## HOUSE OF REPRESENTATIVES COMMONWEALTH OF PENNSYLVANIA TRANSPORTATION COMMITTEE HIGHWAYS SUBCOMMITTEE

ORIGINAL

IN RE: HOUSE BILL 1961, LOCAL POLICE RADAR

WASHINGTON CROSSING STATE PARK
PARK OFFICES
WASHINGTON CROSSING, PENNSYLVANIA

WEDNESDAY, OCTOBER 10, 2001, 10:30 A.M.

## **BEFORE:**

HON. RICHARD GEIST, CHAIRMAN

HON. DENNIS LEH, SUBCOMMITTEE CHAIR

HON. DAVID STEIL

HON. KATHARINE WATSON

HON. KEITH McCALL

## ALSO PRESENT:

ERIC BUGAILE PAUL PARSELLS

TERRY J. O'CONNOR REPORTER-NOTARY PUBLIC



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2336 N. Second Street (717) 234-5922 Harrisburg, PA 17110 FAX (717) 234-6190

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CHAIRMAN GEIST: I want to call this to order. We have three other House members with us:

Katherine Watson, who is on our Transportation

Committee; Dave Steil is a representative from down here; and Dennis Leh, who I will give a lot of credit to.

He's the fork and spear in this bill. He's received both the accolades and the criticism and an awful lot of it has been really -- it's out there on hearsay. This thing has gotten polluted.

For those of us who are working to get a good bill, we have got to get some clear, concise information out and we have to get everybody on the same page. This is -- we've been going at this since 1961 in the General Assembly.

In my 23 years in the General Assembly, 22 of those on transportation, I will tell you we've seen many, many pieces of legislation and none that have gotten even close in the House and Senate.

I want to do nothing but to praise Dennis

Leh. He has done an absolutely fantastic job and a job

that's not an easy job by any means. And it's easy in

politics to get in the hot seat on issues and pound

your chest and not get ahead.

Dennis happened to pick one that I will tell

you, it's like running with a 50-pound weight on his back and he's done a great job with it. And the crafting of legislation, I will tell you from the committee's standpoint perspective, and from those who we've really been pleased to work with and the Chiefs of Police Association, local governments and others, that we have a bill right now, a framework, that we can't back away from.

And there are those who are approaching us and saying, we'll support the bill but you've got to cut this section out; we'll support it but you have to cut this section out. And if we start doing that, we'll never get it.

And if we start amending some of the stuff people want in, we'll never get it. And I've had a personal problem with some part-time police departments in my area who have no understanding of this and how it works and who have disseminated a lot of misinformation.

And because of that, we started to have these informational gathering hearings. And in between Dennis and our staff and others, with some wonderful input from everyone, has done a really great job. I mean, a job that is a thankless job. I will tell you this, that no matter what we put on paper, it's

criticized, no matter what we put on paper.

So our job right now is to keep going at this thing and going at it and going at it until we find something that has an acceptable comfortable level where people feel that they have the confidence in it to do it right.

So at this time, I want to turn it over to a great House member, a guy that I have a tremendous amount of respect for, and that's Dennis Leh. He will chair the meeting. And this is Keith McCall, who definitely is one of the good guys.

REPRESENTATIVE LEH: Thank you very much, Mr. Chairman. First of all, for anyone who didn't get an agenda, there's an agenda pile in the back of the room along with, what I understand, the latest copy of the bill, is that correct? So if you would like a copy, grab a copy.

The bill has not been introduced yet. So for those of you who want to know why House Bill 1961 cannot be located on the net, it's mainly because it hasn't been introduced yet. We went to the House Speaker, Matt Ryan, and reserved the number for House Bill 1961.

So 203 House members will be getting that in their mail. It's upon you folks who seem to be

supportive of that legislation to contact your members and let them know your feelings, if you would like them to get on and co-sponsor the bill.

As Chairman Geist said, this is an issue that takes on a different flavor depending what part of the state you're in. I represent Eastern Berks County, which isn't all that far from here. It's about an hour's drive from the 422 expressway on the Turnpike and get off at Route 1 in Philadelphia and come north.

The area that I represent is very much like this area here, probably not quite as -- probably not quite in the same growth pattern. It's very rapidly -- the Township I live in, it's one of the fastest-growing townships in Berks County because of the location with 422.

And because of that, what used to be a couple houses on the side of the roads that just are mostly traveled by farmers, are now roads that have residential properties on both sides; subdivisions a few blocks off and many young parents concerned about the speeding that goes on on those roads with really no means to check it and to police it properly and effectively.

House Bill 1961, I think as the Chairman said, is a bill that has been compromised, but the

substance of the bill has not been compromised and that's important. It's a bill I've been happy to work with Chief Connors. He's been very helpful and very gracious and very understanding.

CHAIRMAN GEIST: It's not the Ed Connors I know.

REPRESENTATIVE LEH: I'm trying to be nice.

Now, he has been, honestly. But with this issue here,
like the Chairman said, the perception is reality.

There's a perception out there that police departments
simply want a radar bill to harass motorists.

That's not the case. I don't believe that's the case. However, sadly speaking, there has been instances around the state, namely in the Harrisburg area, where speeding or speed control devices have been misused and abused.

That's something that we tried to overcome with this bill. That's something that's a PR issue for those of you who support this bill are going to have to promote.

Anyway, without further ado, I would like to move on. And before we start, I know they've been introduced, we'll introduce them. From my right going around, introduce yourself, where you're from.

REPRESENTATIVE WATSON: I'm Katherine Watson,

newly elected state representative. I represent the 1 2 144th District in Bucks County. I'm on the other side, 3 the opposite side of the river. REPRESENTATIVE STEIL: Representative David 4 Steil and I represent the 31st Legislative District, 5 which is where you are now. That's this area. 6 7 MR. BUGAILE: I'm Eric Bugaile, I'm the Committee Staff Executive Director for the Republican 8 side. CHAIRMAN GEIST: I'm Rick Geist. I work for 10 11 Ed Connor from Altoona. 12 REPRESENTATIVE McCALL: I represent the 122nd 13 Legislative District which encompasses all of Carbon 14 County and part of Luzerne County. A point of reference, Jim Thorpe, which is our county seat, people 15 16 relate to that town. 17 MR. PARSELLS: Paul Parsells and I'm on the committee for the Democrats. I work for them. 18 19 CHAIRMAN GEIST: We should point out that 20 Representative Melio has someone here. 21 MR. ALLEN: Brian Allen from Representative 22 Meilo's office. 23 REPRESENTATIVE LEH: It would be somewhat remiss if I didn't announce Representative McCall is 24 the Democratic Chairman on the House Transportation 25

Committee. We appreciate that.

First to testify, we have Representative Dave Steil. And, Dave, open it up.

REPRESENTATIVE STEIL: Thank you, Mr.

Chairman, for inviting me to testify on the legislation proposed by Representative Leh. I particularly want to commend Representative Leh and Chairman Geist for taking up this initiative, which has been something that has concerned me for a long time.

I know it's a very difficult issue for those who come from other areas of the state particularly Representative Leh, who is coming at this from a position that was unique for him. So he has really been helpful in putting it forth. I really want to thank you for taking up the issue we've thought about so strongly before.

I want to welcome you to the 31st Legislative District and specifically to Washington Crossing Historic Park, a state facility managed by the Pennsylvania Historical and Museum Commission.

It was at this site on December 25, 1776 that Washington and his revolutionary troops which crossed the Delaware River right down below here to the New Jersey side and attacked a contingent of British and Hessian troops in Trenton, New Jersey.

Most historians concede that this victory was the turning point in that war. Had it not occurred, we might still be driving on the left-hand side of the roadway using a steering wheel on the right side of our automobiles. We probably wouldn't be having this

It is my hope that the ultimate victory of House Bill 1961 will also be the turning point in this State's approach to and support of local police departments and their use of technology to manage increasing traffic loads, excessive speeds and the rapidly expanding incidents of aggressive driver behavior.

The area that I represent, this area, and indeed that of much of the four county suburban Philadelphia counties, is not unlike other rapidly growing areas of the state including the Pocono Mountain area, the Lancaster and Dauphin County areas, Butler County, and many others who have experienced an increasing pace of residential development over the last 20 years.

In fact, this district, the 31st legislative districts, contains three of Pennsylvania's top ten fastest-growing communities in the last decade.

My legislative district went from 59,000

hearing here today.

people to 78,000 people in that period of time. This district is no different than that of many other representatives who represent rapidly-growing areas.

This growth has many positive benefits for the citizens of the area, but it has also a number of negatives for both those who have lived in the area for many decades as well as those who recently moved to the area.

One of the biggest negatives is our police departments are sorely pressed to manage the heavy traffic loads on roads that, from a constructive and design standpoint, have not yet caught up with the heavy volume of vehicles that use them every day.

Further, our police departments are patrolling far greater expanses of roadways than they had to just a few years ago.

There are a number of reasons why this legislation is so important. No. 1, under current law, local police cannot use radar; therefore, they must use other methods of conducting speed checks which need more than one officer to enforce.

In fact, when doing speed checks for trucks, it often takes a regional police effort, which ties up three to five officers from two or three police departments at any one time.

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Our departments are not that large and may only have three or four vehicles on active patrol at any one time. Therefore, pulling two or three of those vehicles from active patrol to conduct speed checks hurts the amount of police coverage provided to other areas of the municipalities.

Secondly, included in the present laws is a provision that local police departments must allow a 10-mile per hour tolerance before they can begin to enforce the speed limits. Therefore, an active speed limit of 35 miles an hour can be enforced on at 45 miles per hour.

In fact, our local police departments have had to add another five miles per hour to that tolerance order to account for the variances in the equipment itself. In most cases, local police departments allow a 15-mile-per-hour tolerance in order to ensure their citation stands up in court.

This means that on the 35-mile-per-hour residential street, vehicles traveling at 50 miles an hour are actually subject to citation. This may not have been a problem 20 years ago when our traffic was light and there was little development along the side of our roadways.

Today, those roadways are built up on both

sides and there's constant pedestrian, bicycle and recreational activity on or adjacent to the roadways.

Thirdly, our police departments are professional. They are managed by full-time municipal managers, chiefs, and active boards of supervisors. They have taken special training and comply with all the requirements regarding control methods and firearms use.

These municipalities have budgets sufficiently large that the amount of revenue from traffic citations is inconsequential. The ultimate concern and the only issue is one of safety.

This area and many others like it in this state are no longer rural. We, therefore, ask the legislature to consider changes in the manner by which our traffic and vehicle laws are enforced to reflect the fact that we are no longer a rural community. It is the right thing to do and it is the right time to move forward.

Thank you for allowing me to testify, Mr.

Chairman. I will be happy to answer any questions that
you or other members might have.

much, Mr. Steil. The first question I have -- and I don't know if you had a chance to look at the draft.

REPRESENTATIVE STEIL: I have not seen the latest one.

REPRESENTATIVE LEH: Really not a lot has changed with regards to the Full-Time Police Forces

Bill with most your municipalities being able to meet that criteria.

REPRESENTATIVE STEIL: All the municipalities

I represent, in fact, most of them in Bucks County,
have a full-time police force. Some municipalities
share the police forces.

we're going to hear from Steve Daniels shortly. He also patrols that area. But that provides active and full-time police coverage. Although, many departments employ part-time officers, they are a full-time police force managed by a full-time chief and at least one or two active full-time officers.

REPRESENTATIVE LEH: Okay. I guess it would be remiss for me, again, if I didn't mention Representative Steil has been really a champion of this issue for a long time. I guess some of us might even call him instigator. Anyway, any questions from the committee members? Mr. Chairman, any questions?

CHAIRMAN GEIST: No.

REPRESENTATIVE LEH: With that, thank you very much, Representative Steil.

Next to testify is Robert Kimmel, retired

Director of Communications for the Pennsylvania State

Police. Mr. Kimmel, how are you doing?

MR. KIMMEL: Fine, thank you. I appreciate the opportunity to be here to speak to this auspicious group and preface what I have to say with the fact that, first, I'm not here representing the State Police, although I was with them for a number of years as a division director; also, as having been a police patrol officer and a chief of police in a local department up in Montour Township, Montour County, I understand the problems that exist for the local departments.

So what I have to say is not in any way to indicate that I oppose local police departments from having the best technology. I know they have some of the best training and technology that goes with that, the tools that are necessary to do the job that they're out there to do.

But there are things that I believe that you all should know specifically about the use of radar and what I believe from experience in the courts and being in the courts can possibly happen if it isn't very carefully used.

In 1961, as a licensed Radio Engineer, I

worked as a subcontractor to General Electric,
maintaining the mobile radio systems for the
Pennsylvania State Police and the Department of
Highways in the eastern part of the Commonwealth.

In 1964, I accepted a position of Chief Electronics Engineer for the State Police and served that department as well as the Highway Department. By '96 -- or '66 rather, the Highway Department took on its own staff and I remained with the State Police.

And in 1972, I assumed the position of Director of Communications Division, Bureau of Technical Services in the Pennsylvania State Police, holding that position until I retired in 1979.

During my entire time of service -- by the way, I'll be 80 years old in January, so I can -- I've covered a lot of time. During my entire time of service with the Department, I was responsible for the maintenance, the care, inspection and evaluation of all the electronic equipment used by the Department.

I also wrote or reviewed all technical specifications prepared in anticipation of the purchase of electronic equipment. And this, of course, included all of the various speed measuring devices that have come on the market.

My experience with radar is rather extensive

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inasmuch as I not only prepared the technical specifications for the instruments but inspected and tested them under, I believe, almost every conceivable circumstance and wrote much of the radar training and operating procedures that are in use by the State Police.

There are technical circumstances that we found to occur when using hand-held radar -- and I've said hand-held, but it's all pretty much hand-held -- to measure vehicular speeds that tend to make the instrument vulnerable to negative legal reaction in the courts.

We discovered these problems after troopers from the York station reported being unable to satisfactorily calibrate their assigned radar instruments when setting up speed watch details. This is what we found.

I spent several days down in that area on the road with the troopers, and they didn't have calibration problems when setting up the radar detail on an open highway, but when attempting to check the instrument calibration when setting up on a built-up segment of Route 30, it was not possible to get a satisfactory check.

Calibration checks of the instrument in use

must be made before beginning any check of the vehicle speed. First, the radar operator checks the speed measuring unit by sounding a tuning fork, or a series of tuning forks as the case may be, within the beam of the unit.

The radar reacts to the frequency of those calibrated tuning forks by giving us a specific speed reading. Then the unit is tested by having an officer drive an automobile with a properly calibrated speedometer past the radar patrol several times, each time comparing the reading of the radar gun to the reading of the speedometer.

As I said, I was in York several days, supervising a series of these tests and experiments to solve the radar problems. We never really did solve them.

The first day we ran tests to confirm that each radar instrument was properly calibrated, internally. Then we went through the set-up procedure using several different units, and each passed the tuning fork test; but when measuring the speed of any of several vehicles with calibrated speedometers, we could not get the radar readings that matched speedometer readings on a consistent basis.

At the testing site along Route 30, facing

east, there was a large maple tree -- one of the things we spotted in the -- that might have given us some problems -- was in full foliage 15 to 20 feet back from the edge of the north side of the roadway, and approximately 100 yards from our location.

East of that tree, approximately 50 yards, was a large billboard -- about 60 feet off the highway. On the south side of the highway, there were several business buildings, brick walls and large storefront-type windows. These were all off the highway approximately 60 feet.

Following two more days of testing at this location, we were able to conclude that the tree foliage had an effect on the readout of the radar instrument that became very pronounced during periods of higher than normal wind. The radar instrument readout was also affected by the billboard as well as the buildings.

We discovered that by changing the direction by one or two degrees in which we were aiming the instrument, we could change the reading on the instrument. Parts of the radar beam were being bounced off the store fronts to the target vehicle and back from the target vehicle to the store front and to the radar receiver which is part of the gun.

The conclusion, don't set up for radar speed checks in locations where there are large billboards or large buildings with large reflective surfaces -- windows and a lot of glass surfaces, some of the very slick tile, it's all very reflective, all has a tremendous effect on the reflection of the beam.

Reflections caused by such surfaces caused confusing, erroneous readings and couldn't be relied upon to give true, accurate speed readings of the target vehicle. The large tree, we believe, caused reflection and some absorption off the radar beam resulting in what we found to be inaccurate speed readings.

Another technical problem that can cause results in an apparent target vehicle measurement to be, if not inaccurate, at least inconclusive is the beam width of the radar signal, unlike a laser beam which is coherent and, therefore, retains its width from the point of emission to the point of reflection.

Radar beam is non-coherent. It begins to spread out the moment that it leaves the radar gun. Technology of transmission provides the ability to shape the beam, somewhat, and current radar guns have a beam width of something about one degree. But if you know your trigonometry, you know a one degree beam at

1,000 feet is about 17 and a half feet wide, the width of a traffic lane.

The beam can't determine if there are multiple targets within its width; specifically, which target is being recorded. The only way that will ever happen is if they put some kind of signal transponder in every vehicle, like the military people, that responds with a specific code to the beam and identifies that specific vehicle. And I don't think that will ever happen.

There is, therefore, absolutely no way that an officer can testify to having measured the speed of a specific vehicle if, as is usually the case on a busy residential street, there are multiple vehicles traveling within the beam width of the radar gun.

Given these problems which must be considered to be deficiencies; i.e., that is errors caused by reflection and/or absorption and errors caused because multiple targets can't be specifically identified by the operator of the gun, courts will -- I can assure you of this, because there are attorneys out there who will be earning their daily keep by representing people who are given a speeding ticket for speeding that is identified as one of the result of a radar gun.

The courts will lose consideration and lose

1 integrity of the instrument. They will doubt its faithfulness. They will doubt the use of it; and 2 3 ultimately, I believe that will have a negative circumstance when radar cases are challenged in court. 4 And with that, I will be pleased to answer or 5 respond to any of your questions or comments. 6 7 REPRESENTATIVE LEH: Thank you very much, Mr. Kimmel. I guess my first question is, among officers 8 now -- the State Police use radar, is this common 10 knowledge to them? In other words, are they -- do they 11 learn this, that it could be reflected? 12 MR. KIMMEL: Yes. 13 REPRESENTATIVE LEH: That's something that 14 would be taught to local police officers? MR. KIMMEL: That's correct. I would hope it 15 16 could be taught. I would hope it would, yeah. 17 CHAIRMAN GEIST: Your testimony was wonderful. It's what we heard when we met with the 18 19 State Police and others, that in an urban setting what 20 other things -- other than generators, air 21 conditioners, air compressors on top of buildings. 22 What else has a signal that they send that can be 23 interpreted by the instrument? 24 MR. KIMMEL: Well, if it can be interpreted

by the tone of a tuning fork, that means it can be

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interpreted by anything that vibrates at a frequency within the scope of perimeters of the gun. It's simply a vibration that it's picking up, and in measuring.

And so I would say that anything that's operating within the frequencies, the audible frequencies that will reflect themselves and be interpreted as speed -- identified as speeds will cause conflict.

CHAIRMAN GEIST: Burglar alarms -- some burglar alarms have a tremendous effect with this. How does that work?

MR. KIMMEL: Again, I believe it probably has to do with the frequency of any radiation that comes off of that burglar alarm. It's an interference that just is not recognized as a specific -- the specific source isn't recognized by the radar device.

It recognizes there is a vibration at a frequency that it does something to its innards and says, oh my golly. I should put a readout on the screen.

REPRESENTATIVE LEH: Okay. Representative McCall.

REPRESENTATIVE McCALL: Thank you, Mr.

Chairman. Mr. Kimmel, do you recall what the

differential in speed was when you were conducting the

report in York when you say -- after they adjusted the 1 2 laser for the radar with the tuning fork, that when we started to hone in on the cars at that actual speed, 3 there was a differential from actual speed to what was 4 recorded. Do you recall what that was? 5 MR. KIMMEL: We did the speeds at a number of 6 7 different rates and the gun is always reading less than 8 the -- always reading less than the speed of the vehicle. 9 10 And, again, it's a matter of trigonometry. If a beam goes out here to a point and bounces to here 11 12 and bounces to a third point, the fact is that it takes 13 longer to get back to its original point; therefore, 14 it's going to read -- it's going to look like what was 15 happening to it was slower, traveling slower than it It will never add on. 16 was. 17 REPRESENTATIVE McCALL: That was in every 18 case, it was at a less speed? 19 MR. KIMMEL: Yes. 20 REPRESENTATIVE McCALL: Was there a report 21 issued that you're aware of? 22 MR. KIMMEL: Yes. 23 REPRESENTATIVE McCALL: From that report, 24 were there standards issued by the Department? 25 MR. KIMMEL: From that report and that --

those series of tests, we developed additional data for the training of officers at Hershey and in the field.

REPRESENTATIVE McCALL: And would you not think that experience would dictate that -- at least the experience of an operator who uses radar on a regular basis, the experience of his eye would be able to detect that vehicle that's moving at a high rate of speed and a vehicle moving at a slow rate of speed?

MR. KIMMEL: The courts have long determined that the officer -- a well-trained officer -- understands and can determine which vehicle is moving, if there are multiple vehicles which is moving faster than the other.

The problem with that is not that he can identify it, he can't swear in court that what was on the readout of his instrument was coming from that specific vehicle that he was looking at.

There's no way for him to identify it positively. I have to believe that an attorney who is defending a person, to keep them from losing their driver's license, is going to really, really hone in on that particular situation to satisfy the circumstance for his client.

Ultimately, what will happen is that more and more cases will go out of court on the basis that there

1 wasn't enough positive response, positive identification, and ultimately the integrity of the 2 3 device has to move in the downward slope. REPRESENTATIVE McCALL: What about laser? 4 Do you know anything about laser? 5 MR. KIMMEL: Yes. Laser is a coherent beam. 6 7 Any of you who have used a laser pointer on a chart on 8 the wall know that you get a tiny little beam going out 9 and the same width beam coming back. It doesn't rotate 10 so you know what you're looking at. You know what it's 11 seeing. The lasers that are on weapons do exactly the 12 same thing. You know what your target is. There's no 13 question about what the target is. 14 Now, as far as interference is concerned, 15 lasers can be interfered like radar if you can get 16 within the beam width. The thing is it's a very 17 narrow beam. So getting in there to cause any 18 interference is much more difficult, nearly impossible. 19 REPRESENTATIVE McCALL: Very good. Thank 20 you. 21 I have a couple questions. CHAIRMAN GEIST: 22 I'm going to put on my engineering hat from my former The forming of a frontal area that radar sees, 23

MR. KIMMEL: I'm sorry?

are you familiar with that?

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CHAIRMAN GEIST: The formula for frontal area 1 2 that radar will reflect off, are you aware of that, the 3 formulas? 4 MR. KIMMEL: Yes, sir. CHAIRMAN GEIST: On the formula, if I have an 5 6 absorbing vehicle, a Corvette, for instance, coming at me with a frontal area, the reflective area -- and I 7 got three credit courses now more than I ever wanted to 8 9 learn in my life -- a Corvette coming at you at a 10 thousand feet versus a truck coming at you at three 11 thousand feet with triple the frontal area, the radar 12 will give you the reading off of the truck rather than 13 the Corvette, is that correct? 14 MR. KIMMEL: That's correct. 15 CHAIRMAN GEIST: That's all computer? 16 MR. KIMMEL: Yes, sir. 17 CHAIRMAN GEIST: Frontal area is absorption. 18 Every vehicle has one. The idea of sight 19 identification -- and the State Police make it very, very clear in all their training -- no one should write 20 21 a radar ticket unless it's absolutely positive he has a 22 clean reading in his sight? 23 MR. KIMMEL: That's his training, yes, sir. CHAIRMAN GEIST: And what we're getting from 24 25 you and others who are experts -- by the way, your

testimony was wonderful -- is that in an urban setting, there are so many different assumptions that a police officer has to make in so many ways that the radar can be compromised. It's going to make it very difficult for us to do that. The laser at least cuts that down?

MR. KIMMEL: That's correct.

CHAIRMAN GEIST: Let's go back to that frontal area again. We know that we've had the restrictions, we try to write in here on transition zones and other areas. We also know that certification we have 48 -- 45 percentile.

If you were writing this legislation, would you take that issue of radar and laser and because of the compromising of the radar, even with the huge amount of training that it's going to take, would you just write radar out and write laser in? Would you skip that generation of technology?

MR. KIMMEL: If it were my choice, I would not want to see an officer in a local department burdened with the details. He would have to prepare and present in court in every case that he wrote a ticket for, because I don't think he could win. I do not think that he would win many of his cases.

The only place I believe that he could win is if he could absolutely swear in court that there was no

one on the street where he was set up, there were no vehicles moving in the opposite direction in the adjacent lane, there were no multiple -- were not multiple vehicles in this site, there were no large billboards or large glass windows or large reflective places, and that he was within a reasonable distance and not 20 degrees off of the center of the street when he did his measurements. If he could go into court and give that kind of testimony, those are the cases he'll win.

CHAIRMAN GEIST: We tried to write all of that into the bill, by the way. I'm telling you, it was not successful.

MR. KIMMEL: I can believe it. I've been called to testify in court by attorneys who were working for their clients and had to say, my -- the officer did not know; there's no way he could have known all of these facts.

It just isn't -- the information isn't there. The only question he can tell if there are -- a couple of vehicles coming, he can tell which one is coming faster.

He's trained to do that. His eye very quickly tells him. He can tell if one is smaller and one is larger. If one is smaller and one is larger,

which were you measuring? Well, you better say I was measuring the larger vehicle because he certainly was.

CHAIRMAN GEIST: Thank you. You're the only guy so far who has testified to understanding the dilemma we have.

MR. KIMMEL: It's a huge dilemma. I talked to some local police officers the other day. They said look, we're only interested in the residential areas, that's where we want to use this instrument, and things went off in my head right away.

I could see all of the problems that would arise, vehicles parked -- every one of them being a reflective target that would confuse, even though they're sitting still, confuse the flow of the instrument's beam.

Large windows in the front of the residence, massive, massive trees full of foliage, all of these things have so much influence over what the gun is really seeing. And when I read your act, I see that the driver is protected because he must be going 6 miles or 10 miles over the speed limit but it doesn't matter.

If he's taken into court and the representative who is -- the gentleman who is representing him

says, but I don't care if you say he was going 10 miles over the limit, you don't know exactly what he was doing. You can't testify to what specifically he was doing.

The case goes out to the Court, the Court says, we don't want any more of these cases, don't bother us with them. I believe that's ultimately what will happen over the long run.

CHAIRMAN GEIST: The Chair recognizes
Representative Watson.

REPRESENTATIVE WATSON: Thank you very much.

And I guess since your testimony had come in ahead of time, I had an opportunity to read it before and made notes. It was so well done and brought up certainly a problem I only know a little bit about. I did a little more research.

I am trying to understand from what I read and made some notes. Then you are saying that the State Police who use radar for a number of years, testify in court, were only successful if indeed it's on a big super highway with literally no trees or anything nearby. Even then, I think of myself driving from Bucks County to Harrisburg. There's always a truck nearby. There's always -- I guess I'm wondering what their rate of success has been then when they use

this holding up in court.

MR. KIMMEL: Well, if I may in responding to you, if you get into the minds of the people, up to now, it's only state police who have used them. So when a person gets a ticket for speeding and it says on it radar, and it's a state police officer, 9 times out of 10 -- I don't know the exact specific numbers -- CHAIRMAN GEIST: 97 percent.

MR. KIMMEL: 97 percent pay the ticket. They don't bother going to court. But there are attorneys out there who are looking for business. And their specialty is to find business that they know they're going to win.

If some of those 97 percent of the people who have been paying their tickets went and found one of these attorneys, went into court, then the arguments that you're talking about would come up and then those cases would have been lost. It just doesn't happen because it doesn't even get to court.

Should the instrument become more prevalently used and in local situations, you can bet there will be attorneys seeking business and they will be bringing more cases than the 3 percent into the courts and there would be more cases lost.

REPRESENTATIVE WATSON: While I don't

disagree in any way of your assessment of certain types of attorneys --

MR. KIMMEL: These are good attorneys, believe me.

REPRESENTATIVE WATSON: They're real good at what they do, getting those people off for DUI. I spend a lot of time working in the courthouse. I have a real different view.

In any event, are you suggesting then because of the problem that -- I guess I have trouble understanding that negates the possible use because of certain attorneys and what they might do. What I don't understand is these problems are known and understood, in effect, in teaching the use of radar; in teaching it, courses that are required before one can -- a police department can use it. I guess I don't understand why that could not be accounted for.

And within a local municipality, if they choose, simply would be a tool that they would have, some would say, for the way our municipality is configured. According to the course we took, this isn't an effective tool for us. It's not going to work.

MR. KIMMEL: True.

REPRESENTATIVE WATSON: At the same time, and

Representative Steil testified and for places I can think of in my district in Bucks County, it would be a very effective tool. And I believe that -- I mean, I guess we could go back to something I said earlier.

I have the utmost faith at least in the police officers and the training they are provided in the county I represent, because it's the county I've lived in for years and know best and actually worked with police officers.

I have a very high regard for the level of training that they get at the Bucks County Police Training Center, and the gentlemen that coordinate that.

I would think they would sit there because police officers never want to be -- have their case thrown out in court. So I would think they would pick strategic locations, if that's a tool that would work, where it would be effective in the same way on a very simple level, setting up speed traps.

Now, I guess that's what I have trouble seeing from what your testimony is. We might as well not use it at all anywhere unless I have kind of optimum conditions. I'm sure the State Police have accounted for that over the years.

And I appreciate the fact if the rate is 97

percent that people don't question it, I guess they're probably doing the high speed. They know they're going 100. They pass me all the time. Of course, they get caught and don't try to question or go after the ticket.

But I guess I'm down to some issue of understanding education and a little bit of faith, they would use it effectively because they like to have a really good arrest and conviction record, too.

MR. KIMMEL: What you're saying is absolutely true, that given the training that I know that the radar users in the State Police -- not every trooper, by the way, is on the radar team or wasn't when I was there. Maybe they are now, but they weren't. They were selected and certified and given that training. I am certain they would do the right thing. That's what police officers do.

And you're right, they don't want to lose.

But you remember that they're going after citizens who also don't want to lose. They don't want to lose their licenses. You're going to see much more reaction against the giving of tickets at 35 or 40 miles an hour than you would under others.

You're going to see more challenges of that training that those officers have been given because

it's -- there are going to be more cases going into court. It's simply a matter of defense on the part of the citizens.

Believe me, I want to see every police officer have every tool that is possible for him to have to do his job. I've been there. I know what it's like. I was in Pittsburgh when they were burning down the city. I was in York when they were burning down that city.

I've stood in the positions where things weren't really nice. I know what police officers do and what they have to do. But they need to be given tools not only that they can learn to use properly but they can trust no matter what they do with them.

If you're living in a community, I would hope that you were right about the business, that a department in some communities may say, well, it doesn't satisfy us. We can't use it because of the layout of our community. I doubt that that will happen, but it might.

CHAIRMAN GEIST: Let me ask a good question, that I think that we're getting around one of the fears that we had about this in residential neighborhoods was exactly the stuff that you articulated.

One of the other fears that has been

expressed to us from others is exactly as you've said it, but not on an individual basis where they get the ticket, but where they get a judge that says that this is so flawed, you can't use it. That takes the State Police and everybody else out of the game until the General Assembly comes back and writes another law.

MR. KIMMEL: That's my --

CHAIRMAN GEIST: Is that your opinion, also?

MR. KIMMEL: Exactly.

CHAIRMAN GEIST: I don't want to lead the witness. I'm not an attorney.

MR. KIMMEL: That's exactly my opinion. If I didn't imply it, it's definitely my opinion that the instrument placed in the hands of local departments in communities where the instrument shouldn't be used, I don't care how good the officer is or how much training he has; if it's put in his hands and told, you go out and use it on this street, it goes into court as it will. The Court is going to say, throw this out and don't ever come back to me with this instrument, then you're right.

The next thing, across the state it just goes on and on and builds up and builds up so it ultimately -- the integrity of the device is totally gone in court.

It takes laser -- I don't think that will happen because, I said, it's very, very specific what it's looking at. The officer can stand there and there can be a thousand cars around him, there can be a lot of other things around him. He knows what he is seeing. There's no question in his mind.

CHAIRMAN GEIST: Thank you. Chair recognizes Representative Steil.

REPRESENTATIVE STEIL: Thank you, Mr.

Chairman. Two questions; the first question has to do with training, the State Police in their training. It includes part of the difficulties that you've described, and they are trained in how to utilize the device to overcome those difficulties.

MR. KIMMEL: That's correct.

REPRESENTATIVE STEIL: Is it your thought or your suggestion that in training local police to utilize the radar systems, that the training needs to be expanded or needs to be different than that which is received by the State Police in operation of the same tool?

MR. KIMMEL: No. The same information holds for the local police officers that holds for the State Police. State policemen, I hope, would not think of going into a built-up area and consistently using the

instrument because it's just going to fail for them.

And I believe that given that information, the local departments would know the same thing.

REPRESENTATIVE STEIL: The second question has to do with the fact that many others, as I believe is the most belief, other states utilize radar now in all of their local applications and statewide applications.

Do you have any knowledge or experience in terms of the kinds of litigation that those states have faced with regard to use of radar and whether or not they have had to address it one way or another, the issues which you have described particularly as it relates to the courts?

MR. KIMMEL: I don't. I had one personal experience in a local department. I was in Arizona and came through a little town in a terrible storm right in the copper mining area, and I saw the police car sitting up on the little hill as I went by. And I went on past him and he pulled up and stopped me. And he said, you were going 40 miles an hour. I said, no, no, couldn't be. He identified himself and showed me his speedometer reading.

I said, you know, that wasn't working very well. And once I identified myself, we talked a little

bit about it. He agreed that he wasn't sure that I was going that fast. I probably wasn't anyway because I'll tell you, it was raining like hell, but I don't know.

REPRESENTATIVE STEIL: The question really is

whether or not you have any knowledge in terms of expert witnesses. Have you testified in other states that have set forth specific procedures to overcome those kinds of things?

MR. KIMMEL: No, I haven't had that experience.

REPRESENTATIVE STEIL: Thank you, Mr. Chairman.

CHAIRMAN GEIST: All right. Eric Bugaile.

MR. BUGAILE: We've heard your testimony on this. What's your recommendation then because what we've come up with, obviously, is a bill. It's two-fold for radar and Lidar. It would be your opinion that we should proceed with just Lidar or should we -- or is there for residential neighborhoods which is what the chiefs of police tell us that they want this legislation for, what do you feel is the ideal device to use in residential neighborhoods?

MR. KIMMEL: I think they would have a device they were not satisfied with and certainly would be the losers if they used radar in those built-up areas. I

can't think of any way that I could teach an officer to properly use and then testify to what he has done in court and be a winner more than a few times. I can't think of any way to do it.

MR. BUGAILE: Is there a particular device in your experience you would recommend in this? Is there something other than a speed timing device that you feel that fits better?

MR. KIMMEL: Some of them are really bad.

Laser applications are the only thing that come to my
mind that allows the technology that's as fool proof as
it's possible to be in those kinds of circumstances.

MR. BUGAILE: Thank you.

CHAIRMAN GEIST: Anyone else?

REPRESENTATIVE McCALL: I would say for the record, it's obvious if you look at the industry -- we have brochures up here from Stalker -- if you refer to their choices, they say that Lidar. They must recognize what they're saying because Lidar is the best choice for dense traffic speed enforcement. I'm sure the industry also recognizes the problems that you've mentioned here today.

MR. KIMMEL: It does. I'm sure they still want to sell the other things if they can. I would if I were in that business.

REPRESENTATIVE LEH: It seems the wisdom of the Committee precedes me as everybody asked their questions. I received answers to all of mine. I would just like to remark to something you had mentioned, though, about the loss of license, that that would be a concern in the bill. Would you have a 26 mile per hour over with regards to points?

In other words, you would have to go and be nailed for 26 miles an hour plus before you got any points; therefore, if there wouldn't be the -- I don't quite see the possibility. There are a lot of people losing their driver's licenses. So that's one way.

Anyway, thank you very much.

REPRESENTATIVE LEH: We appreciate your testimony. We very much thank you for coming. Next, the Chair would like to recognize Joseph Czajkowski. Thank you. You are the Township manager of warwick Township?

MR. CZAJKOWSKI: Yes.

REPRESENTATIVE LEH: Thank you. Have a seat.

MR. CZAJKOWSKI: We would like to thank you, Mr. Chairman, and other committee members that have given me the opportunity to address you on this issue. This is a little bit of background. I have been the manager of Warwick Township of approximately 12,000,

and we're kind of on the outer edges of Representative Steil's district at least for the moment.

We're unfortunately going to be redistricted, leaving Mr. Steil, unfortunately. I want to read a short statement I prepared for you. Bucks County and specifically Warwick Township has sustained unprecedented growth. Between 1990 and 2000, Warwick Township increased in population by 102 percent, the largest increase in the county and one of the largest in the state.

Along with these new residents, we're now experiencing growth in their commercial sector. What do these changes bring with them? Cars and more of them.

In recent years, resident complaints concerning traffic, both with the amount and speed, have far outpaced all other complaints. We have up to this point in time had marginal success with dealing with the speed issue.

while one might assume that the increased development would lead to lower speeds, we have experienced no decrease and have noticed an increase in the spikes (those odd individuals whose speeds far exceed the average).

This has been quite a concern along our Route

263 corridor. Route 263 is the York Road. On York Road, a four-lane artery, where once speeding was an annoyance, it is now a major safety concern. This corridor has seen a number of speed-related deaths in recent years.

Municipalities need assistance and the tools in the effort to make our local roads safe. While there are other methods used to enforce speed limits, their accuracy and the need for multiple police personnel bring into question their usefulness and our ability to pay them as we regularly incur overtime with speed details.

Radar and Lidar will allow our police department to accurately monitor and enforce traffic speed laws in a manner that is both accurate and cost effective. It will also allow municipalities to react to concerns in a timely manner. But most of all, it will enable us to make our roadways safer for all. Thank you.

REPRESENTATIVE LEH: Thank you very much. I guess my first question -- I don't mean to put you on the spot, I know you had prepared testimony, but in light of what Mr. Kimmel had to say, in other words, with regards to your testimony, how can you respond to his comments concerning the validity of using radar?

we back that up to if radar wouldn't be an issue or radar became an issue in the negative sense, would your township -- could you afford to purchase Lidar?

MR. CZAJKOWSKI: That's something we would have to look at. Obviously, radar, I think I only know through Mr. Kimmel's testimony, there are areas of our township that radar would probably be effective. There are open areas with not a lot of development.

We have a four-lane artery with roughly half of the length of the artery going through the Township.

That is not what I would call densely developed.

REPRESENTATIVE LEH: I guess your township would be somewhat similar to mine. I know my own police department, they would like to use radar because my constituents use it, but according to Mr. Kimmel's testimony that might not be real practical.

MR. CZAJKOWSKI: As Representative Steil, we do get a lot of complaints for the 263 corridor as far as speed is concerned. As Representative Steil knows, it's a much more heavily traveled artery than it was 10, 20 years ago when it was built.

And we do receive daily complaints for speeding on that corridor.

REPRESENTATIVE LEH: In my own township of

Amity, in one of the other areas I think it would 1 2 probably be very common in any other township in that one through street that we have, many of the people who 3 are newcomers to the area, they readily complain to the 4 5 township supervisors that they want speed checks because people are traveling too fast. 6 7 The local police chief started their own speed checks and started to write some tickets; low and 8 9 behold, the same people are showing up at the next 10 township supervisors' meeting complaining. 11 MR. CZAJKOWSKI: That's, unfortunately, not 12 uncommon. 13 REPRESENTATIVE LEH: The Chair would entertain questions from the member on the right, 14 15 Representative Steil. 16 REPRESENTATIVE STEIL: Just one quick 17 question. What do you use now? What does the 18 department use now to enforce speed checks or do speed checks on York Road off 263? 19 20 MR. CZAJKOWSKI: VASCAR and ESP. 21 REPRESENTATIVE STEIL: So in your estimation, 22 is the value of having radar and Lidar available to you 23 simply to expand your arsenal of tools, is that the

MR. CZAJKOWSKI: Well, from my perspective as

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advantage to you?

manager, which is a little bit different than a police 1 2 officer or police chief, I see two prong reasons for doing that that add to the arsenal of tools, also to 3 get more cost effective. 4 Especially if we use the ESP-type monitoring 5 device, we don't need multiple police officers out 6 there doing the speed detail which we currently do now. 7 I mean, I can show you monthly overtime reports from 8 our police department where the speed details are 9 always listed. 10 11 REPRESENTATIVE STEIL: How many officers are 12 normally assigned to the speed detail? 13 MR. CZAJKOWSKI: Two to three. 14 REPRESENTATIVE STEIL: How many active patrol 15 cars do you have on the road? 16 MR. CZAJKOWSKI: Three. 17 REPRESENTATIVE STEIL: If you have two 18 officers on a speed check, that means there's only one 19 car left for active patrol? 20 MR. CZAJKOWSKI: Right. 21 REPRESENTATIVE STEIL: Thank you, Mr. Chair. 22 CHAIRMAN GEIST: I have a question to follow-up. One of the things that we've done in 23

crafting this legislation is we went from -- we went to

a definition of what a full-service police department

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1 was and what a full-time officer was. 2 Now, there are many in the townships who want 3 to have our definition changed to where they have a "full-time" police chief and "part-time" officers. 4 Now, we know that the association hasn't been 5 on the same page with this. Will the township group in 6 Harrisburg, I don't know if you're part of this --7 8 MR. CZAJKOWSKI: Yes. 9 CHAIRMAN GEIST: Will you be on the same 10 page? 11 MR. CZAJKOWSKI: I can't tell you that. Ι 12 think the members from this section of the state, 13 probably around Pittsburgh and the more developed 14 areas, would probably be on the same page, where we 15 have 18 officers full-time, we don't have part-time. 16 CHAIRMAN GEIST: We have certain counties 17 where every officer in the county is part-time. 18 Right. There lies the MR. CZAJKOWSKI: 19 problem, you know, when you get out of the five county 20 area, you're going to find more of that. 21 CHAIRMAN GEIST: We're here in the cradle of 22 it all. I just wanted to ask you that. I want to know 23 if you're active in the association. 24 MR. CZAJKOWSKI: Depends where you're looking 25 for the individuals. I know there are municipalities

out here, frankly, that we kind of butt heads with our 1 compatriots in the center part of the state. 2 3 CHAIRMAN GEIST: We have Transportation 4 Commission hearings for the next two days. I can tell you what we hear in different parts of the state are so 5 6 different. Sometimes you think you're in different worlds. I just wanted to throw that out to see if we 7 8 can get a reaction. Thank you. 9 REPRESENTATIVE LEH: Chair recognizes 10 Representative McCall. 11 REPRESENTATIVE McCALL: I think 12 Representative Steil asked a lot. Do you run your 13 traffic -- the three police officers, do they work 14 every day? 15 MR. CZAJKOWSKI: Three police officers on a shift. 16 17 REPRESENTATIVE McCALL: But are they devoted 18 specifically for speed control or --19 MR. CZAJKOWSKI: No. If we do a speed --20 we're doing a speed survey or a speed check, again, 21 we're probably bringing another officer or at least one 22 other officer on so that we have two on patrol and two 23 conducting the speed survey. 24 REPRESENTATIVE McCALL: Okay. So they are in

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addition to?

1 MR. CZAJKOWSKI: They are in addition to. 2 REPRESENTATIVE McCall: Generally, you do not run them every day? 3 4 MR. CZAJKOWSKI: No. Depending on activity 5 of the township, depending on the number of complaints from residents. 6 7 REPRESENTATIVE MCCALL: Have the number of tickets gone up considerably? 8 9 MR. CZAJKOWSKI: No, we've -- it's fairly --10 REPRESENTATIVE McCALL: Has it grown 11 appropriately with the population gain? 12 MR. CZAJKOWSKI: I've been in Warwick for six 13 years. It was probably about 43,000. Now it's between 14 55,000 per year. That's a police budget of about a 15 million and a half. It's not a large portion of our 16 budget. 17 REPRESENTATIVE McCALL: Thank you. REPRESENTATIVE LEH: Chair would like to 18 19 recognize Eric Bugaile. 20 MR. BUGAILE: Have you had a speed survey 21 done to your knowledge? 22 Recently? MR. CZAJKOWSKI: 23 MR. BUGAILE: Within the last 15 years I 24 would say. 25 MR. CZAJKOWSKI: Any place we set the speed

1 limit has had a speed survey done. 2 MR. BUGAILE: You haven't taken the advantage 3 of the 25-mile-an-hour residential districts to adopt 4 the speed survey? 5 MR. CZAJKOWSKI: The vast majority of our roads had speed surveys. 6 7 MR. BUGAILE: Has it any effect? MR. CZAJKOWSKI: That's one of my police 8 chief's points of contention. He doesn't want to be 9 10 put into a position where he could go into a court and 11 be challenged. That's a stickler. 12 MR. BUGAILE: Smart chief. 13 MR. CZAJKOWSKI: I have a smart chief and a 14 very lucky manager. 15 REPRESENTATIVE WATSON: I thought one 16 question that -- do you have officers that are trained 17 specifically -- you may not maintain a traffic unit. Sergeant Bonnier, doesn't he teach it? 18 19 MR. CZAJKOWSKI: Yes. REPRESENTATIVE WATSON: Just thought I would 20 21 mention the folks of the high caliber. 22 CHAIRMAN GEIST: Down here with all the 23 wealth. 24 REPRESENTATIVE WATSON: I come from an area 25 that's not right here. We're talking about wealth of

talent and professionalism, it doesn't trade well with 1 the supermarket to buy the groceries in cash. 2 3 REPRESENTATIVE LEH: Thank you very much. I 4 appreciate your testimony. Next the Chair would like to call Steve P. 5 6 Daniels, the Chief of Buckingham Township Police 7 Department. Chief Daniels, how are you? 8 MR. DANIELS: Fine, thank you. 9 REPRESENTATIVE LEH: Thank you for coming. 10 MR. DANIELS: I've asked Chief White to sit 11 up here. He's the past president of the Pennsylvania 12 Chiefs' Association, also in charge of the accreditation program that's currently being conducted 13 for the Pennsylvania Chiefs' of Police Association. 14 **1**5 REPRESENTATIVE LEH: We appreciate having you 16 both up here. 17 MR. DANIELS: First, let me take the 18 opportunity to allow our association, and when I say 19 association, I'm representing the Bucks County Police Chiefs Association as well as I was asked to testify by 20 21 the Pennsylvania Chiefs Association to testify with 22 regards to the proposed legislation for radar and 23 Lidar. 24 Our association has long been an advocate of

this legislation. We feel it's long overdue. As you

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probably know, we can use several different instruments to determine speeds of vehicles.

We use the stopwatch, commonly referred to as Accutract, ESP, and Vascar at the present time. I'm sure there may be other variations of the same type of instruments that are approved for us.

while these instruments do work and are being used, they are not in our opinion the best instruments for the job. The stopwatch and the Vascar both require the officer to activate the instrument and then shut the instrument off to determine speed.

The result is that many of those cited for violations requested hearings due to the fact that they feel this manual activation is flawed and that the officer may have either activated the instrument too early or too late, thus creating a false reading.

The ESP machine has two variations for activation. The first type is within an infrared beam and the second on is a pressure sensitive hose that is placed on the highway. In both of these applications, the vehicle activates the instrument, thus making it, in my opinion, a more accurate activation.

The problem with these instruments is that it requires at least two officers, most times three, to enforce the violation. One officer must stay with the

equipment while the other officer goes after the offender. If you're working in two directions, then you need an officer on each side.

It has been our experience that if you leave the instrument along the side of the road and pursue the offender, when you return, the instrument sensors have been damaged, or in one case we lost the infrared sensors. They were simply stolen.

with ESP and Vascar, you must have a given area delineated with the lines painted on the highway so you know the exact location and distance that you are clocking with the offending vehicle.

Radar and Lidar in our opinion are more accurate and easier to use if an officer attempts to run a speed check. With the current equipment we're authorized to use, he has to spend a considerable amount of time in preparation to use the equipment and he's limited to the area where he has already marked and knows the required distances for. Radar and Lidar do not require this added preparation to use the equipment.

The COPS grants made it possible for many departments to get more officers on the street which was a police for all involved. With the introduction of radar and/or Lidar, you will now allow those

officers to make better use of their time on the street in the reduction of speeding violations.

I really don't think I have to tell this group that more injuries and death are related to speed than any other factor in traffic accidents. With drunk drivers, you approve equipment to test their breath or blood to determine their blood alcohol content. In overweight truck cases, you approved scales so we can weigh the trucks.

In equipment violations, you've approved meters to measure the tint on windshields; and with fingerprints, we can use the new AFIS system. I find it hard to believe we have not been allowed to use the equipment that not only makes our equipment easier and safer, but in our opinion, gives a more accurate determination of vehicle speed.

I am aware that there has always been concerns about a given department using radar or Lidar as a money-making tool to fund their given jurisdiction. I think the proposed legislation has addressed this problem and I don't see any need to discuss it further.

The final point I would like to make is in regards to safety. With the ESP instrument, you must actually be out in the highway placing the sensors or

infrared on the road. Doing this during the daylight is dangerous enough; however, trying to put these items on the highway at night or in a dark uniform is downright dangerous.

I know there was a movie that had a line that went something like, if you build it, they will come.

I would like to change that and say, if you approve it, we will use it effectively and responsibly.

I ask you to allow me to turn the microphone over to Chief White, since he is on the accreditation program and he would like to address the training issues, which I know has been discussed at some of the previous hearings.

CHAIRMAN GEIST: We've read the standards, that's how nuts we are.

MR. WHITE: I do appreciate the Committee allowing us to testify. Pennsylvania's Law Accreditation Commission, in the first year of existence with 108 standards of every aspect of an employed officer's continual knowledge of the training of the officers in law enforcement.

We do not understand the statement of the Commonwealth of Pennsylvania coming into law enforcement and the understanding of their responsibility to have the training and their

understanding of their ability to differentiate what Mr. Kimmel was saying, where a good area is, where a good area is not.

Our fellow officers in New Jersey, just across in our view here, have used radar extensively throughout their developments throughout the state. I spent the last years with the International Association of Chiefs of Police. There's two things I can bring up.

No. 1, the attack on radar that's proposed by Mr. Kimmel, with all due respect to him, has not occurred in every other state and that as we know and you have long since supported this idea, that Pennsylvania is the only one where local police are not permitted to use radar.

The fact is in the court challenges, the same argument was brought out when the strict DUI laws were initiated in the early '80s. They said the courts would be inundated with requests for trials and trials. That fact has not occurred. And you know why it has not occurred, in my experience, is because of the level of the training of the officers to recognize what is before them and effectively use the tools they have had to enforce the DUI enforcement.

I will tell you now, I believe that's

possible with the use of radar. Chief Daniels brings up the point that speed is the highest cause of injuries and death throughout our areas. Our roads were never built to take the speed and volume of traffic. I constantly deal with people coming to me talking about the speeds in their neighborhoods.

It's their own neighbors. They know it's them. We need to use effective tools that we can train our officers well in. I think that the quality of people that are in the accreditation commission, there was a need for that and there is a need that Pennsylvania should step forward and develop a statewide accreditation. But it is a recognition that we are capable of doing, that the chiefs of police are dedicated to the idea of continuing to bring up the standards of a police officer that is out there.

We will work with this committee if this legislation is passed to ensure that the proper amount of training is instituted and taken by every chief of police in every police department in the area. And, again, Representative Watson does constantly bring out the quality and level of the training of the police officers in this area.

I think that is true throughout the Commonwealth of Pennsylvania. I thank you for the

1 opportunity to speak to you, but I think it is a 2 recognition that we understand what we need to do. 3 We're here to step up to the bat to do what we need to do. 4 5 REPRESENTATIVE LEH: Okay. Thank you very 6 If you have the ability, in other words, -- I shouldn't use that term. Really, is there anything in 8 the bill that you would like to see changed? 9 I would like to see it passed. MR. WHITE: 10 REPRESENTATIVE LEH: All you folks are on the 11 same page. You need more money from the township 12 supervisors. 13 MR. DANIELS: I had a concern with -- I 14 expressed this, it was the number of hours or days 15 Since we work a 12-hour shift or the 16 Departments works a 12-hour shift, the requirement that 17 so many days per year, we would actually work less days 18 than that. We are definitely a full-time department. 19 We have 21 uniformed --20 CHAIRMAN GEIST: Could you explain the 21 definition of full-time for the record just so we know 22 this. 23 MR. DANIELS: 2080 hours per year. 24 CHAIRMAN GEIST: What does that department 25 provide as a full-time?

MR. DANIELS: We do everything. We do the criminal investigations down to the dog complaint because, you know, there's nothing that we don't cover. And I think it's important that that portion be changed, because I wouldn't want to see departments have much larger --

CHAIRMAN GEIST: We have to change that because of the pension in the departments -- third class citizens which I represent.

MR. DANIELS: I did see that. It will be addressed.

REPRESENTATIVE LEH: The new bill reflects that.

CHAIRMAN GEIST: Let me ask a question while we're doing this. How do you answer this question as a responsible chief? The City of Harrisburg writes X number of tickets a year. Dauphin Borough, which is a dot on the map, writes 50 times the amount of speeding tickets with one officer as the Harrisburg Police Department does with a full-time, full service police department.

MR. DANIELS: This to me -- I'm not speaking as an association, just as an individual. The way to relate that is take that money away from that department by going and putting that money into a given

state fund and allocate the same as you do currently with the full tax money and the miles of road.

That's going to put an end to that, but that borough is not going to be getting that big cut of money which I'm sure, in my opinion, is the reason he's out there doing that. I think that would put a stop to that. I'm not out there for the money for my department. My supervisors may not like that.

That is of little concern to me. You can appeal to the people off the highway like we both have. Before we came down here last week, I had a two car -- actually a three vehicle accident, two Corvettes and a poor lady that pulled out of -- actually on Route 263 -- because I'm the neighboring township to Warwick -- she pulled out. The cars were not visible, and the two Corvettes were racing.

The construction has put the speed at 25 miles an hour. They both have admitted they were doing 125. Thank God, no one was killed. This is what the township manager from Warwick testified to on Route 263, which is an every day occurrence and to get out there and try and set these Vascars.

CHAIRMAN GEIST: One of the roads you have to have permission from the State to run radar?

MR. DANIELS: Limited access.

MR. WHITE: No.

CHAIRMAN GEIST: We've wrestled with the problem with the bill as you well know because of the abuse some local departments had on the interstate with limited access. You have worked on this as much as we do.

MR. WHITE: Route 202 and 61 bypass are limited access highways. We do need permission from the Pennsylvania State Police due to the huge area they have to cover that are not necessarily in other areas that come into the area for special details.

They have given us permission to enforce the speed on the bypasses. We don't have the time. We have so many -- so much of a volume of vehicles within our residential areas, that's primarily where we need to be. I think when you have the five percent in here, that's a real clear challenge and it would be a sanction and it should be enforced.

CHAIRMAN GEIST: That five percent --

MR. WHITE: The objection you're bringing up by doing that is recognized and it should be done. I think that it's, you know, of all the people coming into my office, often speed is the constant companion why they're coming in there. And we do need to make it easy for the officers to be able to go out and they can

be well-trained.

They could be held responsible, hold the chief of police responsible for the training. But we recognize what we need to do and we're standing here ready to do.

REPRESENTATIVE LEH: Chair recognizes other members. Representative Watson?

REPRESENTATIVE WATSON: No.

REPRESENTATIVE LEH: Thank you very much.

MR. WHITE: Thank you.

REPRESENTATIVE LEH: Chair now recognizes J. Robert Cartwright.

MR. CARTWRIGHT: Good morning, Chief. I asked to have the opportunity to come down and speak with you folks today. I've had contact with Representative Leh's office in reference to this bill. I had the opportunity to review it.

I probably represent the small segment of law enforcement within the Commonwealth of Pennsylvania, but within a statewide jurisdiction of the House of Representatives represent a bulk of it in that most police departments, if you go back to your home representative districts, especially in small rural counties, you'll find that most police departments -- there are over 1,200 police departments in the

Commonwealth of Pennsylvania, which employ over 21,000 police officers. Of those, only three to four thousand police officers in the state are part-time.

My municipal police department is probably one of the smallest in the state. We represent 579 residents in the population. As you yourself know in times, many municipalities struggle with the problem where they should have local police or rely on state police. My municipality, since 1989, has had its own police department. We fund our own police department.

I read the bill. I'm objecting to the bill and have some strong concerns in reference to the issue that has to do with full-time. I have serious remarks when it said that the inference comes across that small municipal police departments are out there to pay the mortgage on the town hall.

I don't know of any police officer -- I'm familiar with Representative Leh's office and it familiarized me with Dauphin Borough or Dauphin Police Department that's near Harrisburg, which is quite a ways away from myself. I did a survey in my representative's home district. In his district, we have 11 departments. Seven of the 11 will not be allowed to use radar.

And I would ask that the representatives of

the Transportation Committee go back to your home areas and do your own survey. I was in contact with the Municipal Police Training and Education Commission as late as this morning, still trying to gather data on how many police departments of those 1,200 are full-time departments and how many of those are part-time departments. They could not give me the answer.

My department is made up of one full-time officer, me, the chief. I have four part-timers who work less than 32 hours a week.

I do not conduct, my department -- nor do I know of any other one in our county that a police officer that goes to work on each and every day with the idea that I have to pay the streetlight bill or the mortgage on the town hall.

We operate under budget. We operate with the premise we're there to do our job, protect the citizens, which is exactly that. A lot of areas in the Commonwealth are not major metropolitan areas such as Philadelphia, Berks County, Reading area.

My municipality sits on 611, four miles south of Delaware Water Gap. We have a bridge that connects us with Exit 4 on the interstate, Jersey Rivertown, with Interstate 80 traffic flowing through it.

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My municipality police budget last year was \$72,000. Last year my police department generated in fine revenue, I think the actual number came in about \$7,600 worth of fine revenue. I do not have the time as a full-time officer nor do my part-time officers have the time or effort to go out and become a ticket-writing machine.

It's unfortunate that a municipal police department in Dauphin -- if you had chosen to take away that, would raise the eyes of not just John Q public, it would raise the eyebrows of fellow law enforcement how a small municipal department can generate that many tickets, that much fine revenue within a reasonably short time and outdo a city police department.

I feel that representing the small rural block of police officers and small police departments, that I do find it offensive that we're referred to as productive ticket-writing machines and, in fact, the data has not been compiled as much for this committee.

We've been able to find the actual numbers, where they're at, what municipal budgets are for police departments, what they generated in fine revenue and compare if radar is going to help or it increases the fine revenue.

I agree with the chief, the chief that spoke

before. I have no problem with the bill being changed. You take the money and put it towards drunk driver efforts, put it towards whatever the House feels that would better reflect the areas in Pennsylvania, whether it's approved roads or other programs, rather than going back to the municipality to become a revenue-generating machine.

I know in our borough, if my borough were to see that kind of revenue in that kind of tickets coming through the door, they would be very concerned because our police department, like most small town police departments, are exactly for that, to protect the citizens in which they're there to serve and enforce the laws.

There are many areas in the towns, boroughs and even within the townships where the roads are very narrow and smaller country roads. They're not interstates. They're not concrete. They're wooded areas. You don't have the site distance to put a 100 or 200-foot marking line down.

That's where the school bus travels every day and people in a hurry on their way to back and forth to work travel excessive rates of speed. We don't have the tools available to us to find out exactly how fast they're going.

That's the situation we're in from a small town rural standpoint enforcing the traffic laws in the Commonwealth.

REPRESENTATIVE LEH: Okay.

MR. CARTWRIGHT: That's what I have to say.

REPRESENTATIVE LEH: That's fine.

Out. If you follow the history of where we've gone with the Police Chiefs' Association, initially, the thought was because of all the years of trying to get a bill in Pennsylvania and failing, that if we tried with the departments of 50 or more, full-time police departments, and phased in the rest of the way across the state, this bill we have now represents a much more bigger bite of the apple.

It's the feeling of many that if we did extend them all the way, it would have the same fate that every bill that has ever tried to go before the General Assembly before, and we have a long history of that.

We also have a history in Pennsylvania of municipalities that abused their police privileges, whether it's Crescent Borough or Dauphin Borough or any others. There's a long history of it recognized by the Chiefs' Association.

There's a lot of time and effort that's gone into drafting this with the hope -- with the Sunset provision, that a bill can be passed and reviewed and audited to make sure that it does exactly what these fine gentlemen have all testified that it should do.

It's only going to take one or two bad experiences statewide before this thing is just going to go to pieces. And that's the philosophy we have. It has nothing to do with anyone being discriminated against based upon anything other than trying to integrate this tool into the tools that have been used.

And that is where we're differentiating, and I don't think that anybody should have any opinion at all that a part-time officer should not be trusted. They all have the same training.

we understand. It's totally understood by us. The philosophy behind the whole thing is try to get something that will work and something that will be acceptable.

That's why Sunset -- the size limitations were put in it; and that's why the training was put into it. It has to have the confidence of the people that are going to allow it to happen. That hasn't happened.

MR. CARTWRIGHT: In your own representative

district, how many full-time police departments do you have versus part-time?

CHAIRMAN GEIST: I represent three police departments. I have a city department with 79 officers and I have a township with one.

MR. CARTWRIGHT: As you know, the makeup of over 1,200 police departments and the concern that I have is the small minority of police departments that are there that have abused that. That's why I think that the bill should be changed, that the fine revenue generated from radar doesn't go to the municipality.

CHAIRMAN GEIST: That's why we have retraced -- that's why it's 26 miles an hour before you get points. Everything is aimed at one thing; that is, safety in the neighborhoods. You don't want it as revenue generation. You don't want it as a tool that's misused.

I think that Ed, in the chief associations, all the township associations, borough, the Third Class cities -- the list goes on and on and on. There's been more input in this piece of legislation than anything since 1961 and I really, you know -- I don't know.

I don't know how to get something like this passed in the General Assembly but it's never been done. I have to tell you something. He has done a

fantastic job in trying to get it done -- Dennis Leh.

I have suffered the slinging in two of the part-time police officers up home. I said, kill the damn thing, it's not worth taking that over. If it wasn't for Ed Connor talking me out of my temperament, it might have happened. There's a responsibility that goes with it. There's a huge responsibility. That responsibility is with you folks that have the badge.

That responsibility is you prove to the General Assembly it has to be that we Sunset this thing that it works. And whether it's Katherine or Keith or myself or Dennis, and Dennis is going to make this thing work whether it does or doesn't work. We want that. We want the same thing that you want.

MR. CARTWRIGHT: Well, as you --

CHAIRMAN GEIST: If we put this in the hands of that guy in Dauphin County, Dauphin Borough, it will kill it for everybody that has something they want good because there are those people who misuse it.

And that's why it should be going to the referendum for local input, and that's why it should be done and done responsibly and phased into the whole state. That's the whole philosophy behind it.

MR. CARTWRIGHT: I don't see in reading the act where it's phased in. What I see --

CHAIRMAN GEIST: That's the whole Sunset provision.

MR. CARTWRIGHT: You mentioned that specifically has to do with the safety of the motoring public in the Commonwealth of Pennsylvania. Well, that may be well with the larger municipalities that are able to. Obviously, there's no municipal government official that says, elected official, that says, let's have a police department and it's a popular thing because obviously law enforcement doesn't sometimes fit real well with elected officials.

They look at you, you, being the police department, cost us a lot of money. Sometimes they're not able to balance out what the good of the police department does versus what the bottom line is going to do in the decrease in the crime in the neighborhoods, the safety of the people within the Commonwealth of Pennsylvania.

So what we're saying is don't speed through a municipality that's a full-time police department. They're going to protect their citizens and the roadways in their area with radar, and in other rural areas and other small towns and townships that do what they can afford.

Our borough has spent better than a third of

their biannual operating budget to have a police department. We're not there because the borough council feels this would be a good idea, let's waste 80 grand of the taxpayers' money.

we're there because everyone has within their own individual municipality a need for some sort of police protection. Obviously, it's up to our elected officials.

CHAIRMAN GEIST: I'm trying to explain the philosophy and the difficulty of getting this thing passed in Pennsylvania. And Representative Steil, bless his heart, a very, very good friend of mine, he tried and he tried and he still has the arrow sticking in him.

REPRESENTATIVE STEIL: I got 34 bullets.

CHAIRMAN GEIST: It takes 103. Now, the philosophy once again, how do you get 102 votes? If you take a look at the population in Pennsylvania where the representatives come from, you start building that, then you would really start understanding how this thing has to fall into place.

There's been a lot of awfully great people that have worked on it -- very bright, very savvy -- Bob Muston, a great guy that Katherine has put in his place. He has worked on this for 35 years. I've been

at it for 23 years.

MR. CARTWRIGHT: I have one question for you. Have you done a survey to determine how many police departments over the 1,200 in Pennsylvania are going to be using radar and how many of them will not?

CHAIRMAN GEIST: No, we have not.

MR. CARTWRIGHT: Even municipal police training cannot supply you with that information. It seems to be one issue in our public, what are they going to do with the fine money? What are the municipalities, the Dauphins and other municipalities that you had mentioned that I'm not familiar with?

CHAIRMAN GEIST: Everything you say is accurate but these people are hurting you. They have hurt you badly. We have a township just south of Harrisburg that nails people coming off the Turnpike. The Chiefs' Association is not talking to them.

We have to do this and do it right. I tell you sometimes -- Keith will tell you -- I'm at a loss on how to do it. I've got long records of passing legislation, and also had two bills vetoed by the Governor.

MR. CARTWRIGHT: I would ask before you decide to present this further, you have a survey conducted to find out what those numbers are of

full-time police departments versus what you consider to be part-time -- part-time police agencies.

The reason why we have part-time officers working in a lot of communities across the state and not in large metropolitan areas, when you come down here, which is suburban Philadelphia, a lot of areas, I don't know what area you're from, a lot of --

CHAIRMAN GEIST: The fine city of Altoona.

MR. CARTWRIGHT: There's a lot of ground around Altoona that's wooded area, just small communities. And what I'm asking is that you folks consider taking a look at that number in itself and also let that be your guide.

There should also be some sort of add-on to this bill to see that those safeguards are there, that even the larger municipalities, once they have radar in hand for the full-time police department, I would love to have a full-time police department, but the population base and the community which we serve cannot afford that.

I would not want to see my municipality have a full-time police department because of the fact that we have a radar gun in our hand. That's not what any police officer's mission is in law enforcement which is just to go out every day, as I said, pay the mortgage

payment on the town hall. That's not what being an effective law enforcement agency is all about.

There's more components that are involved in it. I would ask in closing that you take a look at those numbers to see exactly what the effect is on full-time police departments.

My four part-time officers work less than 32 hours a week with the magic number being 32, so our municipality doesn't have to pay benefits because realistically we can't afford that. The taxpayer cannot afford that. And we do the best we can.

We can either opt to do that or we cannot have a police department and rely on the State Police, which is located some 25 miles -- 24 miles away and come all the way into the northern end of the county to come to my municipality. That's why my municipality has its own police department. But I thank you all very much for giving me the opportunity to come here today.

REPRESENTATIVE LEH: I would like to piggyback what the Chairman said. As a prime sponsor of this bill, the language in this bill does not attack the integrity of your part-time people; however, you have to understand as the Chairman said, it was crafted in order to get a bill passed. This bill, as

written -- personally, I don't think this bill can get the necessary 102 votes to pass the House.

Everything we add to this bill, we lose votes such as things like that. So you have to understand where we're coming from. We're trying to give Pennsylvania a radar bill, Lidar bill that will get the necessary 102 plus votes. I guarantee if we put part-time police forces in there, it's not going.

MR. CARTWRIGHT: Actually, we had our conversation on the phone. It was your comments to the Allentown Morning Call that made it a point in Bob Cartwright's day, eventhough I was told by other chiefs, as I said, 7 out of 11 will not be able to use it. It was comments I read within the news media. We know how they are.

CHAIRMAN GEIST: Never misquoted me.

MR. CARTWRIGHT: It brought me down here today. I would just ask that you folks consider taking a look at those numbers.

CHAIRMAN GEIST: I can appreciate where you're coming from.

MR. CARTWRIGHT: I would like to welcome you up to the northern end of the state and sit on some of my streets, some of my roads and sit there at 8:00 in the morning or 10 of 8 when the school bus comes. You

know, right behind a school bus is a car traveling 55, 60 miles an hour. Shouldn't local police, you know, have those tools available?

REPRESENTATIVE LEH: I'm not the person you

REPRESENTATIVE LEH: I'm not the person you haven't convinced. Like I said, the bottom line is -CHAIRMAN GEIST: Dave is convinced 34.

REPRESENTATIVE McCALL: I guess, you know, I have been really split on this issue even part-time because I have part-time police departments. They're very concerned about it. I'll give you an -- I don't have to give anybody a civics lesson 102 -- 26 votes in the Senate and a signature by the Governor.

I have told my district on this issue -- I have listened to my constituents on this issue. The last time I polled my district, 80 percent of the people were against me giving radar to the local police departments, 80 percent. That's a significant number. If it was 50/50, maybe I would think twice.

Eighty percent is against it now. And that survey is probably seven years old, and it probably warrants another check because of all the press that has occurred on the issue today.

But just recently, less than two months, my local newspaper -- the readers -- the readers turned and they polled 10 people just on the street. All 10

people were against the use of radar by the local police.

So there's also, you know, a public relations event that has to take place by the chief of police, by the police department by saying to the legislation, we may want the legislation, you may want it but the people in the districts don't. Represented by 34 votes the last time, we tried to pass the radar rule in the House of Representatives -- they're voting no because they're telling them no.

It may be the same person complaining about going down the street speeding. It's the same people writing to my office, when this issue is up, not to vote it. That's the other political reality. We do deal in realities.

when it comes to put up a vote on the thing, the political reality, there is not a lot of support among our constituents to pass this legislation. That's part of the battle that has to be fought as well. I'm not putting together a bill that is going to put 102 votes in. It's also public support. I don't think that's the public support.

CHAIRMAN GEIST: Thank you very much.

REPRESENTATIVE LEH: Chair now calls Bob Gratz, Director, Sales of Stalker radar & Laser. Mr Gratz, welcome.

MR. GRATZ: Thank you very much. I appreciate being here and your inviting Applied Concepts. I had the benefit of listening to everybody's testimony. I think there are two issues here. One is drafting a bill that will pass with the political issues that are involved; and one is using technology that is used throughout the nation.

I would like to talk about police radar and the science of police radar. We also manufacture a Lidar device. The difference between the two radars is radio detection and ranging; and Lidar is light detection and ranging.

Both of them are approved by the National Highway Traffic Committee and the International Police Chiefs' Association, are used throughout the nation, 49 states. As far as local departments are concerned, that being municipalities, sheriffs, as well as highway patrols and state police organizations, 50 states including your state police.

The technology of police radar is a science.

The science of Doppler, Doppler radar, that's exactly how it works.

Goose Doppler, 1842, an Austrian mathematician and physicist conceived the principle.

The principle is as it comes towards an energy in the case of police radar, the energy is a radio frequency energy; and as it enters the influence of that energy, it causes compression to occur coming towards. It causes stretch to occur going away.

The Doppler principle in order to be a principle of physics and a law of physics has to occur in every day nature. Everybody knows how gravity would occur if something was to fall and land on the ground. As far as Doppler is concerned, it occurs in every day nature.

As a car would pass an individual standing on the street sounding its horn, you would hear compression coming towards and 90 degrees of that compression as that car went by sounding its horn. You would hear the stretch going away. That's the Doppler occurring in the nature. A railroad train passing by one's person, you can hear the shift occurring, compression coming towards and stretch going away.

In 1976, the National Bureau of Standards in Gaithersburg, Maryland embarked on the study of police radar to find if it was scientifically reliable. That agency has currently been renamed as the National Institute of Technology.

After eight years of study and approximately

seven volumes that were produced from that eight years of study, it was concluded that Doppler radar is scientific reliable and accurate. Prior to that time, however, there have been many challenges against police radar. An advent of police radar was the second World War, and the first radar was used in 1948.

In 1955, the Supreme Court of the state of New Jersey heard testimony in the case known as Dantonio, and my offering of testimony -- I've provided case law with the cite numbers if you care to look at it or have some of your legal scholars take a look at it. They found that the stationary Doppler radar was scientifically reliable when used by a skilled and knowledgeable operator.

Now, I've heard testimony here today in regards to trees, parked cars, windows, buildings, and also some devices such as air conditioning units on buildings. And, in fact, we do have an air conditioning unit within a car, heating unit. We do have communications, police communications, radio frequencies within a car. But the testimony that I've heard today is not concurrent with the science of Doppler radar.

Doppler radar causes an effect to occur which is a positive effect of compression coming towards or

stretch going away.

So if a tree and/or a parked vehicle, buildings and what have you are obviously not moving, you cannot get a Doppler shift off of something that's not moving, either coming towards or going away. As far as windows are concerned, you can get a reflection off of a window and off of a billboard, but it's the proper use of the equipment.

We're not saying that Doppler radar or Lidar or the Intoxilyzer 5000, an alcohol breath test device that the State of Pennsylvania has adopted, or Vascar or ESP speed check tracker or any of those devices, we're not saying they're perfect. In fact, we're the first ones to admit they're not perfect.

However, case law has indicated that the officer must have specific training in order to utilize these devices and see any of the various different factors that could occur with the police radar such as radio frequency interference.

The National Bureau of Standards and the National Highway Traffic Administration is adopting what is known as the qualified product list of police radar products that are used throughout the nation and throughout the world; in fact, have determined that these are accurate devices.

And case law indicates that in the skilled hands of a knowledgeable operator that they are tools that can be used for the enforcement of the speed laws. Speed laws today bring us not only from the speeding, but we've also got drivers that are now taking advantage of other citizens through their arrogance and

their will to break the law.

I think that the issues here before the State of Pennsylvania are issues that are rightfully acknowledged as far as police departments using them, whether it would be a part-time officer or whether it be a full-time officer. I believe throughout the nation, that if an officer is properly trained, whether he be part-time or full-time, that this person would be able to -- just as highway patrolmen or state police in the State of Pennsylvania -- would be able to utilize this device.

As far as Lidar is concerned, it is a more target specific device. At 1,000 feet, a Lidar is 3 feet wide. At 2,000 feet, that is double. It becomes 6 feet wide. At 3,000 feet -- this is increments -- it becomes a total of nine feet wide. So at 5,000 feet, you would have a beam pattern that would be equal to 15 feet wide.

Obviously, this is probably exceeding one

lane of a road surface. If you have a dual road surface that referred ranges using Lidar, this device is not as target specific as you might think.

Also, the proper use of Lidar, if an officer is not trained with Lidar, if he moves the device, then this is called panning; and, obviously, he can cause an inaccurate number to occur. If he then moves with a Lidar device from his sighting of the front of the car, the license plate area comes up into the windshield.

There's a difference of about 6 to 8 feet, depending upon the vehicle, that's going to account for as many as four or five miles per hour difference. It's all within the training of this device that the officer is using.

case law accounts that the officer must observe the radar or the Lidar must confirm if the officer's observations supported the radar or Lidar information, then this is a valid reading. As far as testing has been concerned, testing is done at the beginning of the shift and at the end of the shift to prove the device in question was accurate at that time.

As far as tuning forks are concerned with radar, radar will read a tuning fork. It is a mechanical device. It is not an electronic device. It is true that it will vibrate at a certain frequency,

but tuning forks outside of the distance of approximately 6 or 8 feet away from any radar may not be right. At that point, the radar actually reads the Doppler shift that's compressing, coming towards or stretch going away.

The officer must be trained in utilizing the device. It's not a perfect device. If there is some interference that is encountered, it has to agree with the officer's observations. If it does not, then the officer should completely disregard it.

with radar. One of them is cosign angle error. Cosign angle error that was previously discussed also applies with Lidar. It applies with Lidar in calculations. The officer would read a target coming towards him with either radar or Lidar or going away from him. And the rule is to point directly off the target. It has to be off the road. The devices have a beam pattern that accounts for a target coming towards or going away in line with the device.

However, if he is too far off of the road surface -- for instance, we had a vehicle coming at us at 60 miles per hour or going away from us at 60 miles per hour and it was 0 degrees, we would read 60 miles per hour. If, in fact, the officer was 10 degrees off

of on either direction, right or left of that target, we would read that target, mathematically targeted for every radar device clear back to 1948 and when it is coming off the assembly line today, we would read that device at 59 miles per hour. That's including Lidar. If it was 20 degrees, we would read that target at 56 miles per hour.

So as you will note, in either direction it then becomes a benefit of the target. And if the officer was off of the road surface or 30 or 40 degrees, we would then see a tremendous difference in benefit to the driver. If the target was coming at 90 degrees, that would be straight across the Lidar or the radar device. There would be no reading because there wouldn't be any reflection either coming towards or going away.

Across the river, as I look at the state of New Jersey, I am aware there are over 400 police departments. It's not as large as the State of Pennsylvania obviously; however, they now have between 2,300 and 5,000 radars.

As far as radar use is concerned in cities like Chicago, Los Angeles, whether it would be St.

Louis or Dallas, radar and Lidar are used within the intercities. They're used from block to block. The

New York City Highway Patrol utilizes radar.

Obviously, they're trained to use it and the radar will read the target that is out front by itself nearest the radar, but Lidar will read a target that is a target discriminant. That would be where you place the target -- radar on the target. That's what the Lidar will read.

One of our customers, which I provided a customer list, is the California Highway Patrol.

California Highway Patrol has over -- in just patrol -- 3,000 of our radars. They utilize radar as in the moving and stationary mode, whereas in Pennsylvania they only use it or use it at the present time in the stationary mode.

Virtually, every state in the nation uses radar, either stationary or moving. And stationary there is no technology available. It's available from our company. We've patented that the radar in the stationary mode now has the capability to select the side of the street that it is looking at, whether it is receiving or whether it is coming towards.

This then unmuddies the water as far as the traffic pattern is concerned as what is going away and what's coming towards. So we have that capability. In years past, we went from vacuum tube technology with

the early on radars to transistors, and from a transistor to microprocessors and in these radars, these radars are analog signal processing radars. This technology is probably about 30 years old at this time.

The newer technology that is now on-line that you've heard about with cell phones, police communications, business communications, TV sets, any kind of entertainment device such as VCR's, is digital signal processing. Digital signal processing has a screen of information that is plus and minus. That is determined by the accounting circuit as to the Doppler signal which is bringing forth from the instrument.

And in the years past, there has been radio frequency interference as far as police radars are concerned, high tension wires. There have been communication towers and what have you that have caused radars to have erroneous numbers. The police officers involved and all sectors have been trained to determine as to what they were looking at and what they were listening to in regards to those types of abnormalities that have come up on the radio.

Digital signal processing has virtually taken the radio frequency interference that has occurred within a police radar and it's almost impervious. We'll never say never. We've not seen any erroneous numbers thrown out because of any radio frequency.

That's our technology.

Our competitors, they do it in a different way. They're also digital signal processing. They do not do it in the reception of the instrument, only for counting purposes.

But still, the National Highway Traffic
Safety Administration and International Chiefs' of
Police Association has cause for radar devices to have
an RFI detector and a low voltage detector. When they
sense a radio frequency interference within the vehicle
of the car that would affect the radar, the radar shuts
down so it becomes a non-issue.

I would just like to address that because it hasn't been brought up, the safety issue, as far as the microwave radiation is concerned because some people --

CHAIRMAN GEIST: The Police Chiefs'
Association opposed these a few years ago because of that.

MR. GRATZ: There have been cases brought against the radar technology industry maybe back 10 years ago for various different reasons, testicle cancer, melanomas, leukemias, and other types of cancers, as many as 20 cases. These cases were heard in civil courts in this nation. They were jury trials.

There were experts on both sides. And in each case, it was determined that police radar did not cause, could not cause cancer, and the reason for that is because we are one fifteen thousandth of one watt of micro-radiation.

If we were to compare ourselves to, let's say, a transmitter/receiver that a parent may have in the crib with their child while they're listening to them or a CB radio or a businessman's radio or cellular telephones, we are much lower than all of those, including police communications.

That's been determined also by the Federal Food and Drug Administration, Radiological Bureau, that's been determined by OSHA and the National Bureau of Standards that the police radio does not cause cancer.

I would be willing to answer any questions you might have.

CHAIRMAN GEIST: I have a bunch of questions. I have read so much about this I feel like I'm back at school. Could you -- would you recommend one or the other?

> MR. GRATZ: We manufacture both.

CHAIRMAN GEIST: That's what I'm saying.

MR. GRATZ: Our competitors do as well.

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CHAIRMAN GEIST: Lidar from testimony that we've heard, we've had people tell us if they were buying these systems over again, they would never buy radar. MR. GRATZ: Both of them are speed detection

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tools --

CHAIRMAN GEIST: That's correct.

MR. GRATZ: -- as well as the time distance devices that you currently use. A Lidar device is a sighting device. There is a target radical involved. The Lidar devices early on did not have a heads-up display. They do have a heads-up display that an officer actually has to hold that up to his eye and he has to sight this instrument.

CHAIRMAN GEIST: Our committee has gone out with the State Police to view these things.

MR. GRATZ: Right. Therein lies one difference between radar and Lidar. I've explained the beam pattern or the width of the Lidar beam being 3, 6, 9, 12 and 1,000-foot increments.

Incidentally, it is recommended by -- for instance, there is case law in the State of New Jersey at the Supreme Court that says that the Lidar device will be accepted at a thousand feet or below without expert testimony.

At a thousand feet and above, they require expert testimony given on the device due to the fact that the beam pattern becomes wider and your sight becomes further away. You have the truck situation and the car situation existing just like you do with radar at further distances.

The radar device is a device that is either hand held and can be used inside the car or outside the car. It can be used with a battery pack or plugged into a battery pack or cigarette lighter. It is not like the current devices that you use that you have to set up hoses or you need a Vascar to measure a given track.

You have an average rate of speed between those. Both these devices will give you a tracking history in real time. The officer will see the offending vehicle doing 55, 56, 57, 49, 48, 46, so he has to have a tracking instrument. He has to also agree with what he sees.

Now, officers do have the capability to see a high rate of speed that was testified to earlier today. Yes, there is the car/truck situation, but the truck, obviously, when I teach radar, I teach that the truck is 17 more times than the descending surface, than the average size of an American car, whether it would be a

Corvette, or 30 yards away from the truck, surely you're looking at the truck.

Every case law in the nation, including the ones I've indicated in the cites, the officer must observe the radar, must confirm -- or the Lidar -- must confirm if the officer's observations support the radar evidence. In the case of radar, if the offending vehicle was out front by itself nearest the radar, then this is a valid reading.

with the Lidar device, the same testimony comes forth; however, he is citing one specific vehicle. So the difference between the two is one is an interactive device with the officer that he is sighting one vehicle at a time. He has to have it up to his eye.

The radar device, on the other hand, has a wider beam. And I've heard testimony that it is at 100 feet. Actually, it's about 200 feet wide. It goes out to infinity.

The police officer or yourself might have talked into a device or CB radio or police communicator and said 10-4. If you did that 17 years ago, that signal is still traveling. That's infinity; however, the radar will read the vehicle that is sending back the largest amount of signal that equates to your

illustration earlier, sir.

And in the case of the truck, law enforcement is trained in that regard. They utilize police radar on the New Jersey Turnpike, the Mass Turnpike, on I-80, whenever it goes across the entire nation, use it with truck traffic, but the rule of the radar device is out front by itself. nearest the radar.

Yes, you could have trucks and larger vehicles in the vicinity, but those are taken into account by the training of the officer.

CHAIRMAN GEIST: Let me ask one question.

How about jamming devices --

MR. GRATZ: Jamming devices.

CHAIRMAN GEIST: -- that are sold.

MR. GRATZ: Yes, jamming devices actually dowork.

CHAIRMAN GEIST: If I have a truck that's coming up the road with this jamming device turned on, I'm running 65 in my car, he has a jamming device turned on and I get written up, how do I go to court to protect myself?

MR. GRATZ: First of all, actually they do work. They have demonstrated with highway patrols and the state police organizations that they only work very close to a radar, and a jamming device is generally

sending a signal that is lower than the speed limit.

For instance, the person would dial a 25 or 35 and it might be going 70 miles per hour. These are totally illegal as far as the Federal communication is concerned as well -- because they do not license any particular device, whether it would be a jamming device made by a civilian entity or even police, may not flood the entire state with a frequency from their transmitter towers because that is jamming the frequency. They are illegal.

CHAIRMAN GEIST: How effective are the absorbing bras?

MR. GRATZ: There are devices -- that's one of the things that you would find with a Lidar device, that there are license plate clear covers that will absorb and not reflect the Lidar signal back at further distances.

Okay. But there are other places, the grill of the car and across the whole portion of the car, that that Lidar signal hits because it's 3 feet wide at a thousand feet. They are effective to a certain extent, but the radar just does not read the front of the car. It reads the entirety of the car. There is a reflection.

CHAIRMAN GEIST: Frontal sections, it reads

computations based upon the curve and frontal area?

MR. GRATZ: It will read the entire picture. It sees it coming towards it, it sees a mask towards it, it gets a reflection off of basically everything. If you were talking about a Lidar device, we train people to look at the lower part of the car and not the glass, look for the reflector or the reflectability of the license plate or the front end of the car. The headlights are a perfect example of sighting with a Lidar.

There is a reflection basically off of Corvettes and other types of vehicles that are low and sleek. In fact, Applied Concepts is the largest manufacture of sports radar. We read every major league baseball team including the Phillies.

CHAIRMAN GEIST: They throw the ball faster.

MR. GRATZ: We read tennis balls. We read a football, a soccer ball. In other words, radar will read anything that's got mass. So --

CHAIRMAN GEIST: We're experts on technology on this committee.

MR. GRATZ: I would just point out on behalf of the departments and the State of Pennsylvania that radar has been with us since 1948. It's used in every other state in the nation and the stationary form, as

well as moving, stationary Lidar is used across the country.

There is case law that radar has been challenged. It's been challenged in Florida and that challenge is back in 1979. There are many Superior Court, Appellant Court and Supreme Court decisions. The National Institute of Technology has indicated that radar is scientifically reliable and accurate. We use it for weather forecasting and national defense as well.

CHAIRMAN GEIST: Any questions?

REPRESENTATIVE STEIL: One other quick question. I asked the question earlier about training. In your experience in other states, is there any difference in the training that you suggest or the -- you promote for police departments that are operating primarily in rural areas opposed to those operating in urban areas?

MR. GRATZ: The training is a tremendous job to accomplish, particularly here in this case, the State of Pennsylvania. If you adopt the radar, you could have a significant amount of training to do it and it would take a long period of time. The training expertise is available from several areas, one being the Institute of Police Training and Technology in

Jacksonville, Florida.

They're recognized as the leader in training.

They train highway patrols and state police

organizations. They train cities and towns across this
nation.

They obviously are training in other police tactics as well, including fraud and fingerprinting and investigations and those types of things. There's also Northwestern University and there's also several other areas within the nation that is gaining the strength.

I believe the training should be conducted by academies and that training should be then taught to officers, whether it would be at an instructor level, they may be able to go back to the city or instruct themselves. You know, I could speak from experience of all 50 states and, for instance, right across here, the State of New Jersey, the police training academies train on police radar.

The Attorney General has an active program that they have in-service training and they also perceive it that way at an instructor level refresher classes. They follow the initial training.

So training is of utmost importance because this device is only a tool, if it's not used properly, just like any other tool, that includes the speed timing devices that you utilize now.

That is the key to the use of this device and the good program that you will enact, and that the justice of speed enforcement would be even handier with every citizen with the State of Pennsylvania.

CHAIRMAN GEIST: Thank you. I want to close the hearing before we go out to the demonstration and thank Representative Steil, Representative Leh who has been chairing this effort, members of the Committee, especially the wonderful testimony we have gotten today.

This is the third hearing that we've had on this. I don't -- I can't think of any bills I've ever been involved with in my 23 years in the House that we've had three hearings on and we were going -- we will go on to collect more information.

I think it's very clear there's certain places -- even in the revised bill -- there's some stuff that needs to be done and looked into. And we will get about the business end of somehow sorting through all of this stuff. And we look at any suggestions that anybody has here.

Make sure they send us a letter, Eric and our staff, and let us know your input. I thank everybody for coming today.

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We're adjourned to the demonstration. Thank
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      you.
                 (The hearing was concluded at 12:53 p.m.)
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I hereby certify that the proceedings and
evidence are contained fully and accurately in the
notes taken by me on the within proceedings and that
this is a correct transcript of the same.
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Terry/V. O'Connor
Reporter-Notary Public
NOTARIAL SEAL TERRY J. O'CONNOR, NOTARY Public
Harrisburg, Dauphin County My Commission Expires March 15, 2004