

July 5, 2011

Trey Fletcher, AICP
Managing Director of Operations
City of Pflugerville
100 E Main Street, Suite 400
Pflugerville, TX 78660

**RE: Kelly Lane Sub-Area Supplemental Analysis – REVISED SCENARIOS
Updated to Include Scenario 6**

Dear Mr. Fletcher,

The City of Pflugerville desires to assess potential impact of a variety of proposed roadway improvements scenarios on traffic congestion in and around Kelly Lane. A traffic analysis had been previously prepared by Alliance for the Kelly Lane Subarea as detailed in a report dated October, 2008. This memorandum provides an assessment of these additional roadway scenarios for the subarea, analyzed for the 2018 horizon of the 2008 report.

This 2018 horizon was developed for full buildout of the residential and commercial development within the area bounded by SH 130, Rowe Lane, Weiss Lane, and East Pflugerville Parkway. This is no longer considered a 2018 assumption; for this analysis, the buildout condition is not tied to any defined future year. Rather, this horizon year provides the City with an assessment of future conditions when buildout does occur within the Kelly Lane subarea. Please note that no changes were made to the original model assumptions to traffic growth and horizon year traffic volumes.

Street names and general proposed layout follow a draft map provided by the City of Pflugerville – proposed roadway names differ from the 2008 report. A preliminary list of build scenarios was analyzed, as documented in memorandums dated June 21 and June 22, 2011. After review and discussion, these scenarios were revised to those included in this updated analysis. Any part of Kelly Lane that is proposed for improvement follows the improvements as shown in the KPA 95% plans for Kelly Lane improvements from SH 130 to Weiss, whether as isolated intersection improvements, or as a 4-lane full build out (as noted in the scenarios). The following conditions were incorporated in the analysis of all scenarios, per the City's direction:

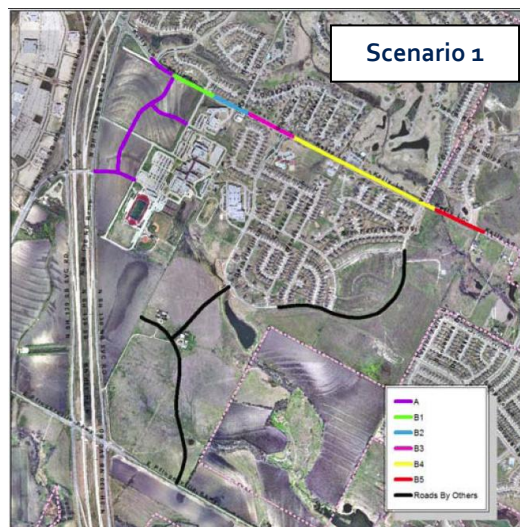


- Colorado Sand and the FM 685 extension would be built as 2-lane roadways, with turn bays at intersections, noting that coordination with TxDOT would be required for the FM 685 extension.
- Pflugerville Parkway from FM 685 to SH 130 would be widened to a 4-lane roadway.
- Falcon Pointe Boulevard would be completely built by the projected year.
- Lone Star Boulevard would be built from Falcon Pointe to Colorado Sand.
- Colorado Sand would be built from Lone Star Boulevard south to East Pflugerville Parkway.
- An eastbound left turn lane would be constructed at East Pflugerville Parkway and Colorado Sand.
- A signal would be constructed at Kelly Lane and Colorado Sand in all scenarios except Scenario 6.

Descriptions of the revised scenarios analyzed have been summarized below:

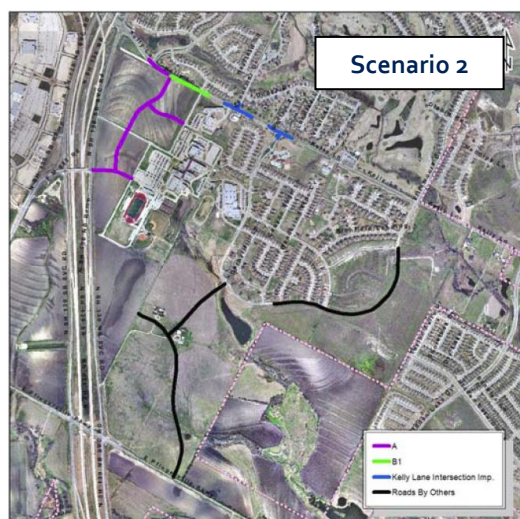
Scenario 1. Colorado Sand Partial plus Kelly Lane

- Build Colorado Sand from FM 685 to Kelly; Build FM 685 Extension to Colorado Sand; Build east-west roadway (Autumn Slate Rd) from Colorado Sand to Benning.
- Extend Kelly Lane east as a 4-lane roadway in accordance with KPA plans from SH 130 east to:
 - Benning.
 - Kennemer.
 - Falcon Pointe (W).
 - Falcon Pointe (E)/ Villamoura.
 - Moorlynch.



Scenario 2. Colorado Sand Partial plus Kelly Lane Limited Intersection Improvements

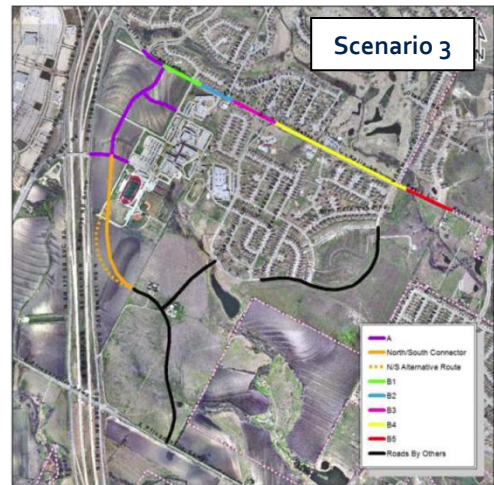
- Build Colorado Sand from FM 685 to Kelly; Build FM 685 Extension to Colorado Sand; Build east-west roadway (Autumn Slate Rd) from Colorado Sand to Benning.
- Build intersection improvements/median for restrictive access at Benning:
 - South leg becomes a one-way egress



- road from the school complex.
 - ii. Northbound and southbound left-turns prohibited.
- c. Build limited improvements at intersections on Kelly Lane:
- i. Colorado Sand.
 - ii. Benning.
 - iii. Kennemer.
 - iv. Falcon Point (W).
- d. On Kelly Lane between SH 130 NBR and Colorado Sand add a second EB lane that becomes a forced right turn (trap lane) at Colorado Sand.

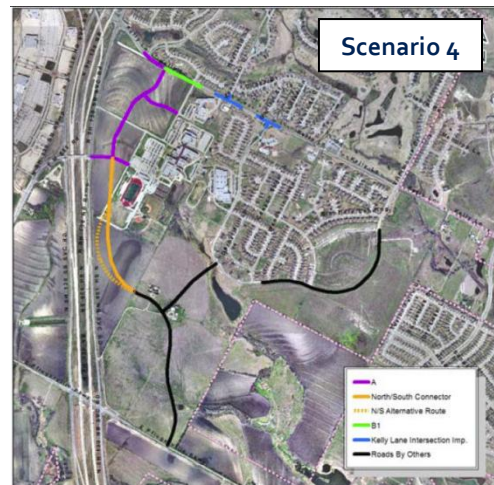
Scenario 3. Colorado Sand complete plus Kelly Lane Improvements

- a. Build improvements from Scenario 1, above.
- b. Build Colorado Sand south of FM 685 through the Bohls property to tie-in to the southern section (intersection of Colorado Sand and Lone Star Boulevard).



Scenario 4. Colorado Sand complete plus Kelly Lane Intersection Improvements

- a. Build improvements from Scenario 2, above.
- b. Build Colorado Sand south of FM 685 through the Bohls property to tie-in to the southern section (intersection of Colorado Sand and Lone Star Boulevard).



Scenario 5. Colorado Sand South Partial Construction

- a. No improvements to Kelly Lane.
- b. No construction of the northern portion of Colorado Sand by the City of Pflugerville.



Scenario 6. Colorado Sand South Partial Construction plus Kelly Lane Intersection Improvements

- a. Extend Kelly Lane east as a 4-lane roadway in accordance with KPA plans from SH 130 east to Moorlynch.
- b. No construction of the northern portion of Colorado Sand by the City of Pflugerville.

Please note the following additional information:

- Intersection analyses were performed using Synchro version 6.
- The minor street approaches of Murchison Ridge Trail, Colorado Sand and Falcon Pointe to Kelly Lane were analyzed as 2-lane approaches.
- Analysis of the intersection of Pflugerville Parkway and FM 685 includes intersection improvements – exclusive right-turn lanes were added on all approaches to improve operations. Alliance recommends addition of same to current plans under development for East Pflugerville Parkway.
- The intersection at Colorado Sand and the FM 685 extension varies by scenario, as follows:
 - The intersection of Colorado Sand Boulevard and FM 685 was analyzed as a three-legged unsignalized intersection in Scenarios 1 & 2. With due consideration given to the projected turning movement (specifically southbound-right and eastbound-left)



volumes at this intersection , Alliance recommends configuration of eastbound and southbound movements as uncontrolled and westbound movement as stop-controlled.

- The intersection of Colorado Sand and FM 685 was analyzed as a four-legged signalized intersection in Scenarios 3 & 4 (where Colorado Sand extends south of the intersection). In this situation, Alliance recommends the signal should be run in coordination with the signals at FM 685 and the SH 130 frontage roads. In order to achieve acceptable levels of operations, Alliance also recommends that northbound-left, southbound-left, southbound-right and eastbound left turning movements have exclusive lanes with storage lengths of at least 150 feet.
- For modeling purposes in Scenarios 5 and 6, Alliance assumed that, in the absence of public-funded roadway (Colorado Sand) through the future commercial development southeast of the interchange of SH 130 and Kelly lane, private developers would be required to provide ingress/egress to the parcels per approved plat requirements as parcels develop. The development is anticipated to have access points on SH 130 NBFR at FM 685 and on Kelly Lane via the current Colorado Sand cul-de-sac.

The level-of-service at the various study intersections per scenario are tabulated in Tables 1 & 2. It is noted that the levels of service shown indicate a qualitative assessment of each scenario's relative merit and may not fully indicate the build level of service that will be obtained.

Comparison of these results with the 2008 report will indicate less desirable level of service at multiple intersections than are found in the earlier document. There are multiple differences in the analyzed models, but these observed differentials result primarily from two conditions. First, the 2008 report did not connect Colorado Sand to FM 685. Second, Pflugerville Parkway was modeled as a multi-lane roadway east of SH 130 previously. In the current analysis, Pflugerville Parkway is a 4-lane road from FM 685 to SH 130, and a 2-lane roadway east of SH 130.



Table 1: Projected Level-of-Service (LOS) – Scenarios 1 - 4

ID	Intersection	Type of Control	Scenario 1(v)		Scenario 2		Scenario 3		Scenario 4	
			AM	PM	AM	PM	AM	PM	AM	PM
101	Kelly Ln & SH 130 SBFR	Signalized	E	C	E	C	E	C	E	C
102	Kelly Ln & SH 130 NBFR	Signalized	E	D	E	D	E	D	E	D
103	Kelly Ln & Murchison Ridge Trail	Unsignalized	B	B	F	F	B	B	F	F
104	Kelly Ln & Colorado Sand Blvd	Signalized	B	C	C	D	B	B	C	D
105	Kelly Ln & Benning Dr	Unsignalized	A	A	B	A	A	A	A	A
106	Kelly Ln & Kennemer Dr	Signalized	E	B	F	C	E	B	F	C
107	Kelly Ln & Falcon Pointe Blvd (W)	Unsignalized	A	B	D	E	A	A	B	C
108	Kelly Ln & Falcon Pointe Blvd (E)	Unsignalized	A	A	A	D	A	A	A	C
109	Kelly Ln & Hidden Lake Dr	Unsignalized	F	F	F	F	F	F	F	F
110	Kelly Ln & Weiss Ln	Unsignalized	F	F	F	F	F	F	F	F
111	FM 685 & SH 130 NBFR	Signalized	F	F	F	F	C	F	C	F
112	FM 685 & SH 130 SBFR	Signalized	E	F	E	F	C	E	C	E
113	Pflugerville Pkwy & SH 130 NBFR	Signalized	F	F	F	F	F	F	F	F
114	Pflugerville Pkwy & SH 130 SBFR	Signalized	D	F	D	F	F	F	F	F
115	Pflugerville Pkwy & FM 685	Signalized	E	D	E	D	E	C	E	C
116	Lone Star & Falcon Pointe Blvd	Unsignalized	A	A	A	A	A	A	A	A
201	FM 685 & Colorado Sand Blvd	Unsignalized	A	A	A	A	-	-	-	-
		Signalized	-	-	-	-	D	C	D	C
202	Autumn Slate Rd & Colorado Sand Blvd	Unsignalized	A	A	A	A	A	A	A	A
203	Autumn Slate Rd & Benning Dr	Unsignalized	A	A	A	A	A	A	A	A
401	Pflugerville Pkwy & Colorado Sand Blvd	Signalized	C	B	C	B	F	D	F	D
402	Lone Star & Colorado Sand Blvd	Unsignalized	A	A	A	A	C	A	C	A



Table 2: Projected Level-of-Service (LOS) – Scenarios 5 - 6

ID	Intersection	Type of Control	Scenario 5		Scenario 6	
			AM	PM	AM	PM
101	Kelly Ln & SH 130 SBFR	Signalized	E	C	F	D
102	Kelly Ln & SH 130 NBFR	Signalized	E	D	F	F
103	Kelly Ln & Murchison Ridge Trail	Unsignalized	F	F	D	A
104	Kelly Ln & Colorado Sand Blvd	Unsignalized	-	-	A	A
		Signalized	F	F	-	-
105	Kelly Ln & Benning Dr	Unsignalized	F	F	A	A
106	Kelly Ln & Kennemer Dr	Signalized	F	C	E	B
107	Kelly Ln & Falcon Pointe Blvd (W)	Unsignalized	D	E	A	B
108	Kelly Ln & Falcon Pointe Blvd (E)	Unsignalized	A	D	A	A
109	Kelly Ln & Hidden Lake Dr	Unsignalized	F	F	F	F
110	Kelly Ln & Weiss Ln	Unsignalized	F	F	F	F
111	FM 685 & SH 130 NBFR	Signalized	B	B	B	D
112	FM 685 & SH 130 SBFR	Signalized	A	C	A	C
113	Pflugerville Pkwy & SH 130 NBFR	Signalized	F	F	F	F
114	Pflugerville Pkwy & SH 130 SBFR	Signalized	D	F	D	F
115	Pflugerville Pkwy & FM 685	Signalized	E	D	E	D
116	Lone Star & Falcon Pointe Blvd	Unsignalized	A	A	A	A
401	Pflugerville Pkwy & Colorado Sand Blvd	Signalized	C	B	C	B
402	Lone Star & Colorado Sand Blvd	Unsignalized	A	A	A	A

Additional analysis was performed to quantify the benefit of widening Kelly Lane to a 4-lane roadway at the intermediate points as listed above in Scenario 1. The levels-of-service for these sub-scenarios have been tabulated in Table 3.



Table 3: Projected Level-of-Service (LOS) – Sub-Scenarios – Incremental Kelly Lane Widening

ID	Intersection	Type of Control	Scenario 1(i)		Scenario 1(ii)		Scenario 1(iii)		Scenario 1(iv)		Scenario 1(v)	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Widen Kelly Lane to:			Benning		Kennemer		Falcon Pointe(W)		Falcon Pointe(E)		Moorlynch	
103	Kelly Ln & Murchison Ridge Trail	Unsignalized	B	B	B	B	B	B	B	B	B	B
104	Kelly Ln & Colorado Sand Blvd	Signalized	B	C	B	C	B	C	B	C	B	C
105	Kelly Ln & Benning Dr	Unsignalized	A	A	A	A	A	A	A	A	A	A
106	Kelly Ln & Kennemer Dr	Signalized	F	C	E	B	E	B	E	B	E	B
107	Kelly Ln & Falcon Pointe Blvd (W)	Unsignalized	D	E	D	E	A	B	A	B	A	B
108	Kelly Ln & Falcon Pointe Blvd (E)	Unsignalized	A	D	A	D	A	D	A	A	A	A

Based on the results above, we recommend implementation of Scenario 1, with widening to either Kennemer or Falcon Point (W).

If you have any questions or need any additional information, please contact me at 512-821-2081.

Sincerely,

Alliance Transportation Group, Inc., TBPE Firm No. 812



Steven J. Miller, P.E.

