

The West Texas Violence Index



The Roots of Violence: Wealth without work, Pleasure without conscience, Knowledge without character, Commerce without morality, Science without humanity, Worship without sacrifice, Politics without principles ~ Mohandas Gandhi

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The West Texas Violence Index

Introduction

Every day, the media tells us about some type of violence affecting America's populace. We read, for example, about the shooting death of teenager Trayvon Martin in Florida, the lives lost during a shooting spree in an Aurora, Colorado movie theater, and the slaying of 20 students and 6 adults in an elementary school in Connecticut. Accounts of violence, it seems, continue to dominate the headlines.

Texans also encounter violence on a daily basis. For instance, in 2010 there were over 4,200 violent criminal acts for every 100,000 people residing in the state. More specifically, Houston recorded over 6,000 violent criminal acts per 100,000 people residing within its city limits. During the same year and closer to home, San Angelo recorded over 4,800 violent criminal acts per 100,000 people residing in the city. As you can see, violent criminal acts affect all of us whether we live in a large metropolitan city or a West Texas rural community.

Analyzing the seven types of crime that make up the Federal Bureau of Investigation's Uniform Crime Report (UCR), is one way to examine the extent of violence in a community. Crime though is not the only way to measure violence. The impact of motor vehicular fatalities, child and elder abuse, and suicides, for example, are other ways to determine the extent of violence.

Data Collection

Cognizant of this, we collected data for 16 indicators of violence from several state agencies including the Texas Department of Public Safety, the Texas Department of Family and Protective Services and the Texas Department of State Health Services. We used indicator data to create the *West Texas Violence Index (WTVI)*. The *WTVI* measures and compares the level of violence in San Angelo and three comparable West Texas cities: Abilene, Midland, and Odessa. (Note: for some indicators we used the county level data associated with these cities). We also collected statewide data so that we could compare other Texas locations with our region.

Problems of interpretation and comparison arise when agencies do not report numbers in the form of rates or ratios. For example, if the Texas Education Agency tells us there were 6,660 reported disciplinary acts in San Angelo schools in 2010, how do we compare this to the 2,414,808 reported across Texas that year? Our school district's number seems very small compared to the state overall. Therefore, for some indicators we converted raw numbers into rates per 1,000 or 100,000 people living in the communities as a way to enhance comparison across the communities and the state.

After we collected and converted the raw data, we grouped the indicators into the following domains.

Interpersonal	Intrapersonal	Family Violence	Juvenile Violence
Murder	*Suicide	*Child Abuse	*Juvenile Violence
Rape	*Vehicular Deaths	Domestic Violence	*Teen Deaths
Robbery	*Accidental Poisonings	*Elder Abuse	School Discipline
Aggravated Assault			
Burglary			
Larceny			
Auto Theft			
* County-level data			

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The *WTVI* examines and compares the level of violence in the communities in three ways. First, for each index, we calculated ratios by subtracting the worst value within the locations from the best value within the locations. Next, we subtracted the worst value within the locations from the actual value for each location. The difference is a numerator that we divided by the difference between the best and worst values. This methodology produced indicator scores ranging from zero to one for each location. A community with higher scores indicates that it has fewer acts of violence than do communities with lower scores.

Overall Indicators

Area	Midland	Texas	Odessa	San Angelo	Abilene
Interpersonal Index	100	49	54	0	10
Intrapersonal Index	43	100	0	69	76
Family Index	100	66	0	20	5
Juvenile Index	11	31	0	100	43
Overall Index	100	57	12	11	0
Rank	1	2	3	4	5

Table 1 reflects several interesting bits of information about the overall level

of violence in the locations we examined. For starters, the Midland area has the *best* record for addressing violence as indicated by the index score of 100 on the 16 indicators making up the *WTVI*. In addition, the area attained the top ranking in two of four domain indices. The Abilene area had the lowest overall ranking (Score = zero).

Of further interest is the fact, that, collectively, no area had fewer suicides, motor vehicle fatalities, and fatal poisonings, as did other locales across Texas (Intrapersonal Index).

Two index scores stand out when looking at the San Angelo area. First, the more positive result is the fact that the area outpaced the other locations when addressing juvenile violence (Score = 100). On the other hand, San Angelo had the lowest ranking

(zero) for the Interpersonal Index that measured indicators making up the UCR such as murder, rape, and aggravated assault. Furthermore, the San Angelo area ranked fourth overall, 11 points higher than the Abilene area.

Interpersonal Index

City	Midland	Odessa	Texas	Abilene	San Angelo
Murder	82	51	0	41	100
Rape	65	82	100	0	22
Robbery	93	47	0	46	100
Assault	80	0	76	63	100
Burglary	99	100	70	0	7
Larceny	100	84	69	37	0
Auto Theft	100	61	0	85	72
Index Score	100	54	49	10	0
Rank	1	2	3	4	5

Table 2 depicts city scores on the seven UCR indicators that make up the interpersonal index. The table shows that Midland had the lowest number of overall UCR crimes as indicated by the index score of 100. As we previously stated, San Angelo had the overall lowest

score (zero).

A careful look at the individual indicators also shows that Midland ranked first or second for six of the seven individual indicators. San Angelo and Odessa ranked first or second for three of the indicators, while Abilene only reached such status for the auto theft indicator.

The table depicts some interesting results for San Angelo. The city outpaced the other locations in three indicators: murder, robbery, and aggravated assaults. On the other hand, San Angelo trailed the other locations in the number of larcenies reported in 2010 and the overall number of index crimes per 100,000 residents.

Intrapersonal Index

Table 3 shows that the counties in our region experienced more suicides, vehicular deaths, and fatal poisonings, than did other Texas counties. The table also shows that Taylor County, despite having the highest number of suicides per 100,000 residents, also had the highest overall ranking in our region (Score = 76). Ector County, on the

County	Texas	Taylor	Tom Green	Midland	Ector
Suicide	39	0	13	58	100
Vehicle Death	100	95	85	38	0
Poison	100	94	85	78	0
Index Score	100	76	69	43	0
Rank	1	2	3	4	5

other hand, had the lowest ranking with a score

of zero.

Despite having one of the higher suicide rates amongst the other locales, Tom Green's vehicle traffic deaths and deaths by poisoning were 85 percent lower than the rates in Ector County, the county with the highest rates for these indicators.

Family Violence Index

Table 4 shows the Midland area outranking the other locations for each indicator and the overall domain.

Area	Midland	Texas	San Angelo	Abilene	Odessa
Child Abuse	100	92	0	16	43
Domestic	100	66	23	7	0
Elder Abuse	100	97	0	21	75
Index Score	100	66	20	5	0
Rank	1	2	3	4	5

The table also shows that while the San Angelo area had a higher index score (20) than did the

Abilene area (5) and Odessa area (zero), our local area also experienced more instances of child and elder abuse than the other locations.

Juvenile Violence Index

Table 5 tells us that, collectively, the San Angelo area had fewer instances of juvenile violence than did the other locations. More specifically, in 2010, the area had fewer acts of violent crime committed by juveniles and fewer cases requiring school discipline.

Area	San Angelo	Abilene	Texas	Midland	Odessa
Violent Crime	100	50	36	5	0
Violent Deaths	73	30	86	0	100
School Discipline	100	50	21	71	0
Index Score	100	43	31	11	0
Rank	1	2	3	4	5

The Odessa area, despite having fewer violent deaths than the other locations, had the lowest

index score (zero) as the area had higher rates of teen violent crime and school discipline than the other locations did.

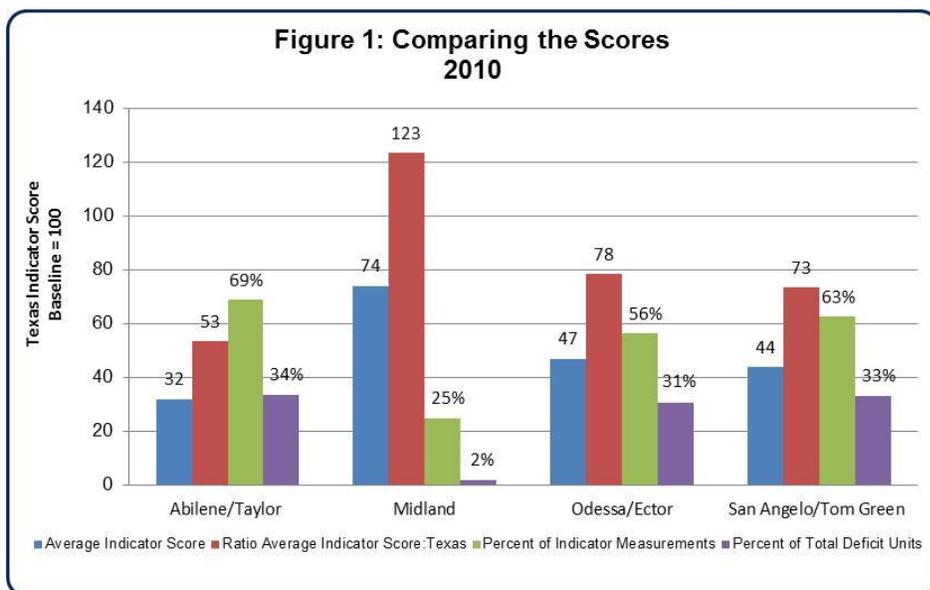
Comparing the Scores

In this section, we developed four measurements to compare the scores of our West Texas locations with each other and with the other locations across the state.

- The average indicator score for each location
- The ratio of the average indicator score for each West Texas City and their county and the average indicator score for Texas
- The percent of indicator measurements exceeding state scores
- The percent of cumulative measurement units above statewide levels (Deficit Units) compared to the percentage for the other West Texas locales

Figure 1 clearly shows that the Midland MSA and Midland County had a higher average indicator score than the other West Texas locations (74). The ratio score for the city

and county (123) also shows that they were the only locations to exceed the Texas average. In fact, they exceeded the average of other Texas locales by 23 percent.



Abilene and Taylor County were the only locations to have an overall average indicator score (32) lower than San Angelo and Tom Green County's average indicator score (44). In addition, our local community's score was 27 percentage points lower than the Texas average indicator score.

Figure 1 also shows that only 25 percent of the Midland area's indicators exceeded statewide scores. On the other hand, only 31 percent of Abilene/Taylor scores fell below statewide scores. San Angelo and Tom Green County did not fare much better as 63 percent of their indicators exceeded statewide scores.

We calculated the *deficit units* by summing the differences for West Texas indicator values that exceeded statewide indicator values. For example, the cumulative difference for Abilene and Taylor County indicators that exceeded statewide values was 1617 units. We then scored the deficits for each location as a percentage of the total number of deficit units for the region. This measurement allows us to compare the cities and counties with each other and Texas at the same time.

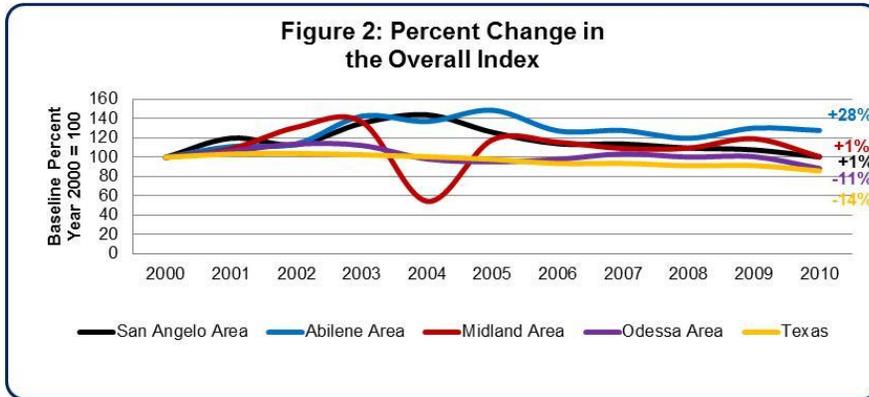
Figure 1 shows us those cumulative deficit units for the Midland area make up only two percent of the West Texas units. Thus, compared to the state and the other locations in our region, Midland has experienced relatively low incidences of violence.

Looking at Change over the Decade

For our last method, we used the year 2000 as the baseline year to create a 100-point scale to score each location's raw numbers. (Note that the baseline value for each indicator for year 2000 is 100). For the other years, we computed the score for each indicator as a percentage of the indicator's 2000-baseline value of 100. This method allows us to examine and compare change for each indicator by location for any given year from 2000 to 2010 the last year of available data for all but one of the 16 indicators we used to measure violence. A strong point of this measurement method is the fact

that it goes beyond a specific instance by reviewing change over time. It also gives us a way to evaluate a location's progress when addressing violence in their community.

Overall Index Change

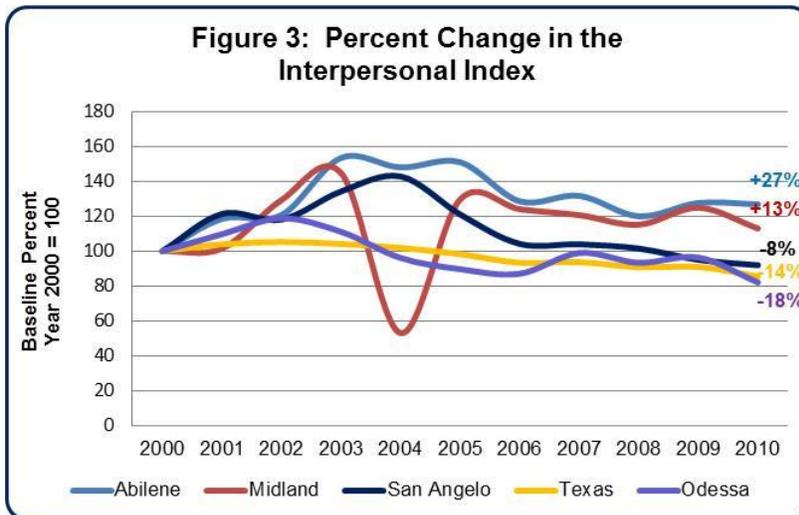


In 2010, the Abilene area experienced almost 6,700 violence related events per 100,000 residents. This represents a 28 percent increase in overall acts of violence during the first decade of the century for the two locations. This increase is 27 percentage points

higher than the Midland area and the San Angelo area, the other locations recording an increase in the indicators from 2000 to 2010. Cities and counties across the state saw an overall decrease of 14 percent.

Interpersonal Index Change

Figure 3 presents the overall percent change in the UCR indicators. Overall, Abilene (27%) and Midland (13%) were the only locations to record increases in the UCR crime rates.

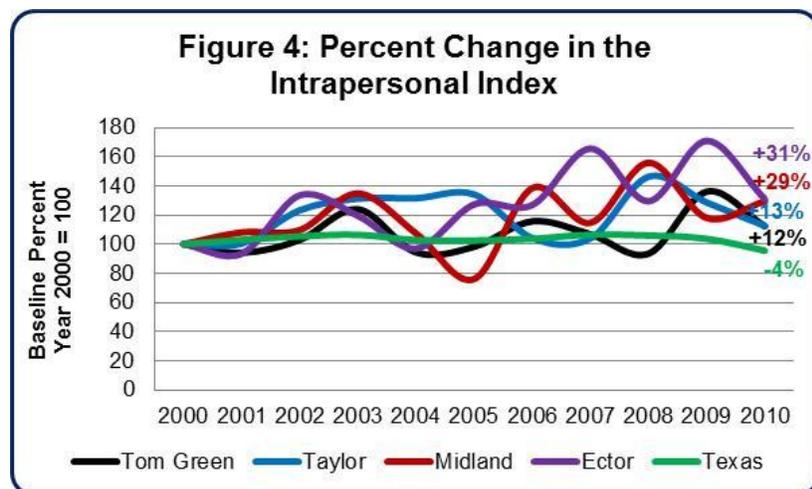


On the local level, although San Angelo recorded an eight percent decrease in the overall number of index crimes per 100,000 residents since 2000, our city ranked below the other locations for the year 2010 (See Table 2). Specifically, the larceny rate (3,208 larcenies per 100,000 residents) was more than 600 larcenies per 100,000 than the state rate. In addition, San Angelo had more than 1,150 index

crimes per 100,000 than did Midland, the city with the lowest overall rate of UCR crimes in 2010.

Intrapersonal Index Change

Counties across the state recorded a four percent reduction in the indicators making up the Intrapersonal Index. On the other hand, each county in our region saw an increase



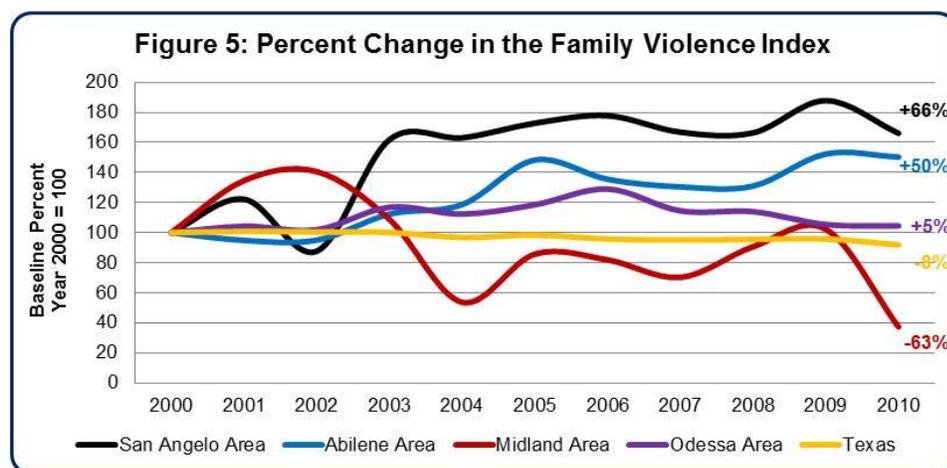
in the cumulative intrapersonal rate since 2000 with Ector County (31%) and Midland County (29%) recording the greatest increases. Tom Green County (12%) and Taylor County (13%) experienced relatively modest increases for the domain indicators.

While Ector County had the lowest suicide rate (6.8 suicides per 100,000) in

2010, the vehicle fatality rate for the County was 128 percent higher than the rate for Texas. Midland County's vehicle fatality rate exceeded the state rate by 79 percent.

Family Violence Index Change

Figure 5 paints a gloomy picture for San Angelo and Tom Green County. The figure shows that the locations experienced a 66 percent increase in the family violence indicators from 2000 to 2010. The picture for the Midland MSA and County, on the other hand, is much brighter as these locations realized a 63 percent reduction over the



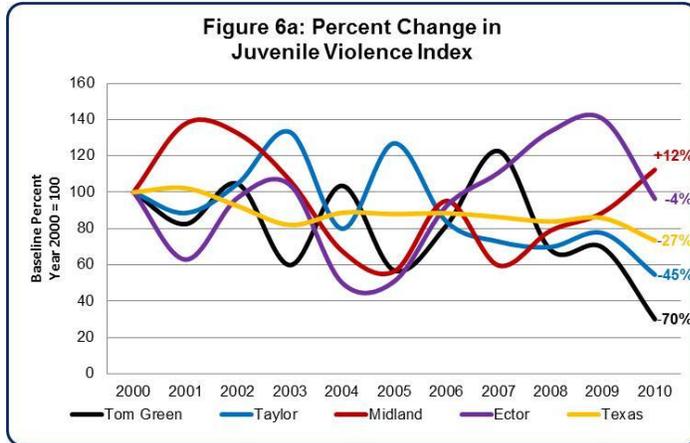
ten-year period. Thus, there is a difference of 129 percentage points between the locations.

Looking closer, Tom Green County experienced a 138 percent increase in the number of confirmed child

abuse cases per 1,000 children under the age of 18 in Tom Green County. Our county also saw the number of elder abuse cases per 1,000 seniors increase by 39 percent.

Juvenile Violence Index Change

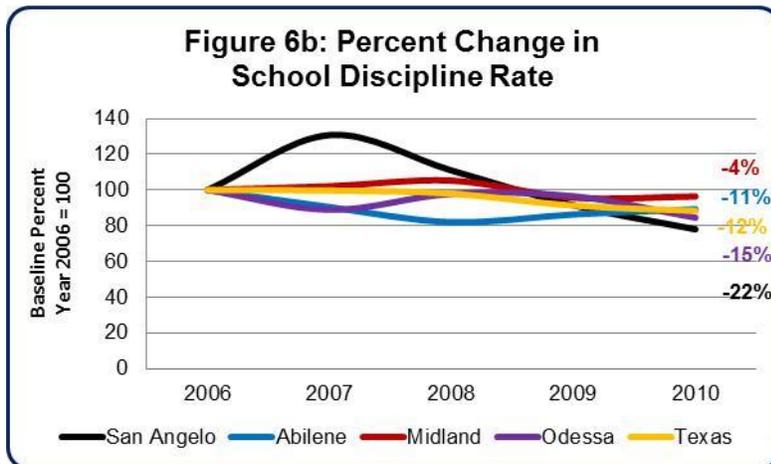
School discipline actions are one of the indicators we included in the Juvenile Violence domain. However, unlike the other domain indicators data is only available from 2006. Therefore, we constructed Figure 6a to depict the percent of change for the number of



violent crimes juveniles commit per 100,000 children ages 10 to 17 living in the county. We also included the violent death rate per 100,000 teens ages 15 to 19 living in the county. We also constructed Figure 6b to depict the percent change in school disciplinary actions per 1,000 students attending district schools.

As depicted in Figure 6a, Tom Green County made significant progress in addressing the rates of juvenile

crimes and violent deaths since 2000. The 70 percent reduction in the indicators is exceeds the progress other Texas counties recorded by 43 percent.



Each of the region ISDs saw decreases in the number of disciplinary acts for every 1,000 students enrolled in their schools since the Texas Education Agency began recording data in 2006. San Angelo public schools, however, made the most progress by reducing the number of disciplinary acts by 122 (22%) per every 1,000 students enrolled in district

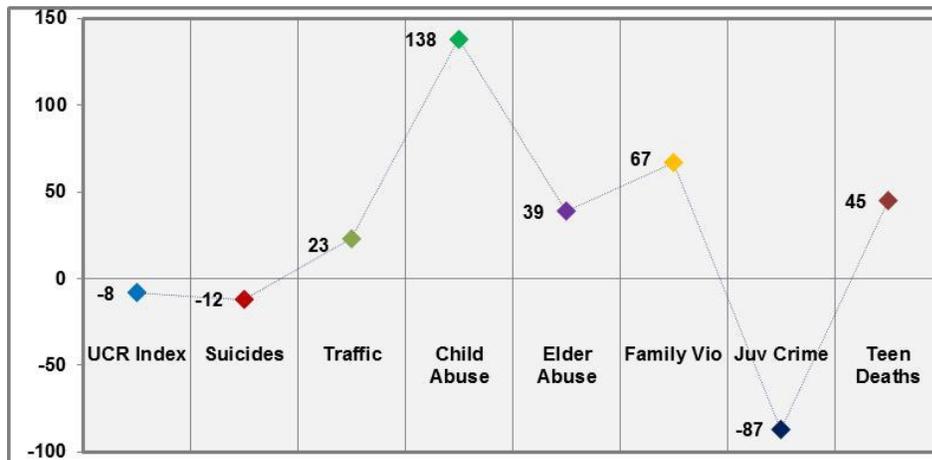
schools.

Assessing San Angelo and Tom Green County

As illustrated in Figure 7, the data we collected paints a conflicting picture of a social problem that depending on the indicator got worse over the decade. We use the word “conflicting” because there are signs of progress and regression for the various indicators.

For starters, San Angelo residents should be happy about the eight percent reduction in the number of UCR index crimes per 100,000 residents during the study period. In addition, the 43 percent decrease in the number of rapes per 100,000 residents, should heartened residents.

However, in 2010, San Angelo had a higher overall indexed crime rate than Abilene, Midland, or Odessa. More specifically, the city saw an average increase of 23 percent in the number of robberies, burglaries, and auto thefts per 100,000 residents. These



results tend to diminish any elation associated with the eight percent decrease in the overall UCR indicators.

Figure 7 presents some other “good news” and “bad news”. From 2000 to 2010, Tom

Green County, for example, experienced a 12 percent decrease in the number of suicides per 100,000 residents. On the other hand, there was a 23 percent increase in the number of traffic fatalities per 100,000 residents for the same period. In addition, since 2000, Tom Green communities saw the juvenile violent crime rate decrease by 87 percent. At the same time, however there was a 45 percent increase in the number of violent deaths per 100,000 teens between the ages of 15 and 19.

While one can find the “good with the bad” in the above results, we cannot find much “good” in the findings associated with the family violence index. Since the year 2000, Tom Green residents saw substantial increases for the indicators that make up the family violence index. The County reported increases in confirmed child abuse cases per 1,000 children under the age of 18 (138%), elder abuse cases per 1,000 seniors (39%), and incidents of family violence per 100,000 residents (67%). These results are especially perplexing when you consider that families sustain communities.

While it is evident to us that our community has numerous civic-minded people and organizations whose efforts have enabled progress for many of the *WTVI* indicators, the declines in other measures tell us that we need to do more. We hope that public administrators and interested community organizations can use the *WTVI* to support their attempts to develop public policies, reforms, and community supports that reduce acts of violence and thus enhance the security and safety of their residents.

The West Texas Violence Index Data Sources

Texas Department of Family and Protective Services
Texas Department of Public Safety
Texas Health and Human Services Commission
Texas Department of State Health Services
Texas Education Agency

The *West Texas Violence Index* is a project of Community Development Initiatives, a community engagement program at the ASU Center for Community Wellness, Engagement, and Development



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