

Economic Incentives to Florida Cities: Conflict of Interest and Needed Strategies in Reducing Florida's High Crash and Fatality Rates

Barbara Langland-Orban, Ph.D., MSPH
Seena Salyani, MHA, MBA
Etienne E. Pracht, Ph.D.

ABSTRACT

Half of the ten metropolitan areas in the U.S. with the highest traffic fatality rates are in Florida. Crashes and fatalities are reduced through engineering, education and enforcement. Florida's road infrastructure (engineering) requires a significant investment due to decades of population growth. This study analyzes the economic incentives given to police officers in Florida cities to use traffic citations (enforcement), in the absence of incentives for engineering or education to prevent crashes and injuries. Florida's high traffic fatality cities and counties are analyzed to assess the impact of citations on traffic crashes and automobile insurance premiums. In Florida, police pensions in participating cities receive a premium tax on automobile insurance policies written within city limits. A 1999 amendment to Florida law requires that increased premium tax collections must fund "extra" police pension benefits. Consequently, city police officers financially benefit when automobile insurance premiums increase from increased crash and/or citation rates. The automobile insurance premium taxes disbursed to Florida city police pension funds increased from \$42.1 million in 1999 to \$61.5 million in 2003. A chi-square goodness of fit test indicates that the growth rate of the premium tax revenues increased significantly following the 1999 amendment ($p < 0.001$). Florida city residents paid 46 percent more (\$2.3 billion) for automobile insurance in 2003 than 1999. Analysis of Florida's high traffic fatality cities (Fort Lauderdale Jacksonville, Miami, Orlando, Tampa, and St. Petersburg) indicates that automobile insurance premiums per 1000 population substantially increased in each city after the "extra" benefits legislation was passed. Crash rates remained high from 1999 to 2003 and increased in three of the six cities. The relationship between traffic citations and crashes was analyzed for Florida's high traffic fatality metropolitan counties (Broward, Duval, Hillsborough, Orange, Palm Beach, and Pinellas counties). From 1997 to 2003, traffic citations increased in five of these six high fatality counties. However, statistical analysis did not identify a relationship with crashes, such that changes in the number of citations written did not have a statistical relationship to changes in traffic crashes, i.e., traffic citations did not reduce crash rates. Thus, citations increase insurance rates in the absence of reducing crash rates. The amended Florida law creates a conflict of interest since police officers financially benefit from increased citations and crashes, and insurance companies benefit as well. The public choice theory of economics is used to explain why special interests can take precedence over public interests. Economic incentives should be realigned to eliminate perverse conflicts of interest and reward reductions in traffic crash, injury and fatality rates through effective prevention methods, which include roadway infrastructure improvements.

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Introduction

In 2003, 3,169 people died in Florida traffic crashes. Florida had 18.6 traffic fatalities per 100,000 population and 1.71 fatalities per 100 million vehicle miles traveled. National averages were much lower at, respectively, 14.7 and 1.48 (National Highway Safety and Traffic Administration, 2003).

Florida has five of the 10 metropolitan areas with the highest urban traffic fatality rates in the nation. In 2000 and 2001, the Orlando area (Orange County) led the nation with 17.2 traffic fatalities per 100,000 population. The Tampa-St. Petersburg area (Hillsborough and Pinellas counties) ranked second, Palm Beach County third, Jacksonville area (Duval County) eighth, and Fort Lauderdale area (Broward County) ninth (The Road Information Program, 2001; Lush, 2002). Orange, Hillsborough, Palm Beach, and Broward counties had the highest number of alcohol-related traffic fatalities in Florida (National Highway Safety and Traffic Administration, 2003)

In 2003, Florida had four of the top ten cities with highest traffic fatality rates - Orlando,

Jacksonville, Miami, and Tampa (National Highway Safety and Traffic Administration Research and Development, 2003). Further, Florida has five of the top ten cities with the highest pedestrian fatality rates. Miami and Tampa ranked first and second. Clearwater, Ft. Lauderdale, and Orlando ranked seventh, eighth and ninth respectively (Shankar, 2004).

Florida had a disproportionate percent of pedestrian and intersection traffic fatalities in 2003. Florida pedestrian fatalities accounted for 16% of all traffic fatalities, whereas the national average was 11%. Approximately 33% of Florida traffic fatalities occurred at intersections, compared to the national average of 21%. Only 17% of Florida fatal crashes resulted from speeding in comparison to 31% nationally, and 41% were alcohol-related, whereas the national rate was 46%. More than 18% of Florida fatalities were attributed to lack of motorcycle helmet use (83 fatalities) and lack of safety belt use - 494 fatalities (National Highway Safety and Traffic Administration, 2003). Florida did not require

helmet use or have a primary safety belt law. The latter became effective for persons under 18 on July 1, 2005.

Florida's 268 traffic fatalities among elderly drivers were the highest among all states in 2001. Florida had a 70% increase in the number of older drivers killed in traffic crashes from 1991 to 2001 whereas the national average increased by 27% (The Road Information Program, 2003).

Traffic crashes and fatalities are reduced using a comprehensive approach through 3Es – engineering, education and enforcement. Law enforcement officers can engage in prevention, education and enforcement. Research concludes that drivers operate more conservatively for some period of time after observing a marked police car, so deployment of highly visible marked police cars can promote more conservative driving. Officers can make traffic stops when drivers violate a traffic law, and can then choose to write or not write a citation. Some law enforcement agencies use written warning systems to track drivers who violate laws but are not given citations. This system allows for educating drivers in the absence of fines and insurance increases, but also permits identifying repeat offenders. Officers can also write citations when traffic law violations occur.

Some law enforcement personnel believe that increasing citations will reduce crash rates. For example, in 2000, Tampa's police chief and aide wrote the following statement: "*The best remedy for aggressive driving and crash prevention is traffic law enforcement. This is not only the local philosophy, but one which is nationwide*" (Bennett & Holder, 2000). Certain types of citations, such as driving under the influence and safety belt violations, have obvious potential to reduce crashes and/or injuries.

A second motivation for citations also exists. Nationally, some municipalities use traffic citations to increase revenues, which they perceive as favorable to increasing taxes. As such, law enforcement officers are reported to hide or disguise themselves to increase opportunities to write citations and target traffic violators (Story, 2004). Thus, citations can serve a public safety and/or revenue generation purpose.

Traffic Citation Economics and "Extra" Police Pension Benefits

Florida's penalty for most non-criminal moving violations, such as running a stop sign, is \$117.50. Fines are higher for speeding and school or construction zone violations. A city would collect \$23.11 of the \$117.50 penalty. Collections are higher for the larger fines (Compton, 2004).

Insurance companies typically request a three year driving history when renewing automobile insurance. However they can request a seven year

history (Consumer Advocate System, 2005). Consequently, in addition to fines, a traffic citation can result in an automobile insurance surcharge (increase) for three to seven years.

In recent years, automobile insurers have developed sophisticated "pricing tools" to determine premium prices. The new tools resulted in higher premium prices for drivers and higher profits for insurance companies (Oster, 2004). Insurance companies determine premiums by estimating the funds needed to pay for claims, administration, and profit. An automobile insurance premium is determined by a driver's age, sex, and marital status, as well as the model of cars, accidents, claims, traffic citations, and territory. Territories that have higher or lower loss records (claims) will have higher or lower premiums accordingly. Thus, when the local crash rate is high, automobile insurance rates for all residents are higher regardless of driving history. In addition, policyholders are assigned an underwriting category based on the driver's history of accidents and citations, resulting in discounts of 15% and mark-ups of 35% to 75% (The Kiplinger Washington Editors, Inc, 2003)

Florida law authorizes participating cities to receive a 0.85% premium tax on the gross amount of all casualty insurance premiums collected within a municipality (Florida Statutes, 2003). The police pension fund receives the automobile insurance tax whereas the firefighter's pension fund receives the tax on property insurance. The police premium tax was established in 1953 to encourage the development of police retirement funds in Florida cities (Florida Department of Management Services, 2003). The premium tax that accrues to a city's police pension fund represents 0.85% of total automobile insurance policy premiums, such that each tax dollar collected represents \$117.65 paid for insurance by policy holders in the city limits (calculated as $1.00 / 0.0085 = \$117.65$).

A 1999 amendment to Florida law requires that any amount exceeding the premium tax collected for the 1997 year must be used to fund "extra benefits." Extra benefits must be greater than those given to general employees and in addition to benefits provided prior to the effective date. A city's police pension fund will collect more premium tax revenues from increases in population, claims, and citations.

Reducing Traffic Crashes and Injuries

Roadway (engineering) infrastructure improvements are an important method to reduce traffic crash and fatality rates since they reduce the probability of driver error. In the 1950s, strategies to reduce traffic crashes in the U.S. emphasized reducing driver errors through traffic law enforcement and driver education. This emphasis

was replaced by a more pragmatic prevention approach that recognized all drivers can make mistakes. Subsequently, traffic fatalities decreased by 75% from reducing the probability of driver error and injury through improved roadways, safer cars, and emergency medical services. Emphasis was placed on what caused the crash or injury rather than who caused the crash (Hemenway, 2002). The Centers for Disease Control and Prevention recognized motor vehicle safety as one of the ten great public health achievements of the 20th century (Centers for Disease Control and Prevention, 1999).

Table 1 provides statistics on fatality rate reductions from specific road improvements (The Road Information Program, 2004). In addition, certain improvements are recommended to reduce hazards for older drivers.

Table 1. Reduction in Traffic Fatality Rates from Road Improvements

Road Improvement	Reduction in Fatality Rate in Percent
Constructing median for traffic separation	73
Realign roadway	66
Sight distance improvements	56
New traffic signals	53
Turning lanes and traffic channelization	47
Widen or improve shoulder	22

Some driving decisions become more difficult for older drivers due to deteriorating eyesight, reaction time, and cognitive abilities. This situation indicates a need for adding pavement markings and overhead indicators for turning lanes, using larger lettering on signage, improving lighting, widening lanes, and installing longer merge lanes (The Road Information Program, 2003).

Staff at the Advocates for Highway and Auto Safety commented on dangerous roads, as follows. *“They have severe curves so that they have poor sight distance. They have narrow lanes, and all you have to do is just to depart that lane a couple of feet and you're into an extremely hostile territory. There is no margin for error on those roads.”* NBC News identified Florida’s highway US-19 as topping the list of most dangerous roads, as noted below.

Billy wasn't drunk, wasn't doing anything reckless, wasn't doing anything careless. He was just walking along the edge of the road. That was enough.

Take one family's grief and multiply it by 100. That's how many pedestrians have been hit and killed on Florida's US-19 in five years. It's a six-lane meat grinder running 30 miles up Florida's Gulf Coast. We first visited in 2002, and found the shoulders of the road dotted with white crosses memorializing the dead. With fatalities in triple figures, US-19 is at the top of our list of dangerous roads (Dateline NBC, 2005).

US-19 does not have a sidewalk. It is estimated that Florida roads require a \$9.5 billion to \$23 billion investment due to decades of population growth in the absence of adequate infrastructure improvements (Bousquet, 2005).

Objectives and Methods

This analysis evaluates the economic incentives given to city police departments in Florida to use traffic citations and analyzes the effectiveness of traffic citations in reducing Florida’s high traffic crash and fatality rates, as well as the related impact on automobile insurance rates. The following research questions are addressed.

- Did premium taxes on automobile insurance increase at a greater rate once city police officers financially benefit from increased automobile insurance rates?
- What relationship exists between crash/citation rates and premium tax revenues in Florida’s high traffic fatality cities?
- Did traffic citations increase in Florida’s high fatality metropolitan areas?
- Does a statistical relationship exist between changes in the number of traffic citations and changes in the number of crashes?

The final question addresses whether an association exists between citations and crashes, i.e., are increases in citations associated with a declining number of crashes?

The following sections provide an analysis of Florida’s high traffic fatality cities to compare growth rates in premium tax levels before and after a 1999 amendment to Florida law that required the funding of “extra” police pension benefits from a tax on automobile insurance. Statistical testing is used to compare pre-amendment and post-amendment changes in premium tax collections and to assess whether changes in traffic citations affected crash and fatality rates in Florida’s high traffic fatality urban counties. Statistics on the premium tax and crash and fatality rates are available from the Florida Departments of Retirement Services and Highway Safety and Motor Vehicles. Two years of motorcycle law enforcement crash reports from the Tampa area (Hillsborough County) are used to analyze the percent of crash investigations that do not

result in a citation, comparing law enforcement agencies that receive and do not receive extra pension benefits from the tax on insurance.

Premium Tax Trends

Table 2 provides annual statistics (in millions) for (a) the premium tax revenues collected for all participating Florida cities from 1997 to 2003 (Florida Department of Retirement Services, 2004), (b) the automobile insurance paid by all city residents estimated by using the \$117.65 multiplier, and (c) the amount of “extra” pension benefits that must be provided to city police officers. “Extra” benefits were calculated by subtracting the 1997 premium tax total of \$41.0 million from the premium tax collected for each year. The “extra” benefits amendment was passed and became effective in 1999 so extra benefits were nonexistent in the 1997 and 1998 years.

Automobile insurance policy holders in Florida cities paid 46% more for insurance in 2003 than 1999. The insurance increase from \$4.95 billion in 1999 to \$7.240 billion in 2003 indicates residents in Florida cities paid \$2.3 billion more for automobile insurance in 2003 than 1999. A chi-square goodness of fit test indicates that the growth rate of the premium tax revenues increased significantly following the 1999 amendment ($p < 0.001$). Figure 1 shows the annual percent growth rate in the premium tax collections from 1997 to 2003.

Analysis of Florida’s High Traffic Fatality Cities

In 2003, Orlando, Jacksonville, Miami, and Tampa were listed with top ten traffic fatality rates among 150 U.S. cities. Ft. Lauderdale and St. Petersburg also had high fatality rates. Table 3 summarizes 2003 statistics for these high traffic fatality cities, including the Fatality Rate per 100,000 Population (National Highway Safety and Traffic Administration Research and Development, 2003), Crash Rate per 1000 Population, Citations per 1000 Population, and Adjusted Insurance Rate per Person. Crash rates include only major crashes that involved an injury, fatality or wrecker to remove the vehicles, and exclude minor crashes (Florida Department of Highway Safety and Motor Vehicles, 2004a). The Citation Rate is calculated using non-criminal moving violations that were written by the city police department (Florida Department of Highway Safety and Motor Vehicles, 2004b). These citations increase insurance rates. Criminal citations that result in arrests, non-moving violations that do not increase insurance rates, and citations written by other agencies are excluded. The Adjusted Insurance per Person statistic was calculated by multiplying the automobile insurance premium tax collections for each city by the \$117.65 multiplier, and then dividing by the city population total, and then dividing by the

Florida price level index (Florida Statistical Abstract, 2004) to adjust for differences in cost of living. Population statistics were used since the number of licensed drivers by city was unavailable. The six cities’ traffic fatality rates of 13.73 to 15.55 per 100,000 population are significantly higher than other U.S. cities, many of which achieve rates of 4 to 8 fatalities per 100,000 population.

Insurance rates are primarily influenced by: (a) the crash rate, which is a proxy for property and injury claims, and (b) the citation rate, which creates multi-year insurance increases. Orlando’s insurance rate does not follow this pattern. However, their tourism rate is three to four times higher than the other five cities so rental car insurance would increase their total premium tax collections. Jacksonville is a consolidated municipality so a citation rate could not be calculated that is comparable to the other cities.

The two cities with the lowest crash rates, Jacksonville and St. Petersburg, had the lowest insurance rates. Citation surcharges are assessed as a percent of the premium so lower crash rates result in a lower surcharge from a citation. St. Petersburg also had the lowest traffic citation rate.

Figure 2 provides trends in crashes per 1000 population from 1999 to 2003 years for Florida’s high traffic fatality cities. Since 1999, crash rates per 1000 population increased in Miami, St. Petersburg and Tampa. Crash rates per 1000 population decreased in Ft. Lauderdale and Orlando. However the rates are now similar to ones in Miami. Jacksonville’s crash rate increased somewhat through 2002, and then decreased in 2003.

Although Tampa had the highest crash rate from 2000 to 2003, insurance rates in Miami and Ft. Lauderdale were higher, possibly due to their higher traffic citation rates. Whereas Miami and Ft. Lauderdale had similar crash rates, Miami’s higher insurance rate might reflect the significantly higher citation rate.

Table 4 summarizes the average percent annual changes in premium tax revenues from 1996 to 1999, the pre-amendment period, with the average annual change from 2000 to 2003, the time period following the amendment (Florida Department of Management Services, 2003). The Annual Rate Increase per 1000 Population provides the annual insurance premium increase (adjusted by city population) for the four years prior to the “extra benefits” legislation and the four years subsequent to the legislation. Annual automobile insurance premium increases were relatively modest from 1996 to 1999, and annually averaged 2.5 to 23 times greater in 2000-2003. The large premium increases from 2000 to 2003 reflect insurance company assumptions about each city’s increased risk for claims.

Table 2. Premium Taxes, Insurance and "Extra" Benefits for Florida Cities, 1997 to 2003 (in millions)

Year	Premium Tax Collected	Insurance Paid	"Extra" Benefits
1997	\$41.0	\$4,827	\$0
1998	\$41.2	\$4,849	\$0
1999	\$42.1	\$4,953	\$1.1
2000	\$43.6	\$5,129	\$2.6
2001	\$48.7	\$5,724	\$7.6
2002	\$54.6	\$6,419	\$13.5
2003	\$61.5	\$7,240	\$20.5

Figure 1. Percent Growth Rate in Premium Tax Collections from Previous Year

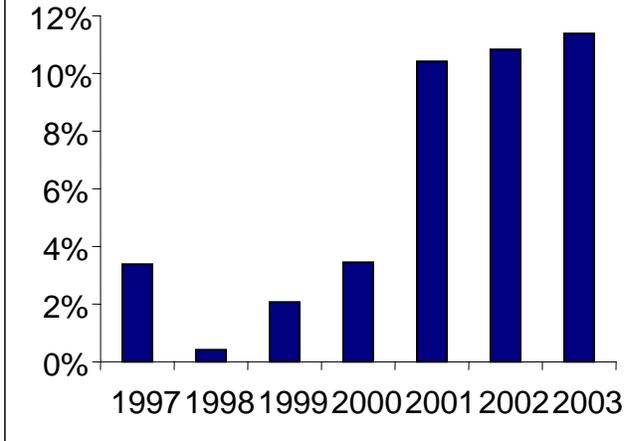


Table 3. Fatality, Crash, Citation and Insurance Rates by City, 2003

City	Fatality Rate Per 100,000	Crash Rate Per 1000	Citation Rate Per 1000	Adjusted Insurance Per Person
Orlando	15.55	26.4	128.8	\$1,821
Jacksonville	15.25	16.1	-	\$647
Miami	15.13	25.8	343.5	\$1,851
Tampa	15.11	30.0	152.2	\$1,154
Fort Lauderdale	14.73	25.1	177.8	\$1,345
St. Petersburg	13.73	16.4	96.3	\$704

Figure 2. City Crashes per 1000 Population

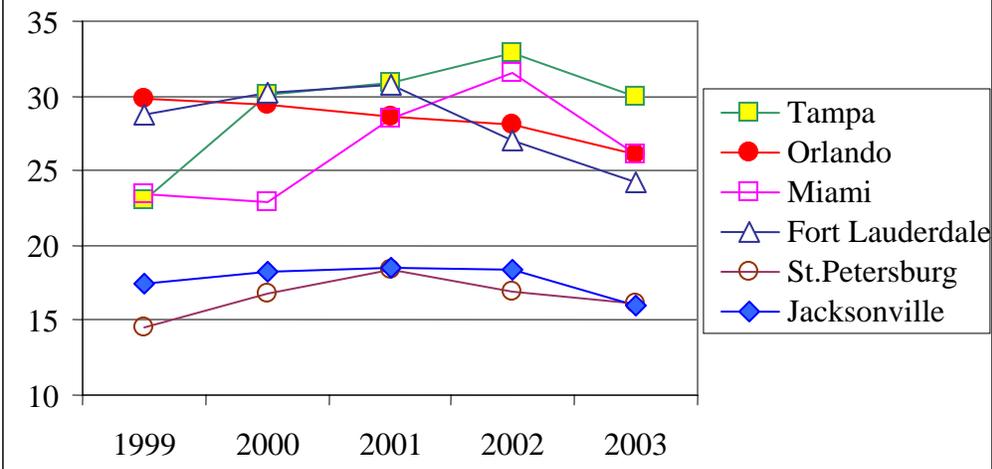


Table 4. Premium Tax Revenues by City

	Premium Tax (in thousands)		Annual Rate Increase Per 1000 Population	
	<u>1996</u>	<u>2003</u>	<u>1996-1999</u>	<u>2000-2003</u>
Ft. Lauderdale	\$1,493	\$1,984	2.0%	5.3%
Jacksonville	\$2,380	\$4,135	0.6%	13.7%
Miami	\$4,623	\$6,320	1.5%	5.6%
Orlando	\$2,022	\$3,007	3.0%	9.4%
St. Petersburg	\$1,057	\$1,490	3.4%	13.3%
Tampa	\$2,048	\$3,090	1.7%	10.3%

Table 5. Traffic Citations by county

County	1997	1998	1999	2000	2001	2002	2003	1997-2003 % Change
Ft. Lauderdale area	457,824	478,162	494,168	498,006	467,052	517,543	587,378	28.3%
Jacksonville area	212,163	198,867	240,444	270,655	289,055	317,113	307,947	45.1%
Orlando area	219,003	225,579	255,552	244,782	248,484	214,070	185,967	-15.1%
West Palm Beach area	260,167	253,878	280,250	311,323	320,358	376,252	371,944	43.0%
St. Petersburg area	128,224	138,084	143,049	147,889	180,482	184,122	180,695	40.9%
Tampa area	154,030	173,663	183,002	191,017	196,534	213,483	229,982	49.3%

Florida's High Traffic Fatality Metropolitan Counties

Florida's five areas that are in the top ten high traffic fatality metropolitan areas include six counties since the Tampa-St. Petersburg metropolitan area includes two counties. Table 5 provides total traffic citation trends for the six counties (Florida Department of Highway Safety and Motor Vehicles Florida, 2004b). Five of the six areas increased traffic citations since 1997. The exception was the Orlando area. Statewide, Florida traffic citations increased by 27.6% from 1997 to 2003 when 4.3 million were written.

To test the assumption that increasing citations would decrease crashes, a regression analysis was performed to assess the relationship between traffic citations and crashes per 100,000 population from 1997 to 2003 for Florida's six high fatality counties. The percent change in the number of citations written in all counties from the preceding year is the independent variable. The dependent variable is the corresponding percent change in crashes from all six counties. The regression test results indicate a positive correlation of 0.279 and a point estimate of 0.159 ($p=0.099$). This point suggests the increase in citations did not decrease crashes. Indeed, the correlation suggests increased citations as associated with increased crashes.

This calculation is supported by the county trends. The Orlando area crash rate decreased beginning in 2000, when citations began to decrease. Similarly, Jacksonville's crash rate increased from 1997 to 2002 when citations increased, and the crash rate decreased in 2003 when traffic citations decreased. Thus, both Jacksonville and Orlando decreased crash rates in time periods of decreasing citations, which suggests alternative strategies were used. In contrast, the St. Petersburg area increased citations, which was associated with an increased crash rate. The Tampa area (Hillsborough County) consistently had the highest traffic crash and fatality rates, and had the highest percent increase in citations. The Tampa area crash rate decreased with increasing citations from 1997 to 1999. However, the crash rate increased in 2000 and was sustained as citations continued to increase through 2003. Alternatively, Palm Beach and Ft. Lauderdale areas decreased crash rates in time periods of increasing citations. Thus, merely increasing numbers of citations does not assure reduced crash rates.

Unlike city police departments, sheriff's deputies and Florida Highway Patrol troopers do not receive benefits from automobile insurance premium tax revenues. In 2003, the city police departments in five of the six counties wrote more traffic citations than sheriff's deputies or the Florida Highway Patrol. Jacksonville was the exception; however it is a

consolidated municipality so a distinction between the city and county could not be made.

To test whether city police departments, which receive "extra" benefits from premium tax revenues, are more likely to write traffic citations than those agencies that do not receive premium taxes and extra benefits, an analysis was conducted regarding the number of citations written by each Tampa area (Hillsborough County) law enforcement agency in a two year study of helmet use in motorcycle crashes from July 1999 through June 2001. Florida law permits officers to write a citation in a crash investigation if the officer conducts a personal investigation and has reasonable and probable grounds to believe a traffic offense was committed (Florida Statutes §316.645 2004). A crash is only reported on the driving record of drivers who receive a citation following a crash. A citation related to a crash investigation can trigger two separate insurance surcharges, one for the crash and a second for the citation.

The three Hillsborough County police departments (Plant City, Tampa, and Temple Terrace) did not write citations in 23% of crash investigations. In contrast, sheriff's deputies and the Florida Highway Patrol did not write citations in 57% of crash investigations. The subtotals for the number of crash reports with citation(s), crash reports with citation(s) pending, and crash reports without citations of the two groups were used to compute a chi-square statistic. The statistic of 86.92 is statistically significant ($p < 0.001$). Thus, law enforcement agencies that do not receive premium taxes wrote citations in a significantly lesser percent of crash investigations than agencies that receive premium tax revenues.

Discussion

The findings do not demonstrate a consistent relationship between traffic citations and crash rates. This indicates the presence of an alternative explanation for the dramatic rise in citations in most high fatality areas. The "extra" pension benefit and associated incentives for Florida city police departments emphasize traffic citations and is offered as an alternative explanation. Police departments directly control the number of traffic citations and can systematically increase the number written. For example, Tampa police added a second traffic squad in 1999 that is dedicated to writing citations, and then doubled the number of citations written by district patrol officers the following year. In 2004, they again announced citations were further increased by more than 60% in the first months relative to the previous year. (Tampa Police Traffic Unit, 2004; Wexler & Carlton, 2000; Morelli, 2004).

Why would elected officials and public administrators create incentives for traffic citations and auto insurance increases, while failing to address more effective ways to prevent crashes and injuries, such as needed roadway infrastructure? Two theories are generally used to explain the decisions of elected officials. Public interest theory suggests that legislators enact policies that are designed to promote the greater good of society. Alternatively, special interest theory suggests that elected officials and public administrators act to promote legislation that benefits specific groups, as opposed to the general public. The success of special interest groups to affect policy depends on the structure of the group, the cost of organization, the resources available to that group, and the disposition of potential opposing groups. In this case, the latter consists of drivers, which consist of disparate groups without the prospect of organization, therefore ruling out the possibility of effective monitoring of policies that affect them indirectly. Elected officials and public administrators appear to be captured by special interests due to their influence.

Increasing traffic citations and/or failing to reduce crash rates ultimately require individuals to spend more on automobile insurance. The 1999 amendment benefits automobile insurance companies by creating a financial incentive for police officers to write more traffic citations, which increases revenues in the absence of additional insurance company expense. The public choice theory of special interest suggests that the benefits that accrue to specific groups (automobile insurance companies and police departments and unions) take precedent over the general public's interests.

Insurance industry interests were further advanced in 2005 Florida legislation that increased driving record points from three to four points for red light running citations. The fine for a red light running citation was increased to provide funding for trauma centers, in addition to the additional point on the driving record that can create a higher insurance increase. The legislative analysis identified the impact to the private sector as "*four points assessed on the driving record, which could result in ...higher insurance premiums*" (Florida House of Representative Staff Analysis, 2005). The legislative analysis did not forecast reductions in crashes or injuries. Red light running is an odd focus for two reasons. First, five contributing causes account for 90% of Florida's traffic fatalities in 2003. The five did *not* include traffic signal violations (red light running). Second, red light running is best controlled by increasing the length of yellow light timings. A spokesperson for the National Motorists Association reported that many red-light violations are caused by engineering problems, such as overly short yellow-

light times. However, it was noted that some local governments do not change settings since they do not want to lose the citation revenue. San Diego had to cancel 5,000 red light running citations from red-light cameras (cameras that photograph drivers and their license plates and send the citation by mail) that were improperly installed, with shortened yellow lights (Editorial, *St. Petersburg Times*, 2001). The District of Columbia collected \$85 million in the first year following installation of its red-light cameras (Story, 2004).

Consistent with special interest theory, which asserts that groups that are costly to organize and inform, Florida voters do not appear to attribute their high crash and fatality rates or rising automobile insurance rates to decisions made by elected and/or law enforcement officials. Likewise, voters do not appear to hold elected officials accountable for failures to improve roads and reduce congestion and high traffic crash and fatality rates. Instead, voters often appear to believe that more traffic citations are an effective remedy, thereby assisting to advance special interests. In fact, policymakers may be misinformed about the means to reduce traffic crashes and injuries, due to the influence of special interest groups.

Conclusions

The quantitative and qualitative analyses of the high fatality rate communities conclude that a relationship does not exist between traffic citations and crashes. However, economic incentives to Florida municipalities create overemphasis on traffic citations. This emphasis is inconsistent with public health research, recommendations from the transportation sector, and quality improvement principles. Municipalities should systematically analyze the root cause of crashes and resolve high crash and high traffic fatality locations through indicated infrastructure improvements and alternative law enforcement techniques, such as using police cars as pace cars to prevent speeding and remaining highly visible to promote safe driving.

The current economic incentives are perverse since high crash, claim and citation rates increase "extra" police pension benefits. Policymakers should eliminate this incentive and support initiatives that reward municipalities for adopting effective traffic safety strategies to prevent crashes and injuries. The public choice theory concludes that elected officials will respond to voter concerns in order to maintain elected positions. The challenge for public health advocates and the general public is to organize efforts that advance effective practices to direct resources toward reducing Florida's high traffic crash and fatality rates.

Further research is indicated to analyze root causes of Florida crashes and identify opportunities to reduce crashes and injuries. The need for further research is implied to determine whether law enforcement practices to disguise or use unmarked vehicles, which do not impact driver behavior similar to marked vehicles, is effective in reducing crash rates. Finally, research is indicated on whether the one point increase in red light running violations results in police departments increasing the number of red light running citations.

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Barbara Langland-Orban (borban@hsc.usf.edu) is Associate Professor and Chair, Department of Health Policy and Management, University of South Florida College of Public Health, Tampa, FL. Seena Salyani (ssalyani@hsc.usf.edu) is Manager, Organizational Effectiveness, University of South Florida Health Sciences Center, Tampa, FL. Etienne E. Pracht (epracht@hsc.usf.edu) is Assistant Professor, Department of Health Policy and Management, University of South Florida College of Public Health, Tampa, FL. This paper was submitted to the *FPHR* on May 18, 2005, reviewed and revised, and accepted for publication on July 8, 2005. Copyright 2005 by the *Florida Public Health Review*.