

### Assessment of Evacuation Times:

In analyzing the evacuation times the following assumptions were made (refer to the attached study by Dr. Antonio Coco for more details):

- The entire Kittridge Community will decide to leave the area during a fire emergency. This is a worst-case scenario because the Fire Department reported that only "exposed" streets (Kittridge Street and Welby Way) would be under a mandatory evacuation;
- The entire Kittridge Community will decide to leave the area at the same time;
- Every Single Family Unit will generate two vehicle trips leaving the area during a fire emergency;
- Vehicles fully occupy the 53 parking stalls, located in two off-street lots, serving the Knapp Ranch Park. Each vehicle generating one trip;
- Vehicles fully occupy the up to 75 curb parking stalls along Kittridge Street, which have been reported by the West Hills HOA, as being park related. Each vehicle generating one trip;
- Kittridge Street is the only route to evacuate the Kittridge Community (two alternative exit points are found via Ellenvue Avenue, into Valley Circle Boulevard, and Victory Boulevard respectively);
- Since Kittridge Street is a "local collector" street, with a width of 40 feet curb-to-curb (providing one lane plus parking in each direction of traffic), it presents no constraints, or limitations during a fire emergency. For this type of conditions, the Highway Capacity Manual (HCM), published by the Transportation Research Board, recommends a capacity (saturation flow rate) of 1,700 passenger cars per hour (pch).
- No traffic control officer will be available during a fire emergency to assist evacuating traffic (worst case scenario);
- No right-turns on red from eastbound Kittridge Street;
- During a fire emergency, the evacuation time is based upon the operations of the key intersection (Kittridge/Valley Circle) consequently, the flow of traffic at that location will be controlled by that traffic signal; the County Department of Public Works, as well as the available literature, suggests for these conditions a capacity of 1,600 vehicles per lane, per hour of green time (vplphg)

The following table shows the evacuation times under existing conditions as well as under project conditions (with the addition of 25 homes). We also illustrate the evacuation times with the mitigation measure (addition of a left turn lane on the west approach of the Kittridge/Valley Circle Intersection). It is worth noting that the evacuation times decrease (relative to existing conditions) when the mitigation measures are in place.

### Kittridge St - Roadway Analysis

	Land Use	Size	Unit	Land Use Code	Traffic Generation		Roadway Capacity vphpl	V/C Ratio	Evacuation Time	
					ITE Rates	Trip Ends			seconds	min and seconds
Existing Conditions	Single Family DU	176	DU	210	2	352	1700	20.7%	745	12 Min 25 Sec
	Knapp Ranch Park	53	Stalls	N/A	1	53	1700	3.1%	112	1 Min 52 Sec
	Area Street Parking	75	Stalls	N/A	1	75	1700	4.4%	159	2 Min 38 Sec
	Worst Case Scenario Evacuation Time					480	1700	28.2%	1016	<b>16 Min 56 Sec</b>

Proposed Scenario A of 25 Homes	Single Family DU	25	DU	210	2	50	1700	2.9%	106	1 Min 45 Sec
	Total - Worst Case with A					530	1700	31.2%	1122	<b>18 Min 42 Sec</b>

Proposed Scenario B of 29 Homes	Single Family DU	29	DU	210	2	58	1700	3.4%	123	2 Min 2 Sec
	Total - Worst Case with B					538	1700	31.6%	1139	<b>18 Min 59 Sec</b>

### Kittridge St / Valley Circle - Intersection Analysis

	Land Use	Size	Unit	Land Use Code	Traffic Generation		Service Volume vphpl	V/C Ratio	Evacuation Time	
					ITE Rates	Trip Ends			seconds	min and seconds
Existing							780			
	Single Family DU	176	DU	210	2	352	780	45.1%	1625	27 Min 4 Sec
	Knapp Ranch Park	53	Stalls	N/A	1	53	780	6.8%	245	4 Min 4 Sec
	Area Street Parking	75	Stalls	N/A	1	75	780	9.6%	346	5 Min 46 Sec
	Worst Case Scenario Evacuation Time					480	780	61.5%	2215	<b>36 Min 55 Sec</b>

Proposed Scenario A of 25 Homes	Single Family DU	25	DU	210	2	50	780	6.4%	231	3 Min 50 Sec
	Total - Worst Case under scenario A					530	780	67.9%	2446	<b>40 Min 46 Sec</b>

Proposed Scenario B of 29 Homes	Single Family DU	29	DU	210	2	58	780	7.4%	268	4 Min 27 Sec
	Total - Worst Case under scenario B					538	780	69.0%	2483	<b>41 Min 23 Sec</b>

### With re-striping of the Intersection to add an east-bound left turn lane on Kittridge

Scenario A Mitigated	Total - Worst Case under scenario A + Mitigation					530	1020	52.0%	1871	<b>31 Min 10 Sec</b>
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Scenario B Mitigated	Total - Worst Case under scenario B + Mitigation					538	1020	52.7%	1899	<b>31 Min 38 Sec</b>
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Both scenarios show improvements over existing conditions with mitigation