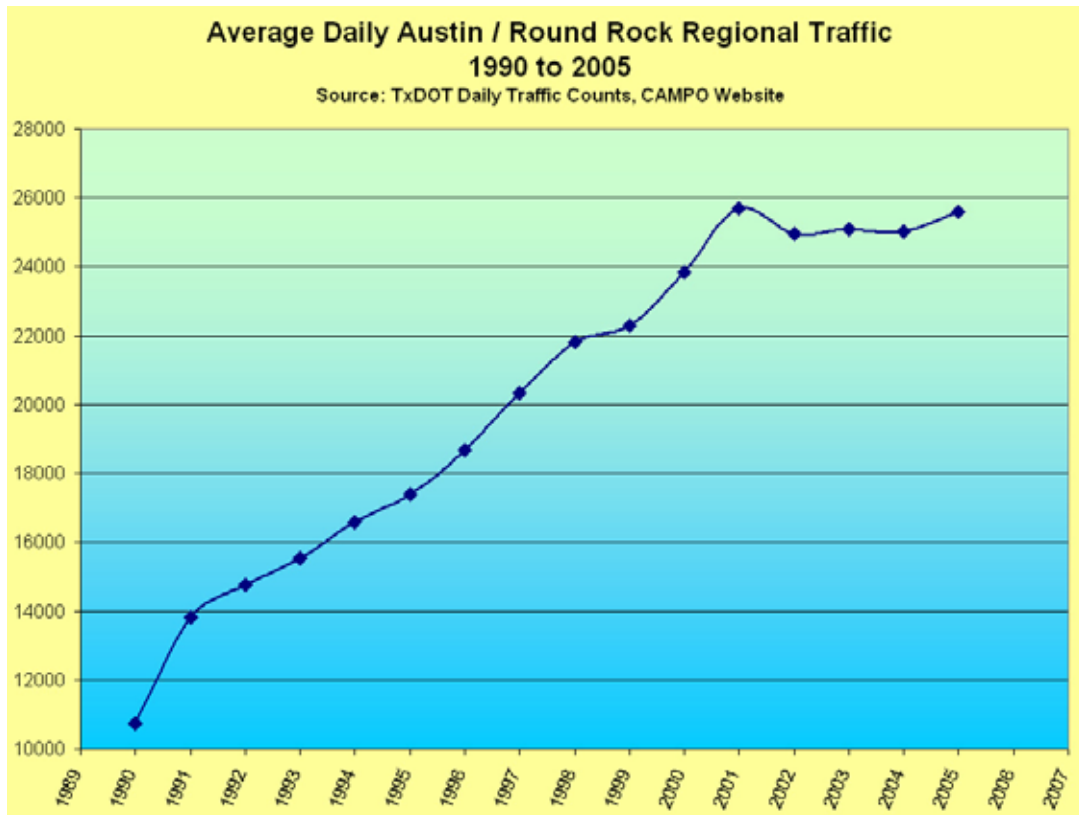


Decrease of Traffic Growth in the Austin Metropolitan Region Immediately After the Turn of the 21st Century and Implications for Transportation Planning in South and Southwest Austin



Prepared By

Bruce Melton P.E.

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MESA ENGINEERING

ENVIRONMENTALLY CONSCIOUS CIVIL ENGINEERING

8103 Kirkham Drive
Austin, Texas 78736
(512) 799-7998
Fax: (512) 288-1454



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1. Introduction

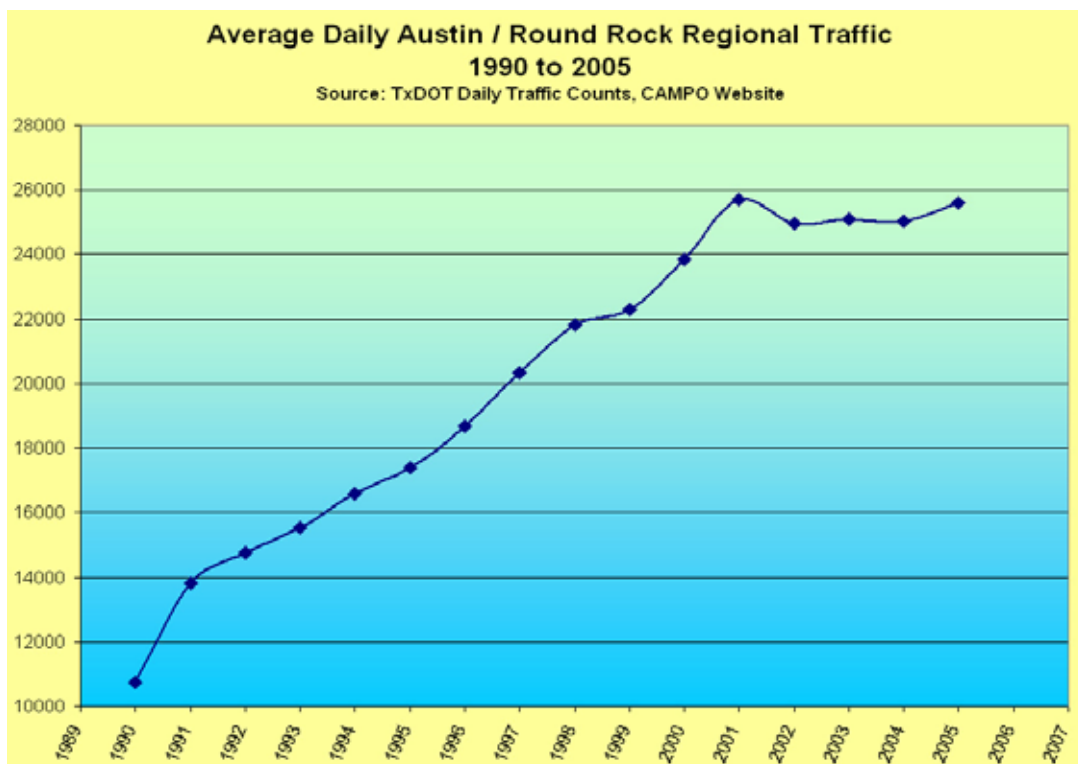
I have been a land development consultant and professional engineer in Austin since 1984. I have not seen it all, but I have seen most of it. Five years ago my volunteer community efforts led me to a counter-intuitive development statistic that I have been trying to explain ever since. I believe that I now understand the reasons why traffic volume growth has flattened in Austin since about the turn of the 21st Century, even though population growth has continued. But before I detail the traffic volume growth decline I must remind the reader:

The reason *why* traffic growth has declined is not the important issue. The important issue is that the TxDOT traffic counts very robustly show a region-wide flattening of traffic volume growth since the beginning of the twentieth century. The pattern is not related to growth or the current economic downturn but for whatever reason(s), the data represent a strong trend that should now be considered valid. This is a long-term trend and every effort should be made to understand the reasons why this trend is occurring and a good faith effort should be made to project this trend into the future using appropriate foresight.

We do not know that traffic growth will return to its former level of growth (pre-2000) where it paralleled or even outpaced population growth because: the current traffic growth patterns did not decline because of a decline in the economy or rising fuel prices.

2. TxDOT Traffic Count Data: Average Traffic Volume Growth is Flat

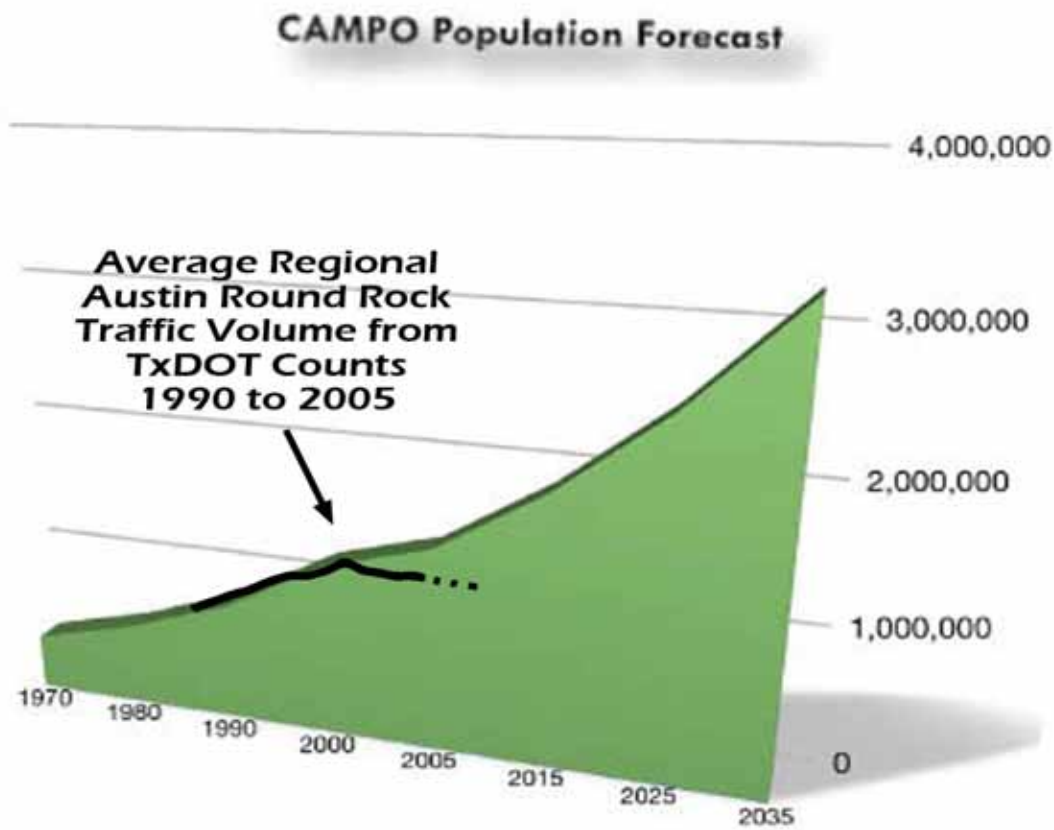
TxDOT traffic count data show a zero traffic volume increase since 2001. This “flattening” of the traffic volume growth is shown in the following graph.



The above graph was created using an average of all the TxDOT growth data combined into one average growth trend. When viewed compared to population growth, this analysis seems quite counter-intuitive. However, TxDOT data shows that just after the turn of the century traffic volume stopped growing and ceased to keep up with population growth. The reasons for this are found in numerous demographic discussion outlined at the end of this report. Various, these demographic trends include: an aging population that drives less, the “two bread winner” family driving pattern shift that began in the 1970s that is now ending, long-term dollar value decline, a shift from suburban to more urban residential housing patterns, rising fuel costs, the economic crisis and a long term environmental concerns that have seen a rigorous campaign to reduce vehicle miles traveled by combining trips and driving less.

3. CAMPO Needs Assessment / Traffic Volume Growth Comparison

The discussion of the reasons behind the changed traffic volume growth patterns are varied and academic and too much discussion here will mask the point of this report which is: Traffic volume stopped increasing about the turn of the century. The following graph is the CAMPO Needs Assessment prepared in February 2009 overlain with existing traffic volume growth.

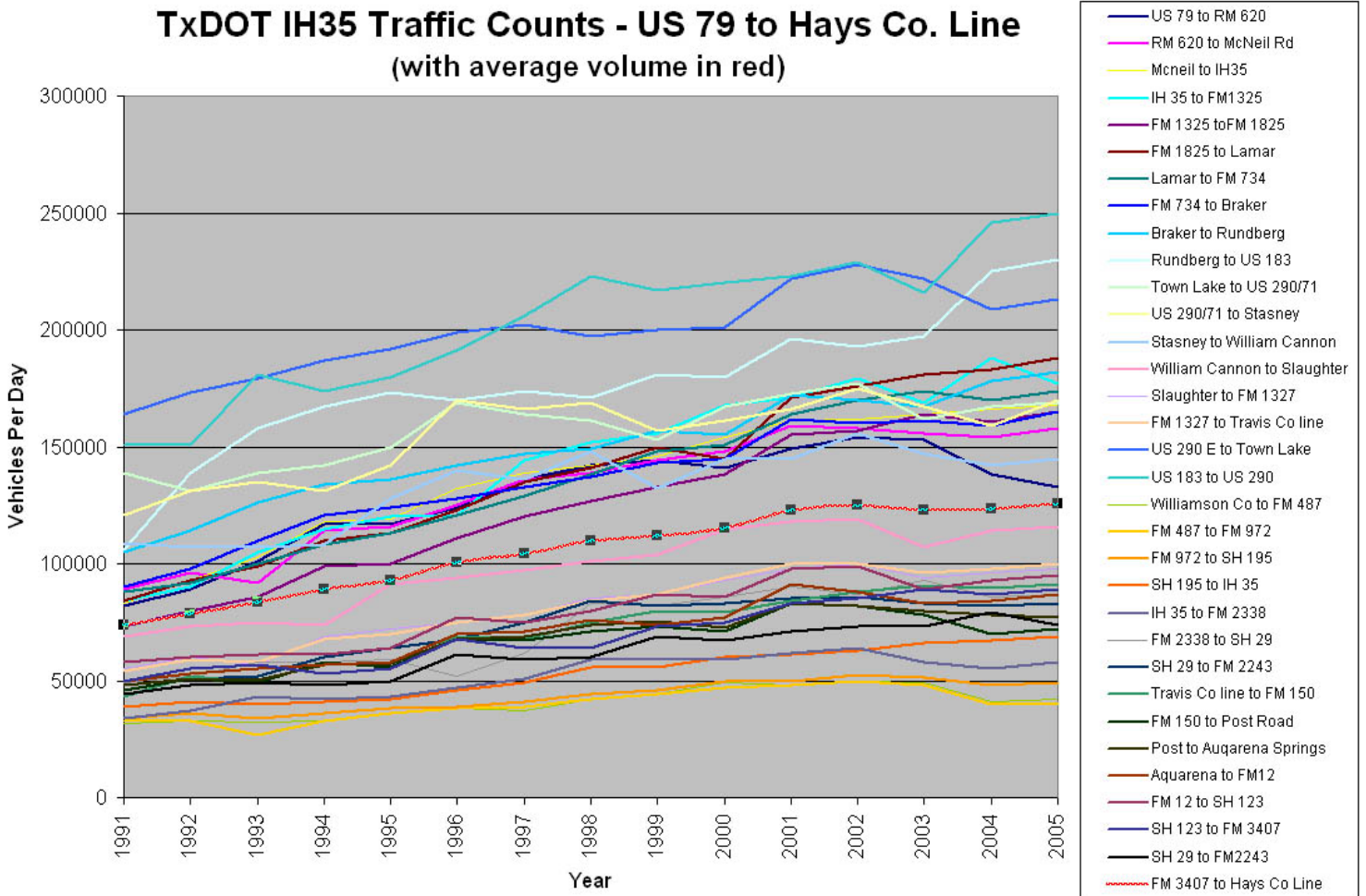


The average traffic volume growth region-wide in the Austin area shows a long term and robust trend that does not follow traditional planning philosophy. Every effort should be made to understand this trend and implications for the future.

(Note: the graphing of CAMPO population growth data in this chart is skewed by CAMPO's use of a non standard x-axis. The 10-year increment is misadjusted for the 2000-2005 time frame. This reflects a slowing of the population growth, as is understood from population statistics, whereas the population growth data that CAMPO is representing does not include this historic trend and is optimistic.)

4. Regional Transportation Corridor Traffic Volume Growth is Flat

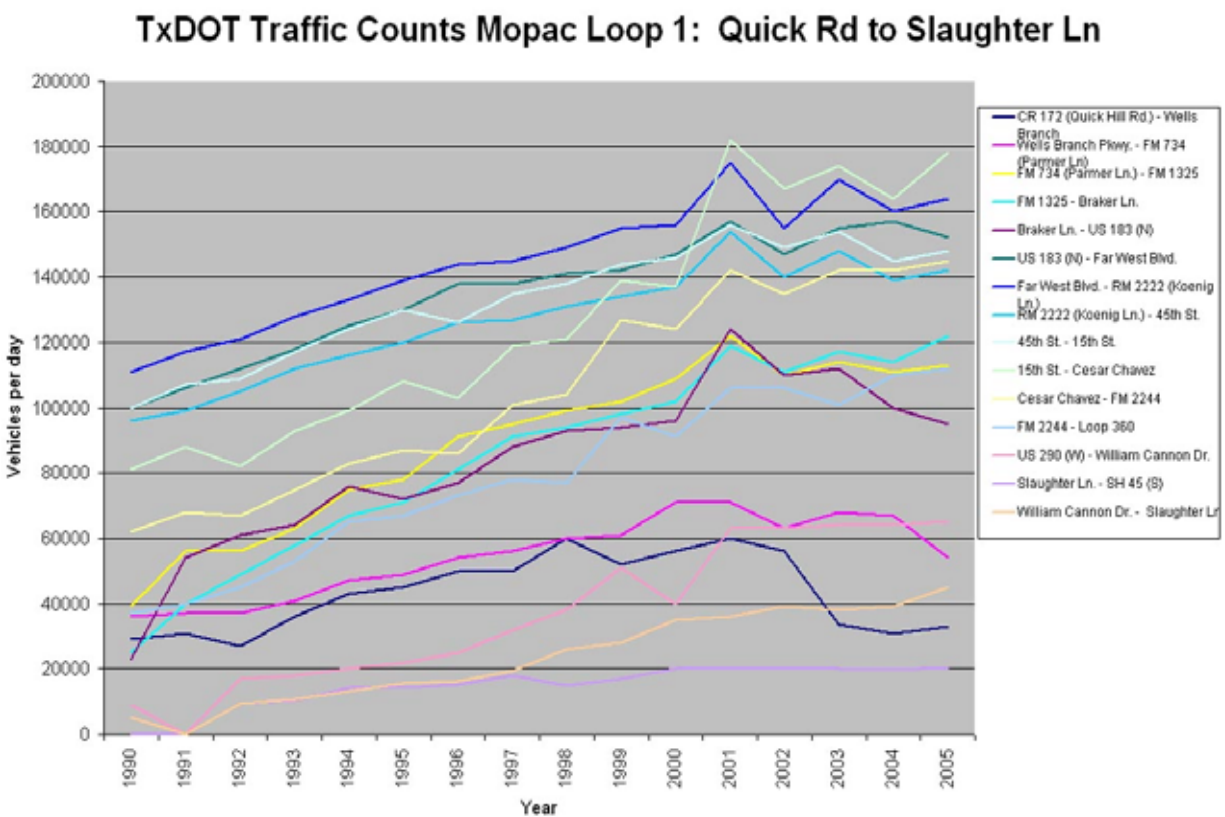
The region-wide decline in traffic volume growth is shown in individual roadway segment traffic volume growth on IH35 and MOPAC in the following roadway segments:



The above graph shows the individual roadway segment traffic volume for the IH35 corridor. Some segments have increasing volume after +/- 2001 while others show a flattening trend or decreased traffic volume growth. The average growth for the IH35 corridor is shown with the red line with black squares. This growth is approximately zero since 2001.

Important Note: Some of the graphs in this report show traffic volume only through 2005. The TxDOT traffic count data for the years 2006 and 2007 are exceedingly difficult to combine with the pre-2006 data because of a changed format. Traffic growth for the period 2006 and 2007, as shown in the detailed analysis of TxDOT data for specific roadways in south and south west Austin has shown a continuance of the 2000 to 2005 trends. Given the current economic downturn and the fuel spike in 2007 / 2008, there is no reason to assume that traffic has increased in 2007 / 2008.

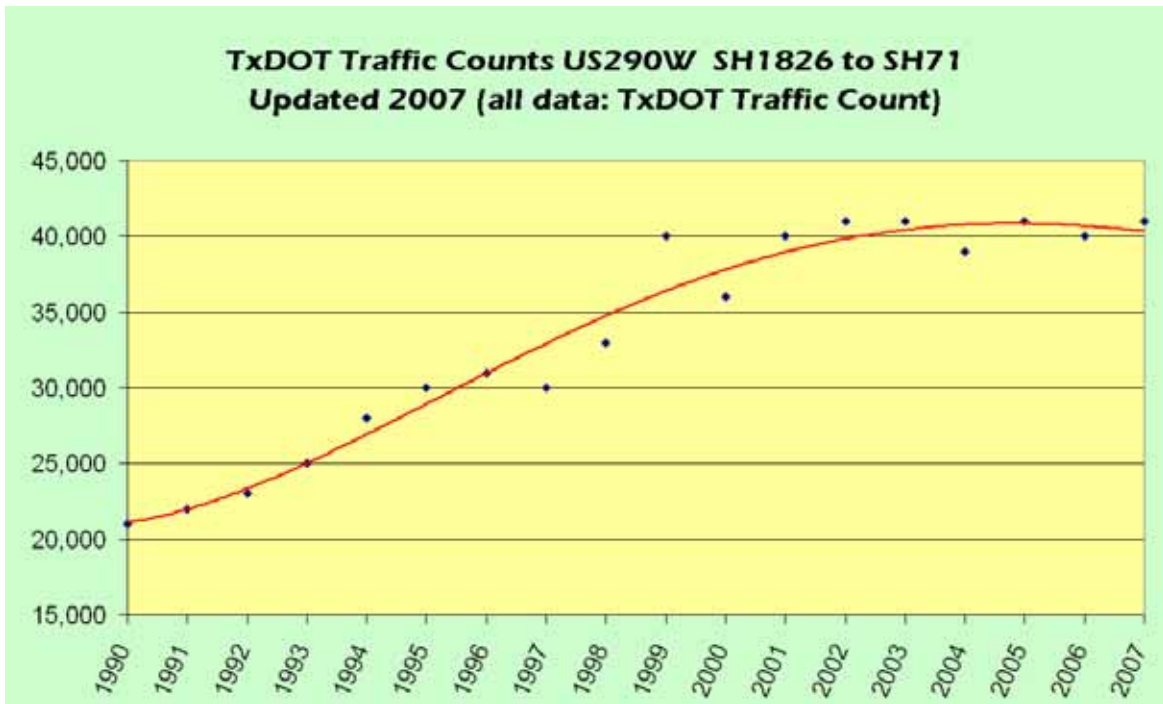
The next graph shows traffic volume growth for the MOPAC Corridor:



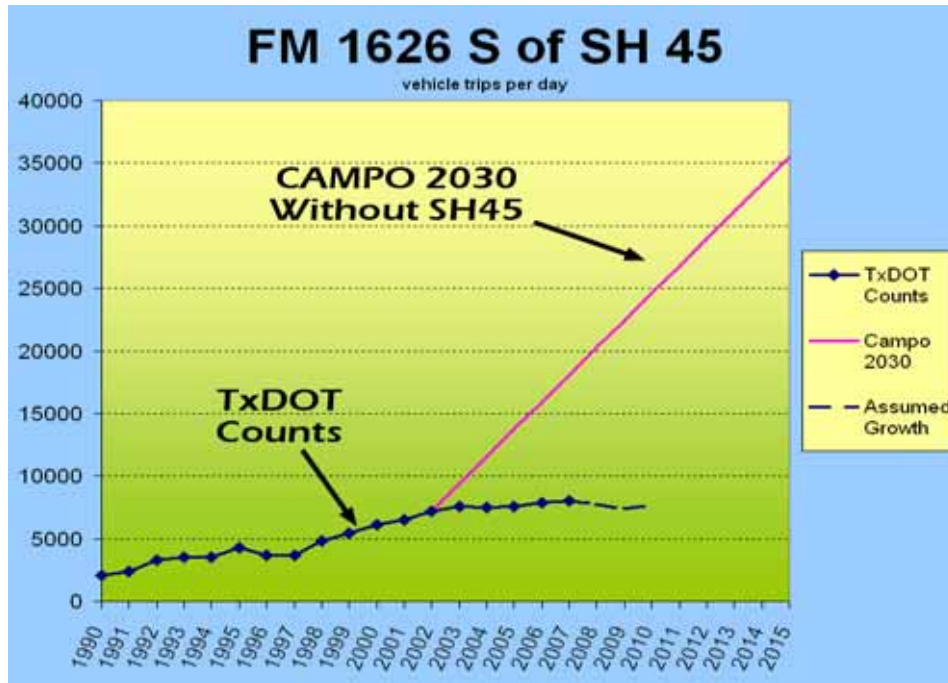
Traffic volume has not grown on MOPAC, averaged since 2000.

5. Detailed Roadway Segments: Robust Stagnant Traffic Volume Growth Trend – CAMPO 2030 Plan is Overly Aggressive

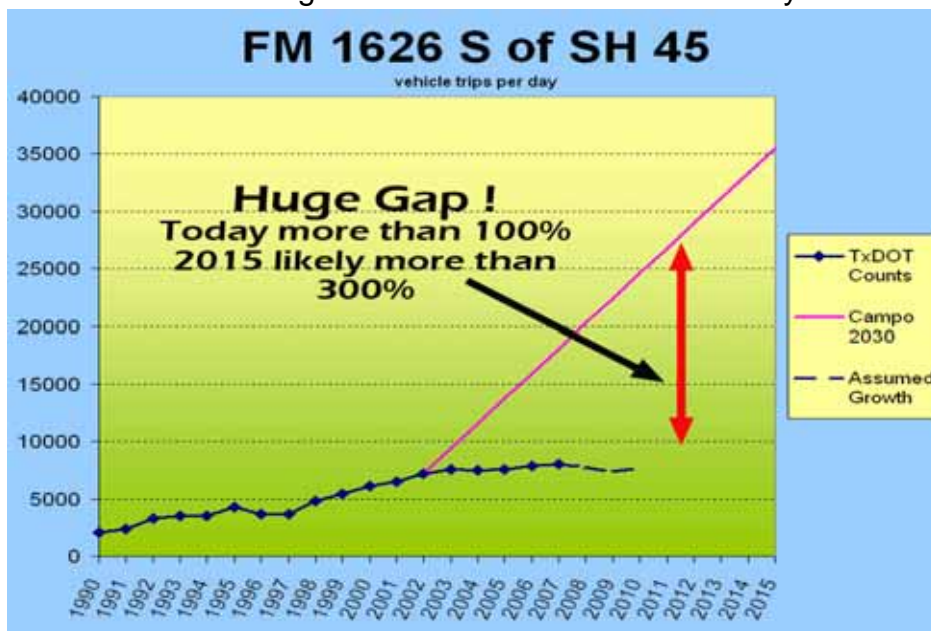
The following graph show specific roadway segments in south and southwest Austin. In Oak Hill, traffic on 290W between 71 and 1826 peaked in 1999 and has not increased since.



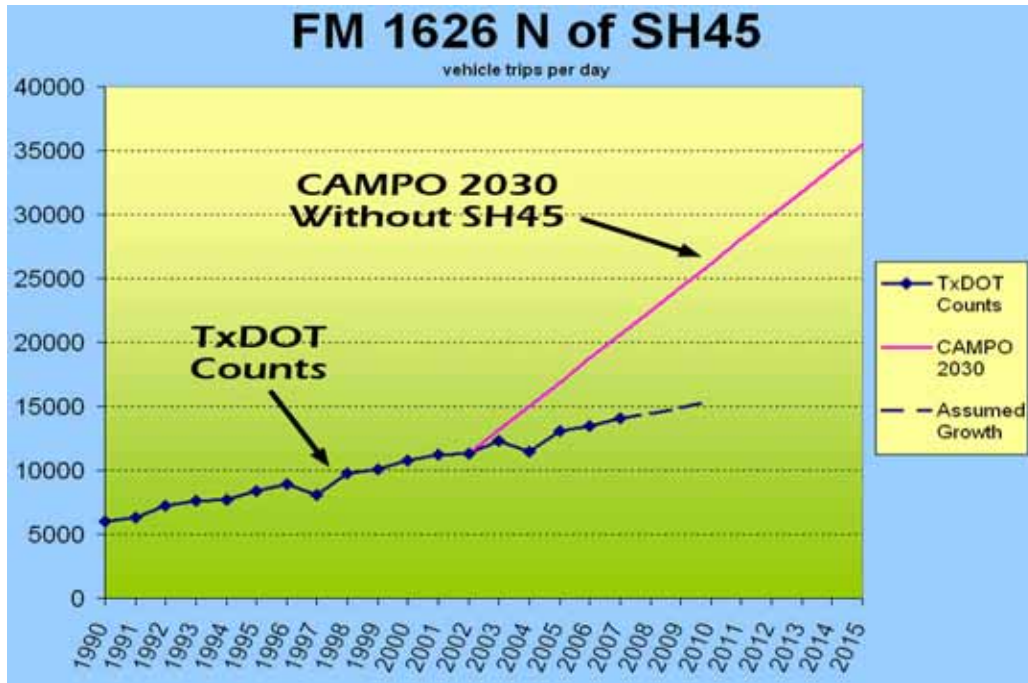
Projections of traffic growth for Loop 1 come from the **CAMPO Response to Council Member Kim's Questions** (Revised Response 10/4/07) (see Appendix 1). The 2030 Plan (pink line) for MOPAC, adds approximately 60,000 vehicle trips per day with SH45 built non-tolled. In 2005, just three years after the final data counts for the 2030 Plan were collected; the CAMPO projections had already outpaced actual growth by 30%. FM 1626 (below) shows similar projected aggressive growth that in the last five years has also far distanced actual traffic counts.



Actual growth of traffic volume on SH1626 south of the planned SH45 intersection has outpaced CAMPO projections by approximately 100% in just five years. Even considering that traffic growth continues to increase at the pace it was increasing between 2002 and 2007, the CAMPO 2030 Plan projections will be 300% greater than actual traffic counts by 2015.

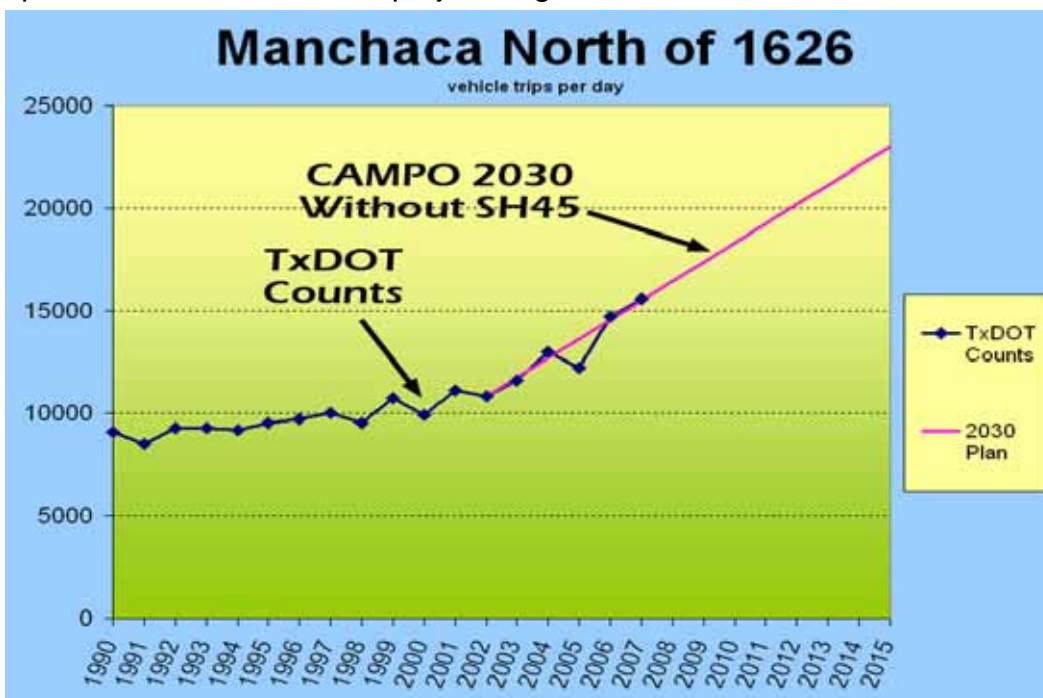


The data show a similar relationship north of the proposed SH 45 intersection if SH45 is not built (as is shown in the following graphic). If SH45 is built, the disparity between the CAMPO 2030 Plan and actual traffic volume growth is even greater because much of the 1626 traffic northbound chooses to take the SH45 route.



6. Manchaca Improvements Already In the Plan With No Congestion Without SH45 Construction, and No Additional Future Cost

Manchaca Road north of FM1626 is one of the minority of roadway segments in the region that is keeping up with CAMPO 2030 Plan projected growth.



Fortunately for this segment, future improvements in the 2030 Plan keep this section of roadway from being anywhere close to significantly congested as shown in the following table from **The CAMPO Response to Council Member Kim’s Questions** (Revised Response 10/4/07). A volume to capacity (V/C) ratio of 1.0 is at the design capacity for that roadway. A V/C ratio greater than 1.0 is congested. The improvements for Manchaca to MAD 4 in 2015 keep the V/C ratio down to a reasonable level of 0.62 even without the construction of SH45.

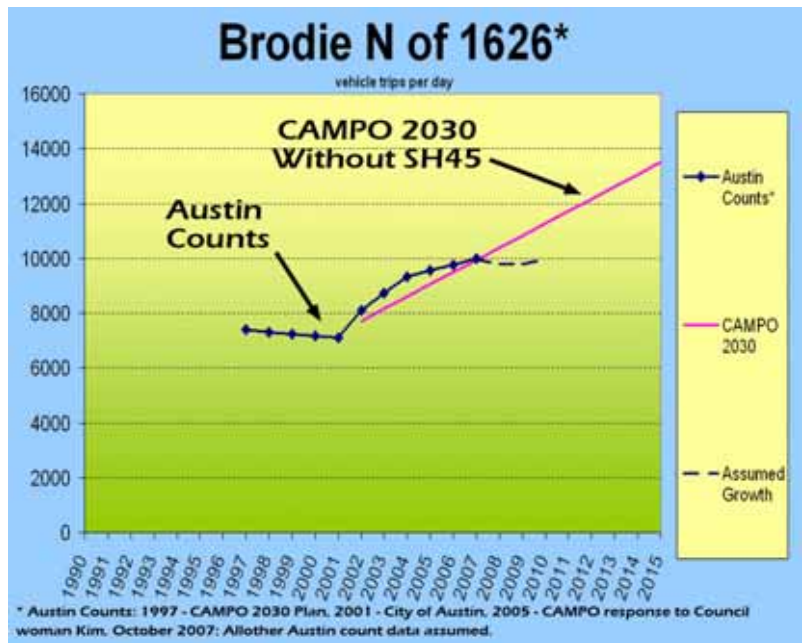
Roadway	2005			2015 (W/ SH 45 SW)			2015 (W/O SH 45 SW)		
	Cross Section	Volume	V/C	Cross Section	Volume	V/C	Cross Section	Volume	V/C
Brodie	MNR2	9,550	0.96	MNR2	10,500	1.05	MNR2	13,500	1.35
SH 45 SW	N/A	N/A	N/A	PKY4/2 Fr	20,800	0.18	N/A	N/A	N/A
FM 2304	MAU2	13,000	0.79	MAD 4	14,500	0.39	MAD4	23,000	0.62

CAMPO volume to capacity analysis for Manchaca Road (FM 2304) with and without SH45 in 2015 shows ample capacity on FM2304.

Reference: CAMPO Response to Council Member Kim's Questions (Revised Response 10/4/07)

7. Brodie Connection Should Never Have Been Made. What is the Solution?

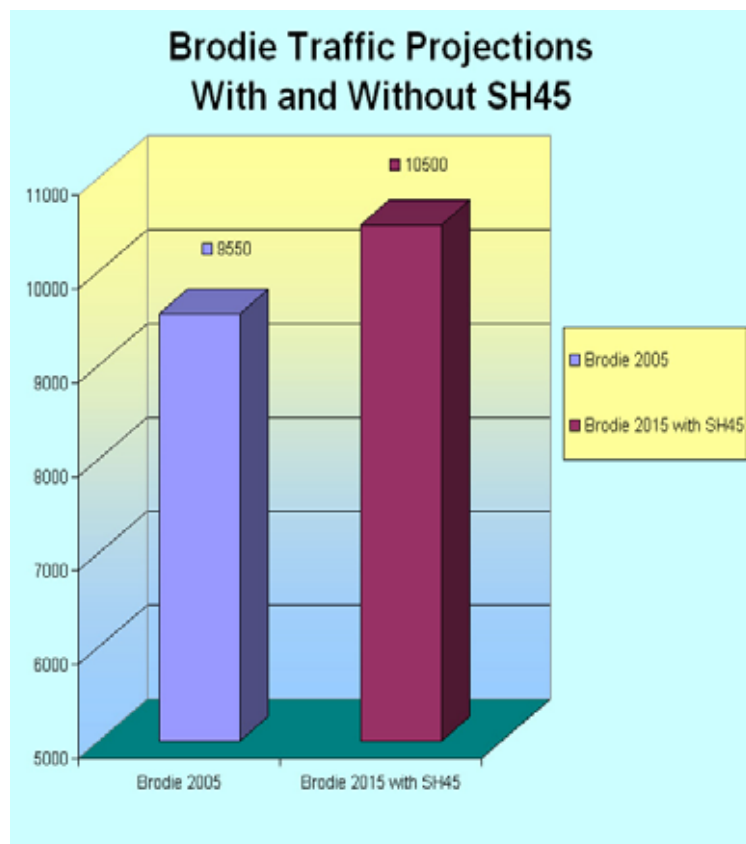
Brodie Lane was connected to FM1626 in 2001. The above graphs clearly show the abrupt jump in traffic volume seen on this roadway. Creating a major through roadway in the middle of a residential subdivision without mitigating for safety, property value decline, noise and other negative impacts is not the purpose of this report. Through traffic either needs to be prohibited from Brodie lane or simple improvements to relieve congestion and improve safety need to be made immediately.



8. CAMPO Says Traffic Congestion Continues to Grow on Brodie EVEN WITH SH45 CONSTRUCTED

It is important to understand CAMPO Planning Projections. Even with the construction of SH45, CAMPO 2030 shows traffic on Brodie Lane will increase significantly by just 2015. This is shown in the graph to the right. Traffic on Brodie, just north of FM 1626 in 2005 was 9,550 vehicles per day. In 2015, CAMPO 2030, with SH45 constructed, projects traffic to be 10,500 trips per day.

Even with SH 45 improvements, there will be no decrease in the growth of traffic volume on Brodie Lane. Traffic congestion, noise pollution, safety problems and the decrease of property values will continue in the Shady Hollow area.



9. Why is Traffic Volume Growth Decreasing?

Demographics say that our society is changing fundamentally. As our world changes, so does our society. After World War II our nation prospered and birth rates soared. Our national and personal wealth skyrocketed along with resource use and pollution. We learned not to squander our resources and cleaned up our environment. Our wives went to work to better support our families.

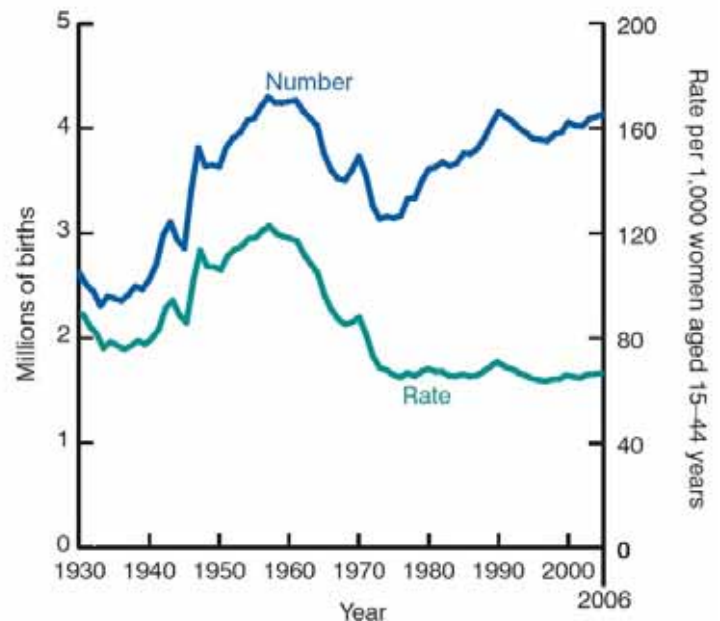
How does all of this impact the way traffic volume growth has changed since the turn of the century? How can population continue to grow and traffic volume not do the same? Why does it appear that traffic volume is continuing to grow in Austin? Why is the thought that TxDOT Data shows traffic volume growth to have stopped nearly a decade ago just so counter-intuitive?

10. An Aging Baby Boom

The baby boom is aging. As we age, we tend to drive less. Our children need less or no more taxicab service, our jobs become more flexible as more of us become entrepreneurs or are capable of more work from home. Many of the baby boom has retired and their transportation needs then decrease dramatically. Some say that this is a temporary trend and that the new baby boom will soon, or already replace those drivers that we are losing to the old baby boom. But this assumption is based on an imperfect understanding of a baby boom.

The graph on the right shows the total U.S. Birth rate since the 1930s. While there has been a significant increase in the “number” of births since the mid 1970s (what is commonly referred to as the second baby boom), the birth rate is flat. It is the birth rate that defines a baby boom, not the number of births.

Ref: National Vital Statistics Report, http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_07.pdf

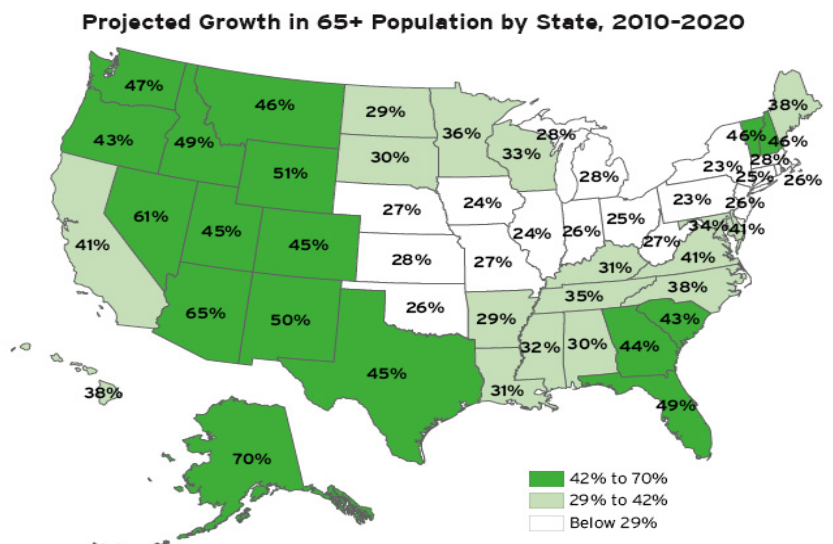


NOTE: Beginning with 1959, trend lines are based on registered live births; trend lines for 1930–1959 are based on live births adjusted for underregistration.
 SOURCE: CDC/NCHS, National Vital Statistics System.

11. Austin Ranks 2nd in the Nation for potential for Rapid Aging of their Population

A younger metro area has a higher potential to age more rapidly than a metro area where the average age is a little older. This is just simple demographics that have a history of repetition. A generation or two ago, the most rapidly growing areas were in the Northeast. These areas are now seeing population losses as the south and west grow rapidly. It is not just retirees that are moving to Phoenix and Florida anymore. Industry has discovered the Sun Belt and is attracting the Nation’s workers.

Map 5-1. Fastest Senior Growth Will Occur in the Intermountain West, Southeast, and Texas



Source: Brookings Analysis of Census Bureau Population Projections

Just exactly how do we explain the decrease in the growth of traffic volume, on average, across the region, and in particular in south and southwest Austin? We know that regionally our population is growing although it has slowed a bit recently.

We know that our population in the southwest Austin region is growing in particular, but since as far back as 1999, growth of traffic volume on 290 west in Oak Hill has been flat. Increases of traffic volume on the few available routes are insignificant, so the traffic is not shifting routes.

We are finding that our population can continue to grow even though traffic volume does not increase.

Reference: Frey, et. al., Getting Current Recent Trends in Metropolitan America, Brookings Institute, March 2009.

Table 5-1. "Younger" Metro Areas Will Experience Significant Senior Growth Due to the Aging of Baby Boomers
 Change in Population Age 55 to 64, 2000-2007

Metro Area	Growth Rate, 2000-2007 (%)
1 Raleigh-Cary, NC	31.6
2 Austin-Round Rock, TX	30.1
3 Atlanta-Sandy Springs-Marietta, GA	29.8
4 Boise City-Nampa, ID	28.7
5 Las Vegas-Paradise, NV	27.8
6 Orlando-Kissimmee, FL	27.2
7 Houston-Sugar Land-Baytown, TX	23.7
8 Dallas-Fort Worth-Arlington, TX	22.7
9 Colorado Springs, CO	22.6
10 McAllen-Edinburg-Mission, TX	21.5
11 Phoenix-Mesa-Scottsdale, AZ	21.0
12 Charleston-North Charleston, SC	20.8
13 Albuquerque, NM	19.5
14 Tucson, AZ	19.2
15 Washington-Arlington-Alexandria, DC-VA-MD-WV	19.1
16 Salt Lake City, UT	19.0
17 Charlotte-Gastonia-Concord, NC-SC	18.2
18 Denver-Aurora, CO	18.1
19 Nashville-Davidson--Murfreesboro--Franklin, TN	18.1
20 Ogden-Clearfield, UT	18.0

Source: Brookings analysis of Population Estimates Program data

12. Decline in the Value of the Dollar

It has been in the news for a decade or longer. Our dollar does not go as far as it did back in the day. The reasons are many. Inflation is one of the reasons, but wages also have not kept up with price indexes. Oil is more expensive, so that means everything is more expensive. Some things increase in price unexplainable. Highway costs rose with the cost of concrete, then they rose again with the cost of steel, then again with when oil went through the roof. Concrete, oil and steel are commodities that have run their price spikes, yet highway construction costs continue to soar.

There is no competition. Design criteria keep getting more elaborate. The few large construction companies that can attempt the massive designs of the late 20th Century and the 21st Century are alone in their field because of the hyper-inflated size of the projects. There are no checks and balances with so few bidders. Prices keep climbing and do not recede when the commodity bungee recedes. Contracts continue to be awarded as contractors understand that their bids will be accepted at ever-higher prices.

13. Societally Appropriate Behavior

Any of us that have been around for more than a generation know that there has been a concerted effort across the country by various organizations to change our society's behavior patterns to more conservatively approach issues of the environment and resource use. "Paper, not plastic" is an excellent example of the penetration of the campaign into society.

We generally understand, as a society today, and act on these simple behaviors because they are prudent in many different ways. We drive less because it is not only green, but also saves money on our auto's fuel, regular maintenance and replacement costs. We combine trips, and we are starting to use mass transit more.

14. The Saga of the Two-Car Family

In the late 1960s, 1970s and 1980s there was a change seen in the American family that mobilized the American woman. The Woman's Movement certainly fueled the mobilization. Our nation's women went to work. They *drove* to work. The one-car family turned into a two-car family.

Today, the woman's work force has been maximized. There are no more families out there where the mother's role is changing from "housewife" to worker any longer. That pool of workers is all used up. Those extra vehicle miles traveled every year are no longer being added to the total. Because of this decline in the number of mom's going to work for the first time, we see part of the acknowledged decrease in traffic volume growth.

15. Four Dollar per Gallon Fuel

Peak oil is here. The spike in fuel prices in 2008 was just the first. Commodities are like this – anything for a buck. Some will win; others will lose. The winners are generally commodities speculators; the losers are generally the commodities users. Any little thing will do to spike the price of a commodity once it is no longer glutted in the market place.

Some say peak oil is not here yet. If so then we are really in for trouble when the peak gets here and fuel prices start to fluctuate even more wildly.

The effect of these fluctuations, regardless of "Peak Oil" validity, is to further stress the wallet of the consumer. This drives trends. One of those trends is a decrease in average vehicle miles traveled.

16. The Economic Crisis

The economic crisis is a banking crisis. The fuel price commodities binge is over. Now we have a completely different set of problems to deal with and they are not fixed yet. The market may have rebounded in the short term, but the layoffs continue.

This is a business cycle certainly, and it will end some day, but it does compound the traffic volume growth curve and has implications for future traffic growth.

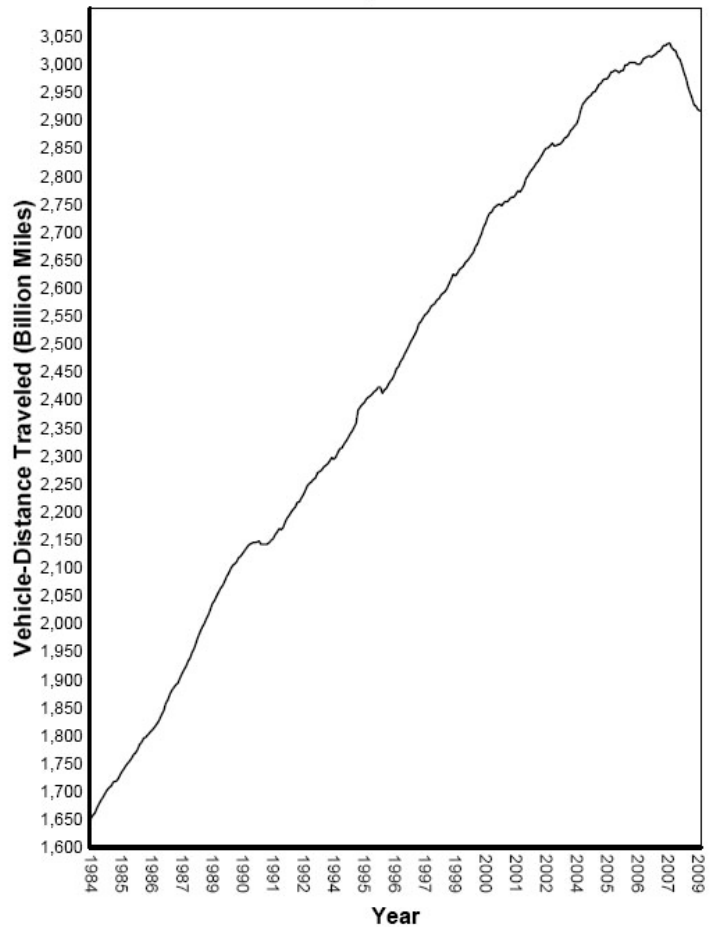
It is also very important to understand that binging fuel commodities traders and economic distress have only impacted traffic volume growth for the last few years. The fundamental demographic shift began about the turn of the century.

17. Climate Change, Upcoming Climate Regulatory Legislation, the EPA, Copenhagen and Conservative Science

It doesn't matter what your "beliefs" are concerning climate change. Climate change increases the costs of air conditioning and water. The productivity of our forests is declining because of insect and disease infestation. The productivity of our oceans is declining because of habitat degradation from warming waters and increased acidification. Sea level rise is rapidly accelerating and will soon overwhelm our beaches and saltwater marshes. Desertification is proceeding across vast areas of all continents. Less rain hampers food production and increases prices. Climate change refugees and climate change wars have begun. Our high elevation forests are significantly in decline almost universally. Using the math of the U.S. Forest Service Incident Commander for the mountain pine beetle pandemic, 6.5 billion trees have been killed in a little more than a decade. Climate change impacts every corner of our lives in ways that the scientists say will only increase in the future.

But more importantly, our scientists understand that climate change is happening more rapidly than the supercomputer models have predicted. Our solutions now are more cumbersome and expensive than they once were. The scientists tell us that inaction and delay increases the size

National Vehicle Miles Travelled
February 2009



Reference: Traffic Volume Trends, February 2009, Federal Highway Administration

of the resulting solution because the impacts are coming faster than expected and are larger than expected.

What this means for you and me, regardless of whether or not any individual “believes” the science, is that our leaders are determined to enact laws and rules that will impact our pocket books, at least in the beginning.

The world has already gone to work. They have enacted greenhouse gas laws and rules in the early and mid 1990s. President Clinton declined to ratify Kyoto. President Bush moved to dismantle the World’s efforts to regulate the emissions of greenhouse gases. The U.S. is the only country in the world that did not ratify Kyoto.

In December, the United Framework Convention for Climate Change will meet in Copenhagen to adopt a successor treaty to Kyoto. The U.S., under new leadership, will now step up as one of the rightful leaders of this process.

So the price of everything will be higher in the future because of climate change, or maybe not. The new energy economy may prove to be a big money maker. But for the present, it is widely assumed that our individual citizen’s pocketbooks will be impacted. This will affect our driving habits because of the disproportionate amount of greenhouse gases emitted by driving vs. other human activities.

18. Conclusions:

Our leaders should not be using outdated traffic projections to assume future traffic growth. The CAMPO 2030 Plan significantly to extremely exaggerates traffic growth region-wide. Some of the most egregious exaggerations are in the FM1626 growth corridor.

Our leaders should be listening to the new knowledge coming from our universities and institutes of learning. They should react appropriately to new knowledge showing that fundamental changes to our lifestyles and our driving habits have occurred for many different reasons.

Our leaders should understand that the future may not be the same as the past and that the way we behave today may have a very significant impact on our future.

The TxDOT Traffic Counts have stopped growing on average. This is true even in the fastest growing areas of the region. While traffic is still growing in the FM1626 corridor, it is growing at a much slower pace than it was in the twentieth century. In Oak Hill however, SH290W traffic volume is frozen at levels that are now 11 years old.

Manchaca Road already has improvements dedicated in the 2030 plan to increase the capacity of this road to completely accommodate any extra traffic that may be generated, without constructing SH45, without any congestion.

The Brodie connection should never have been made. This residential area is now burdened with traffic congestion, safety and noise issues that do not belong in a residential area. These things need to be fixed.

Future traffic projections should reflect the body of academic literature that shows us that our nation's driving habits have changed for numerous reasons, and that these changes are likely permanent and increasing. These changes, however counter-intuitive, are real and are confirmed by actual traffic counts in rapidly growing metropolitan areas.

The economy, peak oil and climate change will continue to play significant roles in shaping the travel patterns of our country. While the economy may strengthen, it may take a while. The Great Depression took a decade and a World War to end. Even though the markets have rebounded a bit, employment continues to slide, and the stimulus and bailouts continue. Our scientist and economic geologists tell us that as time goes by, the impacts from peak oil will become more severe. These impacts will reveal themselves economically in ways that affect our population's driving patterns.

Climate change is happening far faster than the supercomputer models have predicted. The impacts are far greater and are expected to only increase. Whereas predictions of dangerous societal distress were the worse case scenario just a few years ago, the scientists now say that dangerous societal distress will very likely occur and the worse case scenario is now significantly worse than previous projections.

To continue planning with traffic volume projections anywhere near "business as usual" is, in light of the understanding of 21st Century knowledge, significantly irresponsible.

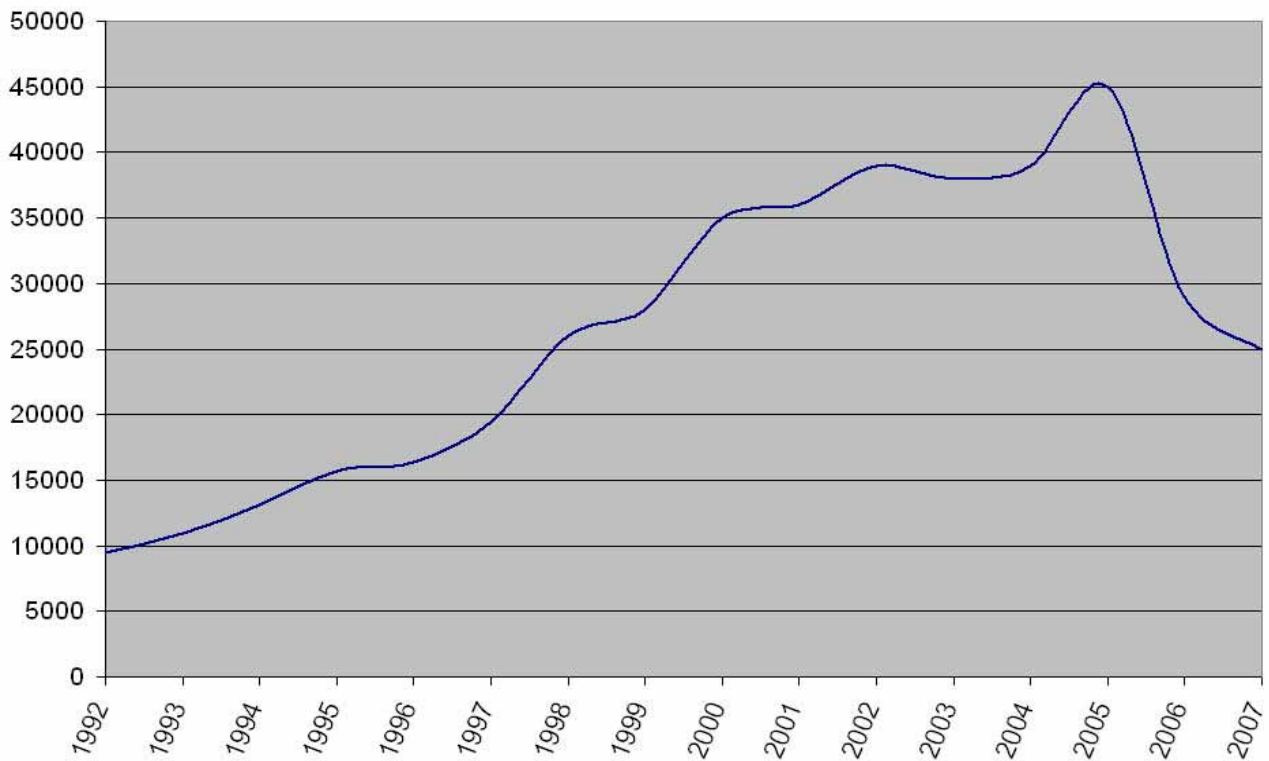
APPENDIX 1

MOPAC Loop 1 William Cannon to SH45 Discussion 2006 and 2007

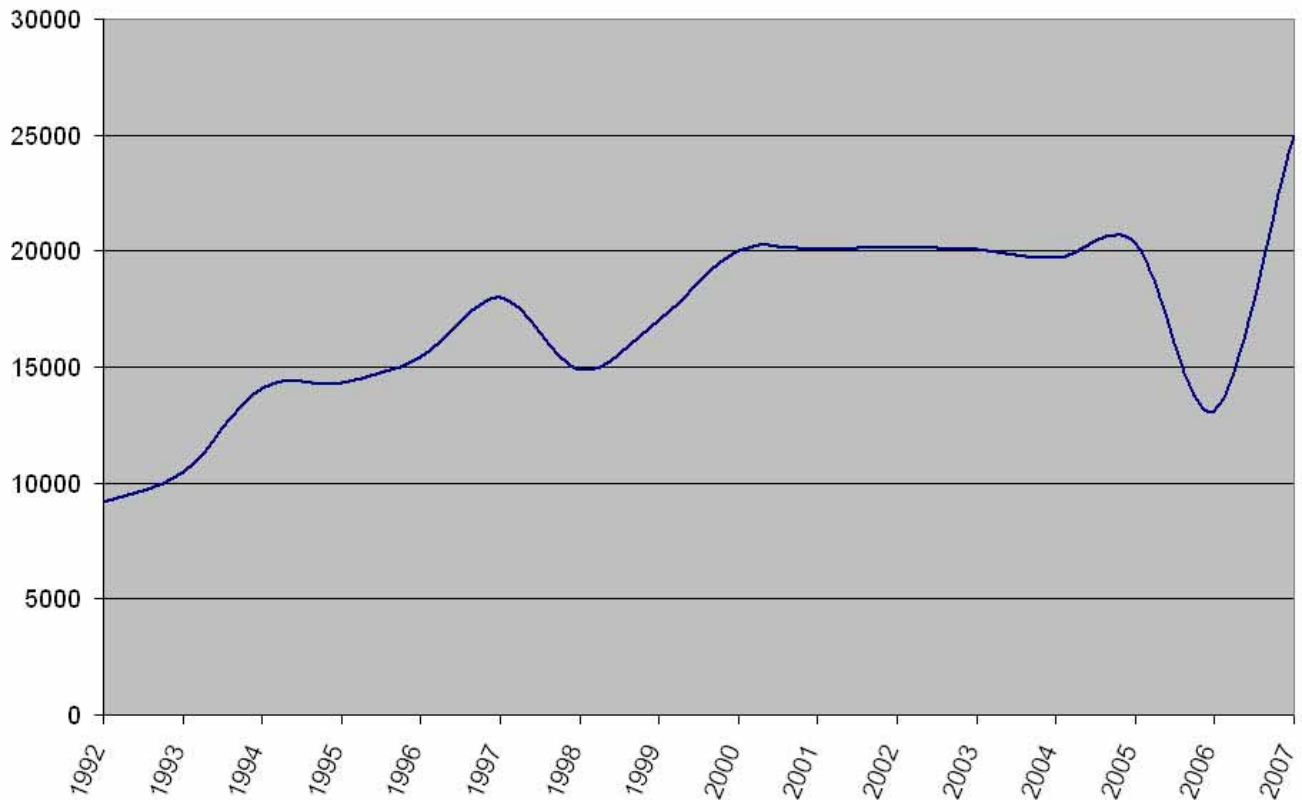
TxDOT Traffic counts provided on the CAMPO Texas website for the two segments of Mopac between William Cannon and SH45 are confusing and difficult to reconcile. The traffic volume for these two segments shows significant fluctuation, the most significant of which is the decrease in traffic volume on William Cannon to Slaughter. Between 2005 and 2007

This fluctuation could be attributable to sampling changes when the William Cannon overpass was completed. Regardless of the reason, the data is confusing and is not shown in the body of this report.

Mopac Loop 1 William Cannon to Slaughter



Mopac Loop 1 Slaughter to SH45



The CAMPO Response to Council Member Kim’s Questions (Revised Response 10/4/07) also confuses the discussion showing a volume of 20,300 trips for the year 2005 which does not match the TxDOT .

Projected 2015 Traffic Volumes in the Vicinity of SH 45 SW (SH 45 SW Built and Not-Built)

	Roadway	2005 ⁽¹⁾ Counts	2015 Volumes		
			SH 45 SW Built ⁽²⁾		SH 45 Not-Built ⁽³⁾
			Toll	Toll free	
1	SH 45 SW	N/A	20,800	29,500	N/A
2	Brodie	9,550	10,500	10,100	13,500
3	FM 1626 N of 45	13,100	28,000	28,000	35,500
4	FM 1626 S of 45	7,600	42,500	45,000	35,500
5	FM 1626 E of FM 2304	12,200	26,000	26,000	26,500
6	FM 2304 N of FM 1626	13,000	14,500	13,000	23,000
7	Loop 1 S N of SH 45 SW	20,300	31,000	37,500	19,000

⁽¹⁾ 2005 Counts are from TxDOT annual counts for FM 1626 and saturation counts for Brodie Ln.

⁽²⁾ The volumes are from the CAMPO Model assuming SH 45 SW built between Loop1 and RM 1626 in 2015.

⁽³⁾ The volumes are from the CAMPO Model assuming SH 45 SW not built between Loop1 and RM 1626 in 2015.

Projected 2030 Traffic Volumes in the Vicinity of SH 45 SW (SH 45 SW Built and Not-Built)

	Roadway	2005 ⁽¹⁾ Counts	2030 Volumes		
			SH 45 SW Built ⁽⁴⁾		SH 45 Not-Built ⁽⁵⁾
			Toll	Toll free	
1	SH 45 SW	N/A	41,200	54,500	N/A
2	Brodie	9,550	20,000	17,000	22,500
3	FM 1626 N of 45	13,100	38,000	32,000	49,500
4	FM 1626 S of 45	7,600	50,500	54,000	49,500
5	FM 1626 E of FM 2304	12,200	34,500	33,500	40,500
6	FM 2304 N of FM 1626	13,000	21,500	17,500	32,000
7	Loop 1 S N of SH 45 SW	20,300	59,000	79,500	49,000

⁽¹⁾ 2005 Counts are from TxDOT annual counts for FM 1626 and saturation counts for Brodie Ln.

⁽⁴⁾ The volumes are from the CAMPO Model assuming SH 45 SW built between Loop1 and I-35 in 2030.

⁽⁵⁾ The volumes are from the CAMPO Model assuming SH 45 SW not built between Loop1 and I-35 in 2030.