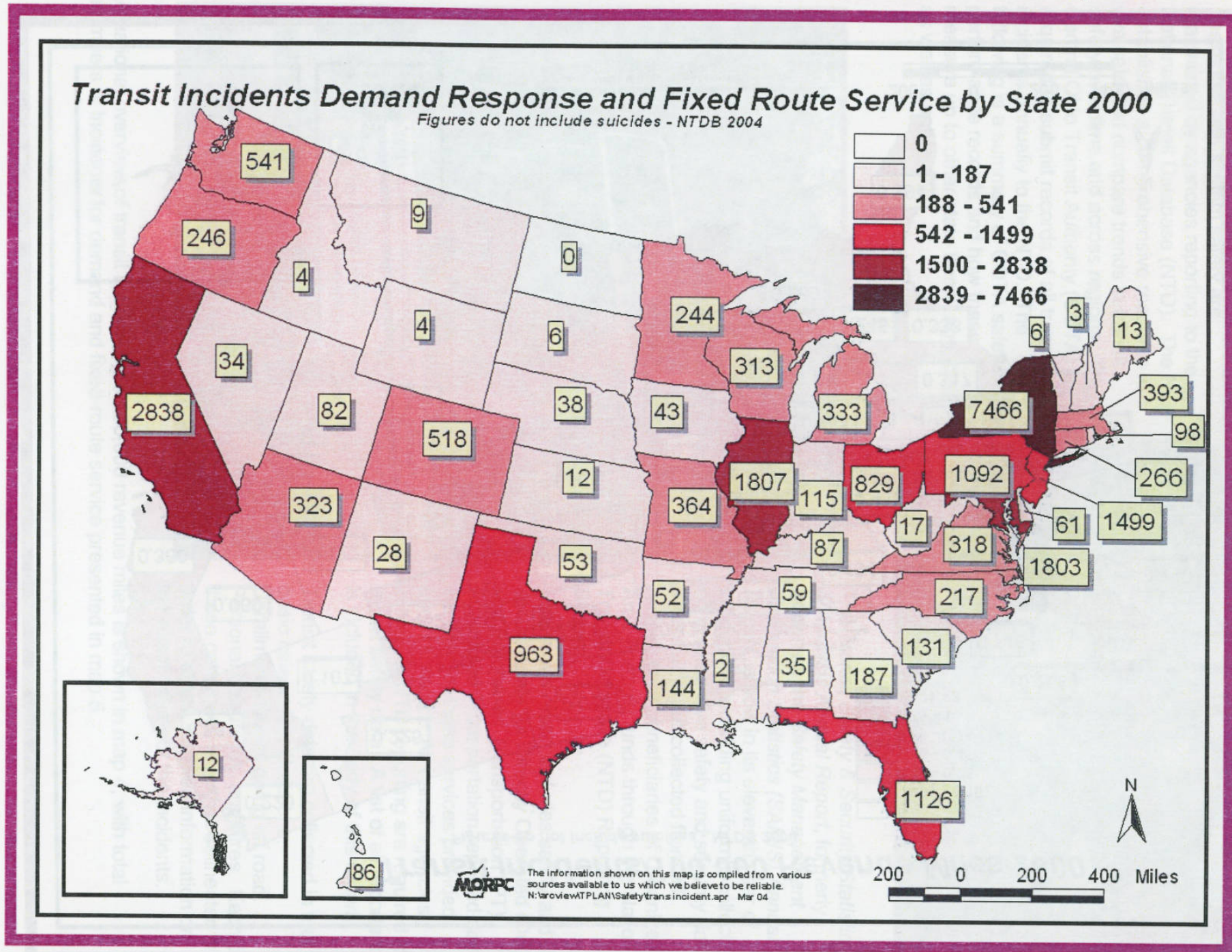
The *Transit Safety & Security Statistics & Analysis Annual Report*, formerly known as the *Safety Management Information Statistics (SAMIS) Annual Report*, is now in its eleventh year of production, providing uniformly collected comprehensive safety and security data. These data are collected from all recipients or beneficiaries of Urbanized Area Formula funds through the National Transit Database (NTD) Reporting System.

This year's report includes safety and security data for Directly Operated (DO) and Purchased Transportation (PT). Purchased Transportation reported data are only for those services provided under contract. All transit agencies subject to NTD reporting are required to report safety data. A list of all reporters is included in the body of this report.

Transit safety data are collected in four basic categories: Collisions, Derailments/Buses going off road, Personal Casualties, and Fires. Each of these categories is further delineated in order to obtain detailed information on the exact nature of the incidents.

A national overview of transit incidents per 100,000 revenue miles is shown in map 4, with total numbers of incidents for demand and fixed-route service presented in map 5..

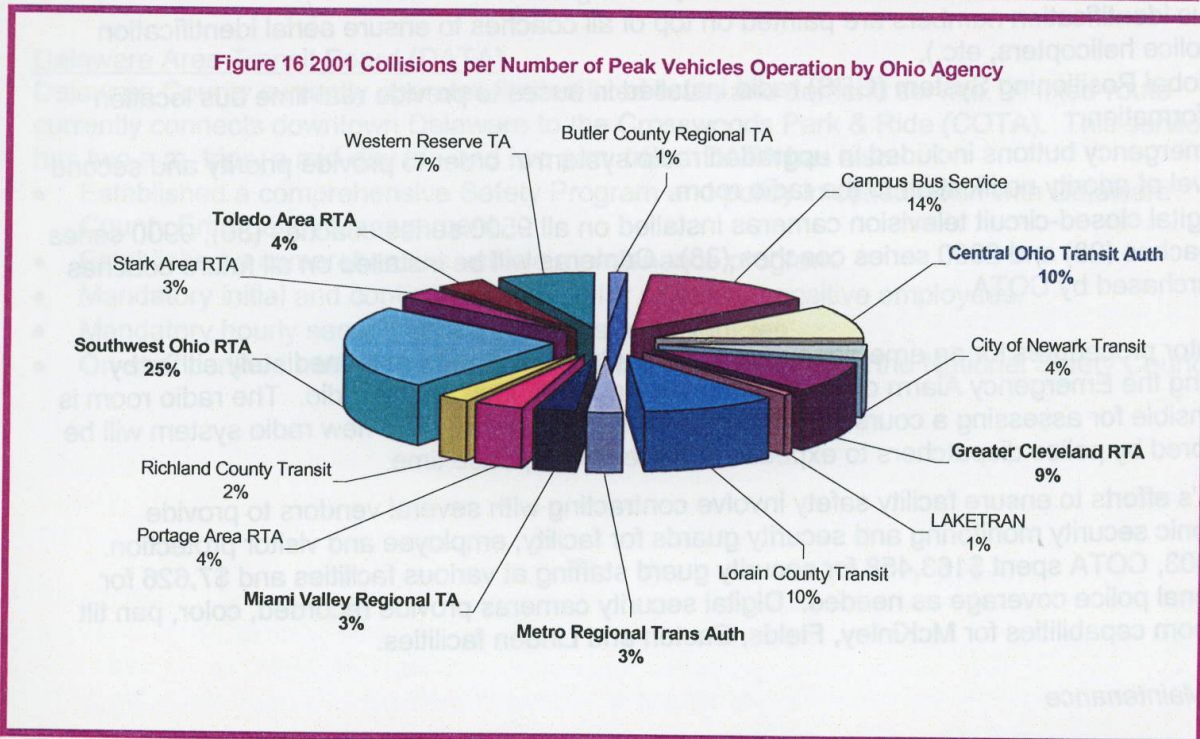
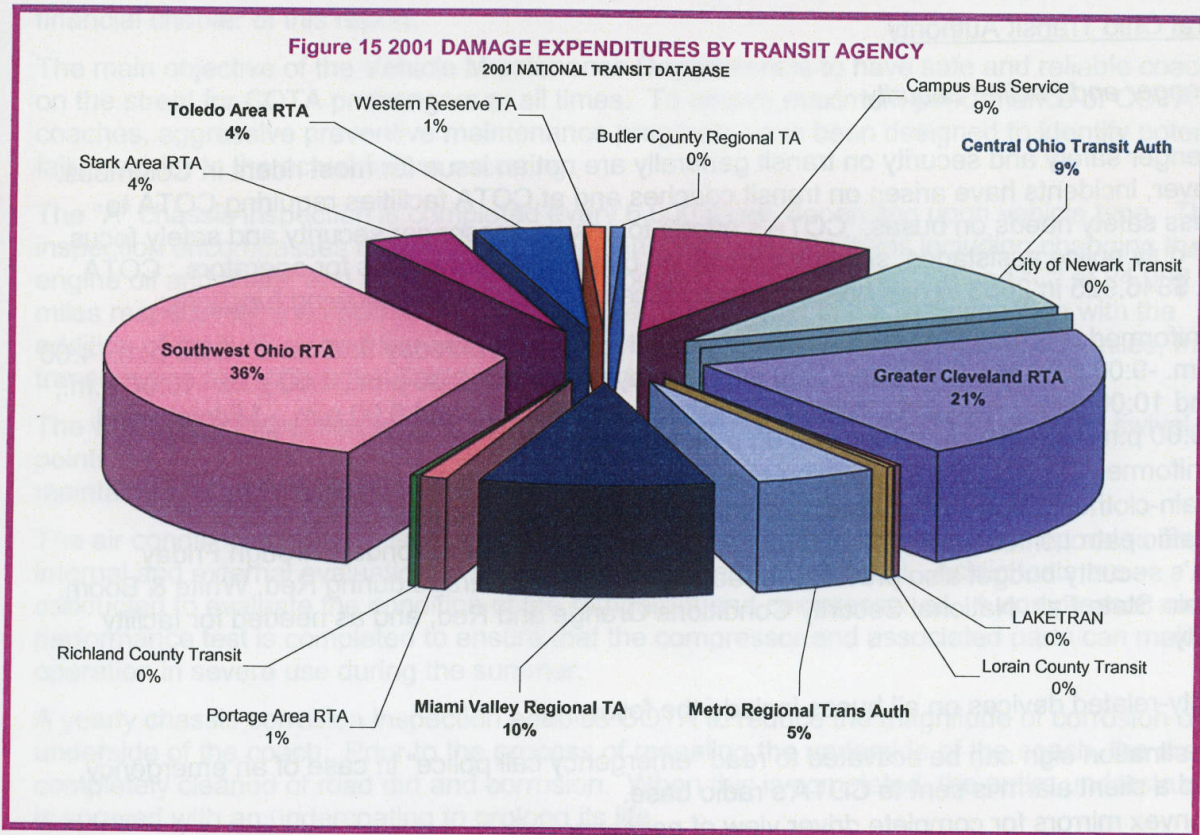




Mid-Ohio Regional Planning Commission – 2030 Transportation Safety

Table 7 details the statewide collision and property damage report for Ohio Transit agencies in 2001.

Table 7 Statewide Transit Collisions and Transit Property Damage 2001					2001 National Transit Database		
AGENCY	MODE	VOMS	COLLISIONS	TRANSIT PROPERTY DAMAGE	COLLISIONS/VOMS	TOTAL COLL/VOMS	TOTAL DAMAGE
Butler County Regional TA	DR	39	3	\$8,932	0.08	0.04	\$8,932
	MB	10	0	\$0	0.00		
Campus Bus Service	MB	12	5	\$164,662	0.42	0.42	\$164,662
Central Ohio Transit Authority	DR	36	10	\$25,006	0.28	0.30	\$165,846
	MB	282	89	\$140,840	0.32		
City of Newark Transit	DR	35	4	\$4,262	0.11	0.11	\$4,262
Greater Cleveland RTA	DR	77	8	\$4,566	0.10	0.28	\$378,660
	HR	28	5	\$2,477	0.18		
	LR	25	9	\$114,827	0.36		
	MB	614	286	\$256,790	0.47		
LAKETRAN	DR	69	1	\$6,125	0.01	0.02	\$7,356
	MB	30	1	\$1,231	0.03		
Lorain County Transit	DR	10	2	\$2,181	0.20	0.32	\$4,895
	MB	18	8	\$2,714	0.44		
Metro Regional Trans Auth	DR	113	9	\$18,000	0.08	0.09	\$88,000
	MB	145	14	\$70,000	0.10		
Miami Valley Regional TA	DR	43	7	\$131,841	0.16	0.10	\$172,691
	MB	174	24	\$40,850	0.14		
	TB	3	0	\$0	0.00		
Portage Area RTA	DR	16	2	\$17,814	0.13	0.13	\$17,814
Richland County Transit	DR	7	1	\$6,900	0.14	0.07	\$6,900
	MB	7	0	\$0	0.00		
Southwest Ohio RTA	DR	46	37	\$28,320	0.80	0.75	\$637,638
	MB	394	274	\$609,318	0.70		
Stark Area RTA	DR	42	1	\$17,905	0.02	0.10	\$64,966
	MB	53	9	\$47,061	0.17		
Toledo Area RTA	MB	146	18	\$70,702	0.12	0.12	\$70,702
Western Reserve TA	DR	5	2	\$6,205	0.40	0.23	\$13,708
	MB	36	2	\$7,503	0.06		
STATEWIDE	MODE	VOMS	COLLISIONS	DAMAGE	COLL/VOMS		
<i>Demand Response</i>	DR	538	87	\$ 278,057	0.16		
<i>Heavy Rail</i>	HR	28	5	\$ 2,477	0.18		
<i>Light Rail</i>	LR	25	9	\$ 114,827	0.36		
<i>Motor Bus</i>	MB	1921	730	\$ 1,411,671	0.38		
<i>Trolleybus</i>	TB	3	0	\$ -	0.00		
TOTALS		2515	831	\$1,807,032	0.33		
VOMS: VEHICLES USED IN PEAK SERVICE							



Figures 15 and 16 detail the share of damage expense for the state by transit agency. Figure 15 shows a significant portion of the expense dedicated to a couple of the large agencies - Cleveland and Cincinnati. However figure 16 adjusts these expenses by the number of peak vehicle hours by agency, changing the distribution of transit collisions with greater validity.

Central Ohio Transit Authority

Passenger and Facility Security

Passenger safety and security on transit generally are not an issue for most riders in Columbus. However, incidents have arisen on transit coaches and at COTA facilities requiring COTA to address safety needs on buses. COTA's efforts to ensure passenger security and safety focus on off-duty police assistance, security devices on buses and procedures for operators. COTA spent \$346,925 in 2003 to hire off-duty police officers to perform the following functions:

- Uniformed officers patrol COTA service areas Monday – Thursday 9:00 a.m. - 2:00 p.m., 4:00 p.m. - 9:00 p.m. and 9:00 p.m. - 2:00 a.m.; Friday 9:00 a.m. - 2:00 p.m., 4:00 p.m. - 10:00 p.m., and 10:00 p.m. - 4:00 a.m.; Saturday 4:00 p.m. - 10:00 p.m. and 6:00 p.m. - Midnight and 10:00 p.m. - 10:00 a.m.; Sunday 8:00 p.m. to 2:00 a.m.
- Uniformed officers monitor evening bus lineups downtown daily.
- Plain-clothes officers ride buses to monitor operations as needed.
- Traffic patrol officers work at COTA's two downtown terminals Monday through Friday.

COTA's security budget also provides for additional police coverage during Red, White & Boom, the Ohio State Fair, National Security Conditions Orange and Red, and as needed for facility security.

Security-related devices on all buses include the following:

- Destination sign can be activated to read "emergency call police" in case of an emergency, and a silent alarm is sent to COTA's radio base.
- Convex mirrors for complete driver view of passengers.
- Bus identification numbers are painted on top of all coaches to ensure aerial identification (police helicopters, etc.).
- Global Positioning System (GPS) radio installed in buses to provide real-time bus location information.
- Emergency buttons included in upgraded radio system in order to provide priority and second level of priority notification to the radio room.
- Digital closed-circuit television cameras installed on all 9500 series coaches (80), 9900 series coaches (28) and 2000 series coaches (38). Cameras will be installed on all future coaches purchased by COTA.

Operator procedures for an emergency are to contact the Radio Room immediately either by pressing the Emergency Alarm or by pressing the Priority Button on the radio. The radio room is responsible for assessing a course of response for each situation. The new radio system will be monitored by police dispatchers to expedite emergency response time.

COTA's efforts to ensure facility safety involve contracting with several vendors to provide electronic security monitoring and security guards for facility, employee and visitor protection. For 2003, COTA spent \$163,458 for security guard staffing at various facilities and \$7,626 for additional police coverage as needed. Digital security cameras provide recorded, color, pan tilt and zoom capabilities for McKinley, Fields, Easton and Linden facilities.

Fleet Maintenance

Upkeep of equipment and facilities is essential in ensuring safety in daily operations. COTA is responsible for the maintenance of most transit-related facilities in the area. This includes the buses, park-and-ride lots, transfer and garage facilities, shelters, signs, and other parts of the transit infrastructure. COTA has a regular preventive maintenance program for its bus fleet. More details of the COTA maintenance program are provided in the Short-Range Transit Plan.

Mid-Ohio Regional Planning Commission – 2030 Transportation Safety

The transit maintenance costs are included within the transit operating costs presented in the financial chapter of this report.

The main objective of the Vehicle Maintenance Department is to have safe and reliable coaches on the street for COTA passengers at all times. To ensure maximum performance of COTA coaches, aggressive preventive maintenance programs have been designed to identify potential failures prior to the actual failure occurring.

The "A" chassis inspection is completed every 6,000 miles, depending upon vehicle type. This inspection encompasses checking and evaluating 105 separate items including changing the engine oil and filters, and a thorough brake inspection. The "B" at 12,000 and "C" at 24,000 miles respectively, incorporate the inspection items inspected in the "A" inspection with the addition of the fuel, air and transmission filters. During the "D" inspection at 45,000 miles, the transmission and differential fluids are changed.

The wheelchair inspection is completed every 4,500 miles. During this inspection, all swivel points are lubricated. The limiter switches are checked to ensure proper clearance is maintained, in addition to numerous other checks to ensure optimum performance.

The air conditioning system is inspected every 4,500 miles. This inspection incorporates an internal and external evaluation of the system and a performance test. Acidic tests are conducted to evaluate the condition of the refrigerant and compressor oil. A compressor and performance test is completed to ensure that the compressor and associated parts can maintain operation in severe use during the summer.

A yearly chassis corrosion inspection enables COTA to reduce the magnitude of corrosion on the underside of the coach. Prior to the process of resealing the underside of the coach, the area is completely cleaned of road dirt and corrosion. When this is completed, the entire understructure is sprayed with an undercoating to prolong its life.

Delaware Area Transit Board (DATA)

Delaware County currently operates limited fixed-route and demand service. A fixed-route currently connects downtown Delaware to the Crosswoods Park & Ride (COTA). This service has two a.m. trips, a mid-day trip and two p.m. trips. DATA has also:

- Established a comprehensive Safety Program and policy in consultation with Delaware County Emergency Management.
- Established a comprehensive vehicle maintenance program.
- Mandatory initial and continuous training for all safety sensitive employees.
- Mandatory hourly security/location checks of all vehicles.
- On-staff certified trainers of Defensive Driving courses through the National Safety Council.

Mid-Ohio Regional Planning Commission – 2030 Transportation Safety Safety and Livability

Safe mobility in Central Ohio means more than safer auto travel. Key safety issues exist for alternative modes (transit, pedestrian, bicycle, et. al.) that must to some extent share the surface transportation network. Hazards are frequently escalated for these alternative modes as more and more emphasis is put on the efficiency of the automobile network.

It is paramount that these modes receive special attention when examining the safety of our transportation networks. Both bicycle and pedestrian crash rates are inordinately high when compared with overall crash rates. Transit safety is also impacted as most transit passengers must complement a transit trip via one of these modes at either end of a journey.

Pedestrian/Bicycle Safety

National Statistics

- On average, 5,000 pedestrians are killed each year.
- 85,000 pedestrians are injured every year.
- A pedestrian is killed or injured about every 7 minutes.
- In a typical 8-hour workday, 4-5 pedestrians are killed.
- Ohio ranks 16th - tied with Missouri - in the number of pedestrians killed in 2002.
- Every day 13-14 pedestrians are killed.
- Every day, about 232 pedestrians are injured.
- Pedestrian injuries and fatalities result in at least \$20 billion in societal costs.



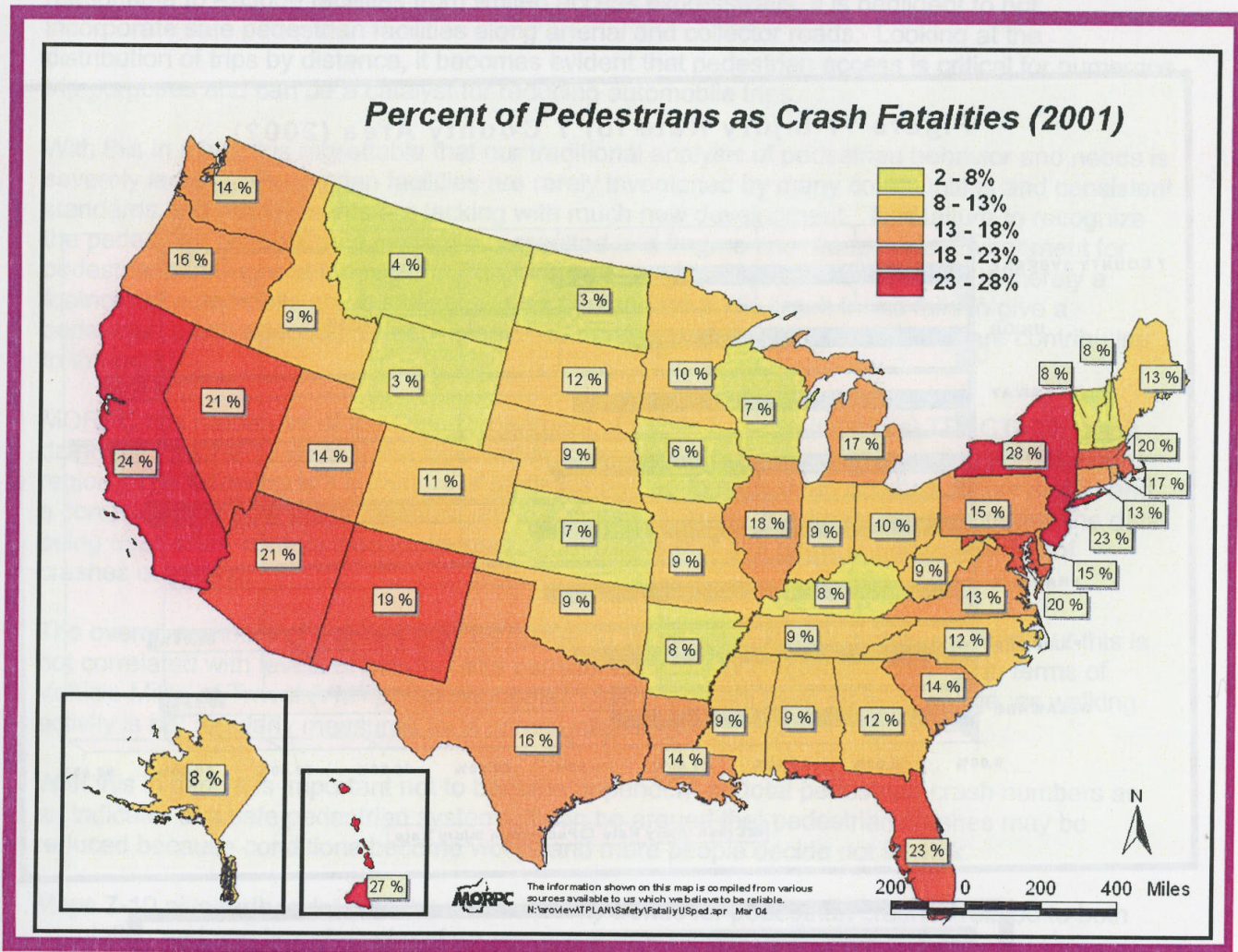
Who dies as a pedestrian?

- 60 percent are working adults.
- 23 percent are elderly persons aged 65 or older.
- 17 percent are children up to the age of 20.

What role does visibility play?

Approximately 50 percent of pedestrian fatalities occur between the hours of 6 p.m. and midnight (a six-hour window).

Pedestrian Fatalities - 2002 Fatality Analysis Reporting System (FARS) — January 2004



Pedestrian Statistics

Pedestrian and bicycle safety concerns are frequently over-looked as planning tends to emphasize the mode-split to analyze travel behavior. A key deficiency of the mode-split is that it fails to identify with the fact that most, if not all trips, involve multiple modes. Representation for pedestrian mode is severely discounted by this method. It is sufficient to say that each ambulatory person who makes a trip will start and end that trip with pedestrian mode. This is true whether it is walking from the front door to the car, across a parking lot to a shopping center, to the corner for a bus or just walking to the destination. For this reason it is in the best interest to ensure safety for pedestrians who are fortunate enough to be able walk every day. Map 6 shows the percent of traffic crash fatalities that were pedestrian by state for 2001.

The following data (figures 17&18) show a diverse distribution of pedestrian crashes and injuries throughout the seven-county region. The most alarming statistics are the occurrence of injury and fatality associated with pedestrian crashes. While overall accidents have an injury rate of 41% and a fatality rate of 0.29%, pedestrian crashes have an injury rate of 80% and a fatality rate of 2.72%. This is a strong indication of the vulnerability of pedestrians when compared to other modes.

Figure 17 Injury Rate for 7 County Area (2002)

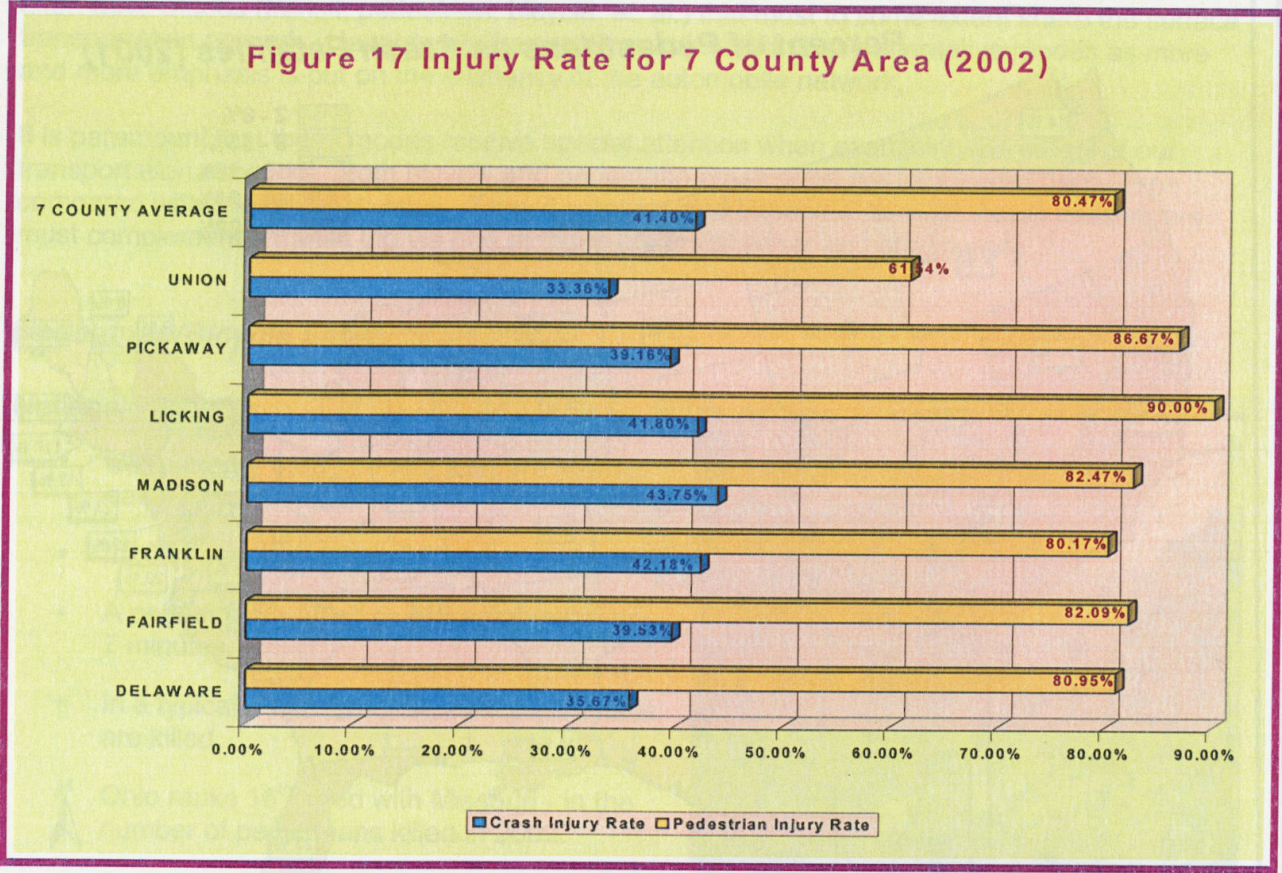
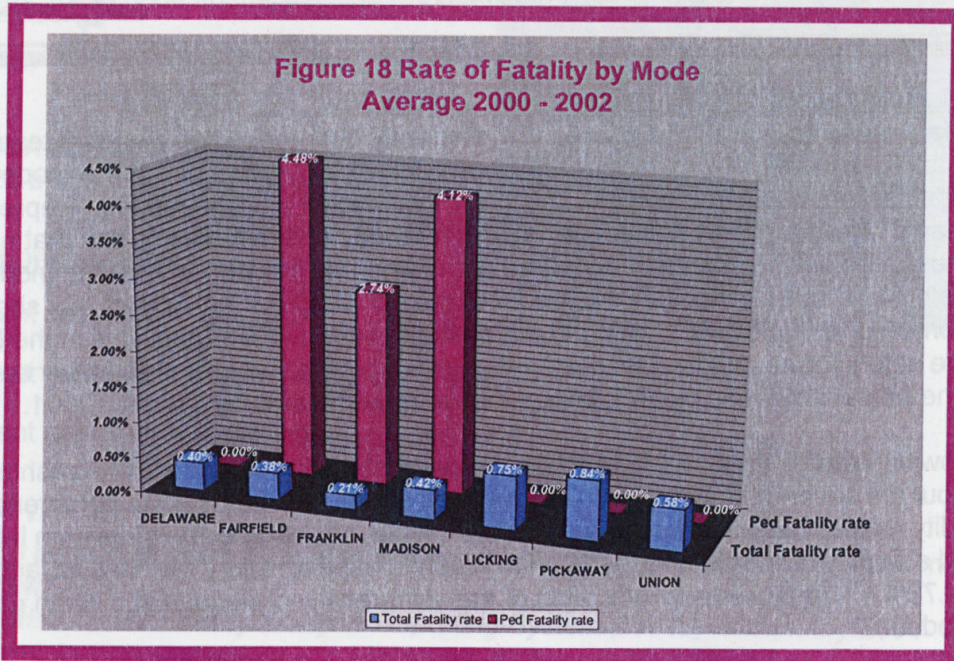


Figure 18 Rate of Fatality by Mode Average 2000 - 2002



Because walking is a baseline travel activity it is important that we maintain routine accommodation for pedestrian facilities throughout our transportation network. While it is

Mid-Ohio Regional Planning Commission – 2030 Transportation Safety

reasonable to exclude facilities from limited access expressways, it is negligent to not incorporate safe pedestrian facilities along arterial and collector roads. Looking at the distribution of trips by distance, it becomes evident that pedestrian access is critical for numerous trip purposes and can be a catalyst for reducing automobile trips.

With this in mind, it is regrettable that our traditional analysis of pedestrian behavior and needs is severely lacking. Pedestrian facilities are rarely inventoried by many communities and consistent standards and requirements are lacking with much new development. This failure to recognize the pedestrian network as a system has resulted in a fragmented, dangerous environment for pedestrians throughout the region. Furthermore, analysis of pedestrian crashes is merely a footnote of automobile crash statistics. Use of standard traffic crash forms fails to give a pedestrian crash adequate or consistent data to review what factors and trends are contributing to the peril.

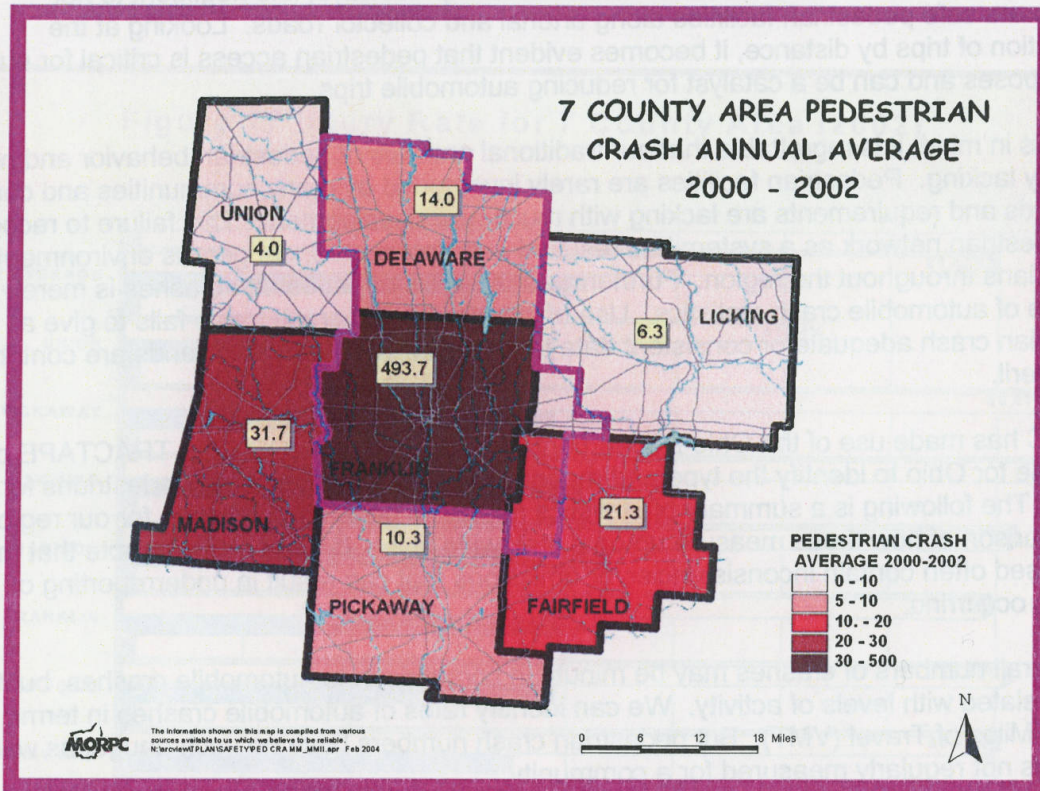
MORPC has made use of the Ohio Department of Public Safety's (ODPS's) TRACTAPE crash database for Ohio to identify the type and magnitude of incidents involving pedestrians for our region. The following is a summary of statistics related to pedestrian crashes for our region and a comparison of how these measure up on a statewide level. It is important to note that the data being used often contain inconsistencies or omissions that can result in underreporting of crashes occurring.

The overall numbers of crashes may be minute in comparison to automobile crashes, but this is not correlated with levels of activity. We can identify rates of automobile crashes in terms of Vehicle Miles of Travel (VMT). But pedestrian crash numbers have no such gauge, as walking activity is not regularly measured for a community.

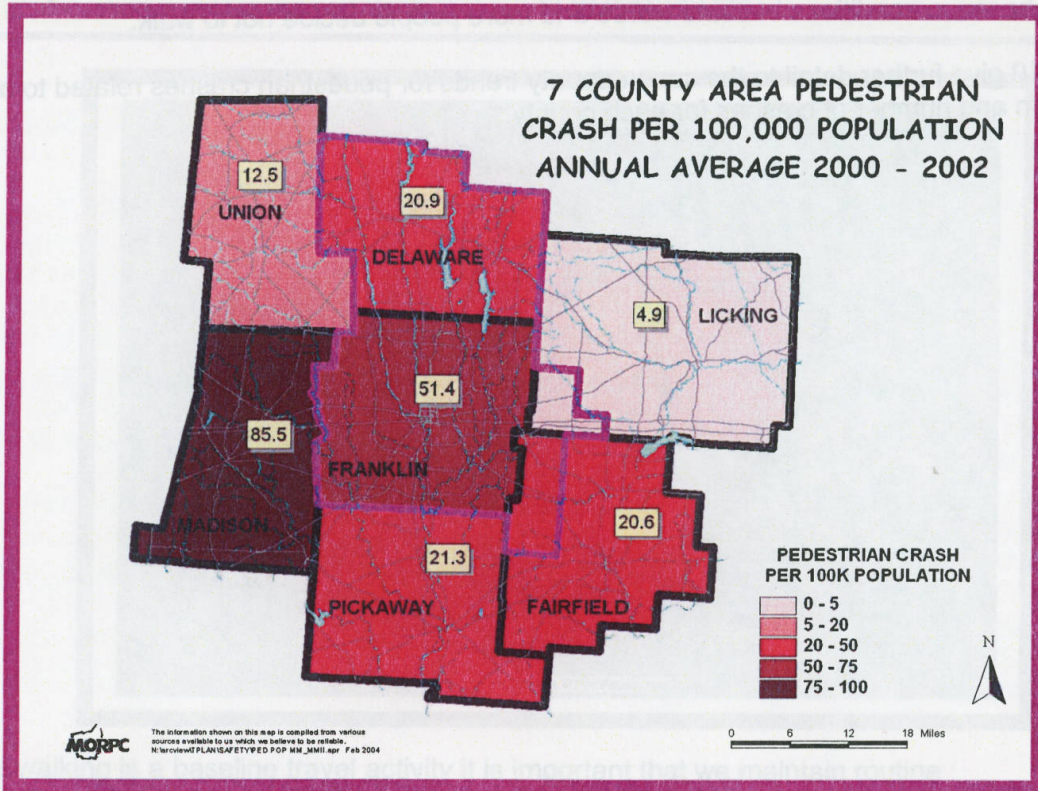
With this in mind it is important not to become dependent on total pedestrian crash numbers as an indicator of a safe pedestrian system. It can be argued that pedestrian crashes may be reduced because conditions become worse and more people decide not to walk.

Maps 7-10 give further detail to the seven-county trends for pedestrian crashes related to both population and number of crashes for each county.

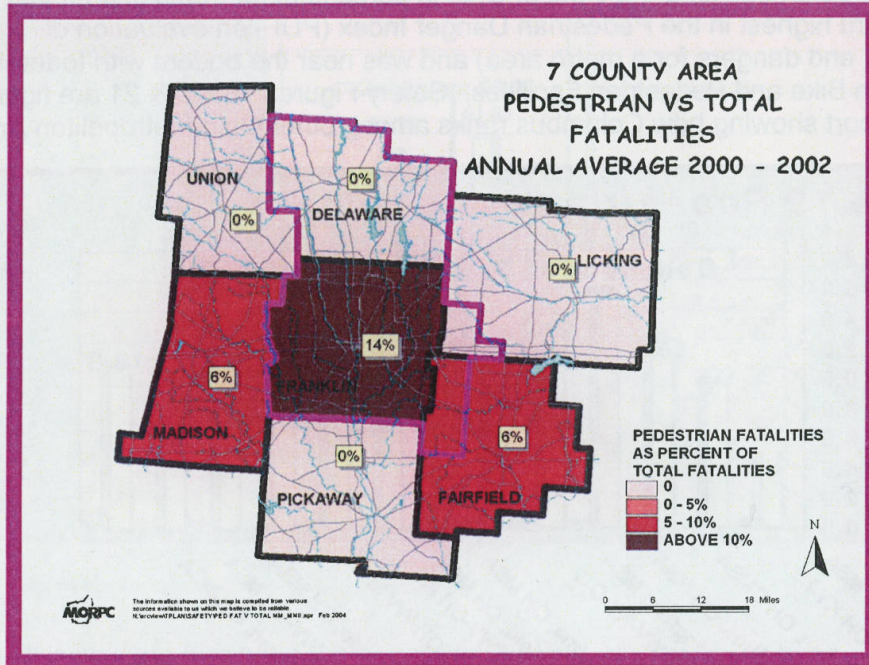
Mid-Ohio Regional Planning Commission – 2030 Transportation Safety
 Map 7 Average Annual Pedestrian Crashes



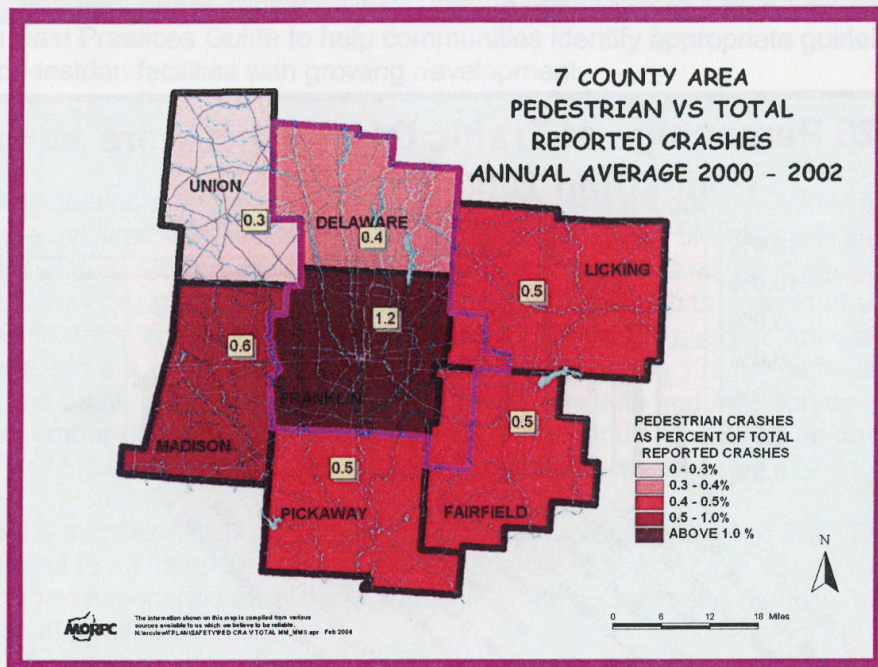
Map 8 Average Annual Pedestrian Crashes by 100,000 Population



Map 9 Pedestrian Crashes as a percent of All Crashes



Map 10 Pedestrian Fatalities as a Percent of All Traffic Fatalities



Mid-Ohio Regional Planning Commission – 2030 Transportation Safety Mean Streets 2002

In 2002 the Surface Transportation Policy Project (STPP), a research coalition based in Washington DC, published Mean Streets 2002. This report is a comprehensive analysis of pedestrian facilities and spending for each metropolitan region of the United States. The results for this report highlighted some key issues in the Columbus Metropolitan Statistical Area (MSA). The data indicated that Columbus lead the state of Ohio in percentage of traffic deaths that were pedestrians, ranked third highest in the Pedestrian Danger Index (PDI - an evaluation of pedestrian deficiencies and dangers for a metro area) and was near the bottom with federal spending per person on Bike and Pedestrian Facilities. Safety Figures 19, 20 & 21 are figures generated from this report showing how Columbus ranks among other Ohio Metropolitan Areas.

Figure 19 Pedestrian Danger Index

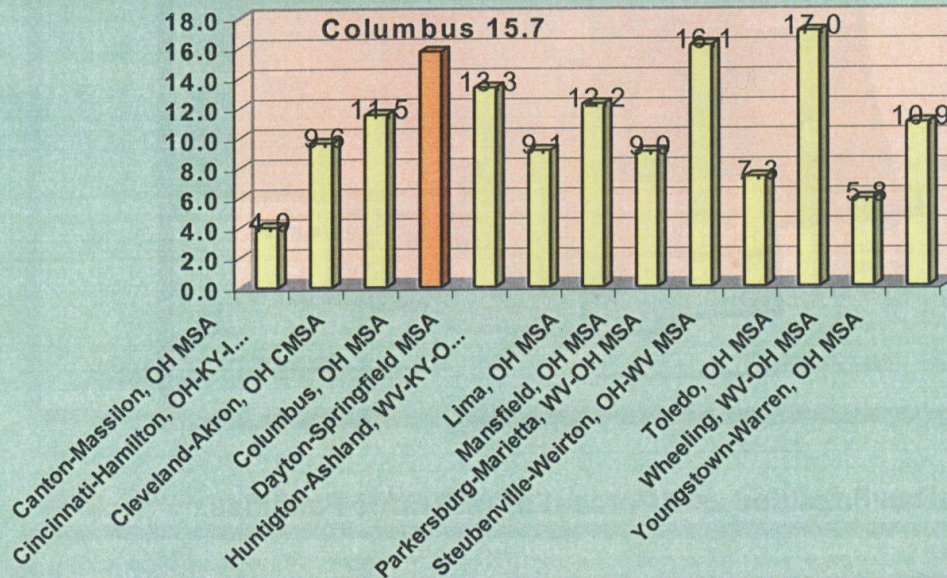


Figure 20 Percentage of Traffic Deaths that were Pedestrian 2000-2001

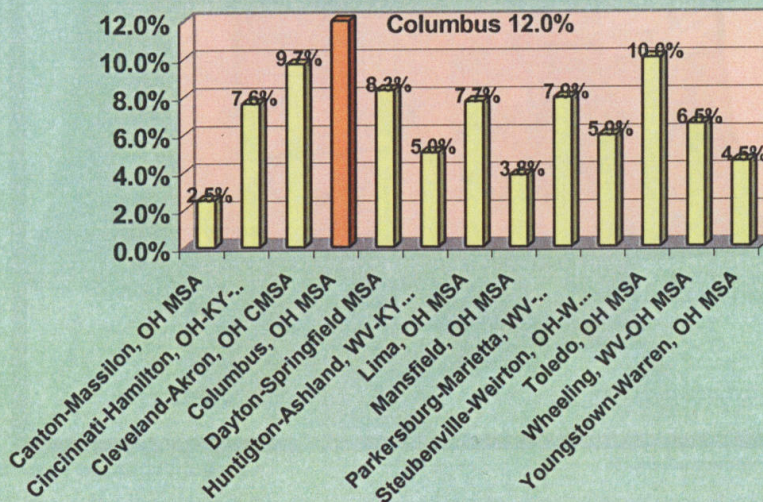
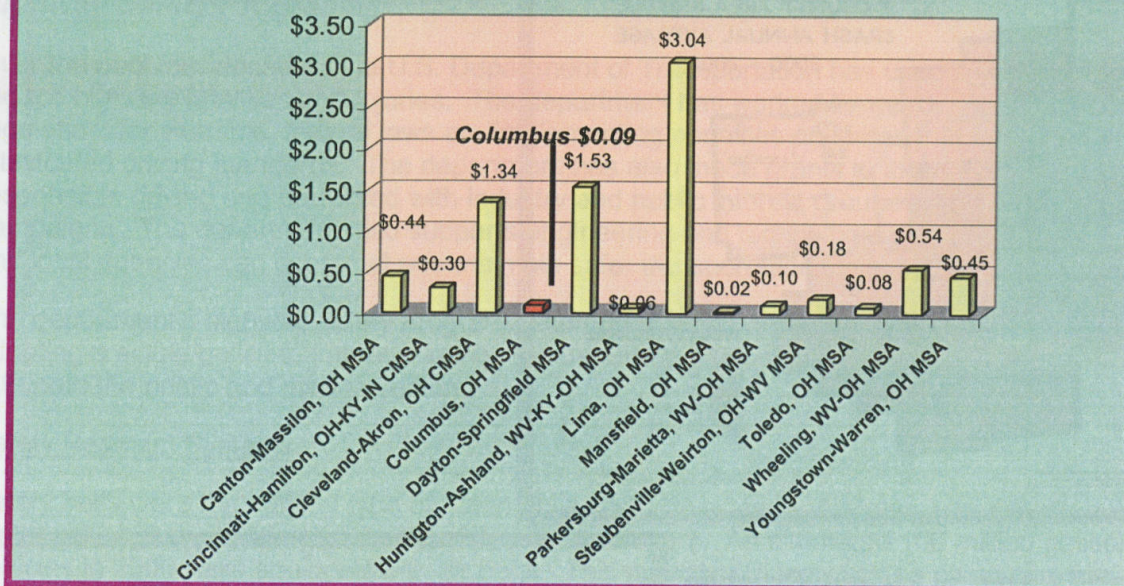


Figure 21 Average Annual Expenditure per Person Spent on Bike and Pedestrian Facilities and Safety



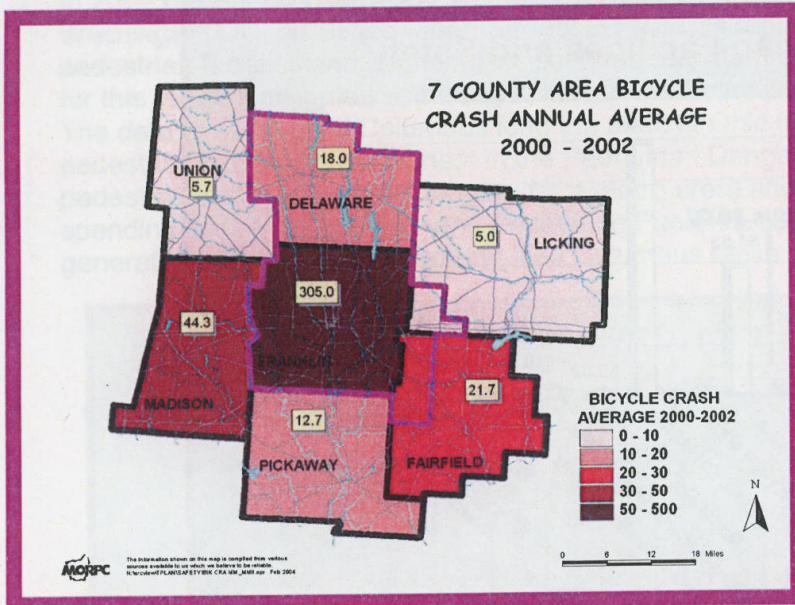
These statistics indicate a need to better coordinate resources with safety issues to address pedestrian safety in Central Ohio.

MORPC continues to strongly advise local communities to develop effective and comprehensive bike and pedestrian facilities throughout the region. MORPC efforts to address these needs include development of a Regional Bikeway plan to prioritize bike path development and a Pedestrian Best Practices Guide to help communities identify appropriate guidelines for including adequate pedestrian facilities with growing development.

Bicycle Statistics

Bicycle safety continues to be an issue in Central Ohio and nationwide. While funding has become more available for bicycle projects, the environment for bicycling still suffers from a second class status. Vehicle laws respect the rights of bicyclists as vehicles using the roadways, but often roadway design and driver behaviors do not conform to the needs of bicyclists. Trends in Central Ohio detail some of these issues. Map 11 shows the average annual occurrence of bicycle crashes in the seven-county region for 2000-2002. Map 12s adjust these figures for population and paints a different picture of the issue. Franklin and Madison counties both rank high on the number of crash occurrences, but factoring population shows an unusually high rate of incident for Madison County.

Nationwide the number of reported bicycle crashes is increasing (Figure 22). These figures could be related to an increase in the number of bicyclists as bikes have become popular for exercise and recreation; however, these trends indicate a clear need to further analyze bicycle safety issues at a national level.



Map 11 Annual Bicycle Crashes 2000 - 2002

Map 12 Annual Bicycle Crashes per 100k Population 2000 - 2002

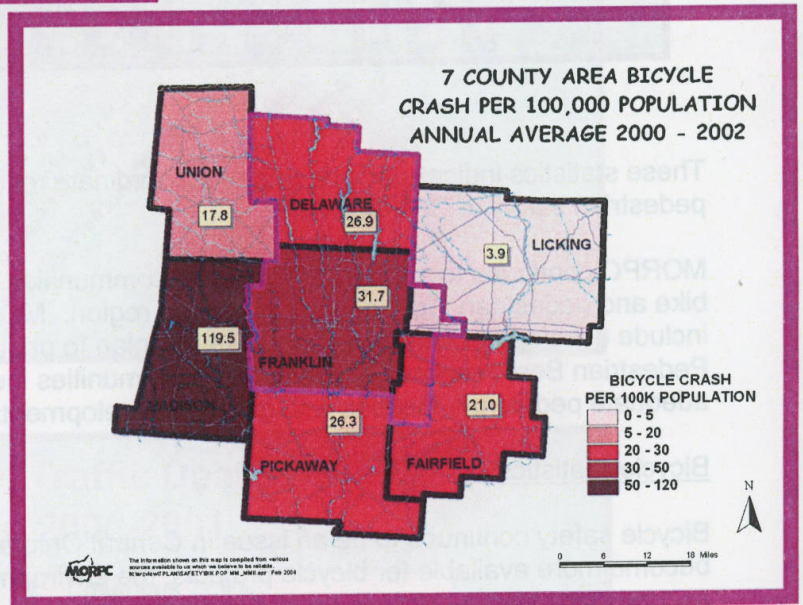


Figure 22 Bicycle Crashes in the US 1998 - 2002

Bicycle Crashes in the U.S. (1998-2002)

Year	1998	1999	2000	2001	2002	Average
Crashes	2,165	1,950	2,493	2,579	2,533	2,344

Note: Includes unit type of Bicycles and Pedal cycles

Transportation Safety Organizations, Programs and Resources

Highway Safety Programs

Over the past four decades, the U.S. Department of Transportation has used a variety of tools to reduce highway fatalities and injuries. The department has worked to improve safety through regulation; for example, federal laws are implementing penalties on states that do not enforce intoxicated driving standards. The department has also made grants to states to promote responsible driving and partnered with industry and public interest groups on public education campaigns. The department also supports engineering and technological research so that state and local agencies can construct and maintain safer transportation systems.

The department's highway safety program is comprehensive and extensive. Rather than adopting a single policy to improve safety, the department uses many initiatives and interacts with both the public and private sectors.

Safety Restraint Systems

Safety belts were the earliest type of automobile restraint system. Air bags were installed later in motor vehicles to provide additional safety for passengers. An estimated 106 million passenger vehicles in 2000 were equipped with air bags. This number will increase as aging cars are retired, since all passenger vehicles sold in the 1998 model year and thereafter have been required to have driver and passenger air bags. A third safety mechanism, child restraint systems, is also increasingly used by parents to reduce the likelihood of harm to young passengers.

Table 9 shows the number of lives estimated to have been saved by restraint systems between 1994 and 2000. Safety belts saved an estimated 11,900 lives in 2000; air bags saved 1,600 lives; and child restraints saved over 300 lives that year. Safety belts alone are estimated to have prevented 135,100 deaths between 1994 and 2000.

Table 9 Estimated Number of Lives Saved by Restraint Systems, 1994-2000

	1994	1995	1996	1997	1998	1999	2000	ANNUAL RATE OF CHANGE 2000/1994
Restraint Type								
Seat Belts	9,206	9,790	10,414	10,750	11,018	11,197	11,889	3.7%
Air Bags	276	470	686	842	1,043	1,263	1,584	29.9%
Child Restraints	308	279	365	312	299	307	316	1.2%

HIGHWAY SAFETY PERFORMANCE/SAFETY BELT GRANTS

Year	2003	2004	2005	2006	2007	2008	2009
Performance Grants	\$0	\$175M	\$179M	\$183M	\$189M	\$195M	\$201M

Responsible Driving Initiatives

The U.S. Department of Transportation has worked with industry partners, states, and local governments to improve driver behavior. During the 1980s and 1990s, for instance, an

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aggressive public relations campaign helped educate millions of Americans about the dangers of impaired driving, which led to a sharp decline in highway fatalities and injuries.

There are numerous departmental initiatives to promote responsible driving. Section 1404 of TEA-21, for example, established a new program of incentive grants to encourage states to establish a 0.08 percent blood alcohol concentration (BAC) as the legal limit for drunken driving offenses. The authorized level for this program increased from \$55 million in FY 1998 to \$110 million in FY 2003. In October 2000, Congress passed legislation that made .08 BAC the national standard for impaired driving. States that did not adopt .08 BAC laws by FY 2004 would have certain highway construction funds withheld.

Operations Strategies

Operations strategies include actions taken by public agencies to maintain capacity and highway safety by controlling traffic, responding to incidents, clearing snow and other obstructions, and providing information to users on highway conditions and alternatives. Operations strategies can also, however, improve the safety of the driving public.

Intelligent Transportation System (ITS) infrastructure, for example, has substantially affected highway safety. This has been accomplished by smoothing traffic flow, warning drivers of hazardous conditions, and providing technology for better incident response and enforcement.

Motor Carrier Safety

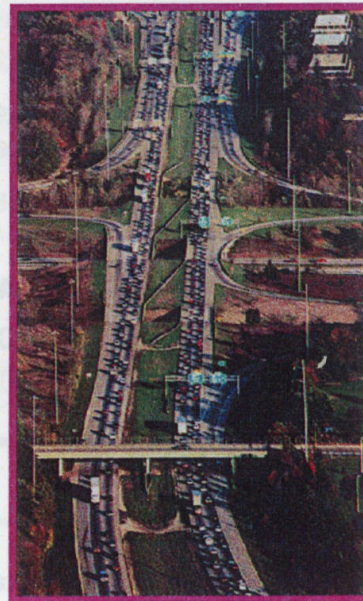
The Federal Motor Carrier Safety Administration (FMCSA) has primary authority within the U.S. Department of Transportation for regulating motor carrier safety. FMCSA is involved in numerous safety initiatives, only some of which are described below.

FMCSA implements the cross-border truck and bus provisions of the North America Free Trade Agreement (NAFTA). Since trucking is the principal means of commercial transportation between Mexico, Canada, and the United States, NAFTA includes a number of provisions that will greatly affect commercial vehicle operations. In preparing to implement the NAFTA access provisions fully, FMCSA has been working aggressively with the states and Mexico to increase enforcement and compliance and to improve safety systems on both sides of the United States-Mexico border.

Infrastructure Enhancement

There are numerous research initiatives underway to determine how physical infrastructure improvements can improve safety. The Federal Highway Administration (FHWA) has identified four focus areas: run-off-the-road crashes, speeding-related crashes, crashes at intersections, and pedestrian and bicyclist crashes. Infrastructure improvements can lower these types of crashes in different ways. Typically, the number of fatalities prevented from infrastructure improvements on a rural highway can be higher than the number of fatalities prevented on an urban highway, and the number of injuries prevented is higher for an urban road than for a rural road.

There were 15,900 single-vehicle run-off-the-road crashes nationwide for 2000 (about 38 percent of all fatal crashes). These crashes could be reduced through engineering techniques: better geometric design, more durable pavement



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markings, more visible roadside signs, and increased skid-resistant roadway surfaces. One of the measures to help prevent run-off-the-road crashes is the installation of rumble strips that create a noise effect when a driver drifts off the road onto the shoulder.

Uniform Traffic Standards

FHWA works with NHTSA, FMCSA, and the National Committee on Uniform Traffic Laws and Ordinances to develop uniform traffic laws and regulations. Traffic laws must clearly and accurately define the responsibilities of drivers and pedestrians; if not, traffic signs, markings, and signals will fail in their purpose. Laws must also state who has authority to provide and enforce the observance of traffic control devices. FHWA recently published a new version of the Manual on Uniform Traffic Control Devices, which defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways.

Data Collection

Data collection is an important part of the department's safety efforts, allowing problem areas to be identified and guiding the allocation of resources to address those problems. Numerous agencies are involved in collecting data about fatalities and injuries. For example, FHWA's Safety Core Business Unit represents the Department of Transportation at the International Traffic Records Forum, an annual meeting that addresses worldwide crash data collection efforts. FHWA's Safety Core Business Unit has also supported the National Model, a software package that helps local law enforcement agencies collect accurate crash information.

Transit Safety Programs

FTA (Federal Transit Administration) has six programs designed to work continuously to improve the safety and security of the nation's transit systems: (1) Modal Safety; (2) Information Sharing/Technical Assistance; (3) Training Education; (4) Substance Abuse; (5) Security and (6) Data Collection and Analysis. FTA also works to improve safety through the department's Intelligent Vehicle Initiative.

Modal Safety Program

The Modal Safety Program has three key components:

- Rail Fixed Guideway
- Railroad
- Bus

The Rail Fixed Guideway component of the Modal Safety Program was implemented in 1995, when FTA published a final rule requiring states with fixed guideway systems to designate an independent oversight agency to oversee the safety of rail systems not regulated by the Federal Railroad Administration (FRA). Currently, 22 states and 36 systems are included in this program, but this number will change as new systems are opened. FTA audits the affected states for compliance with the rule and provides technical assistance.

Information Sharing and Technical Assistance Program

FTA's Information Sharing and Technical Assistance Program includes a clearinghouse that is the focal point for all requests for information, materials and resources currently available on transit safety, security, and related technologies; a transit safety and security website describing

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ongoing programs and new initiatives; and technical assistance, guidelines, and newsletters on safety issues.

Training and Education

FTA provides safety and security training to the transit industry through the Transportation Safety Institute, the National Transit Institute and the Volpe Center. The curriculum includes courses such as: Transit Workplace Safety and Security: System Security Awareness for Transit Employees and Security Incident Management for Transit Supervisors; Effectively Managing Transit Emergencies; Transit Rail Accident Investigation; Transit Rail System Safety; Fundamentals of Bus Accident Investigation and Substance Abuse Management. Through the Transit Safety Institute, FTA has provided training to over 70,000 transit industry employees since 1971, including more than 23,000 since 1998. Through the National Transit Institute, FTA conducted three Workplace Safety and Security train-the-trainer courses in FY 2002 and planned four additional courses for FY 2002, as well as three FY 2003 sessions. In FY 2002, through the Volpe Center, FTA conducted 13 drug and alcohol seminars, drawing over 1,100 people.

Substance Abuse Program

The Omnibus Transportation Employee Act of 1991 authorized the U.S. Department of Transportation to mandate substance abuse management for safety-sensitive employees in the transit industry. In February 1994, FTA published final drug and alcohol testing regulations for transit employers. FTA is responsible for implementing these regulations and auditing the compliance of transit operators with these rules. As of July 29, 2002, FTA has conducted 126 audits since the inception of the drug and alcohol audit program in 1997. Thirty-eight audits were scheduled for FY 2002.

Security Review Program

Between February 1997 and July 2002, FTA conducted 59 security reviews and 20 follow-up security reviews of transit agencies. Security reviews are independent security and emergency management reviews of transit agencies' plans, procedures, and training to ensure the highest level of transit system security against major crimes and acts of terrorism, and to assess the ability to quickly and effectively respond to the consequences of a critical emergency incident. Specifically, the reviews have included an evaluation of the:

- Transit agency system security program, including plan and procedures
- Threat and vulnerability assessment (TVA) process used
- Emergency management plan and response procedures
- Countermeasures to transit crimes and terrorism
- Training of transit personnel in security and emergency response procedures
- Training of emergency response personnel in transit operations and procedures
- Coordination of emergency response agencies with the transit agency during an emergency incident

Based on the review, FTA makes recommendations to the transit agency to mitigate vulnerabilities and improve emergency response capabilities.

**Mid-Ohio Regional Planning Commission – 2030 Transportation Safety
Data Collection and Analysis Program**

All transit agencies must submit safety and security data into the FTA National Transit Database Safety and Security Module. These data on transit safety and security are published annually in the Transit Safety and Security Report (formerly the Safety Management Information Statistics Report). It provides FTA and the transit industry with a basis for identifying key safety concerns as well as possible solutions. FTA has extended its efforts by collecting transit vehicle accident and incident causal data through the State Safety Oversight Annual Reporting requirement and the February 2002 revision of the National Transit Database, which expands the range of causal data collected and the frequency of its reporting.

Intelligent Vehicle Initiative

FTA is also working to improve safety through the DOT's Intelligent Vehicle Initiative (IVI). Among the elements under investigation are precision docking systems and collision warning systems. Precision docking systems will allow buses to be automatically maneuvered into a loading zone or maintenance area, allowing easier access for passengers and more efficient maintenance operations. Collision warning systems will help the bus driver and surrounding vehicle drivers operate their vehicles more efficiently.

Other Safety Programs

Bicycle Safety Education Resource Center

The Resource Center, sponsored by FHWA (www.bicyclinginfo.org) consists of three parts. The first part is a database, where one can search for specific training materials for an intended audience. In addition, one can submit a program for possible inclusion in the database. The second part is a Database Guide that identifies the training needs of the eight different audiences identified above. The third part is a Good Practices Guide that will guide one through the process of designing one's own program.

Ohio Safety Programs

Ohio Safe Commute

Ohio Safe Commute put law enforcement officers and a tow truck along the busiest highways during peak hours. When crashes occurred, officers and a tow truck responded quickly to clear the crash scene. Minor accidents were directed off the highway to complete crash reports. In addition, officers patrolled the corridors to enforce the speed limit.

Ohio Safe Commute began November 10 and targeted the following five high-crash locations:

- Interstate 70 from Children's Hospital to Interstate 270
- Interstate 71 from 17th Avenue to State Route 161
- Interstate 270 from SR 161 to US Route 23 (northwest)
- Interstate 70/71 "split" from State Route 315 to Fifth Avenue
- State Route 315 from Lane Avenue to Interstate 270

Combined, these areas account for more than 4,200 crashes each year. The most common cause of crashes was excessive speed and failure to control. A recent study concluded that 26 percent of motorists were traveling at speeds of 75 mph or greater. Each year, there are approximately 380,000 crashes that kill 1,500 people and injure 198,000 people in Ohio.

Freeway Reference Marker

Incident management has become very important to the highway safety and law enforcement communities. ODOT has gathered congestion information due to this demand. Some of the findings are.

- Causes up to 60% of all highway congestion.
- Is a significant factor in “secondary” traffic crashes, when backups from the first incident cause additional rear-end crashes.

Freeway reference markers improve crash location by aiding the motorist in accurately reporting emergency information to authorities. The markers which are 14” by 42” signs are mounted in the median of the highway or shoulder of the ramps at intervals of 0.1 or 0.2-mile.

Columbus Metropolitan Freeway Management System (CMFMS)

CMFMS will provide an incident management system that will include remote cameras, dynamic message signs, ramp meters, pavement loops, weather information, a fiber optic communications system and/or other Intelligent Transportation System (ITS) field devices. The planned build-out of the system is approximately 150 centerline miles to be implemented in phases. Implementation of the CMFMS will result in less congestion and a reduction in secondary accidents due to reduced incident response times.

Ohio Highway Watch

The Ohio State Highway Patrol has teamed up with the Federal Motor Carrier Safety Administration, American Trucking Associations, and the Ohio Trucking Association to implement Highway Watch, a federally funded program to improve both highway safety and homeland security.

Highway Watch is a national effort that enables truck drivers to alert law enforcement officials to highway safety and security concerns.

Ohio Quick Clear Launch

Ohio Quick Clear is a set of policies and procedures for emergency responders, which allows for the quick clearance of crash vehicles to reduce congestion and reduce the frequency of secondary crashes. The emphasis of Ohio Quick Clear is to save lives and reduce injuries on Ohio roads, with a secondary benefit of saving motorists time by emergency responders holding traffic at a highway emergency scene only as long as necessary.

Ohio Quick Clear resulted from a task force of representatives from the Buckeye State Sheriffs' Association, Ohio Association of Chiefs of Police, Ohio State Highway Patrol, Ohio Department of Transportation, Ohio Environmental Protection Agency, Ohio Fire Chiefs' Association, Ohio Fire Marshal's Office, Ohio Trucking Association, Towing and Recovery Association of Ohio, AAA Ohio Auto Club, and Ohio Emergency Medical Services.

Buckeye Traffic

Buckeye Traffic is the Ohio Department of Transportation's gateway to traffic and roadway information. This gateway consists of:

- OTIS, which includes road activity (searchable construction, closure and temporary lane restrictions) and weather-related information (snow and ice-related roadway reporting).
- RWIS, which is on-line information – including air and surface temperature, precipitation, wind data and visibility – from automated sensors.

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- Web Cams, which are live images from traffic and construction cameras from various areas of the state.
- Ohio Highway Construction Projects Overview

Safety at Railroad Crossings

State Rep. Steve Buehrer (R-Delta) introduced legislation, and Ohio Department of Transportation (ODOT) Director Gordon Proctor announced a program that provided \$1.2 million in the ODOT budget, spent during Fiscal Years 2002 and 2003 to improve safety at railroad crossings. The legislation required that rumble strips be installed at active railroad crossings without gates or lights with a daily traffic count of 500 or more vehicles and at least six trains per day. ODOT granted \$1,500 per crossing to all local jurisdictions requesting the installation of rumble strips. Fifteen people were killed and 39 people were injured at Ohio highway-rail crossings in 2000.

Safety Grants

The Federal Highway Safety Act of 1966 directed the National Highway Traffic Safety Administration (NHTSA) and Federal Highway Administration (FHWA) of the U.S. Department of Transportation to jointly administer various highway safety projects. This federal grant program provides federal funds administered through the Ohio Department of Public Safety (ODPS), Governor's Highway Safety Office (GHSO) to eligible entities to be used in part for, but not limited to, traffic safety education, enforcement and engineering projects.

The GHSO is responsible for coordinating and managing the Section 402 federal, state, and community Highway Safety Funds received on an annual basis from NHTSA. Funds are to be used for short-term highway safety support, with the intent that other sources of funding will sustain programs over the long term. The federal grant program operates on a reimbursement basis.

FFY 2003 Problem Identification Process

Each year, the GHSO conducts an analysis of traffic crash data to identify and prioritize traffic safety problems and to target severe crash locations for traffic safety programming. The data used in this process include traffic crash data for FFY 2002 (October 1, 2001 – September 30, 2002).

The GHSO is accountable to NHTSA for changes in the crash, fatality and injury rates statewide. The problem identification process is designed to target those counties with the most severe traffic-related fatality and injury problems. The GHSO focuses the majority of its resources on these areas because they have been identified as locations where programming may have the most impact on a statewide level.

Based on this system, 20 counties were identified. These counties represented approximately 50% of traffic-related fatalities, 70% of traffic-related injuries, 66% of the statewide traffic-related economic loss, and 68% of Ohio's population in 2002. The priority counties, referred to as "Target Counties," are listed alphabetically below:

Allen	Cuyahoga	Lake	Mahoning	Stark
Butler	Franklin	Licking	Montgomery	Summit
Clark	Greene	Lorain	Portage	Trumbull
Clermont	Hamilton	Lucas	Richland	Warren

Mid-Ohio Regional Planning Commission – 2030 Transportation Safety Ohio Homeland Security

The State of Ohio Security Task Force (SOSTF) has made available recommended emergency action steps for Ohio citizens in the event of a terrorist threat or other emergency. The Homeland Security Response Guides are available for individuals and families, schools, businesses, and state office buildings. The guides recommend emergency steps that families, schools and businesses can take during each of the five security alert levels of Ohio's Homeland Security Advisory System – low, guarded, elevated, high, and severe. These guidelines reflect what State of Ohio Security Task Force agencies think are reasonable things to consider at the various terror threat levels. Additionally, the Family Disaster Preparedness Guide provides a wealth of information to help families plan for emergency situations.

The recommended action steps for families, individuals, schools, businesses, and state office buildings strengthen our security program by providing information to help our citizens implement common-sense security precautions that encourage vigilance and help safeguard our communities.

What's Holding You back?

Since 2002, the Ohio Department of Public Safety will join law enforcement statewide in an effort to increase seat belt usage and save lives. The (What's Holding You Back?) campaign uses radio, television, billboards, buses, banners and law signs to get the message out that if you choose not to buckle up, the answer to "What's Holding You Back?" is simply, nothing.

Law enforcement will play a critical role in the success of this campaign by stepping up enforcement and writing citations for those who choose to violate Ohio's child passenger and seat belt laws.

MORPC Studies and Safety

MORPC is intensifying the effort to conduct meaningful safety analysis in conjunction with short- and long-range planning for Central Ohio. Improving the safety of alternative modes increases the attractiveness for these alternatives to auto travel. This is a key to promoting better air quality and active communities as people resort to alternatives to the automobile. With diverse mobility options, we can reduce air pollution associated with auto travel while seeing the benefits of more active behavior, which is increasingly important in the context of a growing obesity epidemic in Ohio and throughout the nation. Furthermore, more appropriately scaled, transit-/pedestrian-friendly communities are becoming more common, as more people seek more efficient lifestyles and alternatives to the aggravation of growing congestion.

Highways

Northwest Franklin County Traffic Study

The northwest part of Franklin County, like many other areas around the outerbelt, is experiencing a great deal of growth. Developments in three cities are generating this growth: Dublin, Hilliard and Columbus. Somewhat distinctive in this area is that although Dublin and Hilliard encompass most of the land in this area, Columbus has reserved a narrow growth corridor between Dublin and Hilliard.

Mid-Ohio Regional Planning Commission – 2030 Transportation Safety
SR 317 Access Management Study

- SR 317 Access Management Study Funding is from the Franklin County Engineer, the Columbus Regional Airport Authority (Rickenbacker), and the city of Columbus and the village of Groveport.
- Reason for the study is to develop a plan to help maintain the safety and the traffic-carrying capacity of SR 317 as the area grows and traffic increases.
- SR 317 is an important east/west connector, directly serving Rickenbacker and providing links to US 23, Alum Creek Drive and US 33, among other routes.
- The primary study focus area is SR 317 from US 23 to Groveport Road/Main Street. SR 317 northeast to US 33 also will be examined. A larger area, tributary to SR 317, will be looked at for land-use forecast purposes.

I-70/I-71 Columbus South Innerbelt Corridor Study

This study began in April of 2002, exploring solutions to the problems of congestion, traffic delays and safety hazards (accidents and geometric problems) on the I-70/I-71 split in downtown Columbus, Ohio. The I-70/I-71 South Innerbelt corridor in downtown Columbus - commonly called "the downtown split" - is one of the busiest and most vital sections of highway in the region. It serves approximately 150,000 vehicles and 17,000 trucks per day. Built in the 1960's, it has served the community well. But, with the increase in traffic over the years, it has become hazardous. Although it makes up only 6 percent of the freeway system, it is the site of 27 percent of all I-70/I-71 freeway accidents in Franklin County.

I-270 Columbus North Central Outerbelt Study

This ODOT effort is seeking solutions to the problems of congestion and accidents at the interchanges of State Route 315, US Route 23, and Interstate 71.

I-270/US 33 NW MIS

A major investment study (MIS) is being conducted to analyze transportation conditions and propose long-term mobility solutions for the I-270 West Outerbelt area, including the US 33 freeway west of I-270 to US 42.

- Rapid development in West and Northwest Columbus during the past 20 years has led to pressure on the transportation system.
- The population of the area from the Scioto River to Madison County and from Trabue Road/I-70 to SR 161 has grown from 37,000 to close to 70,000 between 1990 and 2000.
- Employment has grown from approximately 28,000 to 55,000. This area continues to attract new development, which in turn increases traffic.

Intelligent Transportation Systems (ITS) Planning

MORPC's Intelligent Transportation Systems (ITS) was established to help in tracking and planning studies that help promote new ITS technology. ITS is focused on utilizing technology to enhance transportation operations in the region, all the while providing seamless service to the public. It is our intent that a traveler in Central Ohio will experience the benefits of ITS, whether using a freeway, an arterial, public transportation, or incident/emergency management services, and will not be aware of local jurisdiction or the operating entity.

Some of the projects that we have been involved in include:

- Columbus Computerized Traffic Signal System (CTSS)

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- Columbus Metropolitan Freeway Management System (CMFMS) Detailed Project Plan
- Central Ohio Regional Transportation and Emergency Management Center (CORTAN)
- Coordinated Traveler Information System
- ITS Deployment

Freight

The safety statistical crash data were derived from the information provided to MORPC from the Ohio Department of Public Services, *Traffic Crash Data*, Fiscal Years 1990-2002. These data represent the crash report forms that were submitted by reporting agencies for Calendar Year 2002.

MORPC Studies and Safety

A major investment study (MIS) is being conducted to show a transportation corridor for the area and long-term mobility solutions for the I-70 West Ohio toll area. The study will assess the feasibility of a toll on I-70 to help pay for the cost of the toll. The study will also assess the impact of the toll on the economy and the environment. The study will also assess the impact of the toll on the environment. The study will also assess the impact of the toll on the environment.

Highways

Northwest Franklin County Traffic Study

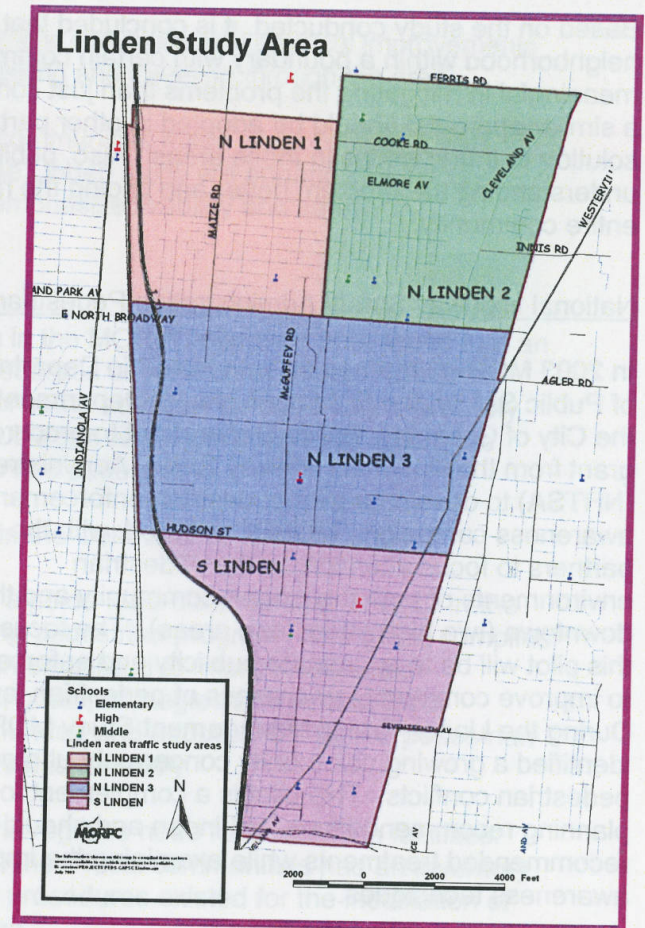
MORPC's Intelligent Transportation Systems (ITS) Planning studies that help bridge the gap between the current and future transportation systems. The study will assess the impact of the toll on the economy and the environment. The study will also assess the impact of the toll on the environment. The study will also assess the impact of the toll on the environment.

Livability and Safety

More attention is being paid to the relationship between the built environment and health and safety. Recognition that many communities have vast deficiencies in the transportation infrastructure that limit mobility and foster reduced levels of physical activity has established livability as a key component in planning. Examination of existing conditions can lead to opportunities to create change and ensure better safety and security in an environment that has fallen into disrepair, neglect or poor design from the onset.

Linden Area Traffic Management Plan

In 2002, the Mid-Ohio Regional Planning Commission (MORPC) was hired by the city of Columbus to conduct a traffic study in the Linden neighborhood - a large, older area of the city, northeast of downtown - which has a higher-than-average percentage of minority and low-income populations. A lack of automobile ownership leaves many of these residents dependent on transit access and local commercial services to meet their essential daily needs. Unfortunately, a great majority of the surrounding region has developed to meet the needs of the motoring community and accommodate growing automobile use. Street design in Linden does not provide an attractive pedestrian environment and serves to move a large volume of traffic to and from destinations that are not within the community.



The paramount traffic issue for Linden is the conflict between vehicles and pedestrians throughout the study area. This study proposes a proactive strategy to address traffic as opposed to reactionary treatments which have addressed the locations where auto-pedestrian crashes have happened in the past. Working with the community has been an essential part of assessing the perceived dangers. Examining the traffic flow and capacity vs. the street design and impact of lane and/or speed reductions on safety and the efficiency of the system was a major component of fostering a safer and more livable environment for the Linden residents.

Strong understanding of the needs and issues faced by Linden residents allowed the MORPC team to work with the community facilitating ownership of core values and resources of the neighborhood. Allowing residents to define the characteristics of the street network helped in identifying appropriate traffic behavior in the community and establishing the core values and

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resources of the neighborhood. The outcome of this successful endeavor will help to restore prosperity to this older urban community.

Based on the study conducted, it is concluded that the approach of considering the entire neighborhood within a boundary with certain common characteristics is more effective and meaningful in mitigating the problems than just considering individual problem locations. Further, a similar approach should be adopted in other parts of the city to find the most appropriate solution to traffic issues in those areas. Also, public involvement has been very effective in understanding the problem better and finding the right solutions desired and acceptable to the entire community.

National Highway Safety Administration Pedestrian Enforcement Grant

In 2003 MORPC teamed up with the Ohio Department of Public Safety, the Columbus Health Department and the City of Columbus Police Department to procure a grant from the National Highway Safety Administration (NHTSA) to develop a pilot pedestrian enforcement and awareness campaign. MORPC will work with the partners to focus attention on the pedestrian environments of both the Linden community and the downtown (two high pedestrian areas). The focus of this pilot will be to coordinate publicity and enforcement to improve community awareness of pedestrian laws. During the Linden Traffic Management Study MORPC identified a growing community concern about motorist-pedestrian conflicts. This pilot is a complement to the planning recommendations for Linden and should help in monitoring success of the recommended treatments while examining the impact of enhanced enforcement and public awareness techniques.



Downtown Columbus Circulation Study

The transportation system is one of the most critical components to keep downtown Columbus healthy; it contributes to establishing the ambience in which downtown workers, shoppers and visitors carry out their activities. However, the vast majority of these people do not live within the downtown, but travel to and from there on a daily basis. So, the transportation system must strike a balance between creating an atmosphere that is attractive and encourages people to work, shop and visit downtown, while providing them with reasonably convenient access and parking.



The city of Columbus has contracted with MORPC to conduct an overall study of the downtown street system and transportation issues. This study will examine various downtown transportation projects and studies (such as light rail and the I-70/I-71 study) so as to understand their combined impact on the downtown and help the city to “find the balance between development and transportation” according to Columbus City Traffic Engineer Bill Lewis. Specific items that will be examined include:

- The impacts of converting some or all of the one-way streets to two-way streets.
- Transit in the downtown.

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- Pedestrian amenities and traffic-calming techniques.
- On-street parking.

This study will produce a set of recommendations for traffic circulation and physical improvements that address the needs of those living in, working in, visiting and traveling through the area.

MORPC anticipates playing a strong role in helping communities make good decisions with regard to livability in the future. The experience of the Linden study will enhance MORPC expertise in innovative transportation solutions that emphasize livability and safety.

Summary of MORPC Pedestrian Efforts

- 1995 A Survey of the pedestrian circulation system in the MORPC planning area found that an adequate pedestrian system exists within most areas of the central city and mature suburbs. However, these areas are in need of some attention for continuity and safety issues. In addition, within and between the suburban and urbanizing rural areas, the transportation system does not sufficiently service pedestrians.
- 1998 A vision was adopted for pedestrian facilities in the Central Ohio area.
- 1999 PEDESTRIAN FACILITIES: Best Practices is a guide local communities can use in the development of a new or to improve an existing pedestrian program. The guide compiles best practices from across the country that can be utilized to improve identified deficiencies. The guide also includes policies, goals, strategies and actions local communities in the Central Ohio area recommended and adopted to improve pedestrian travel in the region and make areas more pedestrian friendly.
- 2001 MORPC conducted a survey to help assess the region's need for pedestrian facilities. The survey instrument was designed to determine if local communities had an inventory of pedestrian facilities and whether policies or procedures existed for the installation of facilities in new developments and/or retrofitting.
- 2003 Walkable Communities: MORPC hosted a well attended half-day Walkable Communities workshop on November 11, 2003, for local communities and consultants. Dan Burden, nationally recognized authority on bicycle and pedestrian facilities and programs, presented to over 30 people from the surrounding communities in Franklin and Delaware counties. Dan presented cost-effective tools, design and simple applications that could improve the walkability of communities, making them more pedestrian and bicycle friendly. The workshop was sponsored by the Ohio Environmental Council for the city of Columbus.

Bikeway Plan

In 1994, MORPC updated its 1977 *Regional Bikeway Plan*. In 2000, a bikeway corridors update was completed. A 2003 updated report accompanies and is incorporated within the 2030 Regional Transportation Plan. This plan addressed the TEA-21 regulations, the growth forecasted in the area and the funding opportunities to encourage and support the construction of facilities. Through this plan, proposed bikeways will expand the 322-mile network of existing and committed facilities to evolve a 1,238-mile regional bikeway network utilizing corridors along rivers, railroads, utility easements and roadways. This network will provide direct and convenient bicycle travel within and between residential areas, places of employment and regional activity centers.

Conclusion - Roadway to Safety

Central Ohio ranks respectable with regards to safety in comparison to state and national numbers. No doubt the continued diligence of the community will ensure this continues to be the case. While our indicators continue to improve, we still continue to have room to improve our transportation safety. The following are a list of topics and to consider as we look forward to the safety prosperity of the region.

Safety and Equity

Achieving safety is a goal without social boundaries. Addressing safety issues for one population does not guarantee safety for others. It is paramount that we balance our efforts to include all populations. This objective can be met only when we achieve consistent levels of safety across modes and geographies. Improving our roadways and reducing highway fatalities can only be measured a success when the solution does not compromise the safety and security of non-motorists as well.

Our duty to accommodate pedestrians speaks to the most vulnerable populations of our community. Senior citizens, children and the financially disadvantaged are frequently forced to rely on walking as a means of survival. Owning an automobile has been a luxurious option for our region in the last decade, and we are fortunate to live in a time when these conveniences are available to us. However, a lack of facility and sprawling development are transforming this privilege into necessity. For many families today ownership and the expenses of an automobile can pose a financial burden that subsequently takes the place of other needs. Our highway system is a magnificent achievement that should be complemented with comparable alternatives.

Improvements in Data Collection and Recording

This document has presented an overwhelming collection of data, but these data hardly scratch the surface of the data needed to make good decisions. Safety data for our transportation system come from a variety of sources and in a variety of formats. The ability to make valid assumptions using this information is tied to the reliability and consistency of data. Separate indicators can be identified for highway crashes, pedestrian crashes, transit emergencies and freight issues. The varying data for these topics are all too frequently missing the most important aspect of relevance - Location. With the advances in Geographic Information Systems (GIS) we have a powerful tool to analyze the spatial relationships of transportation safety issues. Currently in Central Ohio we are unable to bring all of the critical wealth of data to a location on a map.

Seeing trends in crash data gives us an opportunity to identify clear issues on a large scale, but the ability to identify specific locations of incidents can open our eyes to specific deficiencies in the system that may otherwise be invisible. It is imperative that we make every effort to bridge the gap with these data and GIS and establish the right tool for success.

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Regional Cooperation

As highlighted with the data issues our region has a multitude of entities with overlapping responsibilities. Sharing information and working in cooperation is the key to achieving improvement in safety for the region. Many programs highlighted in this document are a result of this type of cooperation. Agencies that oversee safety for our region must continue to pull resources together to better identify and address issues impacting our community.

Social Environment

When considering the safety of the transportation system we can identify every deficiency of the infrastructure and still not achieve safety. This is because we cannot design a solution for social and behavioral shortcomings. Promoting awareness through education is effective in correcting absent-minded behavior of otherwise well-meaning citizens. But stronger measures are needed where this effort fails. Central Ohioans dedicate a growing amount of personal time to travel routines, and the result is frequently complacency and sometimes rage. It is critical that efforts are made throughout the community to address these issues and target enforcement to reduce this behavior.

Enforcement should target all aspects of driving conduct. Across the country 15% of our roadway fatalities are pedestrians, and a similar level of effort should go toward protecting pedestrians. Speeding is a dangerous activity, but tailgating and multitask driving are worthy of police attention as well.

Driving an automobile carries a great deal of responsibility; we should not be lenient in correcting abuse of this privilege. The staggering numbers of deaths that occur on our roadways can be connected to a number of poor decisions made by culpable motorists. There can be no tolerance for unsafe behavior; the price is too great and too frequently the motorist's bystanders. Motorists in our region should be well prepared with adequate training and education prior to operating on our streets.

It is with this cooperation and commitment that we can shift ideals and make safety a foundation for effective planning of our future.

Appendix - Glossary

Accident per Passenger Miles - An incident involving a moving vehicle. Includes collisions with another vehicle, object or person (except suicides) and derailment/left roadway. This also includes personal casualties incidents on the right-of-way, inside the vehicle and boarding and alighting the vehicle.

Accident per Vehicle Miles - An incident involving a moving vehicle. Includes collisions with another vehicle, object, or person (except suicides) and derailment/left roadway.

Collision with Vehicle - An incident in which a transit vehicle strikes or is struck by another vehicle. Reports are made if the accident results in death, injury, or property damage over \$1,000.

Collision with Object - An incident in which a transit vehicle strikes an obstacle other than a vehicle or person (e.g., building, utility pole). Reports are made if the accident results in a death, injury, or property damage over \$1,000.

Collision with People - An incident in which a transit vehicle strikes a person. Except where specifically indicated, collisions with people do not include suicide attempts. Reports are made if the incident results in death, injury, or property damage over \$1,000.

Derailment/Left Roadway - A non-collision incident in which a transit vehicle leaves the rails or road on which it travels. This also includes rollovers. Reports are made for all occurrences.

Directly Operated - The transportation services provided directly by a public transit agency using its employees to supply the necessary labor.

Disorderly Conduct - All charges of committing a breach of the peace. This includes affray; unlawful assembly; disturbing the peace; disturbing meetings, disorderly conduct in state institutions, at court, at fairs, on trains or public conveyances, etc.; blasphemy, profanity, and obscene language; desecrating the flag; refusing to assist an officer; and all attempts to commit any of the above.

Driving Under the Influence (DUI) - The driving or operating of any vehicle or common carrier while drunk or under the influence of liquor or narcotics.

Drunkness - Arrests for all offenses of drunkenness, defined as the consumption of alcoholic beverages to the extent that one's mental faculties and physical coordination are substantially impaired. This includes drunkenness, drunk and disorderly, common or habitual drunkard, and intoxication.

Employee - An individual who is compensated by the transit agency and whose expense is reported in object class 501 labor.

Fare Evasion - The unlawful use of transit facilities by riding without paying the applicable fare.

Fatality - A transit-caused death confirmed within 30 days of a transit incident.

FTA Urbanized Area Formula Program Funds - Financial assistance from the Urbanized Area Formula Program. This program governs the distribution of the public transit capital and operating block grant appropriations by urbanized area.

Grade Crossings - An intersection of highway roads, railroad tracks, or dedicated transit rail tracks that run either parallel or across mixed traffic situations with motor vehicles, light rail, commuter rail, heavy rail, trolley bus or pedestrian traffic. Collisions at grade crossings involving transit vehicles apply to light rail, commuter rail, heavy rail or trolley bus.

Incident - Collisions, personal casualties, derailments/left roadway, fires, and property damage greater than \$1,000 associated with transit agency revenue vehicles and all transit facilities.

Injury - Any physical damage or harm to a person requiring medical treatment, or any physical damage or harm to a person reported at the time and place of occurrence. For employees, an injury includes incidents resulting in time lost from duty or any definition consistent with a transit agency's current employee injury reporting practice.

Mass Transportation - Transportation by bus, or rail, or other conveyance, either publicly or privately owned, providing to the public general or special service (but not including school, charter, or sightseeing service) on a regular basis.

Mode - A transit system category characterized by specific right-of-way, technological, and operational features.

Other - An individual who is neither a patron nor employee of the transit agency.

Passenger Miles - The total number of miles traveled by transit passengers (e.g., a bus that carries 5 passengers for a distance of 3 miles incurs 15 passenger miles).

Patron - A person who intends to use or has used the transit system and is on property affiliated with the transit system within the limits of the law. An employee is not a patron.

Parking Facility - An incident in which person(s) are injured or die in a transit agency parking facility, but not as a result of a collision, derailment/left roadway, or fire.

Inside Vehicle - An incident in which person(s) are injured or die on a transit vehicle, but not as a result of a collision, derailment/left roadway, or fire. For example, these incidents would involve sudden braking or unexpected swerving.

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On Right-of-Way - An incident in which person(s) are injured or die on a transit agency right-of-way, but not as a result of a collision, derailment/left roadway, or fire. These incidents include those that occur on transit property other than parking facilities, vehicles, stations, or bus stops.

Boarding and Alighting Vehicle - An incident in which person(s) are injured or die while getting on or off a transit vehicle (e.g., slips, falls, door closings, or lifts).

Associated with Lifts - An incident in which person(s) are injured or die while using a lift to get on or off a transit vehicle. This is a subset of the Boarding and Alighting Vehicle in the Personal Casualties category.

In Stations/Bus Stops - An incident in which person(s) are injured or die while using a transit station or bus stop, but not as a result of a collision, derailment/left roadway, or fire. This includes anyone on transit property (e.g., patrons, employees, trespassers) but does not include incidents resulting from illness or criminal activity. These incidents include those that involve slips, trips or falls on stairs, escalators, elevators, passageways, or platforms.

Associated with Escalator - An incident in which person(s) are injured or die while using an escalator in a transit facility. Any incident in this category is a subset of Personal Casualties in Stations/Bus Stops.

Associated with Elevators - Any incident which person(s) are hurt while using an elevator in a transit facility. Any incident in this category is a subset of Personal Casualty in Stations/Bus Stops.

Population Density - Population divided by the area (e.g., square miles) for which the population was measured.

Purchased Transportation - Transportation service provided to a public transit agency or governmental unit from a public or private transportation provider based on a written contract. Granting a transportation provider permission to operate certain services through a franchise or license does not, in itself, constitute purchased transportation. Also, management services contracts, in which all or some personnel or services are provided to manage or operate the transit agency, are not purchased transportation.

Transit Property - All facilities which are directly controlled by a transit agency or provided to a transit agency for its use. This includes stations, rights-of-way, bus stops, and maintenance facilities.

Transit Property Damage - The dollar amount required to repair or replace transit property damaged during an incident.

Vehicle Miles - The total number of miles traveled by transit vehicles. Commuter rail, heavy rail, and light rail report individual car miles rather than train miles for vehicle miles.

TRANSIT MODE DEFINITIONS

AG - Automated Guideway Consists of one or more automatically controlled vehicles operating on an exclusive guideway.

CC - Cable Car Streetcar type of vehicles operating by means of an attachment to a moving cable located below the street surface and powered by engines or motors at a central location not on board the vehicle.

CR - Commuter Rail Urban passenger train service for local short-distance travel between a central city and suburbs. Commuter rail does not include heavy rail or light rail service. Service of a predominantly intercity nature is excluded, except where a local portion is operated under public agency contract for commuter purposes.

DR - Demand Response Personal transit service operated on roadways providing service on demand. Vehicles are normally dispatched, and used exclusively for this service.

FB - Ferryboat Vessels carrying passengers and/or vehicles over a body of water. The vessels are generally steam- or diesel-powered conventional ferry vessels.

HR - Heavy Rail (Rapid Rail) Transit service using rail cars powered by electricity, which are usually drawn from a third rail and usually operated on exclusive rights-of-way. It generally uses longer trains and has longer spacing between stations than light rail.

IP - Inclined Plane Special tramway type of vehicles operating up and down slopes on rails via a cable mechanism so that passenger seats remain horizontal while the undercarriage (truck) is angled parallel to the slope.

JT - Jitney Passenger cars or vans operating on fixed routes (sometimes with minor deviations) as demand warrants without fixed schedules or fixed stops.

LR - Light Rail (Streetcar) Urban transit which uses predominantly reserved but not always grade-separated rights-of-way. Electrically powered rail vehicles operate alone or in trains.

MB - Motor Bus Rubber-tired passenger vehicles that operate on roadways. Motor bus service implies fixed routes and schedules. SAMIS presents motor bus data in three categories. This is done to reflect the differences in operating environments and traffic mix, and to allow meaningful comparison between the motor buses and other transit modes. The categories in TSASS are determined by the size of an agency's fleet. They are:

- **LMB** - Large Motor Bus, more than 500 buses.
- **MMB** - Medium Motor Bus, between 100 and 500 buses.
- **SMB** - Small Motor Bus, fewer than 100 buses.

TB - Trolley Bus Rubber-tired passenger vehicles operating singly on city streets. Trolley buses are driven electrically with the power being drawn from an overhead catenary. The data for trolley buses are combined with the Motor Bus data.

VP - Vanpool Public-sponsored commuter service operating under prearranged schedules for pre-formed groups of riders in 8- to 18-seat vehicles. Drivers are also commuters who receive little or no compensation besides free transportation and use of the vehicle during off-hours.

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Transit modes whose statistics are insignificant when compared with other modes are addressed in an abbreviated fashion. They are Cable Car (CC), Ferryboat (FB), Inclined Plane (IP), and Jitney (JT). Detailed statistics are available on request. Monorail (MO), Publico (PB), Aerial Tramway (TR), and Other (OR) modes had no reportable incidents.

Appendix - Glossary

[The following text is extremely faint and largely illegible, appearing to be a glossary or list of definitions for transit-related terms.]