

SUNOL TRAFFIC MODELING

Sunol, a small community in Alameda County, faces significant evacuation challenges due to its narrow, irregular Kilkare Road and its dense vegetation. The road’s limitations, combined with potential congestion from events like weddings, further complicate evacuation. Private roads and narrow passages necessitate a detailed modeling approach.

Recent updates include presenting simulation results at the Sunol Citizens’ Advisory Council Meeting on July 17th and gaining valuable insights from Sgt. Marc Petrini from the Alameda County Sheriff’s Office, that were further discussed with residents from the Sunol region. Key findings reveal that about 25% of residents may need assistance finding shelter due to inadequate cellular coverage and limited clear destinations. Door-to-door notifications will be crucial and may take up to an hour, starting from the back of the road. Residents will need between 5 and 30 minutes for pre-evacuation, and the low number of large pets simplifies evacuation logistics. Multiple vehicle usage among residents requires careful traffic management to avoid congestion. All those elements have been included in the modeling, resulting in a small reduction in the evacuation time.

A detailed questionnaire has been drafted and will be distributed to the residents to collect comprehensive information on evacuation needs. The questionnaire includes queries on preferred shelter locations, specific evacuation challenges, and additional traffic concerns. The collected data will refine evacuation strategies, enhance coordination, and address the unique challenges faced by the Sunol community, ensuring a more effective and responsive evacuation plan.

Fig 1. Comparison among the same scenarios with everyone leaving at the same time (dotted lines) and with door-to-door communication (continuous line)

