

The Traffic Calming Sign (Radar Feedback Sign)

As an element in its efforts to control traffic speed in Heritage Ranch the Homeowners Association has purchased a radar feedback sign, a *traffic calming sign* in traffic engineering terminology. The sign will be used on a regular basis at various locations throughout the Community to provide instant notification to drivers of their speed and conformance to the posted speed limit. It will also provide an automated tool for the collection of traffic volume and speed data. Collected data will be summarized into reports offering an objective analysis of traffic activity.

History and Process

Compliance with the posted speed limit in Heritage Ranch has been an issue of concern to residents and the HOA Board of Directors. It is a difficult issue that is not unique to our community. Reflecting that difficulty, the issue has been the subject of discussion and analysis by the Board and the Health and Safety Committee since 2007. Purchase of a traffic calming sign in January 2011 represents the result of this thoughtful effort. The chronology of events leading up to the purchase of the sign is summarized as follows:

- At the direction of the Board, the Health & Safety Committee initiated a data collection process employing volunteers conducting radar surveys in 2008. Twenty one surveys were conducted during 2008 and 2009 at multiple locations in the Community. These surveys indicated two important facts: 1) An increasing percentage of vehicles were clocked exceeding the posted speed limit with the percentage growing to approximately 54% and 2) visitor and commercial vehicles represented a small percentage of the violators. The Committee elected to discontinue the surveys in 2009 because the consistency of the data defined the magnitude of the issue giving the Board an objective basis for deciding how to proceed with achieving compliance.
- With continued concern expressed by Heritage Ranch Residents over vehicle speed on the Ranch streets the Board, in the Spring of 2010 asked the Committee to develop a program directed at gaining compliance with the speed limit. The Committee determined that a continued effort at educating the community on the need to comply with the posted speed limit was the most realistic approach. It was determined that increasing the level of exposure to speeding concerns would be necessary and that could be accomplished through publication of articles and regular radar surveys. Several articles were written and published in the *Ranch Reporter*. Thirty seven radar surveys were conducted over a three month period using an Association golf cart displaying a sign reading “Traffic Survey”. Data collected was tabulated, analyzed and compiled into monthly reports to the Board.
- The 2010 surveys indicated that the percentage of vehicles exceeding the posted speed limit was increasing from the 2008/2009 findings reaching a high of approximately 70%. The surveys indicated that approximately 18% of the vehicles surveyed were traveling in excess of 30 MPH. The increasing percentage of vehicles exceeding the posted speed limit over

the three year period that surveys were conducted indicated to the Committee that the efforts were not achieving measurable results. Consequently, the Committee recommended that the Board consider implementing an enforcement program.

- Although the Board has the authority to fine traffic violators it determined that continued efforts to gain compliance should be made. It requested the Committee Chair to explore the possibility of purchasing a driver feedback radar sign. As part of that evaluation use of such signs by other HOA's and municipal governments was surveyed. It was found that municipal traffic engineers generally find that the signs are an effective means of slowing traffic.
- The evaluation determined that a number of radar signs are available on the market offering a relatively wide range of capabilities. It was proposed that the criteria to be met for Heritage Ranch would include portability, sturdiness and data collection software. Although signs are available that can be programmed to provide messages it was determined that one that simply flashed the on coming vehicle's speed would be appropriate.
- Bids were solicited from six vendors nationally. Basic price for a sign ranged from \$3,850 to \$5,490. Centerline Supply, located in Fort Worth, was invited to meet with the Board to demonstrate their product. The demonstration was held on December 17, 2010 with the sign placed at the intersection of Heritage Drive and Long Cove. All Board members along with Tony Trevino, Bill Nicol (at the time Infrastructure Committee Chair), Pete LaFlamme and the Health and Safety Committee Chair attended the demonstration. The vendor was asked to leave the sign in place collecting data overnight to get a better sense of the software value. Although the original bid reflected purchasing brackets that would allow placement of the sign at various locations by attaching to existing posts it was determined that it would be more effective to purchase a dolly mount system that will permit moving the sign on wheels without the need to purchase additional brackets needed to attach it to existing posts. This would also permit placement of the sign in locations where there are no posts, thus increasing use flexibility.
- Centerline Supply was selected to provide the device based on their price, location in the Metroplex, willingness to provide a demonstration, repair policy, inclusion of data collection software and included assistance in training and setup of the device.

Delivery of the sign occurred in February 2011. HOA staff will place and move the sign with the Health and Safety Committee advising on locations.

Benefits of the Sign

A number of techniques are used by municipalities and homeowner associations to control speeding. These include installation of speed bumps, reducing posted speed limits, police radar checkpoints, dummy and parked unmanned police vehicles, verbal signage and radar feedback signs.

Speed bumps are generally unpopular with residents because of the visual impact and the potential for damage to vehicles. They also negatively impact of emergency vehicle response times as well as cause damage to the vehicles and equipment they contain. Lowering posted speed limits below 25 MPH typically results in drivers adjusting downward but still remaining in violation and increase driver frustration. Use of the Fairview Police in Heritage Ranch is not an option because of agreements with the Town. Police checkpoints do result in lowering of speed but only when and where the checkpoint is located. Verbal signage and images have a similar effect.

The use of a radar feedback sign in Heritage Ranch represents a realistic approach that should produce an improved level of compliance because:

- The sign gives drivers immediate and accurate feedback on their speed.
- The sign is powered by rechargeable batteries that permit continuous use without recharge for up to two weeks allowing for feedback day and night and in all weather conditions. Data is collected continuously when in use.
- The sign can be easily moved and is freestanding allowing for random placement at any location in Heritage Ranch enhancing the feed back value and data analysis potential.
- The sign indicates a speed reading that may be more accurate than some vehicle speedometer and help those drivers who are trying to comply but who may not be getting an accurate reading.
- The experience of many municipalities shows that drivers will slow when they see the reading of their speed.
- Continuous monitoring of traffic will allow generation of reports that can be used by the Board to respond to resident complaints regarding traffic speed concerns and provide an objective base if it is determined at a future point that an enforcement program is necessary.

Objections to the Sign

Some objections to the sign have been voiced by residents:

Objection: *There was no proper study of the issue.* **Response:** Data was collected over a three year period using a hand held radar measuring device with the speed of 2,908 vehicles tabulated. Analysis of that data defined speed patterns by street location in several areas of the Community. The analysis tabulated data various speed classifications and vehicle operator (resident, visitor and commercial).

Objection: *Speeding is not a problem.* **Response:** The statistics compiled by the Health and Safety Committee objectively define traffic speed by several categories and show that between 54% and 70% of the vehicles surveyed in 2010 were operating in excess of the posted speed limit with 18% exceeding 30 MPH. The data summaries are available on the Health and Safety Web Site.

Objection: *The sign will only cause drivers to slow down for a short period of time.* **Response:** That is generally true but the fact that slowing occurs is accomplishing the goal of slowing traffic. Repetitive reminder will impact positively on some drivers.

Objection: *Speed bumps would be more effective and cheaper.* **Response:** Speed bumps do slow traffic but controlling vehicle speed throughout the community would require a relatively large number of speed bumps and there is a cost to constructing, or purchasing, and maintaining the installations. Speed bumps impact on emergency services by slowing response vehicles and causing damage. Speed bumps are not attractive. In researching other HOA's and municipalities it was found that citizen objections are high and removal has been necessary in some communities after installation was requested by residents.

Objection: *Without penalties for speed limit violators the sign will soon be ignored.* **Response:** This has an element of truth but studies by municipalities have shown that the signs attract attention and result in a slowing. Observing the speed they are traveling causes drivers to be more aware of their speed. Use of the sign in various locations at random times will reduce the effect of it blending into the background.

Objection: *Use of police officers is the most effective technique for controlling speed.* **Response:** Although use of police officers implies a penalty tool the ultimate effect is not significantly different than use of a traffic calming sign. Drivers may slow when seeing a police officer but, as with a traffic calming sign, speed up again down the road. Any municipality is limited by simple economics as to how often a police officer can be assigned to a checkpoint while the cost of deploying the traffic calming sign is only in its purchase. The Board has discussed use of the Fairview Police but agreements reached with the Town in establishing Heritage Ranch preclude their use for traffic enforcement on our private streets. Recognizing the relatively small size of the Town Police Department and the cost of establishing an effective enforcement program in Heritage Ranch can logically be considered as unacceptable to the Town Council.

Objection: *Our security staff could be used to issue speeding tickets.* **Response:** As with using Town police use of the security staff would necessitate additional staff if speed monitoring is done with sufficient frequency to accomplish change. This would undoubtedly raise the cost of our contract with the security contractor. Administrative costs associated with assessing fines and potential legal costs related to citation appeals would be incurred.

Summary

Purchase of a traffic calming sign is consistent with the philosophy of the Health and Safety Committee and the Board of Directors that traffic rule compliance should be obtained through education and reminder. Punitive means such as fines create resentment and add an administrative burden. Use of the sign does, however, indicate that the Board considers traffic safety a serious matter and is taking reasonable measures to achieve compliance. It also provides objective data that can be used for community education and for decision making.

Data collected by the sign, although oriented to speed control, can also be used for analysis of street use patterns, for example, by identifying traffic volumes by location and time of day.