Safeguarding the Gateway to Austin's Economic Future

An analysis of the social, engineering and environmental issues concerning the construction of State Highway 45 Southwest

Prepared By
Bruce Melton P.E.

June 3, 2009

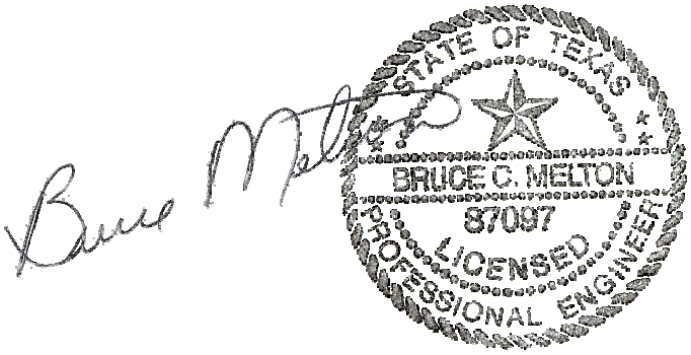


Table of Contents

Summary

Building State Highway 45 Southwest (SH45) is the slowest and most cost ineffective solution to the immediate transportation needs in the Southern Travis and Northern Hays County region. Pennies on the dollar, compared to the costs of SH45, can be spent on Brodie improvements and solve *all* of the immediate congestions and safety problems. While that is happening, major changes in our world need to be considered.

Total vehicle counts on our roadways, in the Austin Metropolitan region, have not increased since 2001 revealing a significant decrease in individual miles traveled locally. Traffic on FM1626 at the proposed SH45 intersection has only grown at 2.1% since 2002 whereas before 2002 it was growing at 11.4%. Understanding of environmental concerns today is much more robust than at the time of TxDOT settlement with the Barton Springs District. The City of Austin, Save our Springs Alliance and Save Barton Creek Association are not bound by this settlement agreement. They opted out of the settlement and went on to lose their joint lawsuit in court.

Endangered species have been listed that would be directly affected by the construction of and the cumulative effects of SH45. Climate and peak oil issues have changed forever, and the relationship between the individual and his and her fossil fuel consumption will continue to decline because of fundamental changes in American driving habits. These fundamental changes, because of the high probability of future events, will see further decreases in personal vehicle miles traveled in the future.

The CAMPO 2030 Plan and the CAMPO Needs Assessment do not take any of this into consideration, but focus on a traditional understanding of demographics, driving and population growth relationships from the 20th century.

The immediate focus on transportation issues in Southern Travis and Northern Hays Counties should be on short-term, affordable and more immediate solutions that address Brodie Lane traffic issues. Further action needs to be based on accurate planning data. A re-evaluation of future traffic projections is required based on changes that have occurred since the beginning of the 21st century. Future planning using the 2030 Plan is entirely inappropriate. It is highly improbably that growth will return to anything near rates from the 21st century, and dependent upon peak oil, carbon emissions pricing and the depth and severity of the economic crisis, driving may continue to decline at an even greater rate for a period extending into the mid term future. Beyond the mid term, climate change and peak oil are likely to continue the pressure on downward driving trends.

The proposed recommendations by the SH45 Subcommittee take the business as usual approach of looking to the past for future direction. This is the 21st century. We know more now than we did in the 20th century. Our actions should be guided by our knowledge.

Prudent Course of Action

Building SH45 is the slowest and least effective alternative to addressing both Shady Hollow congestion and safety as well as creating a faster route to the more congested area of Mopac coming from Hays County.

Building SH45 is the slowest alternative. It is much faster, and for pennies on the dollar compared to SH45, less expensive to get very minor City and County improvements done on Brodie.

Next fastest are City and County Transportation Bonds to improve FM1626 and Manchaca Road. These improvements will have to be done anyway, and even CAMPO 2030 shows Manchaca to be built to four lanes by 2015.

These improvements can be completed far faster than the construction of SH45 for far less money. Both Manchaca and FM1626 are already in the process with Manchaca being as far along as the completion of right of way acquisition.

The greatest shortcut to Mopac from Hays County was only mentioned once in this committee. This is the IH35 Northbound flyover to Ben White. Once this link is complete, travel time via IH35 will be almost two minutes shorter to get to Mopac vs. going by Brodie, or approximately the same as going by the proposed SH45.

All of these improvements except for cash-in-hand improvements to Brodie are already planned and will be built anyway, likely by the time SH45 can be built.

SH45 Construction Will Only Help Shady Hollow a Small Amount for a Short Time

Data presented by CAMPO in a memo to Council Woman Kim in November of 2007 shows that even with the construction of SH45, traffic on Brodie will be about 10% greater than it is today in 2015, assuming that SH45 has been completed by 2015. Relief from traffic issues will be very short lived and congestion and safety will continue to worsen as per the data in this memo.

MOPAC Traffic Will Suffer Significantly from the Opening of SH45

CAMPO data from the Kim memo shows that the opening of SH45 will increase traffic on MOPAC by between 40,000 and 60,000 vehicles per day. This is a very significant burden for an already failing roadway.

CAMPO 2030 and the Needs Assessment are Dead Wrong

Our scientist have started publishing research that shows that, about the turn of the century, Americans started changing the way they behaved themselves. We are driving less now, and it has nothing to do with $4 gas or the economic crisis because it started nearly a decade ago. These fundamental changes, that started taking place a decade ago *will not rebound.*

The changes are happening because of many different things. An aging population is responsibly for a lot of the reduced driving. There is also a shift of residential homeownership from suburb to urban taking place, and the pool of new drivers from the two driver family trend, where Mom went to work in the 70s, is completed depleted. There is an ongoing shift of consciousness to drive less, and combine trips that has been growing for nearly a decade. Mass Transit ridership is increasing, and so are four-day workweeks, telecommuting and flex-hours for workers.

Climate change and peak oil also will play an ever-increasing part role in the way we drive our cars, the places we live and things we do in the future. These two things will not go away and they will not get better. The question now is how soon will they get worse?

Campo 2030 and the Needs Assessment are based on traffic volume growth that conforms to “business as usual (BAU)” assumptions. These assumptions began to fall apart about the turn of the century. Today a “New Normal” has arrived. The likelihood of going back to BAU is low. The likelihood that vehicle miles traveled will continue to drop is high.

Traffic Volume Growth in Austin Stopped in 2001

When all of TxDOT’s traffic volume data is averaged together and graphed on one chart, The trend is obvious. Traffic growth has stopped in Austin. But this is the case. The data were collected by TxDOT in the very same way that they have been collecting data since 1990. As counter-intuitive as this finding may be, it is made even more counter intuitive when it is understood that up until 2008, the region was growing at 3% or greater in population.

This continued increase in growth while the traffic volume remains steady actually reflects a decrease in vehicle miles traveled per person. This is exactly what the academic literature tells us is happening, and it is happening fastest in the Cities with the youngest populations.

CAMPO 2030 says Traffic on FM1626 Should Be 231% Greater than Actual TxDOT Traffic Counts

Actual traffic growth on FM1626 lags very far behind where CAMPO 2030 says it should be today. In 2005, CAMPO 2030 projected there to be 18,500 vehicles per day using that stretch of FM1626 at the proposed SH45 intersection. The actual traffic count from TxDOT shows 8,000 vehicles per day use the road.

Traffic growth prior to 2002 on FM1626 at the SH45 intersection was 11.4% per year. Between 2002 and 2007 the actual growth rate as determined from TxDOT Traffic counts was 2.1%. The probability that it has increased much at all since 2007 is, given regional reaction to gasoline prices in 2008 and the economic crisis in 2009, is unlikely at best.

TxDOT / CAMPO Assertions Countering the Vehicle Growth Trend Analysis Assume Returned Growth after 2005

The analysis that CAMPO and TxDOT prepared showing traffic growth resuming after the year 2005 is wrong. This analysis assumes that growth has resumed starting in 2006. The data exists from 2006 and 2007 that shows that growth has not resumed. This data is published on the CAMPO website, yet CAMPO and TxDOT have made the erroneous assumption that traffic volume growth has increased after 2005 and continues to increase today.

The assumption that after 2005, regional traffic volume growth once again started climbing, in the face of TxDOT's own data, and understanding recent regional gasoline sales and regional unemployment statistics, is grossly in error.

Federal Environmental Issues are Not Settled - the Settlement Agreement accounts only for the relationship between TxDOT and BSEACD

Numerous new studies have revealed greater knowledge of the impacts of land development on endangered species. To assume that future environmental issues will take the course of previous environmental issues is unwarranted. The Settlement Agreement accounts only for the relationship between TxDOT and The Barton Springs Edwards Aquifer District. The issue of endangered species is extremely important and cannot be overlooked because of "lesser" environmental constraints created through "non-Federal" funding mechanisms.

New Roads Will Enhance Growth and Further Threaten Endangered Species in the Springs and Over the Recharge Zone

New roads make new development feasible. The new intersections and transportation links between the population centers of south and southwest Austin will allow significant new commercial development to take place over the aquifer. The proposed Wildflower Commons PUD alone would generate over 31,000 trips per day, making the assumptions of increases to MOPAC traffic by the opening of SH45 of between 40,000 and 60,000 significantly conservative.

Peak Oil is Here to Stay

In the future, peak oil will continue to spike gasoline prices with significant effects on vehicle miles traveled. There are certainly uncertainties involved, but these uncertainties are defined in terms of years to decades at most. The assumptions used to justify the proposed SH45 project look *decades* into the future. The certainties with peak oil are that, if it has not occurred already, it will occur in a decade or two. When

this time comes, fuel prices will certainly not be what they are today. This will, like $4 gas did in 2008, greatly affect our driving habits.

Climate Change is Here to Stay and It Will Impact Driving Habits in the Near Future

Before the end of the year, president Obama has vowed to catch up with the rest of the world and begin regulating the emissions of carbon into the atmosphere. This will not be cheap and will likely be reflected greatest in the cost of fossil fuels. The worrisome thing about the Obama emission standards however is that they are no better than Kyoto was in 1997. The rest of the world is looking at new efforts, to be adopted in Copenhagen this December as a successor to the Kyoto Protocol, carbon emissions will also not stop at this first effort. There is built in increases in the proposed rules, and because climate is changing faster than the computer models can keep up with, even more increases in carbon emissions regulations are very likely in just another few years.

The Hill Country, Barton Springs and the Edwards Aquifer

Why did we move to Austin? Why did the businesses that we work for locate in Austin? Why is the State Capitol in Austin? Why is the best university in the State of Texas in Austin? What makes Austin a desirable place for all of these things to have occurred here?

Austin did not just happen. We are here because this is where the Colorado River meets the Hill Country at Barton Springs. For millennia, Barton Springs has been a fabulous place to live. The archeological investigations continue to this day as can be seen by the big tents next to Barton Springs Boulevard at the entrance to the park. Barton Springs is the reason that Austin exists. The reason that you and I are here today is because of Barton Springs. Without this fantastic geologic focal point, Austin would not be Austin. San Marcos or San Antonio, or Waco, or would have developed into this city because that was where the other springs are and that was where people lived for thousands of years.

Today? Many of us did indeed move here because of the quality of life. The things that make our quality of life in Austin so good include in the top tier, Barton Springs and the Hill Country.

Texas' Adirondack Preserve

Most people don't know it, but a vast stretch of wilderness larger than Yellowstone, Glacier and Yosemite combined is in upstate New York. It is there to preserve the water quality and wilderness nature of the state of new York for the people of New York. Because of this preserve, the people of New York have possibly the best drinking water in the country – certainly for the population that is served.

Today, the Edwards aquifer Preserve lands are being assembled to attempt to save the watershed for where our Hill country meets Barton Springs. There is no other preserve in Central Texas of a scale that can make a difference. We are half way there, but much work needs to be done.

Without this preserve, Austin will just be another Houston. Our quality of life depends on the Hill Country. Our economic future depends on our quality of life.

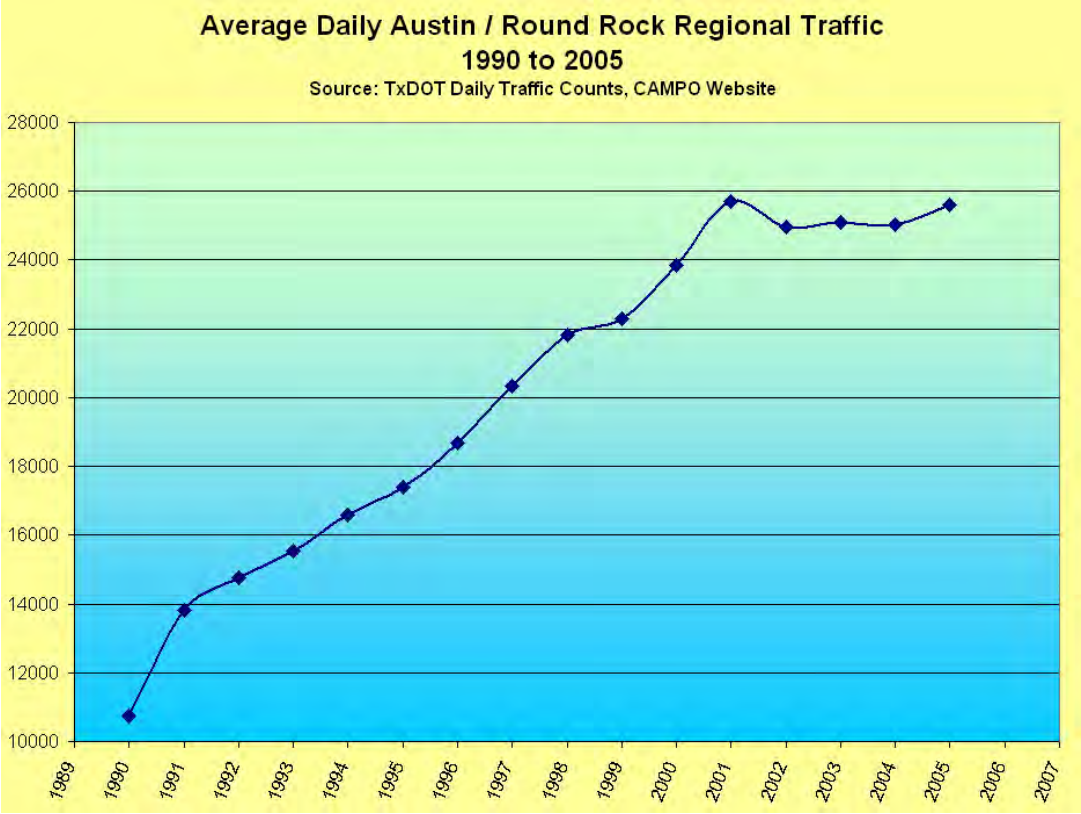
Conservation Lands over the Aquifer Have Decreased Traffic Growth and will Further Decrease Traffic Growth in the Future

An enormous amount of conservation lands have been purchased or set-aside since the settlement decree. $115 million has been approved by Austin voters and including donated private conservation lands, 17% of the aquifer has been protected. Further conservation gains will occur. These lands will never generate traffic anything like the traffic that comes from business as usual land development. Because of these conservation lands, traffic today is significantly less on FM 1626 than would otherwise have been the case.

Scientists Say the Water Quality in the Springs is Directly Related to Impervious Cover

Water quality in Barton springs is declining. This is being caused by land development. More development means more degradation. But there is a caveat. At some point, the ecosystem that comprises the Barton Springs portion of the Edwards Aquifer will become overwhelmed. This is a natural response to pollution. Ecological systems can deal with a lot of pollution through natural biologic and mechanical cleaning. But at some point the pollution becomes too great and the system breaks down catastrophically. This is by far the rule in ecological systems. When this happens at the springs, you will not want to swim there, and the quality of life in Austin will decline correspondingly.

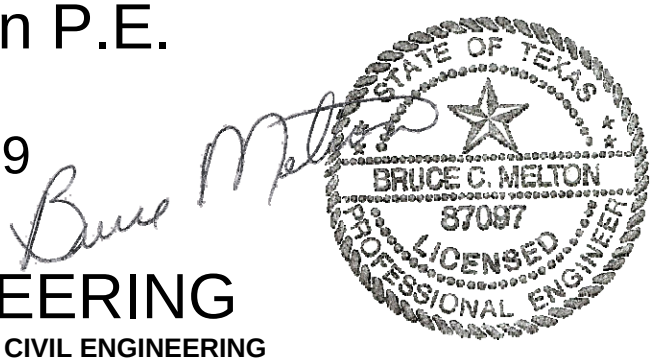
Decrease of Traffic Growth in the Austin Metropolitan Region Immediately After the Turn of the 21st Century and Implications for Transportation Planning in South and Southwest Austin



Prepared By

Bruce Melton P.E.

May 2009



MESA ENGINEERING

ENVIRONMENTALLY CONSCIOUS CIVIL ENGINEERING

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

Table of Contents

1. Introduction

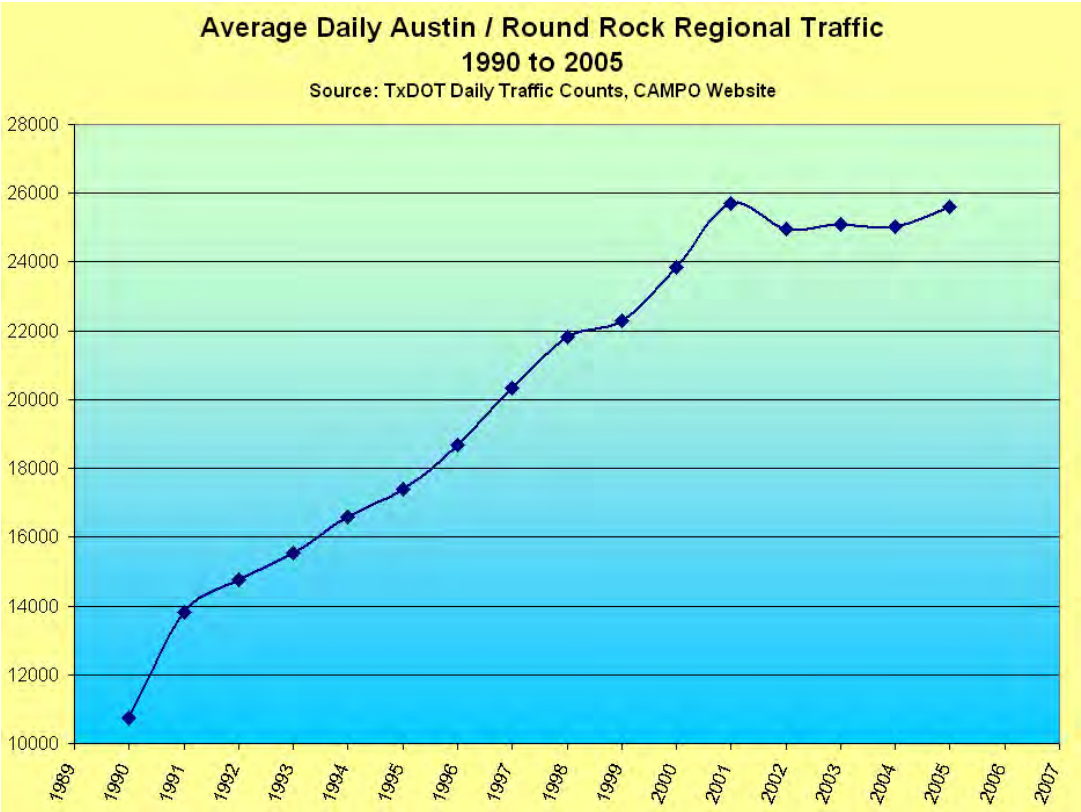
I have been a land development consultant and professional engineer in Austin since1984. I have not seen it all, but I have seen most of it. Five years ago my volunteer community efforts led me to a counter-intuitive development statistic that I have been trying to explain ever since. I believe that 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 trends 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

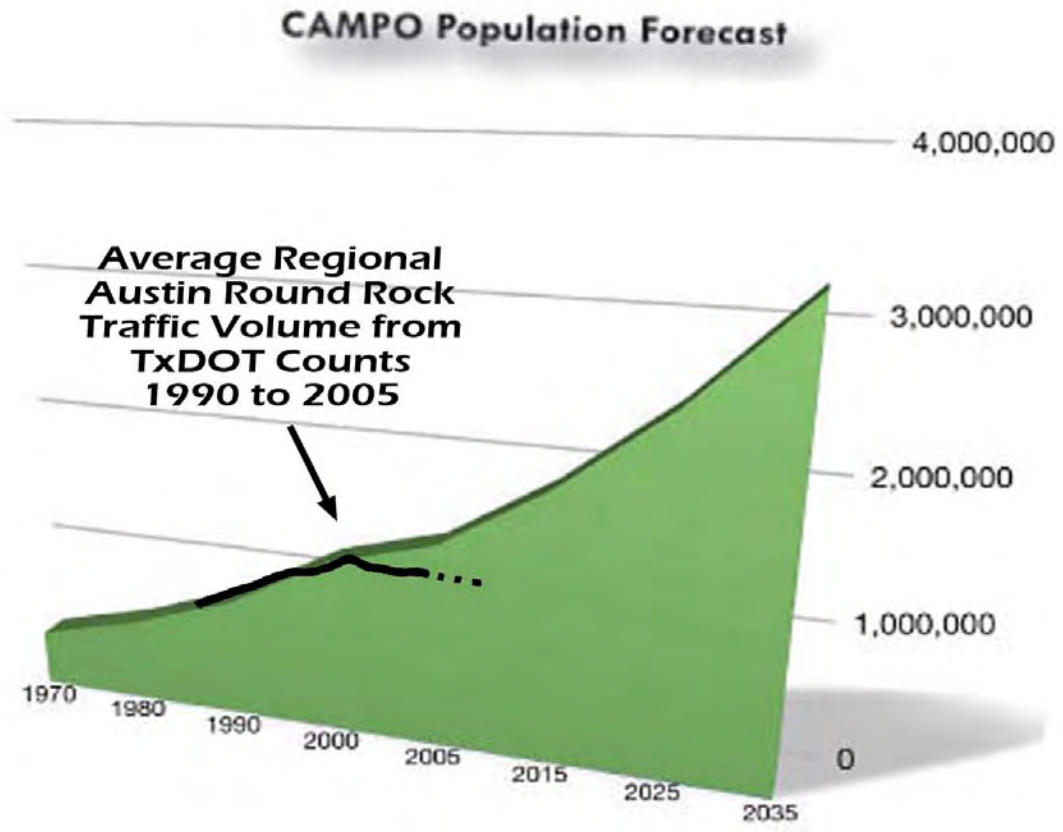
TxDOT traffic count data show a zero traffic volume increase since 2001. This “flattening” of the traffic volume growth is shown in the following graph.



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. Variously, 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.

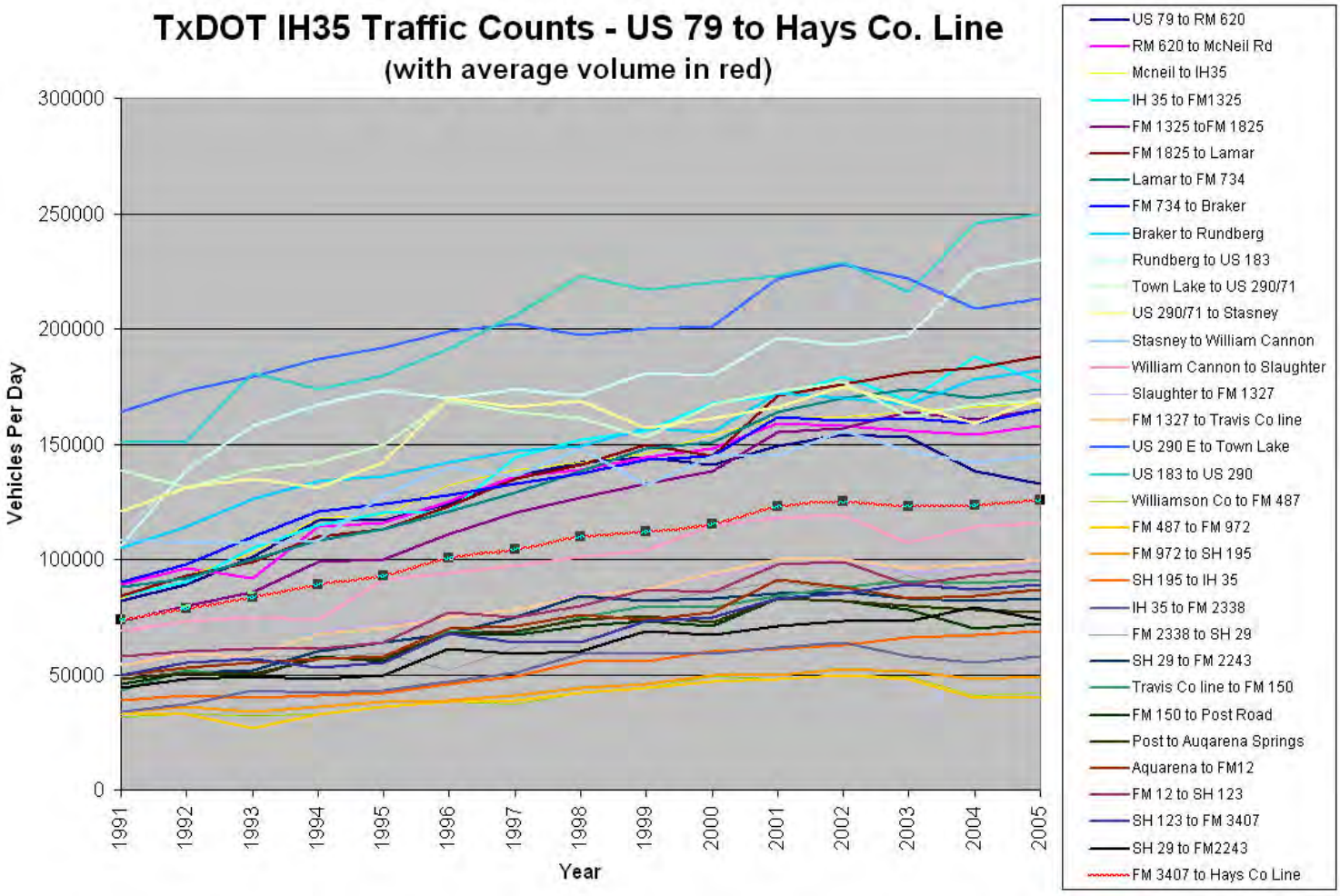


The average traffic volume growth region-wide in the Austin area shows a long term and robust trend that does not follow traditional planning philosophy. Every effort should be made to understand this trend and implications for the future.

(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

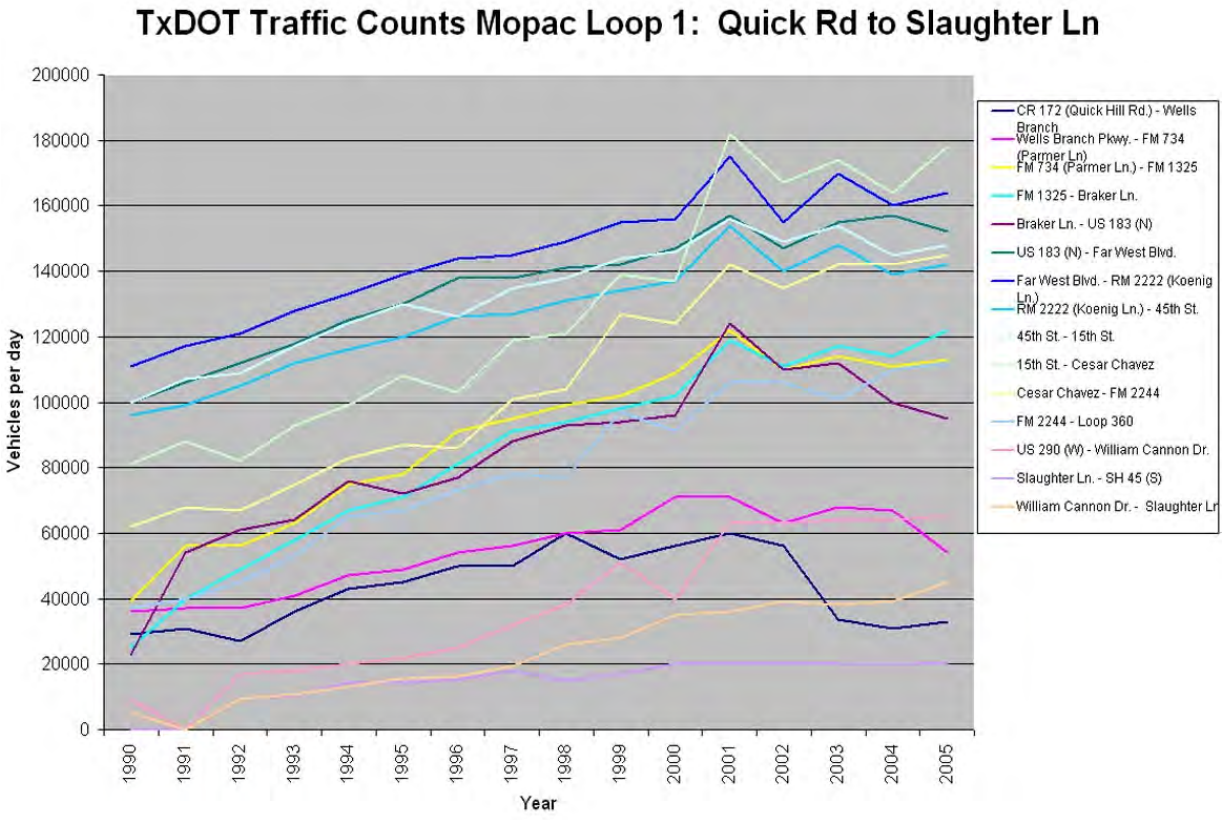
The region-wide decline in traffic volume growth is shown in individual roadway segment traffic volume growth on IH35 and MOPAC in the following roadway segments:



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.*

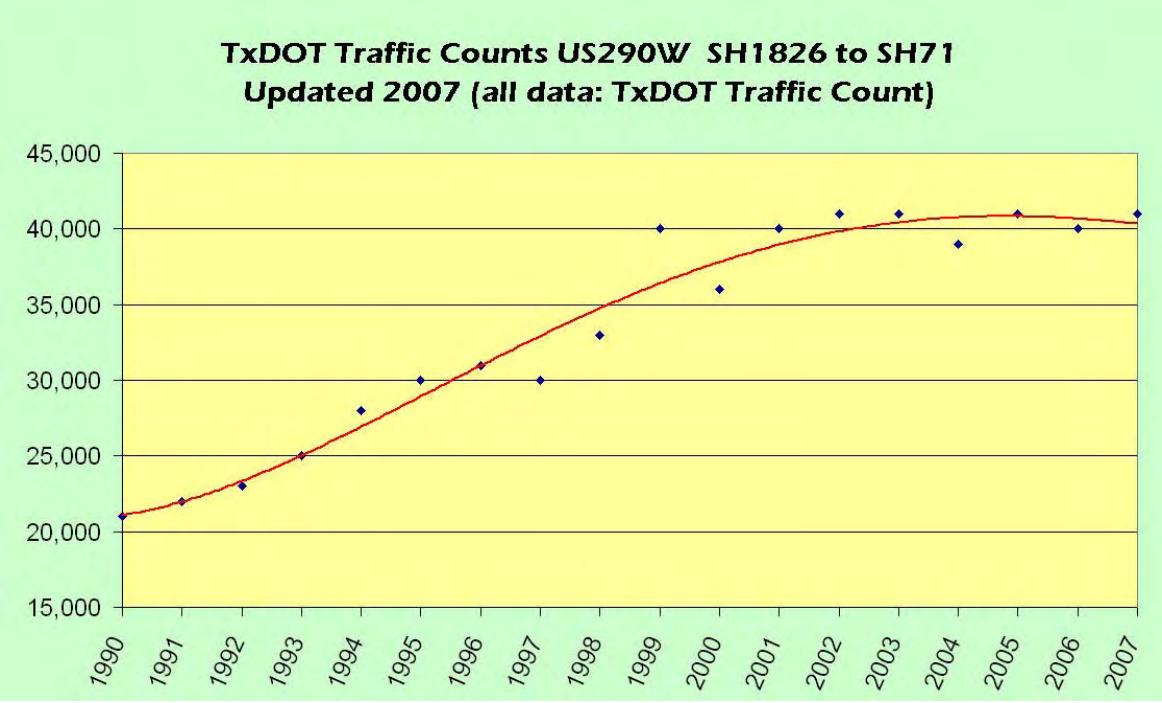
The next graph shows traffic volume growth for the MOPAC Corridor:

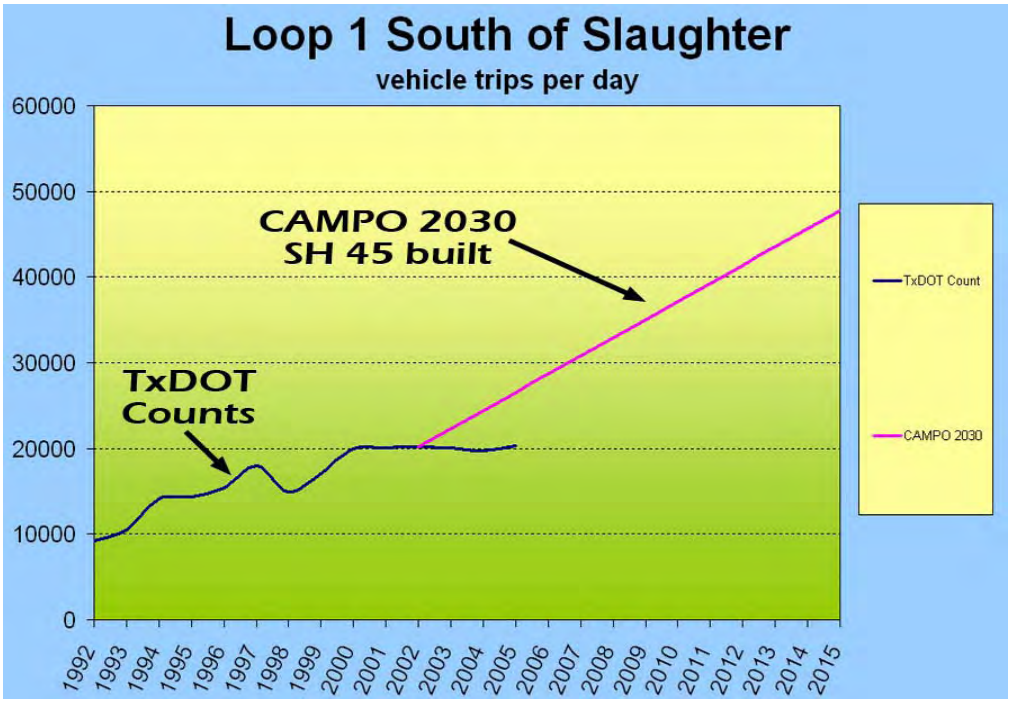


Traffic volume has not grown on MOPAC, averaged since 2000.

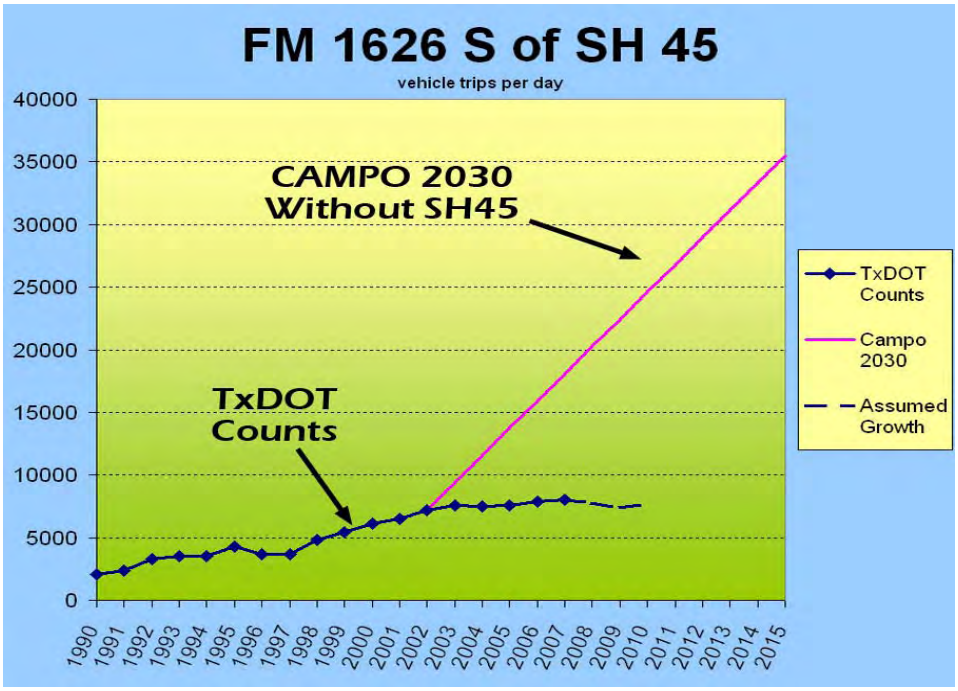
5. Detailed Roadway Segments: Robust Stagnant Traffic Volume Growth Trend – CAMPO 2030 Plan is Overly Aggressive

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.

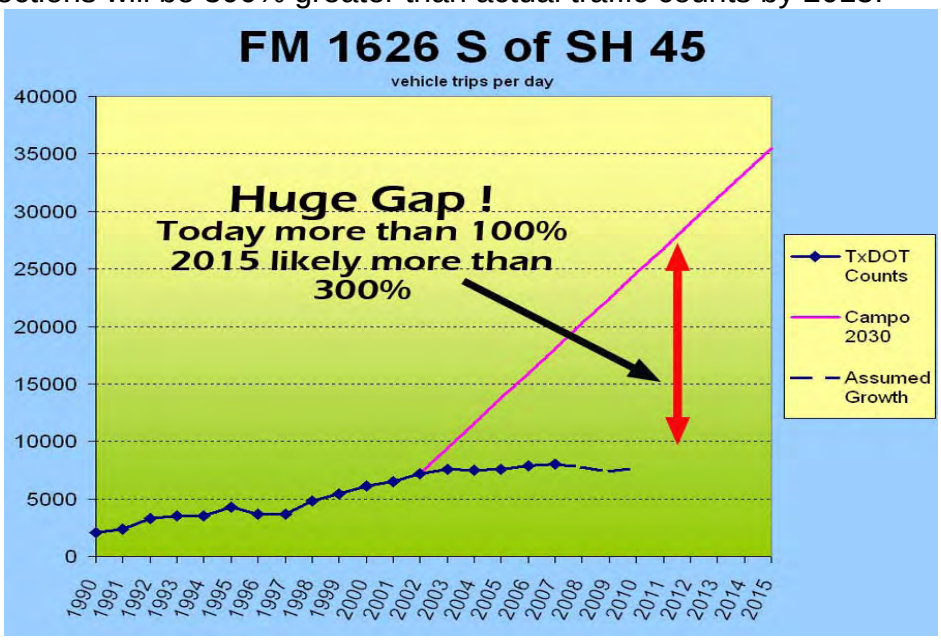




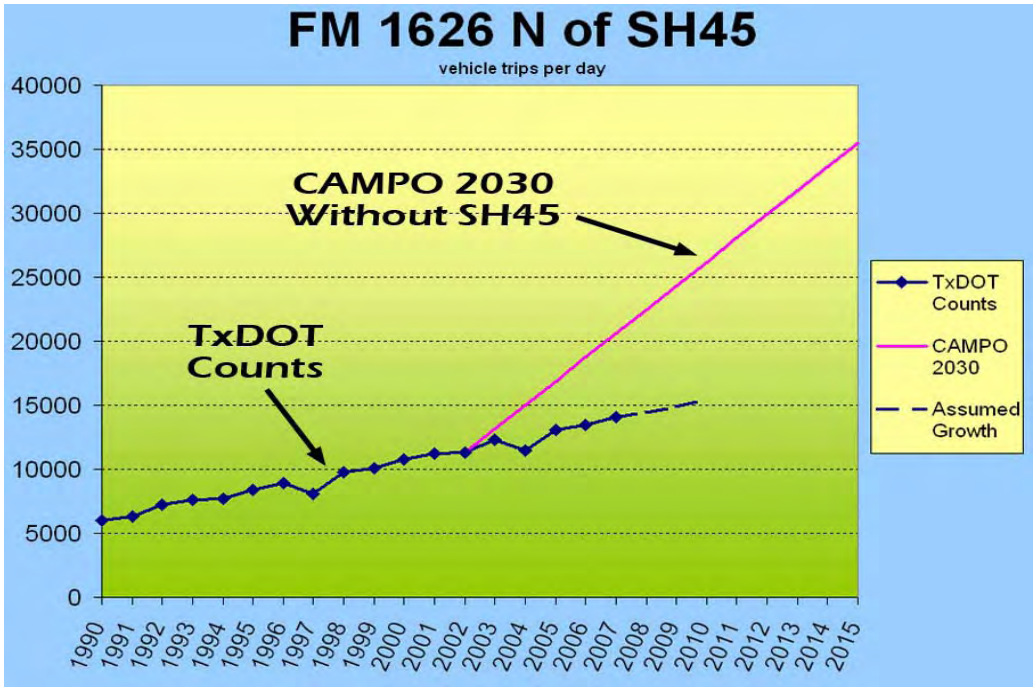
Projections of traffic growth for Loop 1 come from the **CAMPO Response to Council Member Kim's Questions** (Revised Response 10/4/07) (see Appendix 1). The 2030 Plan (pink line) for MOPAC, adds approximately 60,000 vehicle trips per day with SH45 built non-tolled. In 2005, just three years after the 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.

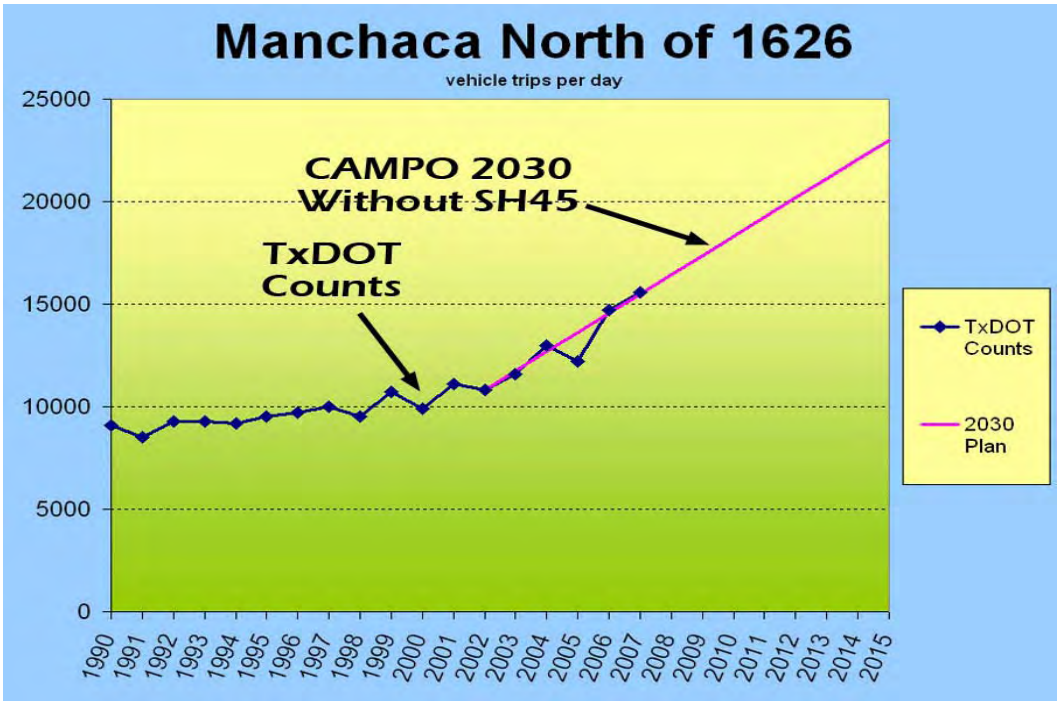


The data show a similar relationship north of the proposed SH 45 intersection if SH45 is not built (as is shown in the following graphic). If SH45 *is* built, the disparity between the CAMPO 2030 Plan and actual traffic volume growth is even greater because much of the 1626 traffic northbound chooses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



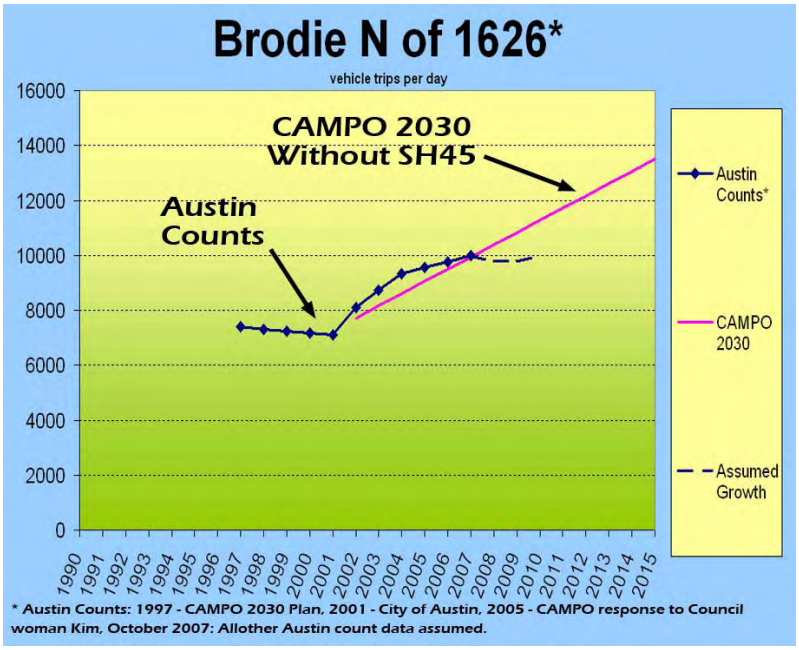
Fortunately for this segment, future improvements in the 2030 Plan keep this section of roadway from being anywhere close to significantly congested as shown in the following table from **The CAMPO Response to Council Member Kim's Questions** (Revised Response 10/4/07). A volume to capacity (V/C) ratio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

	2005			2015 (W/ SH 45 SW)			2015 (W/O SH 45 SW)		
Roadway	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 analyis for Manchaca Road (FM 2304) with and without SH45 in 2015 shows ample capacity on FM2304.

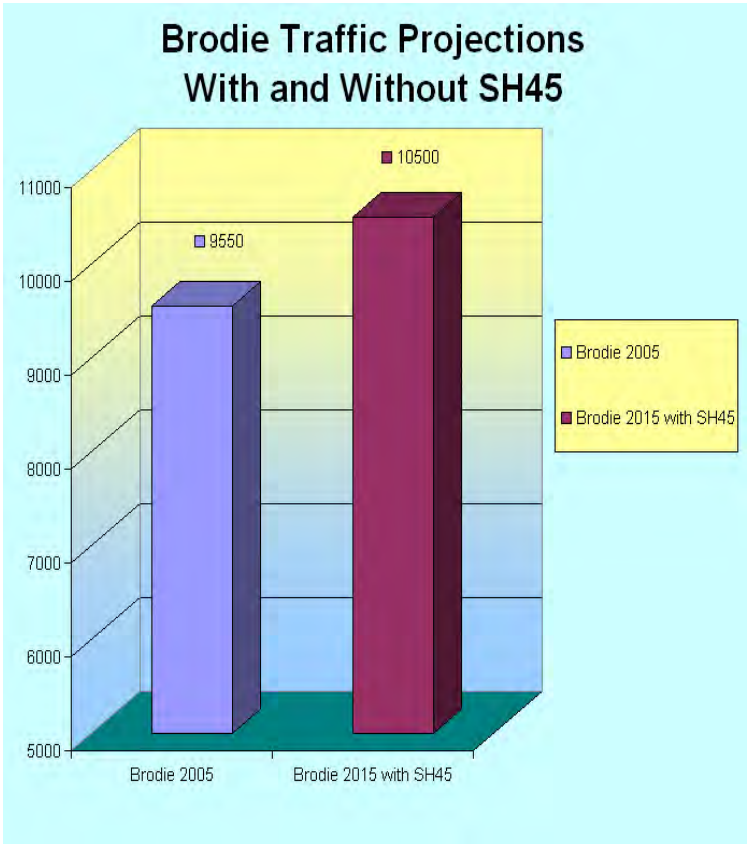
Reference: CAMPO Response to Council Member Kim's Questions (Revised Response 10/4/07)

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



Brodie Lane was connected to FM1626 in 2001. The above graphs clearly shows 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 <u>EVEN WITH SH45 CONSTRUCTED</u>



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.

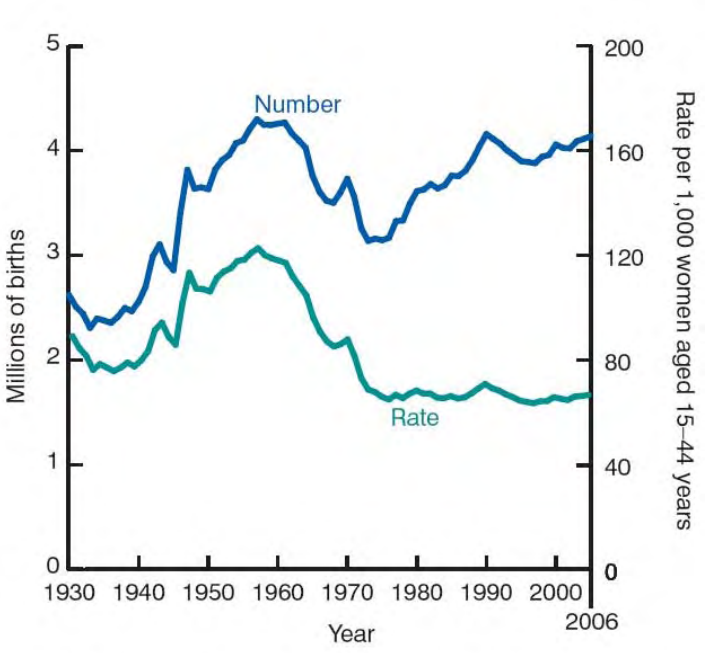
9. Why is Traffic Volume Growth Decreasing?

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 is 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.



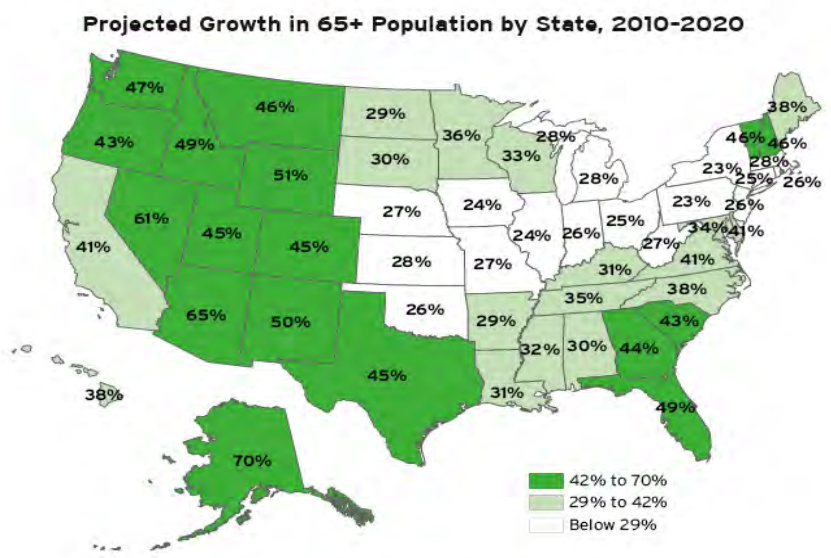
NOTE: Beginning with 1959, trend lines are based on registered live births; trend lines for 1930–1959 are based on live births adjusted for underregistration.
SOURCE: CDC/NCHS, National Vital Statistics System.

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

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 is 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 binge 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.

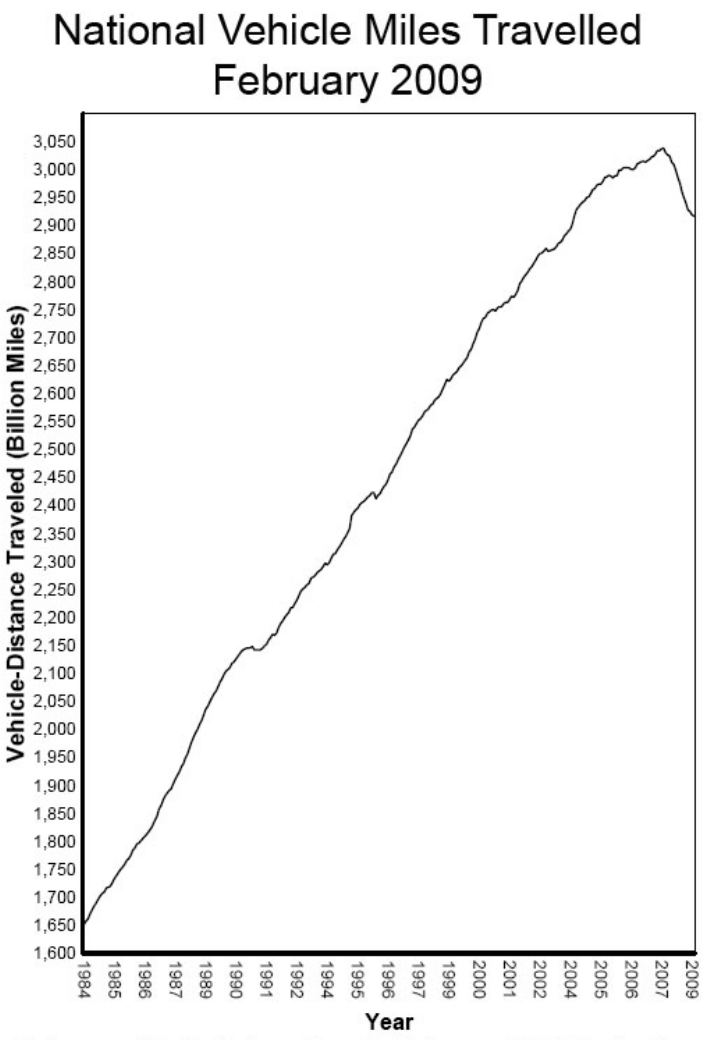
Today, the woman's work force has been maximized. There are no more families out there where the mother's role is changing from "housewife" to worker any longer. That pool of workers is all used up. Those extra vehicle miles traveled every year are no longer being added to the total. Because of this 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.



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

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: 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 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 impacts 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 they 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.

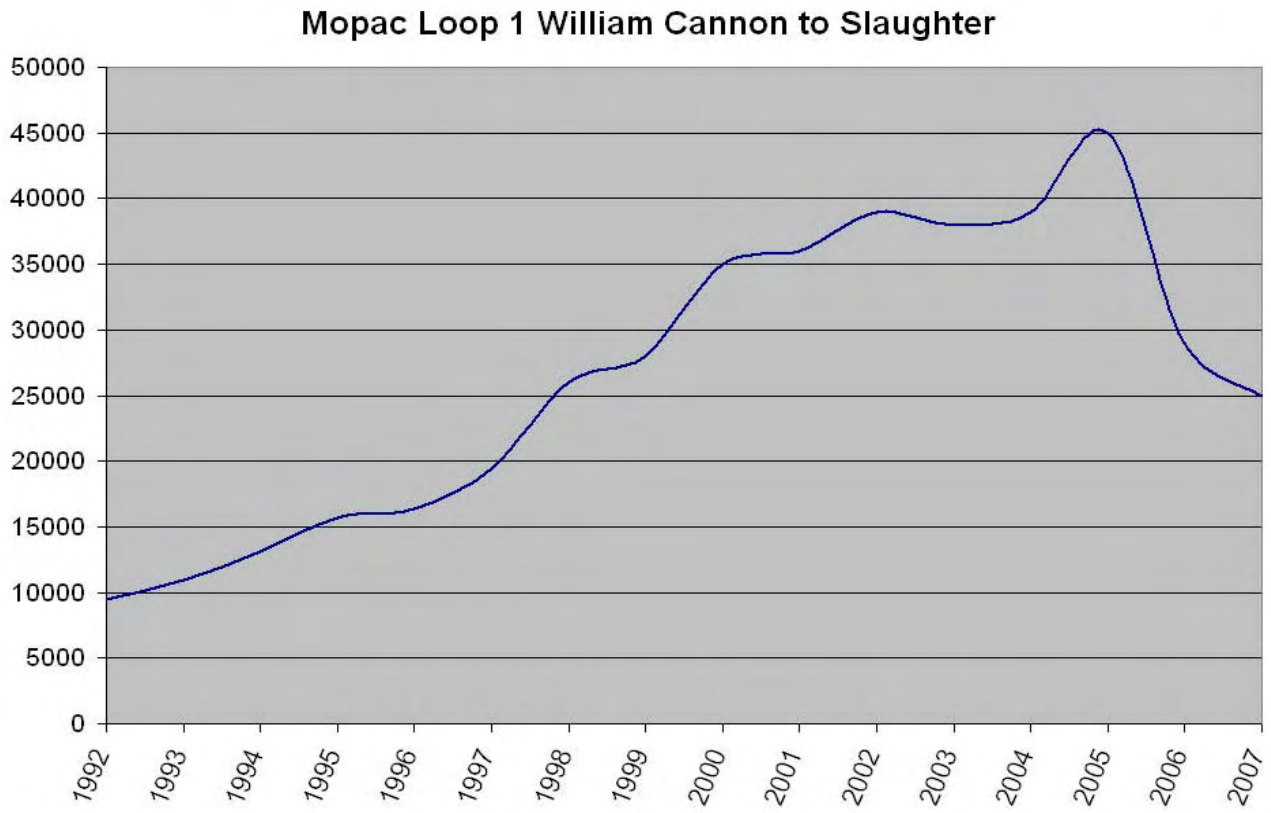
To continue planning with traffic volume projections anywhere near "business as usual" is, in light of the understanding of 21st Century knowledge, significantly irresponsible.

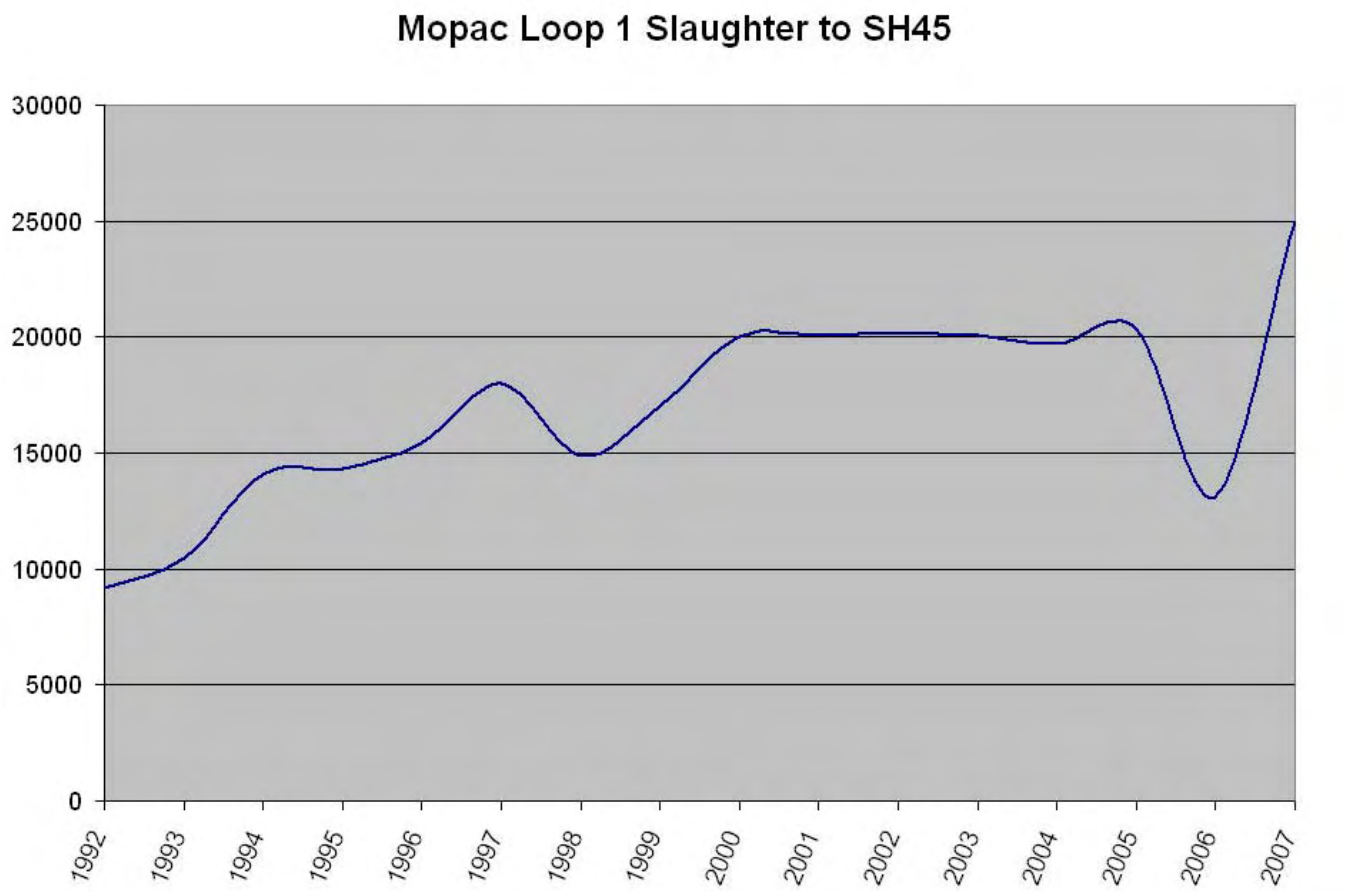
APPENDIX 1

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.





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 or the year 2005 which does not match the TxDOT

The following table is from **The CAMPO Response to Council Member Kim's Questions** (Revised Response 10/4/07).

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.

G:\2-Data_Development_and_Maintenance\201-Transportation and Air Quality Modeling and Forecasting\Modeling\CAMPO Model Runs\TIP amendment runs 2007\tip questions\sh45_mld.xls

MESA ENGINEERING

ENVIRONMENTALLY CONSCIOUS CIVIL ENGINEERING

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

May 13, 2009

Judge Samuel Biscoe
Travis County Commissioners Court
14 West 11th St., Suite 520
Austin, Texas

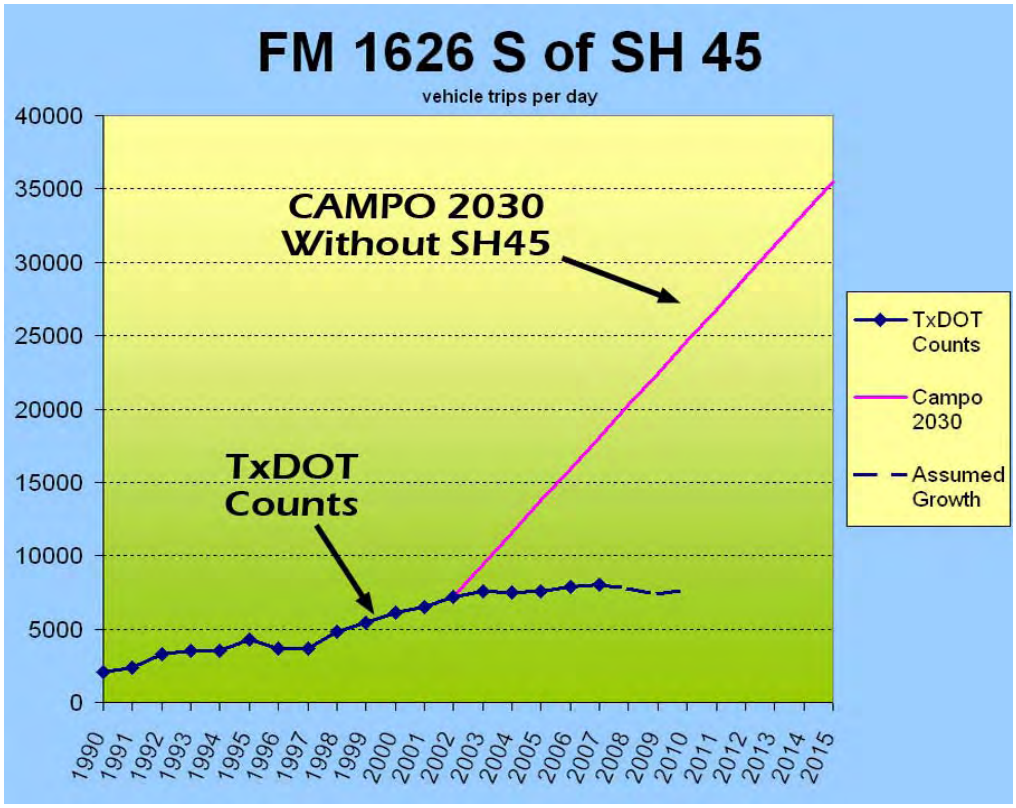
Re: TxDOT Traffic Counts
1) Written Report
2) Misrepresentation of Traffic Data by TxDOT and or CAMPO at Committee on May 11

Dear Judge Biscoe:

Thank you for offering to transfer my traffic data report to the Committee. I also want to discuss misrepresentations of the "VMT" data that TxDOT / CAMPO presented in the backup packet last Monday the 11th. I would have done both in person at Citizen's Communication, but this was cancelled. I urge the Judge and the Committee to leave time at the end of the meeting for this most important and democratic process.

1) Traffic Data Report:
I was quite disappointed at the response from the committee when I presented my traffic volume growth analysis. I was expecting many voices to simultaneously ask TxDOT and CAMPO to explain. This did not happen. So I have written, sealed and distributed this report documenting the extremely aggressive growth assumptions of the CAMPO 2030 Plan. My future correspondences will describe the continuance of the use of these significantly exaggerated numbers to fund taxpayer projects.

The following is another simple math problem that I did, using TxDOT traffic counts, to show Commissioner Barton how extreme the difference is between reality and the "CAMPO 2030" projections. The long-term growth rate, even on FM1626 at the assumed intersection of SH45 and FM1626 is about 85% less than was expected—not since the gas price hike, and also not including the economic distress. The average traffic growth rate from 2002 to 2007 for this road segment was 2.1%. The average growth rate for this segment between 1997 and 2002 was 11.4%. Hence, the overestimation that has been revealed in the "2030 Plan" projections.



In addition, the traffic growth on FM1626 is so far exaggerated in the CAMPO 2030 Plan that its projection of traffic on FM1626 south of the assumed SH45 intersection for today is 18,500 vehicles. The actual 2007 TxDOT count showed 8,000 vehicles. The CAMPO 2030 Plan shows projected growth that is 230% great than the actual count.

Our unemployment rate in Austin is approximately triple the growth rate in 2008, which in turn was only 1/3 the growth rate in 2007. Given those circumstances, the likelihood that traffic has grown much if any above 8,000 vehicles per day since 2007 on this stretch of roadway (FM 1626 at the future SH 45 intersection) in my professional opinion is extremely low.

2) Misrepresentation of Traffic Data by TxDOT and or CAMPO

Data used by TxDOT and provided in the backup package last meeting (May 11th) to dispute the fact that average traffic volume growth is flat, for years after 2005, comes from the CAMPO 2030 Plan itself. In other words, they used the significantly optimistic "CAMPO 2030" projections, instead of actual numbers, which are available. This use of the 2030 Plan numbers is referenced at the bottom of that document (this information is also *not* on the CAMPO website backup information page but much of the backup package is on the site).

Data from 2000 to 2005 provided by TxDOT / CAMPO in this backup package VMT analysis, prove the inaccuracy of the CAMPO 2030 plan traffic projections. This data shows the total flattening of traffic volume growth for the period beginning about the turn of the century, region-wide.

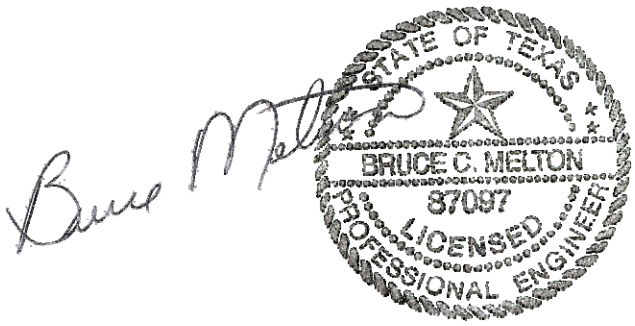
But after the year 2005, the VMT graph you were presented with creates the illusion that traffic has begun to grow again by substituting CAMPO 2030 planning data for actual traffic counts for the years 2006 and 2007, even though the actual counts are available. This is highly questionable technique. Why was this done?

To use a projection drawn from the overly optimistic CAMPO 2030 Plan to represent actual existing traffic counts con not be trusted to represent actual traffic volume growth.

I cannot stress enough the inappropriateness of using the data in this way to understand existing traffic volume growth trends.

Thank you for your time,

Bruce Melton PE, President
Melton Engineering Services Austin
bmelton@earthlinkk.net
512 799-7998



MESA ENGINEERING

ENVIRONMENTALLY CONSCIOUS CIVIL ENGINEERING

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

May 13, 2009

Judge Samuel Briscoe
Travis County Commissioners Court
14 West 11th St., Suite 520
Austin, Texas

Re: SH45 Alternative Report

Judge Briscoe:

I would like to offer a short discussion of substantial alternatives to SH45 construction.

Background: Traffic volume growth trends in Austin, based on existing traffic counts reflect national lifestyle demographics. Vehicle miles traveled per person have stabilized or dropped, not continued to increase. Demographics also reveal that in fast growing areas like Austin these demographics are enhanced, and specifically as described by Frey, et. al., in Austin (1). National vehicle miles traveled have significantly declined in three years (2) and the rate of increase is also in significant decline in the last fifteen years (3). Lifestyle demographics, new data on the Barton Springs salamander, ongoing research on the Barton Springs salamander, a better understanding of the issues involving impervious cover and nonpoint source pollution, an better understanding of the relationship between road building and overall watershed impervious cover, ongoing research analyzing the impacts of nonpoint source pollution over the Barton Springs Recharge Zone, and time to construction for congestion and safety relief projects should all be considered in planning for our transportation future. A faster solution to transportation issues in the Travis / Hays County FM1626 growth corridor is presented below.

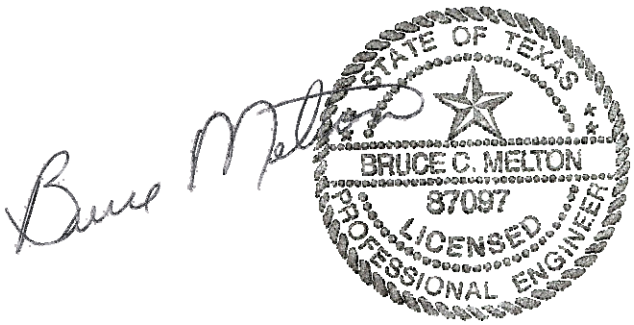
Brodie Lane: Construction of SH45 is the longest route to relief of congestion and safety issues in the Brodie Lane / Shady Hollow area. The fastest relief for this area comes in the form of City / County improvements to Brodie lane and SH1626 between Bliss Spillar Road and Manchaca Road. Minor widening and restriping of Brodie for left turn bays at specific intersections and lengthening of the left turn bay at Slaughter Lane will alleviate the majority of congestion on Brodie Lane. These improvements can be done for relatively insignificant costs, relatively quickly compared to the construction of SH45.

FM1626: Improvements to FM1626 between Bliss Spillar Road and Manchaca Road, similar to the improvements scheduled to begin construction on FM1626 south of Bliss Spillar in 2011, can be done for the 1.5 miles length for approximately $13 million (based on the 3.6 miles of improvements for FM1626B in Hays County Bonds approved for 3.6 miles at $32 million). This project would have a shorter construction time than that required or SH45.

Using data from the CAMPO memo to Council Woman Kim from October 2007 (4), without the construction of SH45, the V/C ratio for Manchaca road is a respectable 0.86 in 2030.

Manchaca Road: Manchaca Road is already slated for completion to MAD 4 by 2015 as per the CAMPO 2030 Plan, therefore no funding is needed.

Thank you for your time,



Bruce Melton PE, President
Melton Engineering Services Austin
bmelton@earthlinkk.net
512 799-7998

References:

1. Frey, et. al., Getting Current: Recent Demographic Trends in Metropolitan America, The Brookings Institution metropolitan Policy Program, March 2009.
2. Traffic Volume Trends, U.S. Department of Transportation, Federal Highway Administration, Office of Highway policy Information, February 2009.
3. 3. Reference: Federal Highway Administration, Bureau of Transportation Statistics, National VMT Trends Frey,

http://www.bts.gov/publications/journal_of_transportation_and_statistics/volume_08_number_03/html/paper_03/figure_03_02.html

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

IH 35 Alternate Route

Memo From Bill Bunch to Judge Sam Biscoe and Commissioner Karen Huber
5/31/09

Dear Judge Biscoe and Commissioner Huber:

Please accept the following comments on the draft SH 45 SW Committee recommendations memo that was provided to the committee members last week. Given the short time, and the weekend, my colleagues in this effort have not agreed to these specific points, although I believe they probably do agree. For now, please consider these comments as coming just from me.

I do appreciate your hard work on this effort. I also recognize that Shady Hollow residents and others interested in seeing SH 45 Southwest feel, with some legitimacy, that they have been promised some relief via SH 45 Southwest construction for some time, have not received that relief, and are now demanding that something be done.

While the environmental community agrees that something should be done, that something should be actions that will actually help alleviate traffic problems on Brodie as it passes through Shady Hollow. CAMPOs own numbers show that building SH 45 SW will not do that; it will only slow the worsening of the Brodie traffic problem.

While not solving the Brodie problem, building SH 45 Southwest makes Mopac traffic much worse. Thus hundreds of thousands of your constituents will be harmed every single day by what you are recommending be done "as quickly" as possible (and at enormous cost to Travis County taxpayers). The proposed, near-term expansion of FM 1626 all the way to I-35 south of Kyle would, with 45 SW, have the effect of connecting Mopac directly to I-35 via 1626. This consequence was never envisioned in any CAMPO long-range plan and deserves further study before any action is taken.

When you add on the direct and unavoidable damage to Barton Springs and endangered species living in the Edwards limestone within the proposed 45 SW right-of-way, the proposed project becomes not just a financial and traffic problem but probably the greatest current threat to the future of Barton Springs. Building SH 45 Southwest would primarily benefit developers in northern Hays County, with Wildflower Commons PUD developer Bill "Scooter" Walters at the head of the line. Besides the 265 acre Wildflower Commons PUD property, Mr. Walters controls 600 acres at the proposed SH 45 SW and FM 1626 intersection. This area is precisely the area where pumping from the Barton Springs Edwards Aquifer is already excessive. The current drought has shown us that already too much pumping for development has been permitted by the BSEACD, beyond the level that is sustainable.
What this means is that building 45 Southwest note only poses a direct threat of pollution to Barton Springs, it will also contribute substantially to development pressures that threaten to pump the springs dry during times of drought.
Rather than rush forward with a project that will cause demonstrable harm with very little benefit, and only do so in the best of cases in 4 or 5 years, I respectfully urge you to focus efforts on short-term, affordable, and sustainable actions that will benefit Brodie traffic.

These include restricting access to Brodie through measures such as lowering speed limits, giving side street traffic the right-of-way when entering Brodie, and improving 1626 and Manchaca so that 1626 and Manchaca provide more viable commuter routes than does Brodie.
CAMPO should also place as priorities the regional commuter rail connection between Austin and San Marcos on the existing railroad tracks as well as provision of express bus and park & ride services from Buda and Kyle. All of these projects are more environmentally and financially sustainable.
Concerning specific language in the draft recommendations memo, please consider the following points:

1. The tolled options in draft priority options #2 and #3 were never imagined by Travis County voters when they voted to buy the SH 45 SW right-of-way. Similarly, voters were told that TxDOT would pay for the road, not further tens of millions from county taxpayers. The draft recommendations thus directly conflict with very basic and crucial representations made to Travis County voters.
2. Along these lines, recommending SH 45 Southwest as a "priority" for the 2010 t0 2013 TIP outside an evaluation of other potential "priorities" for the 2010 TIP short circuits the TIP planning process. There are far more pressing priorities for Travis County taxpayers and commuters than building SH 45 SW in any of the proposed configuration options. The committee spent no time at all looking at other potential priorities for the 2010 TIP and comparing those potential priorities to SH 45 SW. Similarly, the committee membership excluded representation from other areas of the CAMPO region that have pressing transportation needs. Thus recommending SH 45 SW as a top priority the the vacuum of this committee is not logically sound and serves to disenfranchise the vast majority of your constituents.

3. On page 3 the memo states that the federal lawsuit Consent Decree constitutes a settlement "between TxDOT and Save Barton Creek Association . . ." This is not true. The Consent Decree is between TxDOT and the Barton Springs Edwards Aquifer Conservation District. SBCA never agreed to building SH 45 SW.

4. It is important to note that, on page 4, the memo admits that even with SH 45 SW built between Mopac and 1626, traffic on "Brodie Lane south of Slaughter Lane still remains[] at an unacceptable level of service." _Yet inexplicably the Committee seems poised to act without a single recommendation to address this problem.

_5. While on page 5 the memo gives passing reference to the acquisition of watershed preserve lands it rather falsely asserts that such acquisitions have made traffic on FM 1626 worse by "funnelling" traffic onto 1626. The preserve acquisition has prevented far greater traffic increases on 1626 -- increases that would have otherwise materialized if these lands had not been taken out of the development pool. The same is true for traffic on Mopac, the existing 45 Southwest segment, and FM 1826. _There should be no room of any kind for such misinformation in your recommendations_. An honest concern with both traffic and the Barton Springs Edwards Aquifer would prioritize buying more watershed preserve lands rather than trying to round up tens and even hundreds of

millions more dollars to pave the aquifer.

6. The discussion of funding tradeoffs on page 5 and 6 of the memo suggests that by avoiding federal funding CAMPO can avoid federal environmental protection standards. While this approach is openly hostile to protecting the Barton Springs Edwards Aquifer, it is, nonetheless, consistent with past SH 45 SW approvals. However, with the listing of the Barton Springs salamander and several other species as endangered, and the plans to build SH 45 SW on top of Flint Ridge Cave, it does not appear to me possible to build SH 45 SW without securing federal approval under both NEPA and the ESA.

7. The recommendation number 1 on page 7 of the memo appears to recommend repealling previous recommendations calling for the "implementation of policies to discourage the use of Brodie by thru-traffic and trucks." This appears to be going backward in addressing concerns by Shady Hollow residents.

8. Proposed recommendation number 2 on page 7 would eliminate the restriction of using funds in one toll corridor within that corridor so as to allow the "creation of a system of toll roads." We oppose this measure on financial, social, and environmental grounds. If a toll road is viable, it should stand on its on. If its not (as SH 45 SW is not) it should not be subsidized by development and commuters elsewhere. People living, driving, working, and paying tolls in Austin's Desired Development Zone should not be forced to subsidize development and toll roads in the Barton Springs Edwards Aquifer watershed.

Further, by creating "a system of toll roads" that includes federal financing, then that "system" must be analyzed under the National Environmental Policy Act as a "system." This analysis must include evaluating alternatives to the proposed system. If the goal is to avoid federalizing SH 45 SW, this provision will re-federalize it real quick.

In conclusion, and as previously urged, the focus we believe should be on short-term, affordable and more immediate fixes that address Brodie Lane traffic issues, while stepping back from SH 45 SW to re-evaluate the proposed project in light of substantial changed circumstances and in the context of the 2035 planning process. Your proposed recommendations take the opposite approach -- seeking to fast-track SH 45 SW while both acknowledging that this will not help Brodie traffic much and ignoring and even undermining efforts that would actually provide near-term Brodie traffic problems. I hope you will reconsider before you vote tomorrow.

Thank you for your consideration.

Bill Bunch

MESA ENGINEERING

ENVIRONMENTALLY CONSCIOUS CIVIL ENGINEERING

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

Wildflower Commons PUD
Traffic Generation Report
February 12, 2009

Summary

This report is a review of the issues concerning vehicle trips per day generated by the project. The presentation to the Environmental Board by the applicant on October 15, 2008 contained a reference to approximately 45,000 trips generated by the project if built under the Bradley Settlement and compared this to the Wildflower Commons project as proposed with over 31,000 trips per day. The assumption suggested by the developer was that the proposed project has *less* impacts than if built under the Bradley Settlement. As shown below, the proposed project at 31,000 trips *can not* be compared to the Staff reference of 45,000 trips, and this assumption is not supported by three different City of Austin analyses.

This extremely large number cited by the applicant (45,000) comes from City of Austin calculations for the absolute and most unlikely worst-case land use scenario allowed.

To allow the proposed PUD the requested 31,015 vehicle trips per day would increase the entitlement on this property far beyond the realistic level that exists with the Bradley Settlement, as demonstrated by two separate analyses from City Staff (Librach 2000 and Zapalac 2009). The increase associated with the PUD is nearly three times more than the Bradley Settlement allows and specifically does not decrease the traffic impacts as suggested by the applicant.

Furthermore, when applying the worse case scenario analysis techniques used by the City to the proposed Wildflower Commons land uses, nearly 57,000 vehicle trips per day are generated.

Zapalac Memo, February 9, 2009

The Development Services Manager of the Watershed Protection and Development Review Program produced an analysis of the possible traffic generation for this project under the Bradley Agreement on February 9. This analysis shows that the only way that approximately 45,000 vehicle trips per day can be generated from this project is if all of the land use is Medical Office (with the highest trip generation of all of the Office land use categories). The analysis states that for this to happen the project must be built:

- With 1.3 million square feet of medical office land use,
- So that most of the parking is underground,
- Where the depth of parking garage would be three to four stories below ground level.

Mr. Zapalac goes on to state “Such a development may not be economically feasible because of the depth of the excavation involved…”

The assumption that “all” of the office would be developed as “medical office” could be quite unrealistic, especially considering the distant proximity of any existing medical facilities.

Under a more realistic General Office land use design, the total project under current entitlements, including 175 single family residences, could generate over 13,000 trips per day if it were to include an underground parking garage(s), and about 8,500 trips per day if all of the parking were surface parking, according to the memo.

Librach Memo, February 7, 2000
This memo analyzed future congestion relative to planned roadway upgrades for total proposed traffic from all of the tracts included in the Bradley Settlement. The total proposed traffic generation for the tracts proposed for the Wildflower Commons project was 12,422 trips per day. Austin Librach stated in his memo that this count was developed from “…impervious cover caps currently being negotiated and from data from the Water and Wastewater Utility.”

The memo concludes: “Given the conservative land use estimates used to generate the number of daily trips, it can be reasonably stated that the traffic generated by the Bradley Settlement will not create a need for roadway upgrades beyond what is currently funded.” *Conservative* in the above sentence means that a great enough density was chosen for the proposed land uses in the Bradley Settlement tracts to assure that the conclusions of the analysis were more than large enough to represent a realistic buildout.

Jain Email, February 11, 2009
An email from Sanjeeta Jain summarizes the traffic generation for the proposed Wildflower Commons land uses (PUD dated February 5, 2009). This email uses a worse case scenario technique similar to that used by Librach and Zapalac to see just exactly how much traffic could be generated from a given land use if the most dense and intensive land use possible were placed exclusively on the entire project. Even though this scenario is highly unrealistic, it is useful nonetheless as a tool for visualizing the absolute upper limits of possible traffic generation under any given land use scenario – regardless of how realistic the land use assumptions may be.

Me. Jain’s short analysis showed that the new land use proposal by the applicant, on the PUD Plan dated February 5, 2009, would, if developed to the most intense and unrealistic levels, generate 56,700 trips per day.

Summary of City of Austin Traffic Generation Calculations - Not Supported by Three Analyses from City Staff
When the three different traffic generation analysis are viewed in total, it is apparent that the 31,015 vehicle trips per day proposed by the applicant for Wildflower Commons is far in excess of the traffic generation that would occur on the property if developed under the Bradley Settlement. The applicants’ statement that their proposed traffic generation is a

"reduction" from a project developed in compliance with the Bradley Settlement is not supported by three separate analyses prepared by City Staff.

Traffic Counts and Failing Intersections: Current and Proposed
Today's traffic count, done by TxDOT at SH 45 and Mopac, shows that 5,600 vehicles per day pass by the proposed project site. The total traffic for this stretch of roadway considering only today's volume with the inclusion of the PUD projected traffic, is nearly 37,000 vehicles per day. Using CAMPO 2030 traffic projections the volume at this point would be over 62,000 vehicles per day, similar to William Cannon at US 290 where traffic is failing during peak hours today. The 2030 transportation plan does include an upgrade for Mopac to three lanes each direction but no funded or scheduled plans currently exist for this expansion.

The Slaughter Lane / Mopac intersection is currently failing. This single project's entitlement of 31,000 trips per day will more than double the existing traffic on Mopac, significantly compounding this failure.

Given current roadway expenditure issues, funding mechanisms and funding availability for relief of this amount of congestion at either of these intersections is questionable.

Convoluted and Congested Single Point Access
The most important issue with the single point access is that this was a part of the Bradley Settlement in 1988. The assumptions for the single point access were that this type of access would be adequate for the proposed low-density, low traffic generating uses listed in the Bradley Settlement. In light of this history, and the environmental sensitivity of the land, the access issue should be addressed by not approving the PUD (as opposed to adding additional points of access).

The proposed entitlement of 31,000 trips per day for this single point of access would be similar to one and one-half times greater traffic through an identical roadway cross section than occurs where Mopac meets Slaughter Lane. Currently, this intersection is failing in level of service.

The convoluted nature of the intersection at the single point of access would serves to increase congestion and decrease level of service, complicating not only access to the project, but increasing through-traffic congestion as well.

A variance is required for this project from the section of City Code that requires two access points (25-4-157B). This criteria is required to spread traffic flow to more than one point avoiding congestion - but more importantly this is a safety issue. In a major development such as this, if a disaster occurs on-site, and the single point access is blocked, tremendous damage and or loss of life could occur because emergency responders could not access the disaster.

Stormwater Runoff and Water Quality
Direct monitoring of this stormwater runoff from the immediate vicinity of this site in 1995 by the Center for Research in Water Resources at the University of Texas (Barret 1995) showed a very significant increase in heavy metal concentrations (zinc) in the runoff occurring after

construction was completed and the highway was put into operation. At this time the highway volume was servicing about 3,300 vehicles per day. The study showed a two and one-half times increase in heavy metal pollution (zinc) concentrations above what was measured under background conditions.

Today the traffic volume is 5,600 vehicles per day. Adding the assumed increase in traffic because of this project under the Bradley Settlement, (as per the Zapalac and Librach memos of about 13,000 trips) the amount of traffic would increase over five times that of the study period. The total when adding today's volume to the proposed 31,000 trips is nearly 37,000 vehicles per day. This is ten times more traffic than was measured in the Barret study which clearly demonstrated increased pollutant loads from highway runoff, and twice as much as allowed under the Bradley Settlement.

Conclusions

- The applicants' assumption of approximately 45,000 trips per day generated by the proposed Wildflower Commons project would be less than that under the Bradley Settlement is not supported by two different studies done by City staff over a nine year period and is, according to these two studies, nearly three times greater than the what staff refers to as *realistic projections* for the project under the Bradley Settlement

- City Staff acknowledges, in a third analysis, that the worst-case scenario traffic generation for the proposed Wildflower Commons creates nearly 57,000 vehicle trips per day. This is nearly five times greater than allowed by the Bradley Settlement.

- The proposed project would increase traffic over five times above today's levels from 5,600 vehicles per day near the South Mopac/ SH 45 intersection to over 37,000 vehicles per day. (This compares to about 19,000 vehicles per day under the Bradley Settlement)

- Under the applicant's analysis, the additional traffic will cause significant degradation of level of service to the roadways studied *because of the traffic from this development alone*. Additional development in the area, allowed under the Bradley Settlement would further increase congestion, delays and the need for additional traffic improvements.

- The proposed entitlement of 31,000 trips per day for this single point of access would be congested, convoluted and unsafe from an emergency responders standpoint.

- The original assumption of a single point access was based on low density, low traffic generating land uses. The proposed project is a very high density, very high traffic-generating project. Significant contemplation should be given to any variance issued to allow this size of a project to access a through a single point.

- Considering the results of on-site water quality monitoring directly adjacent to this site, before and after construction of the Mopac / SH 45 roadway, entitling this project to over 31,000 trips per day trips per day would increase traffic nearly three times over

the traffic volume estimated for a conservative scenario (greater than normal) from what is allowed in the Bradley Agreement.

- Granting this traffic entitlement to this PUD would set a negative precedent for water quality fundamentally opposite of what was envisioned under the Bradley Agreement.

Attached:

1. Slide from Applicant's Environmental Board Presentation, October 15, 2008.
2. Memo from George Zapalac, City Staff, February 9, 2009.
3. Memo from Austin Librach, City Staff, Table 2 from Bradley Agreement, February 7, 2000.
4. CAMPO 2030 Plan, screen shot of Mopac / US 45 intersection.
5. TxDOT Traffic Count 2005, spreadsheet crop, CAMPO Website.
6. TxDOT Traffic Count 2007, screen shot, CAMPO Website.
7. Memo from Wendy Rhoades, City Staff, page 3, October 18, 2008.
8. Wildflower Commons PUD Land Use Assumptions, February 5, 2009.

References:

Barret, Water Quality and Quantity Impacts of Highway Construction and Operation, Center for Research in Water Resources, University of Texas, 1995.

Acknowledgement:

Prepared through a partnership with the Save Our Springs Alliance.

Wildflower Commons PUD
Traffic Generation Report
February 10, 2009

Attachments

ENVIRONMENTAL COMPARISON

Issues	Compliance	Proposed
A. Impervious Cover	44,527 acres 17.58%	37.986 acres 15%
B. Construction Envelope	265 acres	103 acres
C. Protection of CEFs	Standard Setbacks	Avoidance
D. Protection of Bear Creek	No	Yes
E. Increased Water Quality Capture Volume/ Detention/ Water Conservation	Code	9.86 acre feet of initial capture volume + appx. 27 acre feet of irrigation storage
F. Green Builder/ Sustainability	No	Yes
G. Traffic Trips	44,980 Trips	35,746 Trips (20.5 % reduction)

Slide from Applicant's Presentation to Environmental Board, October 15, 2008.

MEMORANDUM

TO: Wendy Rhoades, Case Manager
Neighborhood Planning and Zoning Department

FROM: George Zapalac, Development Services Manager
Watershed Protection and Development Review Department

DATE: February 9, 2008

SUBJECT: Wildflower Commons PUD
Traffic Impact
C814-06-0233

I am providing the following information in response to questions that have been raised about the projected trip generation from the Wildflower Commons PUD property.

In 2000, the City of Austin Planning, Environment and Conservation Services Department prepared a traffic study of the area covered by the Bradley Agreement which analyzed the potential traffic impact of development that could occur under the agreement. The properties which are now within the proposed Wildflower Commons PUD were contained within the study and were identified as the Slaughter 100 and Edwards Crossing tracts. The Slaughter 100 tracts correspond to Tracts 1 and 2 of the PUD, and the Edwards Crossing tract corresponds to Tracts 3-5 of the PUD. A summary of the study is attached.

The study did not document the land use assumptions upon which the traffic forecast was based. Projected traffic was "based on a draft development scenario derived from the impervious cover caps currently being negotiated [in 2000] and from data from the Water and Wastewater Utility." The study identified a total of 13,422 trips that would be generated by the proposed development on these tracts. The traffic for the Slaughter 100 tracts was identified as retail traffic and would correspond to approximately 220,000 square feet of retail development. However, the Slaughter 100 tracts were subsequently zoned GO, which allows only office uses. Neither the agreement nor the zoning put a limit on the amount of traffic that could be generated from these tracts. The traffic forecasts represent a reasonable scenario of what could be developed under the agreement but were not a cap upon the amount of development allowed.

In evaluating the traffic impact analysis for the PUD zoning case, staff attempted to determine the maximum potential traffic that could be generated by the existing zoning. Using the impervious cover limits from the Bradley Agreement and the height limits of the GO zoning, staff calculated that the maximum amount of development that could be accommodated on Tracts 1 and 2 is about 1.3 million square feet of office space. This intensity could only be achieved if 4-story buildings are constructed on the property and most of the parking is contained in underground parking garages, which would have to be 3 to 4 levels deep to accommodate all the required parking. Such a development may not be economically feasible because of the amount of excavation involved, but it is the maximum allowed by the existing zoning.

The most intensive office use from the standpoint of traffic generation is medical office use. Under the existing zoning, if Tracts 1 and 2 developed as medical office, they would generate an estimated 45,772 trips per day. If

SLAUGHTER 100 = TRACT 1 & 2

the tracts instead developed to the same intensity as general office uses, they would generate an estimated 11,521 trips per day, or somewhat less than was projected in the 2000 study.

If Tracts 1 and 2 were developed under existing zoning without underground parking, only about half as much square footage could be accommodated. Under this scenario, they would generate 26,964 trips per day if developed as medical office and 6,755 trips per day if developed as general office.

Tracts 3-5 are zoned SF-2 and are estimated to accommodate a maximum of 175 single-family dwellings, or 1,745 trips per day.

The following table summarizes these various scenarios and gives a comparison with the proposed PUD zoning.

Tract	2000 Study	Existing Zoning				Proposed PUD
		Medical office – underground parking	Medical office – no underground parking	General office – underground parking	General office – no underground parking	
1& 2	10,641	45,772	26,964	11,521	6,755	
3-5	2,781	1,745	1,745	1,745	1,745	
Total	13,422	47,517	28,709	13,266	8,500	31,015

17 19000

Please contact Sangeeta Jain at 974-2219 or me at 974-2725 if you need additional information.

George Zapalac
Development Services Manager
Watershed Protection and Development Review Department

SF CONDOS
175 → 550 550
X10 X4 X7
1750 2200 3850

POLLUTION DIFFERENCE
Net Pollution treatment
is Greater W/ SF Because
TREATMENT IS ON SITE

MEMO FROM: AUSTIN LIBRACH 93
FEB. 7, 2000

TABLE 2

Daily Vehicle Trip Generation for Settlement Tracts/Projects

Project	Sf Trips	Office Trips	Retail Trips	Hotel Trips	Res.Trips	Nonres.VTrips	Total
Circle C	0	0	0	0	0	0	0
Circle C	148	0	0	0	148	0	148
Circle C	362	0	0	0	362	0	362
Circle C	185	0	0	0	185	0	185
Circle C	0	0	851	0	0	851	851
Circle C	0	0	0	0	0	0	0
Circle C	0	0	0	0	0	0	0
Hielscher	8,807	0	0	0	8,807	0	8,807
Circle C West	6,953	0	0	0	6,953	0	6,953
Circle C West	547	0	0	0	547	0	547
Circle C West	0	0	0	0	0	0	0
12.00	139	0	0	0	139	0	139
13.00	213	0	0	0	213	0	213
14.00	658	0	0	0	658	0	658
Slaughter 100	0	0	1,182	0	0	1,182	1,182
Slaughter 100	0	0	9,459	0	0	9,459	9,459
Edwards Xing	2,781	0	0	0	2,781	0	2,781
Jan Yates Tract	0	1,652	0	0	0	1,652	1,652
Spillar	3,708	0	0	0	3,708	0	3,708
Spillar	3,245	0	0	3,675	3,245	3,675	6,920
Spillar	0	0	0	0	0	0	0
Pfluger	56	0	0	0	56	0	56
	27,801	1,652	11,492	3,675	27,801	16,819	44,619

SLAUGHTER 100 1,182
SLAUGHTER 100 9,459
EDWARDS XING 2,781
TOTAL 12,422

* LIKELY A TYPO AS PER G. ZAPALAC CONV. W/ B. BUNCH.
RETAIL TRIPS SHOULD BE OFFICE TRIPS.

Memo from Wendy Rhodes, City Staff, October 15, 2008

Slaughter Lane – The AMATP and CAMPO 2030 Mobility Plan classify Slaughter Lane as a 4-lane major divided arterial from FM 1826 to Manchaca Roadway. 24-hour traffic data are not available at this location; however, based on a review of peak period traffic counts, 19,700 vpd are estimated on Slaughter Lane, east of Loop 1. The Austin Bicycle Plan recommends Priority 1 Route 86 from FM 1826 to Loop 1. Currently, the City of Austin has no plans to upgrade this roadway.

Escarpment Boulevard – The AMATP classifies Escarpment Boulevard as a 4-lane divided major arterial from Davis Lane to SH 45. According to City of Austin, the year 2004 traffic volume on Escarpment Boulevard, south of Slaughter Lane was 9,700 vpd. The Austin Bicycle Plan recommends Priority 1 Route 3 from La Crosse Boulevard to SH 45. Currently, the City of Austin has no plans to upgrade this roadway.

La Crosse Avenue – La Crosse Avenue is a 4-lane divided roadway near the site. According to City of Austin Traffic Counts, the year 2004 traffic volume on La Crosse Avenue, east of Eclipse Lane was 5,100 vpd. The Austin Bicycle Plan recommends Priority 1 Route 3 from Dahl Green to Mopac. Currently, the City of Austin has no plans to upgrade this roadway.

Loop 1 Connector Road – Loop 1 Connector Road is a two lane undivided roadway in the vicinity of the site.

Loop 1 Frontage Road – The southbound Loop 1 FR is 2-lane roadway near the site and is currently under construction.

TRAFFIC ANALYSIS

TIA analyzed seven (7) intersections of which two (2) are currently signalized. The results are summarized in Table below. The build-out condition level of service (LOS) assumed that all roadway and intersection improvements recommended in the TIA are constructed.

Intersection	2006 Existing		2012 Forecasted		2012 Site + Forecasted	
	AM	PM	AM	PM	AM	PM
Loop 1 and Slaughter Lane*	F	F	F	F	F	F
Loop 1 and La Crosse Ave*	C	B	B	B	C	D
Escarpment Blvd and SH 45 NFR	A	A	A	A	-	-
Escarpment Blvd and SH 45 SFR	A	A	A	A	-	-
Escarpment Blvd and SH 45	-	-	-	-	B	B
FM 1826 and SH 45 NFR	A	B	B	B	B	C
FM 1826 and SH 45 SFR	A	A	A	A	A	A
Loop 1 Connector Road and Loop 1 FRs	-	-	-	-	A	F
Driveway A and SH 45 SFR*	-	-	-	-	B	B

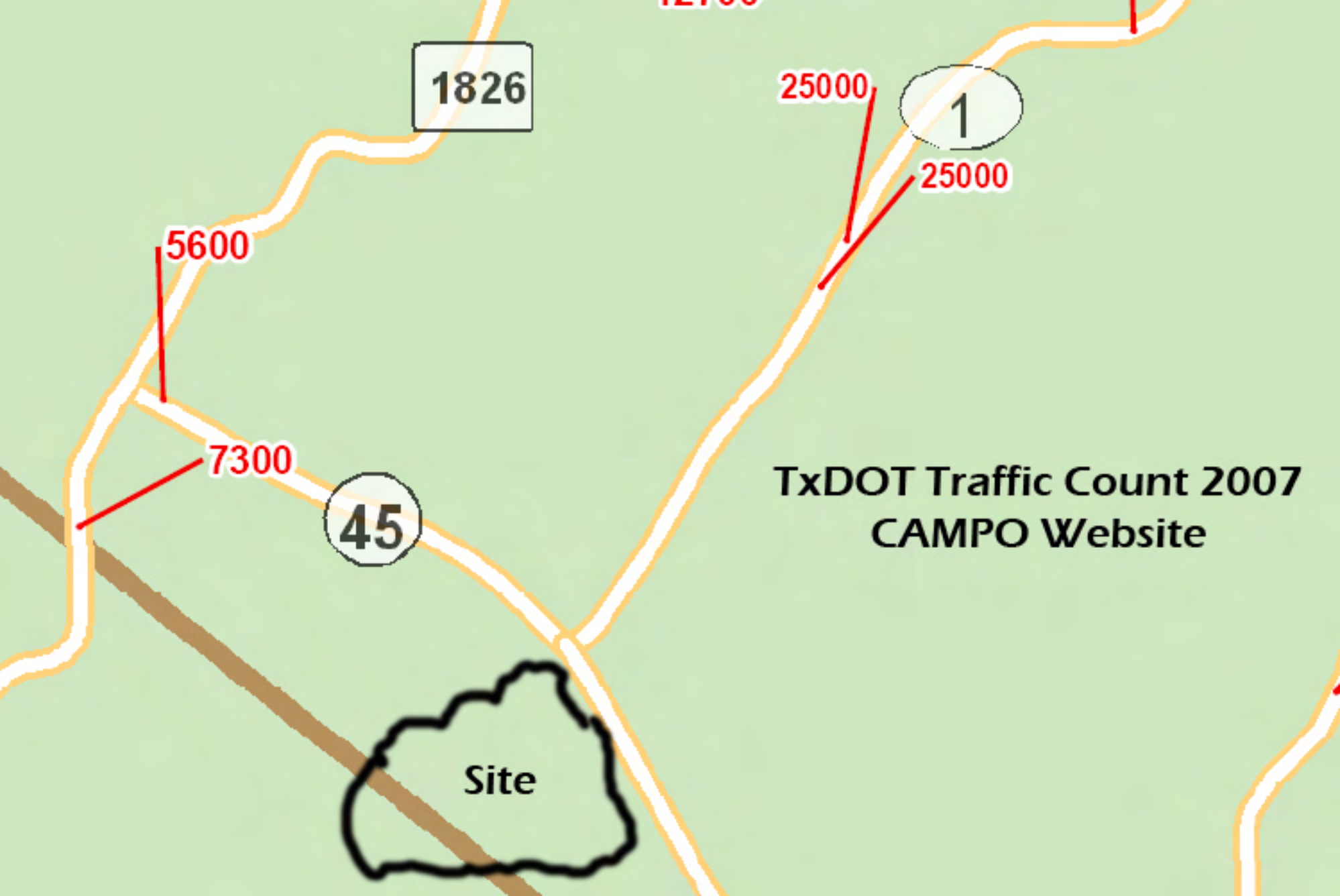
*signalized

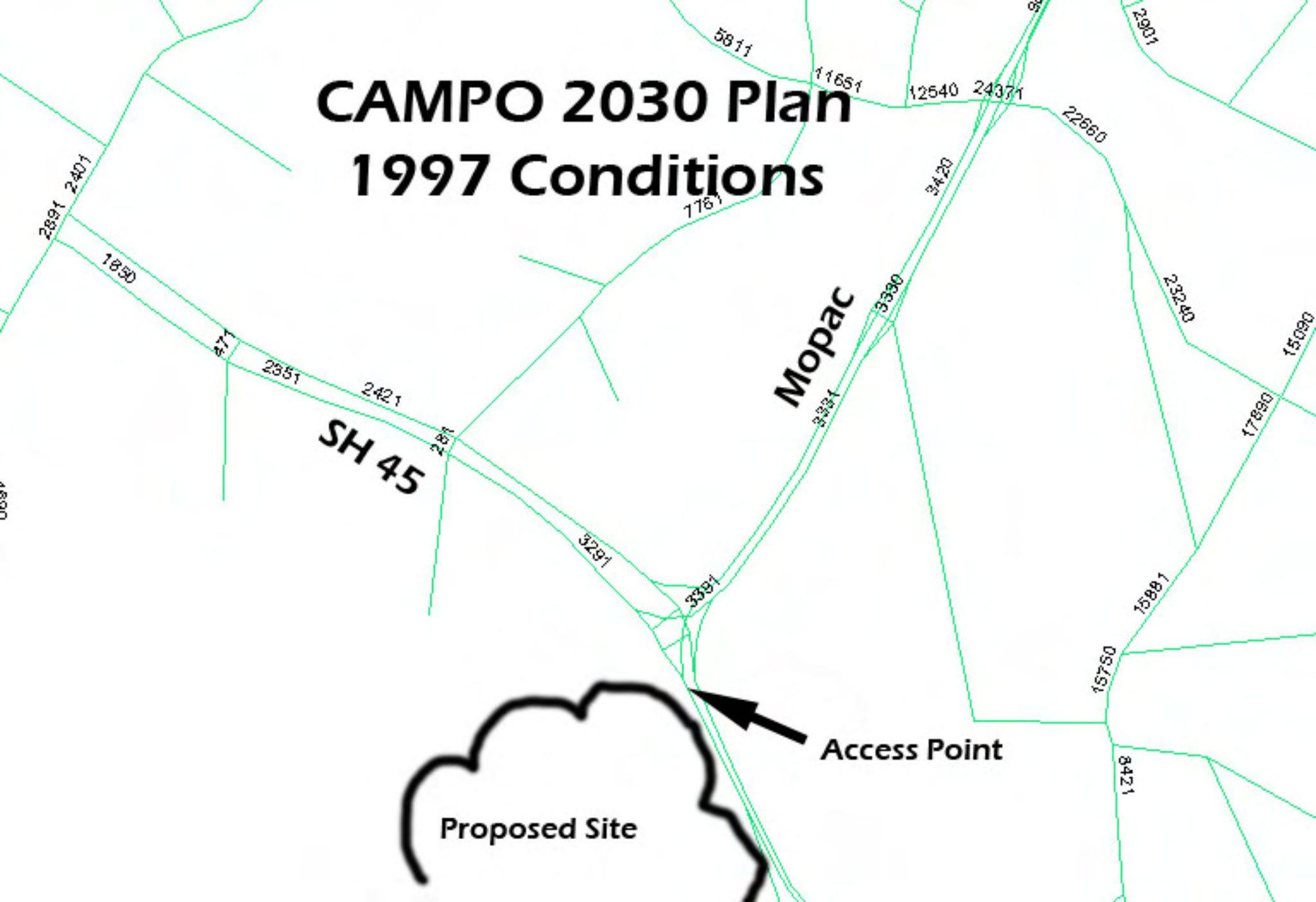
City of Austin Traffic Count, 2007
CAMPO Website

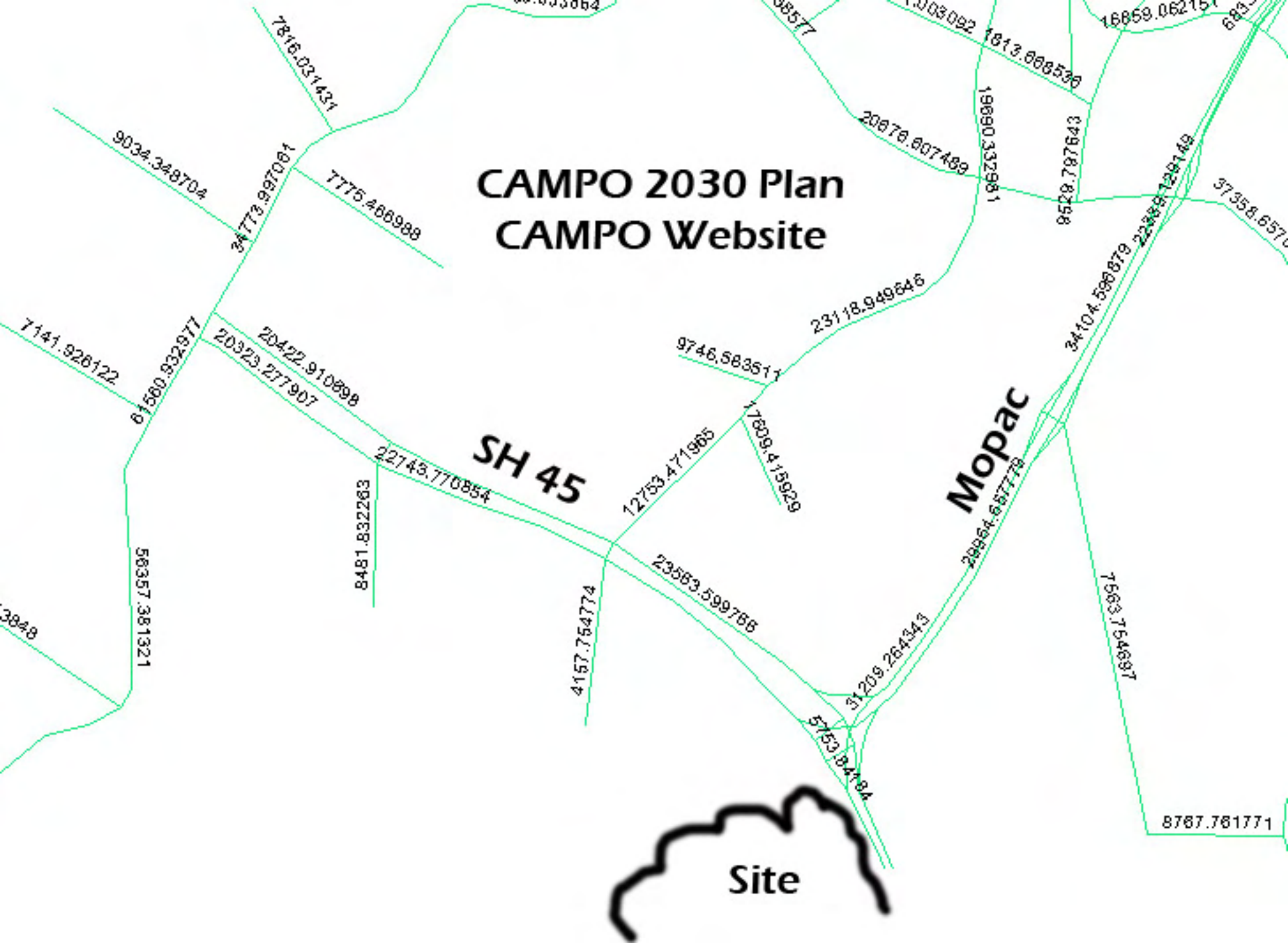
	A	B	C	D	E	F	G	H	I
1									
2	**24 HOUR VOLUME COUNT LOCATIONS**								
3									
4	**Note:** Traffic counts taken in June, July and August can be lower								
5	than average due to local school and University closures.								
6	**C.O.A.** contact: Jerry Carden @ (512) 974-5625 (Data Collection)								
7	**Street Name - Block Number - Cross Street Reference**	**NB**	**SB**	**EB**	**WB**	**TOTAL**	**DATE**		
8		**TOTAL**	**TOTAL**	**TOTAL**	**TOTAL**	**VOLUME**			
9									
1882	Slaughter Ln West, 900 blk - West of Palace Pkwy			19636	20598	40234	04/13/05		
1883	Slaughter Ln West, 3000 blk - East of Westgate Blvd			13317	14364	27681	12/02/03		
1884	Slaughter Ln West, 4300 blk - East of Bremner Dr			10457	10908	21365	06/28/00		
1885	Slaughter Ln West, 5000 blk - West of Sendera Mesa Dr			9880	10629	20509	07/12/00		
1886	Slaughter Ln West, 5000 blk - West of Sendera Mesa Dr			13871	14482	28353	07/31/07		
1887	Slaughter Ln West, 5600 blk - West of Beckett			11040	10754	21794	10/11/07		
1888	Slaughter Ln West, 5700 blk - East of Escarpment Blvd			6149	5911	12060	07/12/00		
1889	Slaughter Ln West, 6200 blk - East of Vinemont Dr			6302	6222	12524	10/11/07		
1890	Slaughter Ln West, 6200 blk - East of Vinemont Dr			5135	5575	10710	02/24/00		
1891	Slaughter Ln West, 6100 blk - West of Bungalow			5265	5588	10853	10/18/07		
1892	Slaughter Ln West, 7100 blk - West of Barstow Ave			3712	3157	6869	07/12/00		
1893	Slaughter Ln West, 7000 blk - West of Barstow Ave			5091	5070	10161	10/11/07		
1894	Slaughter Ln West, 7400 blk - East of FM 1826			5163	5212	10375	10/11/07		
1895	Slayton Dr, 8800 blk - North of Schirra Place	92	120			212	06/28/05		
1896	Slayton Dr, 9200 blk - North of Cooper Dr	984	789			1773	10/17/05		
1897	South Meadows Dr, 1000 blk - West of Newmont Rd			569	482	1051	12/06/07		
1898	South Meadows Dr, 1200 blk - West of Plains Trl			877	818	1695	12/06/07		
1899	Southridge Dr, 3700 blk - North of Southport Dr (South)	2324	2481			4805	08/28/07		
1900	Southwest Pkwy, 3900 blk - West of Mopac Blvd (Loop 1)			12120	13713	25833	09/10/01		
1901	Southwest Pkwy, 4500 blk - West of Republic of Texas Blvd			8647	10595	19242	09/10/01		
1902	Southwest Pkwy, 4700 blk - At Boston Ln			14424	13753	28177	05/12/08		

TxDOT Traffic Count: CAMPO website 020909

	B	C	G	H	I	O	P	Q	R	S	V
1			1993	1994	19	2001	2002	2003	2004	2005	
2	STREET	LIMITS	TC1993	TC1994	TC1995	TC2001	TC2002	TC2003	TC2004	TC2005	
272	Loop 1 (N	Braker Ln. - US 183 (N)	64000	76000	7 0	124000	110000	112000	100000	95000	
273	Loop 1 (N	US 183 (N) - Far West Blvd.	112000	121000	1 00	183000	166000	174000	167000	167000	
274	Loop 1 (N	Far West Blvd. - RM 2222 (Koenig Ln	118000	125000	000	157000	147000	155000	157000	152000	
275	Loop 1 (N	RM 2222 (Koenig Ln.) - 45th St.	128000	133000	5000	175000	155000	170000	160000	164000	
276	Loop 1 (N	45th St. - 15th St.	112000	116000	7000	154000	140000	148000	139000	142000	
277	Loop 1 (N	15th St. - Cesar Chavez	117000	124000	46000	156000	149000	154000	145000	148000	
278	Loop 1 (N	Cesar Chavez - FM 2244	93000	99000	137000	182000	167000	174000	164000	178000	
279	Loop 1 (N	FM 2244 - Loop 360	75000	83000	124000	142000	135000	142000	142000	145000	
280	Loop 1 (N	Loop 360 - US 290 (W)	53000	65000	91000	106000	106000	101000	110000	112000	
281	Loop 1 (N	US 290 (W) - William Cannon Dr.	17900	20000	40000	63000	63000	64000	64000	65000	
282	Loop 1 (N	Slaughter Ln. - SH 45 (S)	10500	14100	20000	20100	20200	20100	19700	20300	
283	Loop 1 (N	William Cannon Dr. - Slaughter Ln	10900	13100	35000	36000	39000	38000	39000	45000	
284	Loop 1 (N	SH 45 N - FM 1325	0	0	0	0	0	0	0	0	
285	Loop 277	FM 1466 - SH 95	400	40	400	500	500	400	200	400	
286	Loop 277	SH 95 - FM 1466	300	3	500	600	500	500	500	600	


1826
25000
1
25000
5600
7300
45
TxDOT Traffic Count 2007
CAMPO Website
Site


CAMPO 2030 Plan
1997 Conditions
SH 45
Mopac
Access Point
Proposed Site
5811
11651
12540
24371
2901
22660
2891
2401
1850
1761
3420
3330
23240
15090
17890
271
2351
2421
281
2331
3291
3391
15881
15750
8421


CAMPO 2030 Plan
CAMPO Website
SH 45
Mopac
Site
7816.031431
9034.348704
34773.997061
7775.466988
20676.607489
19690.332981
16859.062151
1813.668539
23118.949646
9746.583511
34104.596879
7141.926122
61560.932977
20422.910898
20323.277907
22743.770854
12753.471965
17609.415929
8481.832263
56357.381321
4157.754774
23563.599766
31209.264343
29964.657779
5753.184184
7563.754697
8767.761771

Wildflower Commons PUD
February 5, 2009
Land Use Assumptions

QUALITY FACILITIES AREAS MAY BE
THE DIRECTOR OF THE WATERSHED
REVIEW DEPARTMENT.

)SCAPING, OR OTHER IMPROVEMENTS
E CITY OF AUSTIN REGULATIONS MAY
SATION AND GREEN SPACE AREAS.

ATING FLOOR TO AREA RATIO, GROSS
ISTRUCTION ENVELOPE AREA AND ANY

SHALL BE PROVIDED PURSUANT TO A
THE TERMS OF THE ENGINEERING
NGINEERS, INC. ON DECEMBER 21,
0, 2008.

(100%) FOR TRANSPORTATION
THE TRANSPORTATION MEMORANDUM
L BE DEFERRED TO THE SITE PLAN
T BE POSTED CONCURRENTLY WITH
PLAN FOR COMMERCIAL DEVELOPMENT
DENTIAL DEVELOPMENT, WHICHEVER

FINED IN THE "BRADLEY SETTLEMENT
OR OCCUPY ALL OR ANY PORTION OF
ON ANY PORTION OF ANY OF THE

- THE FOLLOWING DENSITY RESTRICTIONS SHALL APPLY TO DEVELOPMENT ON THE DESIGNATED TRACTS:

1. NO MORE THAN 50,000 SQUARE FEET OF "RETAIL USES", AS DEFINED BELOW, MAY BE DEVELOPED ON TRACT 1;
2. NO MORE THAN 150,000 SQUARE FEET OF "RETAIL USES", AS DEFINED BELOW, MAY BE DEVELOPED ON TRACT 3;
3. NO MORE THAN 150,000 SQUARE FEET OF "RETAIL USES", AS DEFINED BELOW, MAY BE DEVELOPED ON TRACT 5;
4. NO MORE THAN A TOTAL OF 250,000 SQUARE FEET OF "OFFICE USES", AS DEFINED BELOW, MAY BE DEVELOPED ON ALL OF THE TRACTS; AND
5. NO MORE THAN A TOTAL OF 550 ATTACHED CONDOMINIUM UNITS MAY BE DEVELOPED ON ALL OF THE TRACTS.

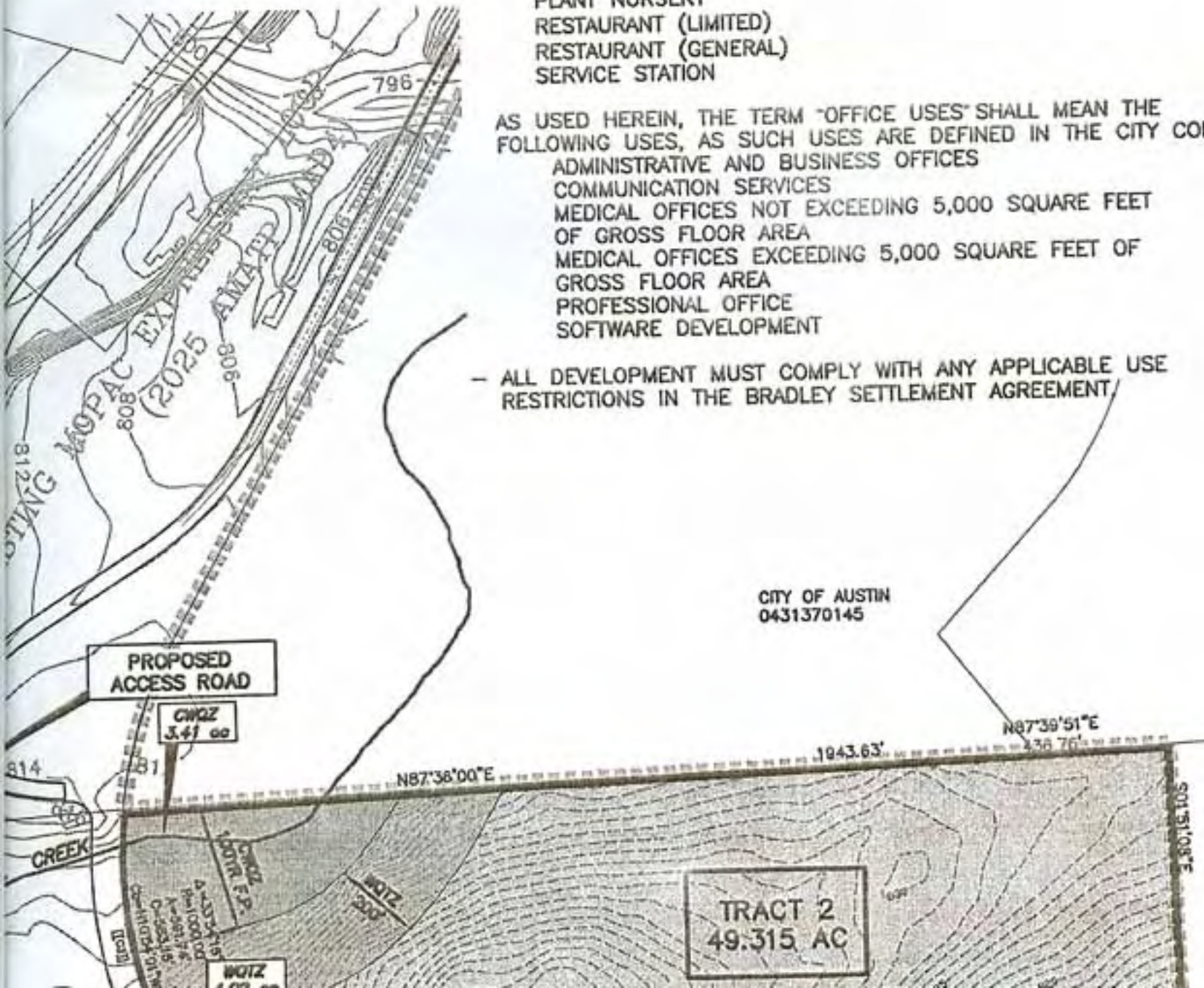
AS USED HEREIN, THE TERM "RETAIL USES" SHALL MEAN THE FOLLOWING USES, AS SUCH USES ARE DEFINED IN THE CITY CODE:

ART GALLERY
ART WORKSHOP
AUTOMOTIVE REPAIR SERVICES
AUTOMOTIVE WASHING
CONSUMER CONVENIENCE SERVICES
CONSUMER REPAIR SERVICES
FINANCIAL SERVICES
FOOD SALES
GENERAL RETAIL SALES (CONVENIENCE)
GENERAL RETAIL SALES (GENERAL)
INDOOR SPORTS AND RECREATION
PERSONAL IMPROVEMENT SERVICES
PERSONAL SERVICES
PET SERVICES
PLANT NURSERY
RESTAURANT (LIMITED)
RESTAURANT (GENERAL)
SERVICE STATION

AS USED HEREIN, THE TERM "OFFICE USES" SHALL MEAN THE FOLLOWING USES, AS SUCH USES ARE DEFINED IN THE CITY CODE:

ADMINISTRATIVE AND BUSINESS OFFICES
COMMUNICATION SERVICES
MEDICAL OFFICES NOT EXCEEDING 5,000 SQUARE FEET OF GROSS FLOOR AREA
MEDICAL OFFICES EXCEEDING 5,000 SQUARE FEET OF GROSS FLOOR AREA
PROFESSIONAL OFFICE
SOFTWARE DEVELOPMENT

- ALL DEVELOPMENT MUST COMPLY WITH ANY APPLICABLE USE RESTRICTIONS IN THE BRADLEY SETTLEMENT AGREEMENT.



Code Mo

A) Variance
Developme
between a
street cross
zone in the

B) A water
Use Map, i
otherwise b

C) The cut
developme
four (4) fe
25-8-342 (
exceed fift
excess of
or site dev
acres, a va
(A)(2) sha

D) Varian
Administr
(Fill Requ
cuts and f
water qua
(10) feet;
water qua
fill in exc
acres. Th
equal to t