

February 14, 2008

TO:
Kitsap County Commissioners:
Steve Bauer
Jan Angel
Josh Brown

Copies to:
Ms. Sherry Appleton, State Representative
Ms. Christine Rolfes, State Representative
Mr. Mike Matlick, State Fire Marshal
Mr. David Lynam, Kitsap Fire Marshal
Washington State Fire Chief's Assoc.
Kitsap County Fire Chief's Association
Mr. Randy Casteel, Kitsap Public Works Department
Hansville Road Safety Action Committee
www.beep4bumps.com

FROM:
Hugh Tucker, Battalion Chief Retired, Los Angeles Fire Department
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Hansville, WA 98340

SUBJECT: **PUBLIC SAFETY AND SPEED BUMPS**

Dear Commissioners,

SUMMARY

Kitsap County has installed speed bumps throughout the county. Without question, speed bumps impact emergency response times. The question is: by how much? Given today's litigating society, I have no doubt that any incidents where emergency responders must cross speed control devices to get to the scene of an emergency and the delayed response contributes to or results in injuries, loss of life, or loss of property will be cause for litigation against the county.

(For the purpose of this document the terms "speed bump" "speed hump"& "speed table" are used synonymously)

In October of 2007 I became aware of the "traffic calming" devices installed in Hansville on Hansville Road, Hood Canal Drive and Twin Spits Rd. I was shocked, as these bumps were installed on the **only** response routes for emergency responders and are **unavoidable** when responding to any location when the fire/rescue units responds south on Hansville Rd.

Vertical speed control devices installed on a “primary emergency response route” violate recommendations in Kitsap’s Local Traffic Safety Program (LTSP) as well as numerous nationally recognized authoritative sources including the National Fire Protection Association (NFPA).

Neighbors informed me they understood the Fire Department had conducted a study, had no problem with the issue, and the bumps did not impact response times. They also understood that Emergency Responders were required by law to observe posted speed limits and therefore fire apparatus could easily cross the bumps at the posted speed without slowing. I had serious doubts about these statements. Being a newcomer to the community as well as a loyal emergency services supporter I did some research and checking with the Fire Department before commenting. My findings were alarming. The Chief of the Department stated they **DID NOT CONDUCT A STUDY** of the issue and merely responded to a verbal *directive* from then Commissioner Chris Endresen . He also stated there is no law limiting emergency responses to the posted speed limit. (see Chief Nichol interview, attachment page -10-)

Unfortunately, it appears Kitsap County now has a “no win situation” for all of us. This “No Win” situation has already cost the taxpayers approximately \$50K, in Hansville alone, and is sure to cost much more, up to and including lives and property damage. This is a very complex issue.

Unfortunately, we are now required to regain our reasonable response times, put some sensibility, harmony, political responsibility, and credibility back into Hansville and our Emergency Services.

Misinformation regarding this issue has not been seriously challenged.

MY CONCERNS

I am extremely concerned for fire and emergency medical response times to our neighborhood which have been seriously impacted.

I am especially concerned that after an entire career of risking my life for public safety, I am now at the age where my wife and I could now be the “victims in need” and our emergency services will be slow to respond due to intentional obstacles.

I am concerned for the health and safety of our emergency responders.

I am concerned for the indirect financial impact due to unavoidable damage, wear, and abuse to Fire & EMS apparatus and the sensitive life saving equipment they carry.

I am concerned that Kitsap County has opened the door to avoidable litigation.

I am concerned that Kitsap County has ignored the safety requirements for emergency services and public safety throughout the entire county, for which the tax payers, will ultimately have to pay the price.

I am concerned that speed bumps, as a whole, add to mechanical wear and abuse to all vehicles crossing them, especially trucks. Bumps cause stop and go driving which increases fuel consumption. This results in increased green house gas emissions, which is a current political hot issue. The increase in diesel consumption also results in an increase in diesel exhaust (black smoke) which is a known carcinogen and should be avoided.

RECOMMENDATIONS

1. Immediately cause an objective study to be conducted on the impact of the speed tables installed in Hansville relating to response times. I would like to witness the study and encourage all Kitsap County Fire Chiefs be given the opportunity to witness as well.
2. Provide the results of the objective test to all the appropriate departments and the affected communities.
3. Remove the speed tables throughout the entire county, starting in Hansville, that are not accompanied by adequate documentation addressing the impacts of benefit vs. risk and practical consequences, including results from objective studies conducted by the appropriate fire departments before there is a fire, fatality, or death due to a delayed response and the county is hit with a giant law suit.
4. Dissolve the Hansville Road Safety Action Committee (RSAC) or clearly change their goals & parameters to include diverse view points.
5. Listen to the Public Works Department relative to traffic issues.
6. Allow and encourage Kitsap Fire Departments to be passionate about public safety as suggested in this Mission Statement. **“The mission of North Kitsap Fire & Rescue is to minimize the loss of life and property resulting from fires, medical emergencies and other disasters”.**

Findings and Discussion, “The practical consequences of the installation of speed bumps” **See attachments as follows:**

Emergency Response Times: - - - - - Attachment Page 5

Impact on <u>Medical Emergencies</u> :	-	-	-	Attachment Page 5
Impact on <u>Transporting Patients in Ambulance</u> :	-	-	-	Attachment Page 6
Impact on <u>Fire Emergencies</u> :	-	-	-	Attachment Page 6
Health and Safety of Emergency Responders:	-	-	-	Attachment Page 7
Mechanical Damage & Abuse to Fire and Medical Apparatus:	-	-	-	Attachment Page 7
Liability:	-	-	-	Attachment Page 8
Delayed Response:	-	-	-	Attachment Page 8
Selective Speed Control Placement Based on Property Values:	-	-	-	Attachment Page 9

CONCLUSION

This letter is my opinion based on facts and experience. I take public safety very seriously and have addressed the issue primarily from a public safety point of view.

I do not condone or approve of speeding and I do sympathize with people who are affected by the speeding of inconsiderate drivers. However, I cannot accept any increase in emergency response times to my home or to the other 287 affected homes. I also cannot accept the other practical consequences of the installation of speed bumps as a solution to an enforcement issue. While I don't have to cross any of these speed bumps, I sympathize with those first responders as well as with all others with trucks and/or trailers who do as they must come to almost a complete stop to do so.

I think it is extremely important for us as a community to support our emergency services and not impede their efforts in any way.

I await your response with interest.

Sincerely,

Hugh Tucker

Findings and Discussion, "The practical consequences of the installation of speed bumps"

Emergency Response Times

The speed tables on Twin Spits Rd and Hansville Rd have, without question, negatively impacted Emergency Response times for units responding from fire station 89 on Twin Spits Rd. south on Hansville Rd. The only question is: by how much? Only an objective study will accurately determine that time frame. Unfortunately, the speed bumps are already installed making it impossible to conduct an accurate comparison test.

In November I drove from the fire station to our home which is 3.5 miles and timed the route traveling at my educated guess of how fast a 17 ½ ton fire engine could respond. I also drove the route at an estimated speed consistent with an emergency response without speed bumps. My estimated response times were 6 ½ minutes without the bumps and in excess of 8 minutes with the bumps. Times were calculated from the time the station got the alarm to the time the apparatus arrived at my address. This is a best "guesstimate", but the bumps added approximately 100 seconds. The biggest time consumer was the bump on Hansville Rd. which requires the apparatus to slow before crossing the bump then try to regain speed momentum before and while ascending Hansville hill. Without that bump emergency responders could round the curve at the store and accelerated to 45 or 50 mph in order for momentum to help maintain speed up the hill.

Impact on Medical Emergencies: According to the American Red Cross, a heart attack victim in cardiac arrest is in danger of brain damage without CPR as follows:

4 to 6 minutes without CPR will result in: **Possible brain damage**

6 to 10 minutes without CPR will result in: **Likely brain damage**

10 minutes or more without CPR will result in: **Irreversible brain damage**

A delay of a minute and a half to a person who has already gone without breathing for 7 minutes is critical and can make the difference between life, death, or permanent brain damage. In reality the critical time frame is from the time the victim goes into

cardiac arrest until CPR is initiated. Response time statistics are usually taken from the time the fire department unit is dispatched until the unit arrives on scene and accounts for the unit response time only which is somewhat predictable based on distance and response speed. Additional time which cannot be predicted MUST be added to the response time as follows:

1. Discover: The time it takes for someone in the home to find the victim, recognize the problem, and call for help (9-1-1), This time frame varies and is not documented. (can easily add several minutes)
2. Dispatch: 9-1-1 dispatchers process the call and dispatch the closest resource/aid unit. This time frame is recorded, documented and may or may not be part of the emergency response time published by the fire department. (can easily add 15 seconds, minimum)
3. Respond: Response time, from the time the emergency responder is dispatched until they arrive on scene. Predictable based on distance and response speed.
4. Access: After the emergency unit arrives on scene, park the apparatus, get required equipment from compartments, gloves up, find patient and initiates CPR. This time frame varies as well and is probably not documented. (can easily add a minute or much more)

Based on these time frames, my knowledge of my wife and our home I must assume the **BEST** I could expect in the event I experienced a heart attack would be as follows: (1.Discovery) 2 minutes (2.Dispatch) 15 seconds, (3.Respond) 8 minutes, (4.Access) 1 ½ minute. Total time: 11 ¾ minutes.

TOTAL TIME WITHOUT CPR: 11 MINUTES and 45 SECONDS (IRREVERSIBLE BRAIN DAMAGE)

Impact on Transporting Patients in Ambulance:

Patients being transported in the back of an ambulance ride directly over the rear axle as opposed to the typical automobile and must take the entire shock of any speed bumps. Depending on the condition of the patient this can be excruciatingly painful and exacerbate their injury. Additionally, rescuers treating the patient while in route are subject to the affects of the bumps and are, hopefully, warned in time to stop treating the patient and brace themselves.

Impact on Fire Emergencies:

A minute and a half delay in a response time when it occurs within the immediate vicinity of the fire station isn't a major issue, when considering that area is served with water mains and fire hydrants for an unlimited supply of water. Unfortunately, there are significant areas of Hansville that are **not** served by fire hydrants, including: Gust Halvor Rd, Thors Rd, Hillview Ln, 360thSt, Pagasus Ln, Eaglepoint Ln, Bayberry Ln, and Ohman Rd. These areas must rely on the water carried on the fire engines and a rapid attack when the fire is in its incipient stage.

Unchecked fires in ordinary combustibles grow in size on a logarithmic scale until they either run out of fuel, oxygen, or temperature (cooling by water). For illustration purposes only, a single drop of water can extinguish fire on a match. Unchecked, and in similar combustible materials, that match fire could grow in size within one minute that a gallon of water may be needed to extinguish it. At two minutes may require 10 gallons of water, at 3 minutes may require 100 gallons, at 4 minutes 1,000 gallons and etc.

Failure to knock down a fire with the water carried by the first-in pumper can have major consequences like the total loss of structures or worse.

Health and Safety of Emergency Responders

Firefighters are typically rescuers and will do the best they can to get to the scene of an emergency as fast as possible. Invariably they will cross bumps faster than they should and will cause injuries to themselves, other firefighters, passengers, or patients.

During my career I have witnessed & experienced numerous back injuries suffered by fire fighters requiring medical treatment ranging from physical therapy to major back surgery. These injuries usually resulted in disability leaves from weeks to 6 months. The majority of the injuries responded to treatment and the firefighters returned to duty but with chronic back problems for the rest of their lives. The more serious back injuries resulted in permanent disability and the member was either pensioned off or given a permanent light duty position if one was available. Usually a 4 man engine company had at least one firefighter with chronic back problems.

Firefighters riding in heavy apparatus crossing vertical speed control devices are subject to back injuries or the exacerbation of prior back injuries as a result of crossing these devices at more than absolute minimal speed. The typical fire engine weighs about 17 ½ tons and is nothing like a passenger car. Crossing a speed bump, table or, hump with a normal passenger car is a non-occurrence at the designed speed, in this case 25 mph. Now try that same speed in a ¾ ton or 1 ton pickup truck, depending on the suspension, it will make a mess of anything you had in the back of the pickup and make you slow to 15 mph for your next bump, then 10 mph for the bump after that. Now try

that in a heavy fire apparatus, without an air ride seat or steering wheel to hold onto. In most fire apparatus the driver and front seat passenger are ahead of the front axle. This significantly multiplies the bump effect on the driver and passengers. The firefighters in the jump seats are just behind the front axle and get the full jolt of any bumps and, to make things worse, sometimes sit facing backwards unable to see forward, anticipate, or brace for the shock from a speed bump. In some of the more expensive fire apparatus the driver has the benefit of an air-ride seat which minimizes the shock for the driver only and usually results in the driver crossing the bump at a higher speed than is safe for passengers.

Mechanical Damage & Abuse to Fire and Medical Apparatus (Vehicles)

When firefighters respond to emergencies and must cross speed tables they must attempt to make up time lost crossing the bumps. They do this by maximizing their speed between bumps, braking rapidly approaching the bump, then crawl over the bump and accelerate to the next bump. This driving technique results in extreme brake wear, generates tremendous brake heat as well as consuming large amounts of fuel. Fire apparatus with drum brakes have the added issue of brake fade on long responses after several hard brake applications whereby the braking capability rapidly diminishes to practically nothing, and the apparatus becomes a danger to the crew and the public.

Fire apparatus are not built to continuously cross speed tables, bumps or humps. They are heavy, two axle, apparatus which are usually right at the maximum weight limit per axle for highway use. The heavy weight requires extremely strong springs, massive suspension, drive components, and extremely high tire pressures. This results in a very stiff and unyielding ride, especially, compared to light weight passenger vehicles and pickup trucks. The stiff ride is simply an indicator of the extreme forces meeting extreme resistance. Heavy springs and suspension components won't last long when subjected to rapid deflection such as traversing speed bumps. Higher speeds result in more severe deflection and more frequent spring and component failure. Installing heavier and stronger springs simply transfers the severe shock of the bumps to the frame which has no flex or yield and will ultimately crack at stress points. I have had to deal with numerous broken springs and suspension components on fire apparatus which we were able to replace at considerable expense but did allow the apparatus to be placed back in service. Usually, broken frames resulted in permanently placing the apparatus out of service and selling it for scrap. The last fire engine I was involved in purchasing was in 1995 from Seagrave at a cost of approximately \$265,000 each purchased in quantities of about 15 or more. We also purchased ladder trucks from LTI in that era in quantities of 12 for a cost of approximately \$564,000 each. I would expect those figures have increased substantially since 1995. I am sure our Fire Department would be willing to provide current figures for new apparatus.

Fire Station 89 is situated on Twin Spits Rd which is a "primary response route". It is impossible for E 89 to drive to purchase fuel or attend training sessions at the training facility without crossing at least 4 speed tables in each direction. There are no alternative routes. This goes for Emergency Responses as well as training, administrative, logistical, and apparatus maintenance needs.

Liability

The Board of Commissioners has made a conscious decision to approve and fund the installation of speed control devices on the "Only Emergency Response Route" in Hansville against the advise and policy of the Public Works Department's and their "Local Traffic Safety Program" (LTSP). The following quote is taken from LTSP page 10: **"It cannot be a designated fire response route or transit route"**. Numerous other nationally recognized authoritative sources including the National Fire Protection Association (NFPA) say the same thing. These sources suggest the acceptance of vertical speed control devices on **secondary** response routes, and then, only after extensive studies and all other means have been exhausted. Hansville Rd, Twin Spits Rd, & Hood Canal Dr. creates a continuous loop around the Kitsap Peninsula and is, therefore, Hansville's **only** Emergency Response Route, there are no alternatives.

I have never seen a single document from any authoritative source that approves of any vertical speed control devices being placed in a primary or principle emergency response route.

Delayed Response

The speed tables on Twin Spits Rd. and Hansville Rd. seriously impede response times for resources responding out of fire station 89 to all points south of the last speed bump on Hansville Rd, just north of Buck lake Rd, all the way to Eglon Rd, including Point No Point Rd, Buck Lake Rd, Hunt Club Rd, Gust Halvor Rd, Thors Rd, Broughton Ct, 360th St, Pegasus Ln, Eaglepoint Ln, Bayberry Ln, and Ohman Rd.

Emergency responses to the community at the end of Point No Point Rd. and Hillview Ln. require fire units to cross 8 speed control devices which impact response times there as well. The Point No Point light house area is a posted public swimming area and subject to drowning incidents.

Given today's litigating society, I have no doubt that any incidents in these areas where emergency responders must cross speed control devices to get to the scene of an emergency and the incident results in any injuries, loss of life, or loss of property, will be cause for litigation against the county due to delayed response.

Selective Speed Control Placement Based on Property Values

The speed control devices have been installed in the area of Cliffside on Hood Canal Dr. immediately in the vicinity of expensive homes setback from the road with no visibility obstructions or apparent obstacles to justify their placement like the presence of children close to the road and etc. North of the hairpin curve there are no speed control devices and homes appear to be closer to the street with poor visibility and the presence of children. To make things worse the road has numerous ups and downs which also limit's visibility. A review of the tax values of the area indeed show a higher value on homes south of the hairpin curve than the homes north of the curve.

Hypothetically, if an injury accident involving a pedestrian or any kind of vehicles north of the hairpin curve on Hood Canal Dr., Kitsap County could expect a liability suit based on the fact that the county failed to protect the citizens along that area by failing to install speed control devices, just like they installed for the higher value homes of Cliffside. Based on my experience you could expect a law suit even if the victim was totally opposed to the installation of speed control devices from the inception of the project.

CHIEF NICHOL INTERVIEW

On November 23, 2007 Robert Teachenor and I visited Chief Paul Nichol at his office for the purpose of obtaining and clarifying information associated with the Fire Department and any approval of the installation of the Hansville Speed Bumps. Robert Teachenor is a friend of mine and a retired Assistant Chief from the Los Angeles Fire Department. Teachenor and his family were house guests visiting from California for Thanksgiving.

After exchanging greetings we got to the subject of the speed bumps and I asked Chief Nichol what input the Fire Department had into the decision to install the bumps. Chief Nichol stated that "traffic calming" had been an issue in Hansville for years and the Fire Department has been, and is, totally opposed to these kinds of traffic devices as they negatively impact response times. He stated that in late 2006 he received a telephone call from then Commissioner Chris Endresen informing him the Hansville people pay a lot of taxes and they are going to get their bumps whether he liked it or not. He stated his only choice given by Commissioner Endresen was, speed bumps, speed humps, or speed tables, whatever was the least obnoxious. I asked Chief Nichol if any kind of a study on the speed bumps was conducted by his department. He stated there was not, but he did look at the three choices and picked the speed table as the least obnoxious. He stated he did drive over a speed table in his Ford Explorer and it wasn't too bad. He also stated he drove over the bump on Hansville Rd. with his Explorer at approximately 20 to 25 MPH and it was too fast as everything in the back of the vehicle flew all over the place.

Chief Nichol stated that subsequent to the implementation of the speed table program he has received a lot of negative reaction from the other county Fire Chief's regarding his reported acceptance on their installation as it negatively impacts all fire departments in the county as they try to keep speed bumps, humps, or tables out of their response routes.

I told Chief Nichol I had been informed there was a law prevented emergency responders from exceeding the posted speed limit and asked if that was true. Chief Nichol informed me there are no such laws and he would oppose implementation of such a law. Chief Nichol stated that prior to Hansville joining North Kitsap Fire & Rescue, Hansville Fire had a "department policy" of not responding at a speed greater than the posted speed limit.

Chief Nichol informed me that subsequent to the directive from Commissioner Endresen to adopt speed tables he turned the issue over to Assistant Chief Dan Smith who was a member of the Hansville Road Safety Action Committee.

CREDENTIALS

Hugh Tucker
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Hansville, WA 98340

Retired from the Los Angeles Fire Department in 1996 as a Battalion Chief, completing 28 years of service.

Held the ranks of: Firefighter, Engineer, Captain I, Captain II, and Battalion Chief.

Aside from consistently high activity fire suppression and rescue assignments, also was responsible for numerous special assignments including:

- Commander of Hazardous Materials Task Force 27 Hollywood

- Apparatus and Equipment Committee

- Operations Control Dispatch

- Commander of Air Operations

- Commander of Fire Prevention Bureau, High Rise Unit (750 High Rise Buildings)

- Commander of Fire Prevention Bureau, Industrial & Commercial Unit

- Department Advocate - Internal Affairs

- Engineer Rater & Proctor

- Fireboat Pilot Rater & Proctor

- Fire Boat Mate Rater & Proctor

- Division Commander of Apparatus and Equipment Engineering, Supply, and Maintenance