

# MESA ENGINEERING

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## 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.

### **Convolutd 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 serve 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.