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Interim Hearing on Cellular Car Telephones: Progress and Problems of the Growing Telecommunications Technology

Senate Committee on Energy and Public Utilities

CALIFORNIA LEGISLATURE

SENATE COMMITTEE ON
ENERGY AND PUBLIC UTILITIES

SENATOR HERSCHEL ROSENTHAL, CHAIRMAN

Interim Hearing on

CELLULAR CAR TELEPHONES

PROGRESS AND PROBLEMS OF THE GROWING TELECOMMUNICATIONS TECHNOLOGY

December 12, 1988
Los Angeles, California

CALIFORNIA LEGISLATURE

SENATE COMMITTEE ON ENERGY AND PUBLIC UTILITIES

Senator Herschel Rosenthal, Chairman

INTERIM HEARING

CELLULAR CAR TELEPHONES

--PROGRESS AND PROBLEMS OF THE GROWING TELECOMMUNICATIONS TECHNOLOGY

December 12, 1988
Museum of Science & Industry
700 State Drive, Los Angeles, CA

Committee Consultants

Paul Fadelli
Michael Shapiro

Committee Secretary
Patricia Stearns

California Legislature

SENATE COMMITTEE ON ENERGY AND PUBLIC UTILITIES

PAUL L. FADELLI
PRINCIPAL CONSULTANT

MICHAEL E. SHAPIRO
SENIOR CONSULTANT

PATRICIA J. STEARNS
COMMITTEE SECRETARY

ROOM 2035, STATE CAPITOL
SACRAMENTO, CA 95814
TELEPHONE: 445-9764

INTERIM HEARING AGENDA

CELLULAR CAR TELEPHONES

--PROGRESS AND PROBLEMS OF THE GROWING COMMUNICATIONS TECHNOLOGY

Monday, December 12, 1988
9:00 am to 5:00 pm

Museum of Science & Industry
700 State Drive, Los Angeles, CA

OPENING STATEMENT, CHAIRMAN ROSENTHAL

WITNESSES

PANEL 1. CELLULAR OVERVIEW

(A). Bob Maher
President
Cellular Telecommunications
Industry Association (CTIA)

(B). Stewart Crump
Editor & Publisher
Cellular Sales & Marketing

PANEL 2. CELLULAR REGULATION: Franchises, Rates & Privacy

(A). Kevin Kelley
Chief of Mobile Services
Division of Common Carriers
Federal Communications Comm.

(B). M. J. Purcell
Regulatory Program Analyst
Public Utilities Commission

PANEL 3. INDUSTRY PROVIDERS

(A). Justin Jaschke
Vice President
Corporate Development
PacTel Cellular

(B). James Dickson
Senior Vice President
McCaw Cellular
Communications

(C). John Kelley
General Manager, Pacific
Region, GTE Mobilnet

(D). Howard Fronton
Acting President
LA Cellular

(E). Gene Harden
President
Allied Radiotelephone
Utilities of California
(Radiocall Corporation)

(F). Barry A. Ross
Executive Vice President
California Telephone Assn

(G). David Nelson
President
California Cellular
Resellers Association

(45 minute lunch break)

PANEL 4. CELLULAR SAFETY

(A). Bob Haworth
Captain
California Highway Patrol

(B). Barry Shiller
Manager, Governmental Affairs
California State Auto Assn

(C). Paul Vinitsky
Vice President
Special Projects
Budget Rent-a-Car
Southern California

(D). Bob Maher
President
Cellular Telecommunications
Industry Association (CTIA)

(E). Glen Adams
Regional Sales Manager
Motorola, Inc.

OPEN MICROPHONE

CHAIRMAN HERSCHEL ROSENTHAL: Good morning. I want to welcome everyone to the third hearing held this interim by the Senate Committee on Energy and Public Utilities and thank those witnesses who may have had to travel far to get here. We appreciate you making the effort.

It's appropriate that this first state hearing on cellular telephones be held here in Los Angeles -- for there is no other state which has taken more to heart the remarkable advantages offered by the cellular telephone and because no other city in this country uses cellular technology more than L.A. It's rapidly changing the way this community communicates.

Nationally, in the next five years, greater technological advances, cheaper costs, and marketing will force a revolution in portable communication. In many respects, that revolution is happening here and now in California. And that is why we are here today:

- To see where we've been since the FCC decisions in the early '80s established the cellular system;
- To discuss where we're at; and most important,
- To see and plan for wherever this amazing technology may be leading us.

We must be prepared for the time in the very near future when it won't be strange for "Joe Six-Pack" to be commonly using cellular telephones in the next car to corporate CEO's who are doing the same thing.

We have witnesses from the FCC, the PUC, the industry, and others who will touch on these themes. The title of this hearing is "Cellular Car Telephones -- the Progress and Problems of the Growing Communications Technology." So I hope our guests will educate us to the benefits we may encounter, as our constituents increasingly encounter an entirely new phone network that they are not used to. And I hope we will also hear any concerns there may be, so that we and the PUC can correct or fine-tune the system in order to keep it the greatest environment for cellular networks and cellular consumers in the nation.

I am pleased that just last month the PUC announced that they will be investigating how we should restructure the regulatory approach of cellular carriers in the state -- after a few years with scant regulatory requirements. I will be interested to watch the Commission's progress on this investigation as it simultaneously works to move toward greater deregulation of the state's noncellular local phone systems.

Over the past four years, as the cellular industry has grown from its infancy, the Legislature has passed laws to address specific narrow concerns which I believe have established a good foundation for growth. I hope today we will also be able to see how those acts have impacted cellular users, and if they need to be changed or amended in any way.

I want to say here that I happen to be a great fan of cellular telephone technology. And obviously with the greatest number of cellular phones and users in my district, my constituents agree. But I am also a great fan of low competitive telephone rates. I am a fan of safe driving and the prevention of accidents

on our highways. And I am a fan of quality service and good clear connections.

I don't believe we can truly enjoy the many benefits of cellular phones without also discussing and coming to terms with their relationship to these other things which most Californians also consider to be important.

We are at important crossroads for cellular telephones in California where their future will be determined by the industry, the regulators, the Legislature and -- let's not forget -- by the customers.

I'd like to indicate that a number of Senators will be here from the committee. The only one who has arrived already, who probably knew where it was, Senator Joe Montoya, who chairs the Subcommittee on Cable and is an important member of our Energy and Public Utilities Committee. Welcome, Joe. Do you have any comments you'd like to make before we ...?

SENATOR JOSEPH MONTOYA: Just that, Mr. Chairman, as you said you're a fan of safe driving and the prevention of accidents on our highways, and that's one good reason why I've had second thoughts and not had one. As it is now, I pass up offramps with regularity thinking about something else, and I just wonder how distracted one might become. The second thing that I hope will be addressed today is this issue of of how secure these lines really are. And thirdly, this matter of what the cost is likely to be, or is it going to change, or is it going to get better?

CHAIRMAN ROSENTHAL: Okay, thank you. Before we get to the regulators and the industry witnesses, our first panel will present an overview of cellular technology on the industry. Stewart Crump is an author and spokesman on cellular telephones, was the publisher of "Personal Communications" and now publishes "Cellular Sales and Marketing". Bob Maher is the president of the Cellular Telecommunications Industry Association. Gentlemen, if you'll come to the front, we'll begin with Mr. Crump, who I met four years ago at the time that cellular was first coming into being and was on the same panel, and here we are again. Welcome, Mr. Crump.

MR. STEWART CRUMP: Thank you. Can you all hear me fine?

CHAIRMAN ROSENTHAL: Yes.

MR. CRUMP: In the back, too?

MR. PAUL FADELLI: Very good.

MR. CRUMP: Well, how can we start? I'm from Washington and I'm here to help you. (Laughter.) Actually I was born in Washington, right inside the beltway before there was one. So when I say I'm from Washington, that is the truth.

And now that I've gotten that out of my system, I would like to make it clear that I am primarily a journalist who has been covering this industry for about eight years, since before there was an industry. And as a journalist, I try to be aware and report on what is happening in the industry on both sides fairly and to keep an open mind and not necessarily take a side. I am, of course, pro cellular, but I try to keep a balance on both sides. I will violate that principle slightly today, because of the nature of this hearing; but nonetheless, I do consider myself primarily a neutral journalist. I would be happy to make myself available to you as a resource at any time, today or in the future. And as part of that, I have a new book coming out in January which I will send you for free. Just give me your card, and I'll be glad to share it with you. It's on cellular. It's called, The Magic of Cellular.

I was particularly intrigued when Paul Fadelli asked me to address you, because as you have stated, and as we are well aware, John Nesbit calls California the "Bellwether State", and as California goes, so goes the rest of the nation. The cellular and port of revolution has started here as you said, and as it says in the handout here, "California is the most mobile state", although I had my doubts this morning trying to get here on the freeway, but that's what they say.

As a mobile communications tool, cellular is just one part, a small part of a personal communications revolution. As a business tool, cellular is a part of the mobile and portable office; and it may well be the most important part. Remember those words -- "the portable office" -- because that's the basic theme of what I'm going to talk about. So I ask, what is the portable office? -- besides the name of a book that I coauthored. (Laughter.) It is the next major development of the office. It is where cellular is taking us.

So, to understand it, let's go back just a few years, a hundred years or so, and discuss the major turning points, the three major turning points in the development of office technology as we know it today. The first step would probably be the development of the typewriter and the telphone. They were invented in the late 1800s and became common in offices around 1900. The second step would be the computer, which was invented in 1945. It became a major force in offices probably in the '60s and into the '70s. You'll notice one thing; each of these technologies was invented years before they came into general use and that each has caused a society---a revolution in our society. Just as an example, the typewriter and the telephone attracted women in great numbers into the work force to handle jobs that men simply didn't want to do. Now, I know that sounds sexist, but that is what happened. Men had no interest in learning to type, for example, and someone had to man -- man, I should say person -- our switchboards. The computer expanded the power of our minds, even though television seems to have taken that away from us. But the computer has helped us think better.

Now, the third step is what's being called the office of the future. Have any of you heard of the expression "office of the future"? Good, okay. There is one word used to describe it, and you probably know what it is. It's paper-less. Now, there's a French poet, Paul Valéry,who said, and you've heard this quote: "The trouble with the future is that it is no longer what it used to be." I'd like to paraphrase that and say, "The office of the future is no longer what it used to be." Cellular is one of the things helping make this happen.

Now, as a sensitive question to ask here, and you don't have to respond, but I'd like to find out, think for yourself, how many of you read in the bathroom? Now, that's a flip question, but it does make a serious point. What we're doing is we're talking about taking waste time and making it productive time, rather than, you know, losing it. You can -- now this is a serious point -- you can get a lot of work done in the bathroom, which incidentally is one office of the future that will not be paperless. (Laughter.) I don't know if I should try one more, but I will anyway. Now you know where the the expression "Think Tank" comes from. (Laughter.) Paul Fadelli warned me about doing this, but I couldn't resist it. It reminds me of an old Chinese proverb, "Everywhere I put my hat may not be home, but anyplace I can do business is my office." That's actually an old Chinese proverb my coauthor made up, but that's okay.

My license plate reads "Road Office" and I think that sums up what I'm trying to say, "road office".

Offices are something that go where you want to go. And here's the point that leads to that. John Nesbit has said, "Small businesses, not corporations, are responsible for most of the new jobs and most of the Nation's economic growth. The portable office, in fact, is the ultimate small business. It's so small it fits into a briefcase." And since I know you're excited about this, I brought my portable office with me to show you. A little visual aid here.

The most important part of the portable office is the cellular telephone. You've all seen these. This happens to be a portable cellular phone. There are, of course, car phones, transportables. But the cellular telephone is perhaps the most important tool that's making the office of the future, the portable office of the future possible.

A second important tool, perhaps equally important, and you've seen these, too, is the portable word processor -- laptop computer and so forth. Between these two technologies here, we are making it possible to do our work anywhere we are, at any time, tied up in traffic, on an airplane, or whatever. I've used this one to write my copies. About the only time I get to write these days is on an airplane. These can be linked together, by the way.

CHAIRMAN ROSENTHAL: You don't do that while you're driving?

MR. CRUMP: I do not do this while I am driving. Yeah, you asked a good question. I have done this, however. This is a portable dictation machine. This happens to be the one I've used. In fact, you may not like this, but it happened -- I dictated my first book, which I just happen to have a copy of. (Laughter.) If you'd like a copy of it, it's on cellular, I'll be glad to send you a copy of that one, too. No charge. I dictated that while driving from Washington to Chicago, completely safely. Some people can do it and some people can't. If you can't do it, don't do it; but I can do it. (Laughter.) I would -- the point is, do not regulate it so I can't do that, please. Okay?

There are some other things that are useful in the portable office. Another is the pager. I have a local pager -- 2 local pagers, which I carry quite regularly. And also the brand new one that's coming out these days -- you've heard about these -- the nationwide pager. This is a very useful -- this thing can interrupt you in any city in the country. It's incredible. It might go off in the middle of this talk.

Voice mail is another technology that is helping lead us into the future -- the portable facsimile machine, electronic mail, wireless data communications, vehicle location, and so forth. These are all becoming part of the portable office of the future.

There's an old saying, "School is never out for the pro." And I'd like to paraphrase that by saying, "The workday is never over for the pro." You see, you carry with you the greatest computer of all at all times, and that is your mind, and it works 24 hours a day. It is not something you can put in a package. It's with you. And what you need to make that computer work most effectively is the software and the hardware that can support what it's doing. See, we're talking about creativity. I like to ask audiences, "Where do you get your best ideas?" and people usually shout out things like while they're driving, while they're showering, while they're sleeping or playing golf, or even in the bathroom. Some people will always say that. But one thing they never say is, "in my office." Offices are not the kind of places where ideas, generally, get started. Einstein said it this way, "My mind is my office."

Would you agree with me that creativity could possibly be the most important ingredient that's

keeping our Nation a productive leader in the world. You certainly wouldn't want to do anything to stifle America's creative itch. And cellular and the portable office technology, such as I've been discussing with you, help us keep that competitive edge.

Creative people, especially creative entrepreneurs, the kind who have the small offices, that are creating all of the new jobs in our country, can and do work anywhere; but they do not tend to fall into patterns, work patterns that are easily regulated or perhaps even should be regulated. The trend is accelerating the small jobs---small offices and small businesses are creating the majority of new jobs, so I urge you to be very careful and think twice before you develop any new regulations that might stifle this creative burst of entrepreneurism. We need it; don't impede it. Entrepreneurs are operating these new businesses when and where it is most convenient for them and for their clients. Now, these might be home businesses. There were 18 million home businesses in 1985; 25 million today. It's growing quickly. Maybe they'll be working out of their cars or their briefcases or their suitcases or whatever. They may even be working in a conventional office. But whatever they are, they are creating new jobs and helping keep us prosperous. So I urge you not to shackle them with a lot of regulation that could impede this development.

Now, you've mentioned safety, privacy, and pricing as three major areas that concern you in cellular. So I'll briefly just -- I know we're going to discuss this all day, so I'm just going to put in my two cents worth. I should probably say ten cents worth; that's two cents after inflation, but ...

Privacy. The first telephones were party lines. There was no way we could keep people from eavesdropping on party line conversations. Technology solved that problem, because now private lines are available almost everywhere. And I believe strongly that technology will solve that problem, too, in the cellular area, of privacy. And it is happening. The new technologies are upon us almost already.

Pricing. Well, the prices, of course, started very high. When, of course, the prices are high, you attract a lot of people into an industry. There was a shakeout about four years ago among switch manufacturers. There will be more shakeouts in this business as prices drop. Prices are continuing to drop. And in every electronic technology that we have -- VCRs, compact discs, televisions, you name it, tape recorders -- the prices are dropping dramatically and have continued to drop, and cellular is no exception. And you know this, it's obvious in the price of equipment. The prices have come down from $3,500 to as low as $199 now for a cellular phone. It will continue to happen in the usage fees as well.

CHAIRMAN ROSENTHAL: Mr. Crump, let me just ask a question here.

MR. CRUMP: Certainly.

CHAIRMAN ROSENTHAL: Rates are going up in California.

MR. CRUMP: Well, you regulate rates here, don't you?

CHAIRMAN ROSENTHAL: Well, I'd like to, you know, touch upon why we have the highest rates.

MR. CRUMP: Okay. You have the most regulations ...

CHAIRMAN ROSENTHAL: Should we be concerned as policymakers?

MR. CRUMP: Well, actually, I would say you should be concerned about that, but I'm not sure how to handle it from a regulatory point of view. It will happen from a technological point of view. I have one idea that I'd like to share with you, and this is what has been called creative tariffing. In addition to the

high price service for the business customer, you can also regulate -- let me start that over again. In addition to the high price for the business customer, you can have a low user, infrequent user rate. We have this in Washington. It's a very useful thing. My wife has this on her phone. It's $10 a month. She gets 100 free minutes, off-peak, and a minute of peak time use is 65¢ or 75¢, something like that. So there's a penalty for using the phone during the day when the service is busy, the systems are busy. But if there's an emergency that arises, and she's used this on several occasions, she's able to pick up her phone and call for help. This is a very useful creative tariffing idea -- to have two classes of rates; one for the business user, which would be your relatively high rate, because business users can afford those rates, and an off-peak creatively tariffed, infrequent user rate where the rate is very low and the person is encouraged not to use the phone except for emergencies or off-peak. That's one idea you might consider. I'd be glad to -- I am not a regulator. You know, I don't understand the total concept of regulation, but I know that works. In Washington, it's been tried in many areas.

On the question of safety, one of my favorite quotes appeared in the very first cellular ad in Washington. Here's the quote: "Cellular has turned my driving time into working time." It was a quote from Michael Amund(?), who is the president of the Wrecking Corporation of America. Let that sink in for a second. (Laughter.)

Cellular is a safe technology as you know and as the California Highway Patrol has already determined, and I don't think I need to speak more on that. For one thing, I would like to say, though, I don't think any reasonable person could argue against requiring using hands-free phones. I have that. And also, the new technology of the voice-activated dialing. I have that on my phone, and it's extremely helpful.

I'd like to conclude by talking on the bottom line. This is, I guess you'd call it, the serious part of it. This is a revolution, and cellular is making it possible. We are coming into a -- I don't quite know what to call it, a portable age, a Walkman age, perhaps; or there's a book by James Martin called, The Wired Society in an Unwired Age. Celluar is the steam engine or the Model T or the vacuum tube or the transister. It is the technology that's making this new modern age happen. It's a major turning point in history. And cellular is the underlying technology that's making this new Walkman age or unwired society possible. So the way you regulate celluar today may have long-term effects on our Nation's progress tomorrow. So be careful, because whatever you do, the future is in your hand. I thank you.

CHAIRMAN ROSENTHAL: Thank you. I'd like to indicate that another Senator has joined us. A member of our committee, Senator Gary Hart. Any questions for this witness?

Mr. Maher, Cellular Communications Industry Association.

SENATOR MONTOYA: Mr. Chairman.

CHAIRMAN ROSENTHAL: Yes.

SENATOR MONTOYA: Then maybe, I guess, we could safely conclude, Mr. Crump, from your statements that, although you indicated you are kind of a neutral journalist, in your free entrepreneurial spirit, you really are advocating a more deregulatory attitude to allow for new creativity?

MR. CRUMP: I promised I would deviate from my total neutrality today. Yes, I think you're right. It's a good point.

CHAIRMAN ROSENTHAL: Cellular is barely regulated in California. I still---I still have, you know, with the great mobility and demand for cellular in this state, I still don't understand why we have the highest rates in the Nation.

MR. CRUMP: That's a good question, and you'll have to ask someone who's really familiar with rates. I would suggest from the deregulatory angle that I intended to take, that it might be because you have greater regulation than in many states. That could be part of the reason. Things that are regulated tend to not go down in price as quickly as things that are unregulated. That tends to be the tendency.

CHAIRMAN ROSENTHAL: I think that's why the PUC is going to take a look at it. It's really not regulated now. There's some suggestion; there may be some collusion.

MR. CRUMP: Well, that's something I probably should not try to comment on. I cannot claim to know much about that.

CHAIRMAN ROSENTHAL: Bob Maher.

MR. BOB MAHER: Yes, sir. Mr. Chairman, Senator Montoya, Senator Hart, I am Bob Maher, president of the Cellular Telecommunications Industry Association, which was formed nearly four years ago to represent the common concerns of the industry.

Mr. Chairman, when you joined us at our first safety conference, I think we had 32 members. We now represent about 95, almost 95 percent of all the carriers, most of the major manufacturers, and those others affiliated with the industry such as engineering consultants, software, and so on. Our goal is to identify and address the common---areas that are of common concern to the entire industry.

I am pleased to have been asked to testify here today. California is indeed one of the most exciting cellular markets, not only in the Nation, but in the world. Los Angeles was renowned as the cellular market throughout the world.

I think it's also very appropriate that you're holding the hearing here in the Science and Technology Museum, because I share the excitement that those pioneers 13 or 15 years ago did when they first got the idea of "we can have mobile communication that is available and we think we have a scheme where more than eight people in New York City can talk at once." I didn't have a chance to go through your museum downstairs, but I did not see a cellular exhibit; and I think, if appropriate, we ought to look into maybe having a cellular exhibit downstairs.

But in Los Angeles, as in most major cities, people assume that cellular has been around for a long, long time, simple because the larger cities such as Los Angeles and New York have had cellular for some time now. The fact of the matter is 289 cities across the United States do have cellular service available to them, and represents a population base of about 96 percent of the Nation. However, this time only five years ago, there were only two cities in the United States where cellular was available -- Chicago and the Washington, DC area. On January 1, 1987 there were only eight cities in California where cellular service was available. Now, all 19 markets in California have at least one system up and operating, but the average age of a California system is only two years. So you can see, cellular really is a relatively new service here in California and nationwide.

And as the title of the hearing, I'll address my remarks on the progress and the problems that we see facing the industry, and I would like to do this very briefly. I would also like to call your attention to the

materials here. They give a little more detailed look at, if you will, a time chart of when we went up, under what circumstances, when the markets went up, the legislative history, such pertinent data as the increase in subscribers and systems up and some of the things we have wrestled with, both in the Congress and before the FCC. And of course, I'll be happy to answer any questions.

In brief, the FCC licensed cellular service after it had been on the shelf for 13 years. It established a system of selection of licensees based on comparative hearings, then changed its rules several times, and ended up awarding licenses by lottery. The entire process took about five years which was much longer than originally anticipated by those starting out. Carriers began to build systems, found that the prototype blueprint of the grid that the engineers had laid out at the AT&T labs did not work in the real world. They improvised. They established plans for marketing telephones. They built other markets, normally hundreds of miles apart. They wondered if they would ever break even. They found that running a cellular telephone system had problems never faced by landline telephone veterans. They tried to establish a billing system or methods of allowing customers from one distant market to come into their systems. And they also discovered fraud. Carriers pondered and re-pondered whether it was better to have agents in a direct sales force of their own or re-sellers or all three or a combination of the three. There is no answer to that, and every market you go to, you will see a permutation of the combination of those three sales forces. They ran into a brick wall in many areas of the country. The brick wall was called the telephone company. The issue was interconnection, and the outcome of negotiations determined in the main what cellular could charge and the quality of service that its subscribers would have.

The lottery system attracted tens of thousands, indeed now well over hundreds of thousands of speculators and legitimate non-wireline carriers were forced to buy licenses, driving the cost of getting into and staying in the business of cellular higher and higher. The lottery also helped to knock out some veteran cellular carriers such as MCI. But despite delays in regulation, speculation and zoning boards, Cellular has caught on. CTI's last data survey, which we take every six months, indicated there were 1,600,000 subscribers as of June 30, 1988.

There arose questions of safety from among others, Mr. Chairman, this committee. The industry, which shared at that time and continues to share your concerns, Senator Montoya, tried to cooperate. We reflected back on the original studies done by the American Automobile Association in conjunction with AT&T, and before that, AmeriTech in Chicago. We cooperated here in California with your resolution that required the California Highway Patrol to do a demonstration, a mock-up, and were gratified by the results. This is not a one-time incident, however -- I hope you know. We developed rules or guidelines, we should say. As an association we can't develop rules that everybody adheres to. But we now have all carriers provided with what to do, in the way of education on a continuing basis to the subscribers.

We have pushed forward with the 911 calling in many areas. Cellulars have been very persistent in this. And overall, I think that we---cellular has provided a lifeline network exist to the motoring public. Instead of driving by an accident or witnessing a crime, and then looking for the nearest telephone, if by that time you're inclined to do so, celluar callers can immediately call 911, for instance, here in California, and get the message through. I think that cellular belongs _____ safety

belongs on the plus side. We have directly and indirectly saved lives, but we are continually maintaining a vigilance towards this. I think we can always do better, although the record indicates cellular drivers do have a very good record.

Business magazines and financial analysts have, of course, from month to month -- Crown Cellular is a candidate for the new technology of the decade, despite the fact that many carriers would not reach break even, nor will they for many years to come. Also, this ties in with the fact that carriers would have to buy and build systems in 428 rural service areas where the average population is only 150,000. This may cost the industry, because of the way the regulations were drawn, as much as $1 billion. That's a capitol "b". But I can't deny it -- cellular is doing well. We have faced a lot of obstacles. We will continue to. but the public acceptance has been very, very good. I'd like to touch, however, on some of the things that we do see coming down the line as problems for our industry.

The flip side of public acceptance is, of course, the problem of capacity. Demand has been stronger than anticipated in most markets, although slow in developing in others. There are eight to nine times more cells, for instance, in Los Angeles than there were when they started. The traditional engineering diagrams proved to be valid maybe half the time. For instance, the City of Pittsburg, much smaller than Los Angeles, went on line with 22 cells, compared to 13 in Los Angeles, because of geography mostly. Certainly, not because of demand to subscribe. Yet, despite innovation, which came out of necessity as the markets grew, we know that many cellular markets will run out of capacity by the early part of the next decade. The industry, in working through CTIA, has for the past 18 months pressed the best engineering minds in our industry to develop a skeleton of what our second generation of technology might be, as we transfer out of analog and into digital. Hopefully, we will have digital technology by 1991 -- the latest, maybe 1992 -- in time to bail us out.

The downside, if we don't -- and this is out of our hands because we are not, of course, in the business of manufacturing -- the downside is the degradation of service where you cannot get through. Or limiting or capping the number of subscribers that you can take on to a system. This move, as we progress into digital, will entail additional capital investment amounting to hundreds of millions of dollars as we progress into digital. We will, in essence, rebuild our entire network, changing over from analog into digital over a period of time.

I touch on capacity first because it is a known. We know that we're going to run into the wall, as we call it. And as preparing as best we can to meet that, the capacity is not a synonym for subscribers in all cases. There are cities with a million population that will have capacity problems because the driving habits of their subscribers are limited to a very, very small geographic area.

Roaming is also a known. We knew that part of the usefulness, part of the value of cellular telephones was that you could take them with you. In the beginning, this value was not fully realized, because more cities did not have cellular than did have cellular. But as the new markets came on line, dots came closer together, if you will. Roaming became more and more valuable. With this came the problem of how do you bill a roaming customer, how do you verify that he is or she is a legitimate subscriber of a bona fide system. From a technical standpoint, the problem of system to system handoff came into play. We are now working on this so that a caller who travels from one system into another

system does not automatically have his or her call re-routed because the other system has a different brand of switch running its system. And this is very important if we're ever to realize our goal of having, indeed, a nationwide mobile communication network, instead of just having individual systems or regional systems because of light carriers in those systems.

Privacy continues to be a concern of the industry, Mr. Chairman. You were one of the first in the nation to recognize this. We're very, very grateful that you were able to bring this to the State Legislature and see action taken here. On a federal level, the Electronics and Communications Privacy Act now ensures that cellular conversations have the same protection that landline subscribers have when they use the telephone. However, last month I read in a Texas newspaper the report of a college student who had listened and taped almost an hour-long conversation between the Mayor of San Antonio and an unknown person. The student had remorse, discussed it with another student, and eventually of course, the columnist printed the whole story in the paper. Now, this is something that came to light in a rather big way because of the Mayor's prominence down there. But this is---this shows us that despite your law in California, despite the federal law, there is still a problem here and we have taken it to the Justice Department.

Safety, as I said, remains an area of great sensitivity for us, because we want to be on the forefront of it. The matter of the fact is, if we are, it makes cellular look better; it makes us look better.

These problems are indeed critical to our industry if we are to achieve our goal of truly becoming a nationwide communications network. I am confident that we will use our resources to find solutions for many of these technical problems and they eventually will yield to knowledge. But overshadowing these problems is a spectre of regulation which is reflected in the news release of the California PUC. This causes us a great deal of concern.

Our industry has for the most part been blessed with patience and forbearance and confidence on the part of our legislators, both on state and national levels. The most it's taken away was the latitude which has allowed us to move quickly to respond to technical and marketplace situations. This lack of regulation has attracted needed capital and promoted innovation. This has in return produced a service which has been warmly accepted by the public. And acceptance by the public, I think, best speaks to the question of: Is cellular providing a good service for my investment?

That is why I'm concerned to see the juxtaposition of PUC's news release, which seems to set out why there is now an order of initiation to investigate, and I quote from page 1 of the release: "Market analysts view the cellular phone industry as being very profitable." The next sentence: "Given this five years of experience, the Commission wishes to reexamine how the cellular industry ought to be regulated to best protect consumers and ensure development in the technologies and in service." End quote.

Indeed, I might be oversensitive. Indeed, the industry might be oversensitive. And that is I think understandable. But it would appear that the Commission was saying that cellular looks like it's out of the woods now, that people are going to buy it, and that it will be profitable. So let's see how we can regulate it.

Allow me to make three points in closing: The cellular industry feels that it offers a good quality service. The fact that there are---there may be as many as 2 million subscribers by the end of 1988, I

think does bear witness that there's a large segment of the population which agrees. The marketplace is responding, and we are very gratified. The cellular user is, in nearly 85 percent of the cases, a businessperson who sees cellular as a productive business tool. He knows of the price and subscribes because the cost can be justified in his business dealing.

Dow Chemical ran 26 different phones -- they were in the same phone; they had 26 sales reps using cellular phones. At the end of that time, at the end of one month, they sat down and did the paperwork and found that the phones paid for themselves in one month, you see. In other words, they knew it cost money; they went out and said, "Can we afford it?"; the answer was, "Yes." Productivity goes up, and we can measure it in one month.

There are fishermen, off of Massachusetts and Rhode Island, who take cellular phones out on boats. They call in at the end of the day to find out what the price of fish is, or what the supply is, allowing them to stay out overnight or come in early.

You've got examples in California of farmers who actually call, literally call, from the fields to get quotes on their product. You have the Dallas---for instance, the Dallas Police Department tested cellular and reported that the use of 25 cellular phones for six months saved an estimated 3,000 hours or 16 hours a day. If the force were equipped with 275 phones, the savings would be $1.144 million a year in savings.

There are many examples, but the point I make is it's a business tool. I'm not sure when we're going to get down to "Joe Six-Pack". The people who are using it now see it as a tool that helps them in their business endeavors.

Talk of the lack of competition too often focuses only on the fact that there are two cellular carriers licensed in the market, rather on the competition in the total universal communications available. For instance, the cellular consumer, again the businessman, has a choice not only between the two carriers in a market, or the resellers in the market, but between cellular itself as a service and IMTS, SMRs, CBs, area pagers, nationwide pagers, and the newly licensed mobile land satellite service, in addition to the pay phone. In other words, the degree of quality, the degree of access dictates to him on a business basis if he only needs to be notified, then he needs only a pager; if he needs to be notified and he wants a message, that's _____ and _____. Each one involving a different level of sophistication and also reflecting a different price.

The cellular came---when cellular came on, the truth of the matter is, it was being lobbied against because of these other services in mobile telephony. They didn't want cellular in there. Now we find that they are expanding out; in other words, our presence has caused them to offer more in the way of service.

Cellular service was not certified for, nor is our technology capable of, providing universal service. It was intended to be a supplement to traditional landline service; basically, an enhanced service. For instance, taking the California PUC's estimate of 225,000 subscribers in California, that would mean that less than one percent, .8 of one percent, of the population of California have cellular service. In fact, to take the conservative estimate that there are 150,000 telephones in the World Trade Towers, that number would be almost equal to the number in those buildings, those two buildings, to the number of cellular subscribers in Los Angeles. And if you use a conservative estimate of only two lines per

telephone, then there are more lines, more telephones, if you will, in those two towers than there are cellular subscribers in California. If for some reason tomorrow we hit the wall in Los Angeles -- in other words, if we hit capacity -- we could not handle, we could not handle a half million subscribers in Los Angeles. As a matter of fact, maybe 20 percent less than that. That's all we could handle, you see. That would mean there are 12 million people in the Los Angeles area whom we couldn't put on to our system.

So, it's not---it was never intended, and unfortunately, our technology is not capable of making it a universal service. There is just no way. It would be a very interesting thing, and we'll keep hoping; but right now and in our next generation, it cannot be.

I would also like to make the point that cellular telephoning does not fit the traditional definition, the traditional mold of a utility. Indeed, it might be desirable. I truly believe it is useful, but it is not a necessity. And generally, utility regulation has been applied only to services, which are essential to the well-being of the community and supplied on a monopoly basis. Cellular falls outside of that traditional definition.

Cellular is not essential to participate in a community, for instance, like telephones are. That's why we have universal service right now. Cellular is not eseential to maintain the minimal accessible standards of living, like our gas and electric, which is a utility. Cellular is not indispensable to the success of regional or sectoral economies; for instance, like railroads were to the agricultural industry. And as I mentioned earlier, there may be only two carriers, but the competition comes from the resellers and other forms of similar communications.

Lastly -- I'm wrapping up -- I think that cellular carriers here in California will adequately answer your concerns and those posed by the PUC. Certainly, it is not unreasonable that they be asked to do so. That's why I'm here today. I think we offer the public a very good service and that this service will continue to improve and it will continue to benefit the consumer. I do, however, worry that we should be indicted for the perceived sin of success. I think the investment of time and resources show that we are committed to giving the public the best possible product. We do have shortcomings -- most of those are on a touchable(?) basis -- and we're working on them.

Mr. Chairman, you more than others have been following the progress of the cellular industry and our problems, and we're grateful for that. We ask that we be allowed to remedy them and remind you that the telephone system in the United States has evolved over a hundred years, and it still has some flaws. We were just five years old, and we are trying very hard to remedy those. Thank you.

CHAIRMAN ROSENTHAL: Thank you. Mr. Maher, people who have cellular think of it as the same as the telephone, even though you have indicated that that's not the way they ought to look at it. The more that people use it, the more constituents will want it. But they want---it's being sold as being here, and if it's not here, they're unhappy. And sometimes the success of the industry, in terms of the short period of time, has led those who are promoting to indicate that it's clear, it's cheap, ongoing. But we get lots of complaints. And so, maybe the problem is the promotion or the overselling of the idea; and that, of course, is another concern.

You mentioned the digital. Who should pay for that?

MR. MAHER: Well, I think, you know, it's the old thing: Anything that's sold, who really pays for

any improvement is the consumer. My own philosophy -- but I am without a switch and I'm without a license and I'm without a system -- is that we're here for the long run, and that as we progress into new technology, it will cost us, for instance, for an analog switch for a major city can cost $25 million. But I don't think the cellular carriers are going to say, "Well, how am I going to recoup that $25 million this year?" In other words, we're here for the long term. But we'll go out and buy what is necessary to make a better system, to improve our technology. But we'll pay for it. But you need to ask the carriers how they're going to do it.

CHAIRMAN ROSENTHAL: What should the Legislature do to enhance the cellular system?

MR. MAHER: I think that you ought to keep a good eye on it, in other words, and bring the problems to the fore. The truth of the matter is, in the briefest possible way, if we don't respond, then you consider if there should be additional regulation. If we do respond, it's just good faith and that we're responsive to the needs of the people ... (Inaudible due to coughing and cross-talking.)

CHAIRMAN ROSENTHAL: Just one final question I have. How do either of you ultimately relate to the wireline residential telephone systems? In other words, any detrimental impacts to rates or services?

MR. MAHER: Well, I think we've provided the landline company with a windfall. In other words, five years ago today, if you were going down the street and you thought, "My gosh, I've forgotten something," you'd have to go to a pay phone and make the call; or if you said, "Gee, I think I'd like Mr. Fadelli to think about a hearing," you see, you'd wait until you got in the office.

The fact that in Los Angeles, you'd have maybe 150,000-170,000 subscribers, those people are making calls that they otherwise would not have made -- because they're in a car, they couldn't have, you see? Now, maybe they made them when they went back in. But every time they make a call, we pay, in 90 percent of the time, an access charge to the landline company. So it's like a windfall. These are calls that are being processed on the local loop that never would have been made, or they would have been made as part of the monthly increment.

CHAIRMAN ROSENTHAL: Is there concern about bypass?

MR. MAHER: Not as we think of traditional bypass, because we don't have the capacity. In other words, you've got 12½ million people in Los Angeles -- we couldn't at our maximum, blowing out every technology, doing everything we can, we couldn't service a half million subscribers on analog ....

CHAIRMAN ROSENTHAL: How about in rural areas?

MR. MAHER: In rural areas, the picture has been painted, "Gee whiz, we can swallow these people up." The fact of the matter is, the local telephone company will be one of the licensees there, you see. Now, to them, I think and this is _____, I think that they're going to have the opportunity to look at the cost that it charges, that they have for better equipment, why are there, I think, 4 percent or 6 percent of the people in California without telephones? Well, a lot of it could be in rural areas where it's too expensive to run 20 miles of copper cable out there. On the other hand, cellular could do that. And if it were the Mojave Telephone Company who had the cellular license, and if they served that person, they would have their license, you see, they can say it's going to cost us $15,000 or $20,000 to lay that wire out there, or we can spend $1,200, $1,500, $2,000 to put that onto our cellular license, you see -- this to me

represents an enormous opportunity to serve those people at rates hithertofore never imagined. So I think that there's an enormous opportunity to knock out that blank spot in America where we go for universal service. And like I say, the telephone company, because of the _____, has practically a guarantee that they'll get the license _____.

CHAIRMAN ROSENTHAL: Any further questions, Senators? Anything further, Mr. Crump, on this ...?

MR. CRUMP: Well, you did ask about the impact on the telephone. I really believe that in the future, in the not too distant future, maybe 10, 15, 20 years, we're going to see everyone carrying a phone with them everywhere they go. And that is going to be a Dick Tracy phone, and it will not necessarily mean that the local phone company is out of business. In fact, the local phone company will provide the limit _____ provides the service. You won't transmit from Washington to Los Angeles by phone; you'll transmit from your wristwatch phone to an _____ antenna up in the ceiling, and that will go out over the telephone network. (Inaudible.)

CHAIRMAN ROSENTHAL: The PUC, which has suggested they want to take a look at it -- do you think that they're prejudging?

MR. MAHER: I saw that one thing in the news release, and it was jarring, where they said, "All analysts say that cellular should be profitable in coming years; therefore, we are reviewing to see how we should regulate them."

And as you know, we had an awful lot of problems in starting up, where we couldn't get cell sized, one thing and another. And so, in California, there are twelve RSA's. We're talking about .8 of penetration. We're pushing for one percent or 2 percent. In four of those RSA's, if you had 10 percent penetration when you turn the switch on, you'd have less than 300 customers, you see, with a 10 percent penetration. Now, you're going to have to build that system mainly to service the people coming out of Los Angeles or coming out of San Diego.

CHAIRMAN ROSENTHAL: I guess---I guess the basis for the PUC taking a look at it is that in comparing comparable other areas of the country, our rates are higher. They're not going down. And so, that gives some concern if you're comparing comparable areas. Why is it cheaper for the same number of lines someplace else? And that gives the PUC the responsibility of looking at rates, because it's considered part of the telephone system. That's ...

MR. MAHER: I think that the rates are---I think they're close to New York City, but I'm not sure. The individual carriers have the answer to that.

CHAIRMAN ROSENTHAL: I understand.

MR. MAHER: I do not know, and the reason that I don't is that no one in effect trusts anyone else with the rates. I think that when you said, are people getting _____, the lawsuits that are filed, there are 50 complaints with the FCC between carriers, because of roaming, one carrier going after another carrier. There's an anti-trust case in another area. These people are very tight-lipped about this type of thing. Our anti-trust lawyer says, "Never talk price."

The other thing is that on the telephone side, on the wireline side, the people in the telephone industry have had a history in four years of either being promoted up or elsewhere. And so, they're

making their stripes; they don't stay forever. They don't care if we're looking across town at a McCaw or Metromobile or a New Vector, you see, or a Southwestern Bell phone, because their boss says, "Do we have, you know, 55 percent or do they have 55 percent?" And his future is tied in how competitive he is.

So, competing against the telephone company, you know, another telephone company doesn't give him the grace to _____ -- I mean, that's one of the things that resellers complain about, are these cutthroat tactics of the telephone company. They're working for _____, I can guarantee you.

CHAIRMAN ROSENTHAL: Okay, thank you, gentlemen.

MR. MAHER: Thank you.

MR. CRUMP: Thank you.

CHAIRMAN ROSENTHAL: We will now hear from the regulatory, franchises, rates and privacy. Keven Kelley and Mr. Purcell. Oh, I'm sorry, M. J. Purcell.

Mr. Kelley is chief of the Mobile Services, Division of Common Carriers, from the FCC.,

MR. KEVIN KELLEY: It's correct. Good morning. My name is Kevin Kelley and I am the chief of the Mobile Services Division of the FCC's Common Carrier Bureau. The Division is responsible for licensing all cellular radio and common carrier paging facilities in the United States.

What I'd like to do this morning is review the Commission's policies in three areas: The creation of the cellular licensing duopolies, the resale of cellular service, and the privacy of cellular radio. And at the end, I'd just like to report to you on where we are in the licensing of cellular radio services.

I'm going to go back a little earlier than Bob did. When the Commission addressed the question of the ownership of cellular services in May of 1974, after noting the existence of what it termed "a general feeling of malaise" about letting wireline monopolies expand into the mobile communications market, which has been traditionally served by competitive entities, it concluded that wireline carriers are the only organizations which have demonstrated that they possess the resources and expertise necessary to establish cellular systems which would have nationwide compatibility. Therefore, the Commission concluded that wireline carriers should be permitted to operate cellular systems. Moreover, it continued, since a cellular system is technically complex, expensive, and requires large amounts of spectrum to make it economically viable, competing cellular systems would not be feasible in the same area. The Commission also concluded that because these systems would require extensive interconnection with the wireline telephone system, and because nationwide compatibility is desirable, only wireline carriers should be licensed to operate them.

Thus, in 1974, the Commission had concluded that there should be one cellular licensee per market and that it should be a wireline carrier. However, in March of 1975 -- I don't know if everybody knows how long the Commission has been at that -- truly speaking, it started in 1946. However, in March of 1975, the Commission reconsidered this decision. It concluded that if it had been correct in its decision that only---to limit eligibility to wireline carriers, then there was no -- let me see, I said that wrong. If it had been correct in concluding that wireline carriers were the only entities capable of providing cellular radio service, then its decision to limit eligibility to wireline carriers was superfluous. So it accordingly removed the eligibility restriction it had adopted less than a year earlier so that any qualified entity

could apply for a cellular license. In making this decision, the Commission was still contemplating licensing only one carrier per market and selecting that licensee on the basis of a comparative hearing. However, the Commission did indicate that because it was only contemplating authorizing developmental service at that time -- it was 1975 -- it might consider the feasibility of licensing more than one system for market at some future date.

Approximately five years later, in 1980, at the end of what can be termed the developmental phase of cellular radio, the Commission did revisit its one carrier per market decision. In January of that year, it released a notice of inquiry and proposal making it Docket 79318. This was the docket that set up the rules and procedures for licensing cellular radio on a nationwide basis. After noting the dramatic changes that had taken place in the telecommunications regulatory environment since its 1975 decision, changes that had allowed the introduction of competitive goods and services in the telecommunications market that had long remained closed to effective competition, the Commission observed that the design plan of cellular radio systems severely limits the number of facility-based competitors that can enter a given local market, and thus, reduces the reliance it could place on marketplace forces.

It further observed that cellular technology requires a relatively large allocation to enable the system and ultimately the users to realize the cost savings that make cellular systems attractive. This large allocation is necessary, because each system requires its own switching equipment and base stations, because each cell requires some minimum amount of spectrum at any one time. It is clear that within the 40 megahertz allocation, the unit cost of a given cellular system falls as additional spectrum is utilized by a system. However, the condition---the Commission continued, we believe most of the economies can be realized at allocations significantly less than the full 40 megahertz. The Commission then noted that balanced ...

CHAIRMAN ROSENTHAL: What does that mean? We're lay people up here. We don't ...

MR. KELLEY: Oh, I'm sorry. I think -- let me talk.

CHAIRMAN ROSENTHAL: Right.

MR. KELLEY: I have a lot more things yet. I think that one of the issues that plagued the Commission from 1946 era through, up to and including the present time is the question of spectrum allocation. It originally---in its original proposal, which was made in 1974, the proposal hit 75 megahertz of spectrum for a cellular radio. That's what they were going to give to AT&T. Actually, it was for mobile communications. Eleven of it was going to be air-ground in '64 was for cellular. These were---this spectrum at that time, and this was one of the reasons it just took a long time was available for UHF television channels -- and I'll get back to this in a minute. And so it was---it's very, very difficult to take spectrum away from radio broadcasters and give it to telephone companies. And that explains partly the long, difficult proceedings the Commission went through. And one of the continuing issues, and Bob mentioned it, is how much spectrum does cellular need.

Well, as I just mentioned, we gave them 40 megahertz in the original allocation, and we additionally gave them 10 megahertz more two years ago. And I think it's fair to say that there is no more spectrum available for cellular. So the capacity that one can give, using analog FM, is what it is today. The only way that people can put more customers on cellular radio is to change the technology. So that's what I'm

talking about when ...

CHAIRMAN ROSENTHAL: I see. Okay. So that as we've heard, unless we go to other kinds of equipment, digital or whatever, they're almost limited?

MR. KELLEY: No, they're not almost limited; they are limited. You only can put so many telephone calls in a certain amount of band with a given technology, and today's technology is analog FM with 30 kilohertz per customer, and that is the absolute limit on how spectrum---how many telephone calls you can put on that spectrum.

CHAIRMAN ROSENTHAL: Are there any impending changes due to federal regulation on cellular?

MR. KELLEY: Well, I have a lot more to say here. But I think that what---let me just slip to the end of what I was going to say about the---to move more quickly through it to the end of it. Just let me give my summary, so I can move on to other things.

And let me say that in 1982, when it began the licensing of cellular radio, the Commission had spent more than seven years considering and reconsidering every economic, technical, and public policy aspect of the question of how---what the role of the wirelines was and what the role of the non-wirelines should be, how much spectrum to give, and how to make this technically efficient, competitive cellular radio service available to the public on a nationwide basis.

Its decision was, as we all know, to license two systems in each market, each getting 20 megahertz, half the spectrum, with one reserved exclusively for the wireline. I should point out that in its 1986 decision, the Commission authorized the transfer of the San Diego non-wireline authorization to U.S. West's New Vector cellular subsidiary. And there have been several other such transfers since then with the result that in many large markets both the wireline and non-wireline, or what we now refer to simply as the A&B allocation are in the hands of wireline carriers. There are a few markets where the switch has gone the other way, where there are no wireline carriers in the cellular radio business.

Let me---so let---I've got a lot more to say about that, but it's of historical interest only, because we are what we are today.

CHAIRMAN ROSENTHAL: Do you feel good about the duopoly system that we've established?

MR. KELLEY: Well, I think if I---I skipped over a lot of my remarks here, and I think what one has---what the Commission did in that long period was look at what was feasible. I mean, it had the option of going to one carrier per market, AT&T or the wireline carrier, which was the original idea, and they did consider allowing multiple entry. But after a very detailed analysis, the conclusion was that it's not technically feasible to have a multitude of carriers in the same market because of the costs involved in building these systems. And right now, we have two parallel systems built in every market. Now, if you had gone beyond two, you would have had three. And the cost to the subscriber---those systems, as Bob pointed out, are very expensive; and if you went beyond two, the cost to the subscriber would absolutely raise. Okay.

CHAIRMAN ROSENTHAL: But ...

MR. KELLEY: Go ahead.

CHAIRMAN ROSENTHAL: Would allowing the wireline into the non-wireline make competition fuzzy?

MR. KELLEY: Not at all. And in my remarks that I left out, I think that one of the things we considered in the CI(?) decision and considered in the other transfers that have taken place, in the sale of Metromedia(?) to Southwestern Bell, is that it goes back to the reason that the Commission was originally considering giving the spectrum only to the wirelines. They have the expertise. They have the capital. They know how to build telephone systems. And as Bob pointed out, they are not friends when they are in the same market. I know that Nynex and Southwestern Bell compete ferociously up in the Northeast. In Washington, it's Southwestern Bell and Bell Atlantic. And I think that it has greatly increased competition, having two large well-financed, technically capable entities building the service and offering it to the public. I think that's the rationale the Commission used in making that decision.

CHAIRMAN ROSENTHAL: Is the basic concept that we've reached what the systems can handle the reason that the budget, the FCC has been dramatically cut in this area?

MR. KELLEY: No, I think that would probably have more to do with the fairness doctrine, Senator, but I don't know anything about that. (Laughter.)

CHAIRMAN ROSENTHAL: Because if we can't put anymore people on the lines, you know, why do we need you in that particular---in your particular situation? Mobile ...

MR. KELLEY: Well, I'll tell you some -- I'll go on and tell you some of the things that we're doing and where we are in the process.

CHAIRMAN ROSENTHAL: Okay.

MR. KELLEY: Let me pick up now with the topic of resale, cellular resale. Once again, the Commission first addressed this topic in its 1980 notice of Proposed Rule Making in Docket 179318, and it asked the following questions: Should cellular system licensees directly market services to the consumer? Two, should cellular services be offered on a resale basis? And finally, can direct marketing and resale coexist within the same system?

The Commission noted that whether resale is feasible and whether direct marketing and resale can coexist, appear dependent on whether there is anything to resell to the consumer, if the system licensee directly markets cellular service. The Commission further stated that it was unclear at that time whether resale of cellular service is an economically viable option, because it was not clear that services available to the consumer under a resale structure would be different from those obtainable from the system licensee acting as an underlying carrier. Having made these observations, the Commission then recognized that any prescriptions against resale, limits consumer options and stated its intent not to restrict resale of cellular service. It recognized that if resale structure were feasible, it would afford consumers additional choices and equipment and service options and afford entrepreneurs an opportunity to engage in various aspects of cellular mobile service.

After reviewing the comments filed in response to its questions, the Commission in its 1981 order concluded that no restriction on the resale and shared use of cellular service should be permitted, and that it would condition all cellular licenses accordingly. In making this decision, the Commission again questioned whether the true resale of cellular service would develop, but it believed that the restriction of cellular resale was contrary to the public interest, and for the same reasons it had expressed in its resale and shared use, these included deterring price discrimination and promoting cost-based pricing,

creating incentives for more efficient and innovative managing and marketing, generating increased research and development, and producing an increased variety of services.

And the resale issue came before the Commission again in 1986 when Cellular Telephone Company, the non-wireline cellular licensee in New York City, requested a declaratory ruling that it be permitted to refuse to provide cellular resale services to the wireline licensee in New York City, which is Nynex. The Common Carrier Bureau denied CTC's request on the basis of the Commission's rulings I've just discussed and ordered CTC to provide resale to Nynex. CTC requested commission review of the Bureau's decision, arguing that the cellular resale policy was created to mitigate the wireline carriers head start and to create competition in the secondary market among non-facility-based resalers and thus, should not apply to facility-based competitors such as CTC and Nynex. CTC also argued that the Bureau erred in its resolution of its competitive market structure arguments including its argument that its refusal did not violate the antitrust laws; it was, in fact, pro competitive, because it stimulated facilities-based competition. I should add, the United States Department of Justice supported CTC.

In an order released on October 7 of this year, the Commission upheld the Bureau's decision, citing the same -- it's the reasoning that it had used in the authorizing resale in the first place. It noted also that it had never linked resale with headstart concerns. However, the Commission also concluded that it would be worthwhile to review this resale policy; and at the same time it released this CTC-Nynex order, it also issued a public notice requesting comments on the cellular resale policy, and comments and response to this public notice were due on December 7.

CHAIRMAN ROSENTHAL: The issue of---the resellers are an important concept in the area of contribution?

MR. KELLEY: Yeah. Well, certainly it is. And I think -- look at this thing. I think that the resale, there are several questions about resale that the Commission has looked at. It has a general policy in favor of resale, and I think that what happened in the Nynex case, as I just described, was that when the non-wireline system cut over, Nynex went and asked, they said---which was another facilities-based carrier, went and said, "Let us resell your service." And the CTC argument was that it doesn't make any sense to let facilities-based competitors resell each other's service, because it was a blurring of the competition. And what the resale policy was always about, in their view, was that it was the non-facilities-based resellers who were in competition. And---but when we decided that issue, we said, "Well, that's not what we said." We said, "No, no restrictions on resale." And that means both facilities- and non-facility-based carriers and also between facilities-based carrier. And the Justice Department thought we were incorrect, and when we issued this---when the Commission issued this order recently, it recognized that there was a possibility it should re-examine this whole policy and is right now in the middle of doing that.

CHAIRMAN ROSENTHAL: Thank you very much, Mr. Kelley.

MR. KELLEY: I was going to go on to privacy, if you'd like.

CHAIRMAN ROSENTHAL: Oh. Can you sum up in the next couple minutes?

MR. KELLEY: Okay. I would say the Commission has done two things on privacy: It declined to require cellular service providers to label telephones, and is now considering a separate proceeding

whether or not to require the sellers of scanners to put a label on them. And ...

CHAIRMAN ROSENTHAL: We already heard that.

MR. KELLEY: I know. But what I would like to say about, and it hasn't reached the decision on whether to put the label on scanners yet, but however, the thing I would like to say and I think that where the industry is going and it is working very hard and this is being led very well by CTIA is toward digital cellular. And the Commission will release an order today or tomorrow which will allow the cellular carriers to introduce this technology as soon as it becomes available. I can assure you, and I don't want to go into a long, technical discussion, that when the digital technology is here, the problem of cellular privacy will just go away. It will not be a problem. The scanners will not be able to intercept those digitally coded calls.

Let me just tell you very, very briefly where we are in the licensing problem. We divide the country into 305 MSA's and 420 RSA's. We received 99,284 applications for the MSA's. And as of today, we've granted construction permits of licenses in every one of the 305 MSA's and in 281 of the non-wireline MSA's. So we've licensed all of the wirelines in the MSA's and 281 of the non-wireline. The 428 RSA's -- we've taken applications in 361 of the 428, and we'll take the remaining 67 in January. And I don't have all the data yet, but I would estimate that when we finish receiving them, we will have received approximately a quarter of a million RSA applications. There are 12 of these RSA's in California. We've accepted those applications the past summer, and lotteries were held in October.

I'm going to say it anyway. I think that we will grant a significant number of these RSA construction authorizations in 1989. And we will have licensed virtually the whole country for cellular service.

CHAIRMAN ROSENTHAL: All right. Ms. Purcell, Regulatory Program Analyst for the PUC.

MS. M. J. PURCELL: Thank you. Most of prepared background comments were covered in the very good analysis that I received Friday, so I won't repeat this.

I'd like to ...

CHAIRMAN ROSENTHAL: Just upon why the PUC wants to take a look at this industry, and if in fact we're running out of space to put anybody else on, why the rates are as high as they are, perhaps. Maybe that's one of the reasons that you want to take a look at it.

MS. PURCELL: We decided to look at this industry about a year ago -- look at both the RTU and the OII---the cellular industry. At that time, we found that most of the markets had both carriers operating. We had just received a final batch of applications, and in some of the markets we thought it was a good time to look at how the industry was working and whether the regulatory framework we had set up in the initial certificate proceedings was still relevant. And unfortunately, the cellular OII got bumped because some other matters were more pressing, and we finally released it, as you know, last month. The reason I'm saying that is, it has been connected with the rate applications filed by two carriers in Sacramento and the Stockton area. And actually, the investigation that we started working on for those two---for the applications in Sacramento were dropped when the carriers withdrew. Those rate applications have been withdrawn by the carriers. So the work that we will do for---any work that we would do for that area will be conducted in conjunction with the entire investigation for the OII. We're not doing a separate

investigation for the Sacramento-Stockton area.

Many of the issues that we're interested in, in the OII, have already been touched upon, but---and I brought several copies of the OII, which I'd love to hand out so I don't have to carry them back to Sacramento---sorry, San Francisco.

We want to look at the---just the overall structure of the industry, what effect the duopoly structure has on the price competition, and other kinds of competition engaged in---on the---between the two carriers, and also interested in looking at the cost structure of the industry. There have been many remarks that the rates are too high, perhaps; maybe they're not. We don't know what the cost structure is for this industry. We haven't looked at it, except that we have looked at the cost in individual proceedings. There are many, many complaints filed at the Commission; and in dealing with those individual areas, sometimes we look at the cost, but under a fairly narrow focus relating to one area. We haven't taken an overall look at the industry, which is what this OII will allow us to do. So we want to look at just what the cost structure is and how the rates that we established in 1984 are---how they're working. And also, we want to look at how the wholesale market affects and works with the retail market structure.

We feel that resellers, the independent resellers as well as the retail structure of the carriers, is an important area, important means for there to be competition because this is the area where there can be open entry. We have many, many resellers that have been certificated and are operative, primarily in the Los Angeles area. And the Commission, under the broad PUC Code, has recognized them to be utilities, which means they're certificated by us and they have standing in our court system and they have the obligations of being utilities. And there are many, many proceedings, some formal, some informal, between the resellers and the carriers to debate standards and issues. And there's been a lot of discussion about---with the resellers about the cost structure.

And we are concerned because it appears that the overall rates have not come down in the cellular industry, and I want to make clear that we understand that the carriers have filed different types of rate packages. And in some of these packages, the rates have gone up. For example, the access charge may be reduced and then the customer would pay very high peak rates and lower off-peak rates. And some of the carriers often file -- it appears they file rate applications or file certain packages which would reduce rates on the retail level, but not on the wholesale level. And these applications, or requests, I should say, are usually protested by the resellers and they are not in agreement with the tariffs because they would _____ the economics of the reseller, and they go against our tariffs because the resale and wholesale margin is to be maintained. So they generally have not---they usually are not approved by the PUC.

But we don't know. I want to say that we don't know what the rate structure should be. We don't know what the profit should be, because we have not taken an overall look at the industry. The carriers do point out that---with the exception of the Sacramento rate increase application, the rates haven't gone up in California. And maybe after four or five years of operation with inflation, that is an indication of some stability.

CHAIRMAN ROSENTHAL: Your OII states that there is a lack of competition. And since that was

established by the FCC, the duopoly system, what would the PUC be able to do to improve competition? In other words, ...

MS. PURCELL: Are you referring to price competition or service competition or competition in general?

CHAIRMAN ROSENTHAL: Any kind of competition. All kinds. Price. Service. In other words, if the PUC, for example, came to a conclusion that there was a lack of competition, either in service or in price, what are the kinds of things that you might suggest?

MS. PURCELL: Well, I think that's one of the ...

CHAIRMAN ROSENTHAL: What are the---what are the---can you give it just some broad parameters?

MS. PURCELL: Well, I think that's what the OII is trying to look at. I don't mean to bounce the question back. But one extreme---we might consider holding rate cases, although that would be extremely time consuming, cumbersome, and perhaps not the best way to operate, but that is an option that is available to us as a Commission and that question is in the OII.

We're looking for other kinds of regulatory mechanisms, such as rate bands(?) on the wholesale level and the retail level that other states have used. We require when we set up our regulatory framework -- we took steps to try to minimize any problems with cross-subsidization between the carriers and their local exchange affiliates or cross-subsidization between the wholesale and the retail level by requiring different types of reporting to the PUC.

But, we have to look at what incentives exist for these companies on the wholesale and retail level and what regulation would do to enhance that or not to minimize it by being too restrictive.

CHAIRMAN ROSENTHAL: The OII---I'm sorry. The OII also mentions the possible need for legislation involving the publishing of rates. Should that ...?

MS. PURCELL: Oh, that's the cost for publishing the commission rates. That was the consumer protection issue.

CHAIRMAN ROSENTHAL: How will that make things more competitive?

MS. PURCELL: Well, one of the issues that has been in a long-going case with the Commission concerns the commissions, that the utilities, the carriers, and some resellers pay the agents who sell the equipment, who have a front-line contact with the customer. They are paid commissions for bringing the customers on to their carriers. And the level of the commission has been very controversial; and in some cases, I guess, I've heard in some states it's as high as $700 a customer. And in California, it's gone as high as $350 a customer. And that has been controversial with the resellers stating that once somebody sets his price, they all have to pay it in order to get customers' interest, the effect of that. And sometimes the commission, I guess, is handed on to the customer. I'm not certain quite how this works. But it was suggested by one of the Commissioners that, as in other industries, that if that fee had to be made notice to the public, if the public were aware that in the price somebody's paying for cellular phone, in fact, the service that that commission is paying $350, that it might act as some sort of pressure to keep it down.

CHAIRMAN ROSENTHAL: To your knowledge, has the PUC decision to label equipment to protect privacy been implemented and enforced, as a result of my legislation?

MS. PURCELL: I don't know to the extent it's being enforced. I recall when we established our rates last summer, but I have not heard anything about it. I could ask the staff to get back to you on that.

CHAIRMAN ROSENTHAL: It would be a good idea to find out. Every once in a while, you know, legislators like to know whether or not bills they've passed are actually being implemented. (Laughter.)

Any other questions? Do you have any comments on what the state can do if we find, in fact, that there is not competition that you ...?

MR. KELLEY: No, I think that the---my view on competition is that the competition---the industry should be doing exactly what it is doing; and that is, get away from what is really a 1940's technology, move to additional technology, vastly increase the capacity, and when the capacity increases and when the industry spends the money to build the all digital, then there will be more service available, and that's when effective price competition will occur. That's my opinion.

CHAIRMAN ROSENTHAL: Okay. I want to thank the panelists. We will now hear from the industry providers: Mr. Jaschke, Mr. Kelley, Harden, Dickson, Fronton, Hendrix, and Nelson -- a good cross section, who I hope will be able to give us a feeling for the state of the industry in our state. I'd like each of you, before you begin your testimony, to identify your company. Tell us which metropolitan areas in the state you serve, in what capacity, whether wireline and/or non-wireline you serve; and tell us how many Californians you serve. And I would like to hold you -- instead of reading your full statement, if you can, give us the gist of it in about ten minutes, so that we have an opportunity to ask some questions and break at a reasonable time for lunch before we come back.

So, we'll start at this end: Mr. Jaschke, Vice President, Corporate Development for PacTel Cellular.

MR. JUSTIN JASCHKE: Mr. Chairman, Members of the Committee, I appreciate the opportunity to appear here today to present PacTel Cellular's views on the ...

CHAIRMAN ROSENTHAL: Just pull it a little closer to you.

MR. JASCHKE: ... to present PacTel Cellular's view on the cellular industry. PacTel serves the markets of San Diego, Los Angeles, and Sacramento on the wireline side; and we serve the Bay Area on the non-wireline side. We currently have roughly 200,000 subscribers across the state.

I'd like to cover PacTel's perspective on the progress and achievements of this industry today, the challenges of this industry facing us is moving forward, and the environment needed to foster the development of this industry.

This industry is just in its infancy yet. It's distinguished itself with an unparalleled response to explosive growth and rapidly evolving technology. The growth rate in this industry since 1985 has exceeded 100 percent compounded annually. This industry currently serves over 75 percent of the U.S. population and has made service available to over 90 percent of the California population. This industry has also contributed significantly to the overall California economy, where in Los Angeles alone over 400 businesses are involved in the cellular industry.

This industry has continued to introduce new products and services to the benefit of customers, such as freeway call boxes, voice mail, and the ability to roam freely, not only across the California markets, but throughout the U.S.; and this industry has implemented technology at a stunning pace. One

example is PacTel's ability to engineer coverage of the Caldecott Tunnel in the Bay Area, which is a stretch of over one mile, running underground in the Berkeley Hills. The penetration in this industry is roughly one percent, with, I think, about 300,000 customers in California alone.

The cellular telephone is a highly valued business productivity tool that serves primarily the construction, real estate, and the sales and private service industries. These industries are characterized by a lot of movement from account to account, job to job; and as Mr. Crump mentioned, cellular provides the mobile office to make them more productive to stay in touch with the office and with their customers.

Cellular has done an excellent job of meeting the customer needs of this industry. Our internal surveys show consistently high customer satisfaction ratings. Over half of our new customers come through customer referral. And Mr. Maher mentioned the number of indepent studies which have indicated the productivity benefits of cellular, including the one by the Dallas Police Department which indicates that cellular more than pays for itself in productivity gains.

Cellular needs to have the kind of environment that will continue to atract the high capital investment and technological innovation to meet future customer demands and capacity requirements. Our customers are demanding smaller, lighter weight portable phones, and we're providing the coverage enhancements to provide that portable service. Our customers are looking for the ability to roam throughout California and other markets and PacTel's investments and new system in California will enhance their ability to do so. Our customers are looking for increased numbers of choices, and we're providing alternative pricing plans and usage plans and coverage area plans to increase their choices.

An area of great concern to us is capacity. Our engineers are working diligently on enhanced cell splitting techniques and implementation of digital technology to provide that capacity.

We're also concerned with the important issues of responsible citizenship such as public safety, privacy, and prevention of crime. This committee has led the way with legislation in those areas, and PacTel supports those efforts by providing safety brochures to our customers showing them proper techniques for cellular phone usage and by implementing new techniques for preventing the unauthorized usage of our systems.

This is an emerging industry, and we need to provide the kind of environment that will encourage the entrepreneurial risk taking needed to promote its future development. We need the ability to develop and quickly implement new technologies to meet the capacity requirements. We need the ability to introduce new products and services without delay in order to respond to the evolving substitute technology.

Mr. Maher mentioned a number of currently existing technologies. There is also a new telepoint technology over in the U.K. which is being implemented. This is essentially a very low cost, small portable telephone which provides much of the functionality of cellular. We need to be able to respond to those kind of substitutes. We also need the freedom to market most effectively, including the ability to implement pricing changes quickly, to respond to the needs of new customer segments and to challenge substitute technologies.

The legislation and regulation implemented to date has allowed us the flexibility to have our

industry mature. Our great concern is that the more restrictive regulation will dampen the entrepreneurial incentives to invest in this industry to continue its growth. A recent report by the California Economic Development Association called "California 2010" echoed these concerns when it stated:

> With competitive markets overlaid with complex regulatory structures and obligations to serve, neither economic efficiency nor appropriate risk taking results. An environment which encourage the entrepreneurial spirit and risk taking needed to develop this indistry will provide a healthy cellular industry which contributes greatly to the overall strength of the California economy.

Thank you.

CHAIRMAN ROSENTHAL: May I ask you a question? Do you believe that the California cellular environment is competitive today?

MR. JASCHKE: Yes, sir, I do.

CHAIRMAN ROSENTHAL: And in the light of your answer, why do you think that the PUC says it began its investigation in part because of the claim by resellers that an unfair atmosphere exists for them in the cellular networks?

MR. JASCHKE: I think that it obviously has to be concerned with those kinds of complaints. The cellular resellers operate in a very competitive market. It has the textbook form of classic competition with perfectly free market entry and exit, and in that environment you typically have very competitive markets. I think that the resellers' complaints are largely pointed at the competitiveness of that industry.

CHAIRMAN ROSENTHAL: If it's as competitive as everybody seems to indicate, why are rates not going down?

MR. JASCHKE: Senator, I think that the rates have gone down. If you look at, certainly, any other industry in the economy, rates since 1984 have gone up by over 17 percent. Certainly, realtors ...

CHAIRMAN ROSENTHAL: Well, maybe I asked the wrong question. Why is it higher in California than in other states?

MR. JASCHKE: Well, California has a range of rates. We have probably the lowest rates in the industry in Sacramento as well as higher rates in ...

CHAIRMAN ROSENTHAL: Let's talk about Los Angeles. Let's talk about the west side of Los Angeles, which is my district, which has the largest number of users; and one would think that with the largest number of users in a system that the price would be more competitive, would be cheaper.

MR. JASCHKE: Senator Rosenthal, I think that that assumes that there is economies of scale in this industry. In fact, as ...

CHAIRMAN ROSENTHAL: Oh, wait, wait, wait. There are no economies of scale?

MR. JASCHKE: There are very limited economies of scale on cellular, yes, sir. As subscribership grows, we have to continue to put new cells in place, new radios on those cells. We have to find locations for new cells. We have to buy property which gets more and more difficult, as cells like to expand. And there's very limited economies of scale. In fact, over the long run, the cost of cellular service goes up as subscribership expands.

CHAIRMAN ROSENTHAL: Okay. Any questions? All right.

We'll move now to Mr. Dickson of McCaw Cellular Communications.

And I just want to -- your time expended was just on the nose. So, we're going to hold everybody to that same period of time. Mr. Dickson.

MR. JAMES DICKSON: Thank you, Mr. Chairman and Members of the Committee.

MR. FADELLI: Oh, Mr. Chairman?

CHAIRMAN ROSENTHAL: Oh, I'm sorry.

SENATOR GARAMENDI: I have no question.

CHAIRMAN ROSENTHAL: Oh, excuse me, excuse me. Just like to announce that we have been joined by another member of our committee, Senator John Garamendi. He's also the chairman of the Rev. and Tax., which might be one of the concerns that you and he might be facing as we move into the legislative session after New Year's. Mr. Dickson.

MR. DICKSON: My name is Jim Dickson. I am the senior vice president of McCaw Cellular Communications, responsible for all of the company's cellular business activities in the State of California. I'd like to thank you, Mr. Chairman, for holding this hearing. McCaw is proud to be able to participate in these important and we expect informative proceedings.

Today, McCaw Cellular is the largest cellular telephone company in the country, doing business primarily as Cellular One in 127 cities across the more than 25 states. We have constructed and operate the non-wireline systems in Sacrament, Stockton, Fresno, Visalia, and Oxnard. We are a partner in the San Francisco non-wireline system; and we've constructed cellular facilities in Redding and Salinas, where we await the PUC's approval to begin operation. McCaw affiliates also operate paging systems in the Central Valley.

McCaw is aimed exclusively to providing mobile communications to the public. Our strategy is to offer the best possible level of cellular and paging services to Californians through state-of-the-art communication systems, complemented with highly responsive customer care.

We are proud of our improvement in service quality and coverage we have achieved over the past few years. And we remain committed to providing the highest quality cellular service and systems available in California. We also recognize that we still have a long way to go. We will be spending tens of millions of dollars in construction and facilities over the next few years as our systems are enhanced to provide superior radio coverage, expand service areas, and accommodate new subscribers. This does not take into account the untold millions of dollars that will be required to upgrade or install systems to digital technology in order to maintain a high level of service quality.

Over the past five decades, McCaw has built a reputation of being cooperative in state and local governments through its involvement with broadcasting and cable television, as well as paging and cellular. Our experience tells us that regulatory process will work smoothly if regulators have the opportunity to become familiar with the industry's concerns. That's why we are pleased the PUC has recently announced its intention to examine the whole process of regulating cellular in California. Ours is a new industry which we believe does not lend itself well to traditional regulatory models. Cellular is a high risk business, and our capital costs are extremely high. Continued and broader acceptance is

uncertain, and we are not guaranteed, nor would we want any guarantee, a return on the investment we have put at risk. Not only do we face these typical challenges, but we also face the risks of emerging technologies which will provide even more competing alternatives for personal communications.

McCaw is active in promoting the use of cellular phones for emergency and safety-related communications. Cooperation with the Highway Patrol to provide priority handling and free calling to 911, which enhances the safety of our highways. Traffic accidents and hazards are quickly reported. We also provide an additional public service as our customers regularly provide up-to-the-minute traffic data for radio station broadcasts. Additionally, we will be providing roadside, cellular call box service in Ventura County for motorist assistance -- a program already in place in several other counties.

We appreciate the Chairman's concern for the safety issues inherent in the use of the cellular phones in cars. Developments in the design of cellular phones have made the use of cellular service even more convenient and safe. Hands-free telephones are now available at reasonable costs to subscribers of all systems. It's our pleasure to assist the Chairman's staff here today by providing for Motorola's demonstration of the latest technological advances in car phone equipment. The voice-activated car phone now offers hands-free and, more importantly, eyes-free operation.

Thank you once again for holding this hearing and for your attention. I'll be happy to answer your questions.

CHAIRMAN ROSENTHAL: All right. There have been some concerns raised by the rate increases in the Sacramento-Stockton area. Could you comment on that?

MR. DICKSON: Well, we've certainly seen some of those concerns. The history is fairly simple. There was a very low level of rate set at the introduction to cellular. It was probably some three or four years ago up in the Sacramento area. I think it's been pointed out that those rates are, probably some of, if not the lowest rates in the industry across the country; and there was an applicator, a tariff filed, an advice letter filed several months ago to raise rates from those levels to rates that would still be some 30 or 40 percent below the higher rates within the state.

CHAIRMAN ROSENTHAL: One of the things that concerns members of this panel and others is that we spend quite a bit of time in Sacramento. And it's kind of interesting that both companies almost asked for the same kind of increase, which would give some of us the idea that maybe there was some kind of collusion there.

MR. DICKSON: Well, Senator, there was certainly no collusion. The development of both companies ultimately asking for rate increases of comparable magnitude -- and by the way, that didn't happen simultaneously, nor were the increases identical, although they were quite comparable -- I believe that it evolved because the initial rates were so low and there was pressure to bring rates up to the more reasonable level.

CHAIRMAN ROSENTHAL: I guess that was one of the places that gave the PUC the opportunity to say, "Hey, let's take a look at this whole thing," because of concerns that were raised in that particular area, maybe by some of the legislators.

MR. DICKSON: Yes. One of the concerns seem to be that there was not at that point standards within the Commission by which to judge whether the rates were reasonable. We're hopeful that the OII

will produce the backdrop for that.

CHAIRMAN ROSENTHAL: Thank you very much. Yes, question, Senator.

SENATOR GARY HART: You mentioned Ventura -- I represent Ventura County -- you mentioned some kind of service for traffic problems. Could you explain that to me?

MR. DICKSON: Yes, Senator. We have a recent contract to provide service for roadside call box phones that will be cellular provided.

SENATOR HART: I see.

MR. DICKSON: Hopefully, we'll provide them.

SENATOR HART: Because Ventura County is a pretty good place on these call box systems, similar to, I think, those that exist in Los Angeles County. You're going to be providing those?

MR. DICKSON: That's correct.

SENATOR HART: Thank you.

CHAIRMAN ROSENTHAL: Fine. Any further questions?

All right, Mr. John Kelley, the General Manager of Pacific Region, GTE Mobilnet.

MR. JOHN P. KELLEY: Thank you and good morning, Mr. Chairman and Members of the Committee. Thank you for giving me this opportunity to provide some comments this morning on the cellular industry of California. My name is John Kelley. I am Pacific Region General Manager for GTE Mobilnet.

My comments today are going to focus on three principal areas: First, an overview of GTE Mobilnet and its operations nationwide; a brief discussion on the status of GTE Mobilnet's California operations; and then a brief discussion of future issues that will affect GTE Mobilnet in California.

Prior to beginning, I'd like to give you a little background on myself. I joined GTE Mobilnet in 1983 as the Operations Manager for the San Francisco/San Jose greater metropolitan area. In this capacity I was responsible for overseeing the development and construction of the cellular system in that area through the time that the cellular network became commercially available on April 2, 1985.

CHAIRMAN ROSENTHAL: You're not going to read all this?

MR. KELLEY: No.

CHAIRMAN ROSENTHAL: Thank you. (Chuckles.)

MR. KELLEY: I then moved on in capacities down in the GTE Mobilnet Headquarters in Houston in a marketing capacity and planning, and planning for the areas of promotions, product, and distribution and then moved in June of 1987 back out to California where I assumed my current post of General Manager - Pacific Region.

One clarifying note -- GTE Mobilnet Incorporated is a wholly owned subsidiary of GTE Corporation and is not affiliated other than through a common parent with GTE telephone company of California. There seems to be some confusion in that matter, so I wanted to set the record straight on that.

CHAIRMAN ROSENTHAL: Well, using the same initials might bring about that confusion. (Laughter.)

MR. KELLEY: I can see where that might have occurred, Mr. Chairman. (Laughter.)

GTE Mobilnet currently operates cellular systems in nine states. We're divided into four regions:

the Pacific Region, for which I'm responsible, has operations in Hawaii, Oregon, Washington, and California; the Midwest Region -- in Indiana, Ohio, Pennsylvania; the Florida Region -- with operations in Florida; the Texas Region -- with operations in Texas.

In California, we're the general partner in two limited partnerships. The GTE Mobilnet of Claifornia Limited Partnership operates six systems: the San Francisco-Oakland, San Jose, Santa Cruz-Watsonville, Monterey-Seaside-Salinas, Napa-Fairfield-Vallejo, and Santa Rosa-Petaluma. The GTE Mobilnet of Santa Barbara Limited Partnership operates the cellular system in Santa Barbara.

Three stats of the two systems: As of December 1, 1988, the cellular system in the greater Bay Area covers approximately 6,000 square miles, using 64 cell sites. This is more than three times the original coverage area, from when we first turned it on, and more than five times the number of cell sites that were originally turned on just three and a half years ago. This expansion of the network has provided twice the local calling area which was originally available, and that's the area in which a cellular telephone may place a call without incurring toll charges. It's now possible in Northern California to call from Healdsburg all the way down to King City in the south and incur only the the air time charged and not incur any toll charges.

This aggressive expansion occurred for three reasons in the number of cell sites: the first reason was the increased number of licensed serving areas, the second were the quality objectives of GTE Mobilnet; and the third was the growth in subscribers. Interestingly, the growth in subscribers has not been the paramount reason for a lot of the expansion in Northern California. One of the primary reasons has been the quality objectives associated with GTE Mobilnet in providing cellular service. One of the difficulties that faces cellular carriers that are covering the large metropolitan areas along California's coastline is the topography of the region. The mountains that we have are a very beautiful backdrop; however, they provide many challenges to radio engineers in designing the system. When we first turned the system on, it was possible to use the top of these mountaintops to help us cover a larger area from a single cell site. As the number of subscribers increased, however, and as the cellular carrier is faced with reusing the cellular frequencies allocated to us by the FCC, we are forced to remove the high cell sites, replacing them instead with many lower cell sites so that we don't end up with interference between the channels that we're using. This is the situation that has occurred in Northern California; as the subscriber growth has increased, the demand on number of radio cells has increased and we have had to lower the number---lower the height of the cell sites and build many more to cover this same area.

A phenomenon that occurs in cellular radio is this phenomenon of "dead spots". I'm certain some of you who have experienced the cellular use have experienced this phenomenon. And essentially what that is, is cellular radio frequencies operate in the line-of-sight. Whenever you have a land mass obstructing that cell site from your particular area, you may or may not be able to complete or continue a telephone conversation. That then necessitates the addition of another cell site, and that's what has been facing some of the GTE Mobilnet cellular system in Northern California as well as in Santa Barbara. This addition of the number of cell sites of course is not without its cost, making the cellular systems in California among our most capital intensive in the U.S.

While we continue to improve the quality and scope of our cellular service, what we've been doing

over the last years has been increasing the value in the basic network service. Three services I'd like to talk about very briefly is: Follow-Me Roaming Service, Voice Mail Service, and Driver Guide Service.

Essentially, Follow-Me Roaming Service makes the process of roaming nationwide simpler than it has been in the past. In the past, whenever one roamed, that is, used a cellular system outside of their home area, it was very difficult for someone to place a call to that roamer in the outlying area. The reason for that was because the systems are not interconnected. Follow-Me Roaming essentially allows those that are on the Follow-Me Roaming network -- provides an interconnection between all cellular carriers that are on the Follow-Me Roaming network essentially allowing someone calling a cellular telphone who is roaming outside of their local area, not to have to know where that particular roamer is; in other words, you dial the normal seven- or ten-digit telephone number and our network follows that roamer into whatever distant city he is in, whether it be Dallas, Chicago, Miami, whichever city that is.

In addition, we have offered Voice Mail service in our market. This essentially allows the subcriber the option of having the equivalent of an answering machine hooked up to their cellular telephone. The benefits to the user is that whenever they leave their cellular telephone, the unit is forwarded to this answering machine box. When they come back to their particular mobile telephone, they're able to read any incoming messages that would have been left at that time.

The last service is the Driver Guide service. This is available only in Northern California at this time. It's available exclusively to our subscribers. Essentially, we offer service by dialing *MAP(*627) on their cellular telephone. The user is connected to the Driver Guide bureau and is given instructions from any two points in the Bay Area, including -- if they don't have the address, they're also able to give points of interest, landmarks, airports, and so forth, and the Driver Guide system provides them with the directions to get there.

The future holds a lot of promise for the cellular industry in California. From our perspective, one of the chief challenges that faces us going forward is building the quality network. Our radio system, as I've discussed a little bit previously, does not operate in the same manner that a fixed land-line telephone system does. And yet subscribers in California have come to expect the same level of service from their cellular telephone as they have from their office and home telephone. For this reason, we will continue to expand the system and through this---in this expansion, we're going to be faced with a number of challenges going forward, not the least of which is the location of cell sites in the possibility of residential areas.

Finding and getting zoning approval for cell sites is a tremendous challenge to the cellular carriers in California, and it's one that is going to have to be met for us to be able to provide continuing high-grade levels of service. The second issue of which others have talked about and I won't belabor is the issue of digital technology which is something that we will have to incorporate into our systems in the earlier 1990s if we are to continue to be able to add subscribers at the rate that we have been.

Once again, thank you very much. I'll answer any questions.

CHAIRMAN ROSENTHAL: Are there ways to improve or work to guarantee a certain level of quality besides improving technology? In other words, within the present system.

MR. KELLEY: With the present technology that's available, Mr. Chairman, the manner in which

one would improve the quality of transmission is by adding additional cell sites to the network. The chief difficulty is that in California you drive in and around all the various canyons and mountains, and that creates situations where there are areas, similar to radio and television broadcasts, where there is not good reception.

CHAIRMAN ROSENTHAL: Do you think that the investigation that the PUC is going to have in terms of the industry might give us other answers?

MR. KELLEY: I believe that they will be asking the industry, similar to yourself, Mr. Chairman, what the various options are; and I believe that it is in those areas that we will be---that we would move them forward.

CHAIRMAN ROSENTHAL: Okay, any questions?

SENATOR MONTOYA: Eliminate the freeway sound barriers. Southwest(?). (Laughter.)

CHAIRMAN ROSENTHAL: Is that a problem, the sound walls?

SENATOR MONTOYA: Sure is.

MR. KELLEY: Depending upon the location of the cell site in relation to that particular sound wall, it could be.

SENATOR MONTOYA: Drive south on I-5 ....

CHAIRMAN ROSENTHAL: Do you have any indication of the problems that are reported as a result of---on the issue of privacy?

MR. KELLEY: I'm afraid I don't follow the question, Mr. Chairman.

CHAIRMAN ROSENTHAL: Has GTE Mobilnet had any concern or have they heard from subscribers concerning their privacy aspects?

MR. KELLEY: We have not heard from our subscribers a significant concern about it, in that at the point of sale, and I've included some promotional material that I've handed out to you, we do advise the subscribers that there is the possibility of using sophisticated electronic eavesdropping equipment to monitor a cellular conversation; and we indicate that so that they may then take whatever appropriate action they may want to in the course of their discussion.

CHAIRMAN ROSENTHAL: Is that in the little print?

MR. KELLEY: No, there is a pamphlet in the materials I handed out that does talk about that particular issue.

CHAIRMAN ROSENTHAL: So you have not had many complaints regarding that issue?

MR. KELLEY: No, Mr. Chairman.

CHAIRMAN ROSENTHAL: Any other questions? Thank you very much.

Our next witness is Howard Fronton, the acting president of L.A. Cellular, who would like to introduce Robert Cecil, speaking in place of Mr. Fronton. Is that correct?

MR. HOWARD FRONTON: Yes, I was going to do that, but that's fine. Yes. (Laughter.) Bob is one of our partners from LIN Cellular Communications Corporations, and he will be our witness in these hearings.

CHAIRMAN ROSENTHAL: Fine.

MR. FRONTON: Thank you.

CHAIRMAN ROSENTHAL: Thank you.

MR. ROBERT CECIL: Good morning, Mr. Chairman and members of the committee. Los Angeles Cellular is the cellular non-wireline carrier in Los Angeles -- CGSA, which serves about 11 million people. The vast majority of our customers---the vast majority of our subscribers are business customers, mostly in real estate, construction, professionals, and medical affiliates.

Cellular service began in Los Angeles in 1984, and Los Angeles Cellular began in 1987. Despite that handicap, we have over 75,000 units on line today, representing a little less than .7 of one percent of the population. And while this is less than PacTel Cellular, a strong, competitive market has emerged, and we believe that in many areas our system is actually superior to competition; that we offer better enhanced services.

Cellular telephone service in California is currently distinguished by significant risks, difficult geographic conditions, and a constantly changing technology. It also requires continuing infusions of new capital in order to expand coverage and minimize system congestion. In Los Angeles, for example, we started out our system with just 39 cell sites; and only 20 months later, we have over 80 cell sites in service.

Our first Mobile Telephone Switching Office (MTSO) is operating at near capacity, and a second switch is about to be installed. This means that L.A. Cellular's initial investment, over $30 million, has been followed by tens of millions of dollars in investments in the last two years following cutover. The new switch, the further moves toward digital techniques, and other approaches to respond to customer needs and demands will require additional multimillions of dollars of capital infusion every year.

L.A. Cellular's competition in Los Angeles includes not only PacTel Cellular, but also a dozen certified resellers. The resellers purchase cellular service at tariffed, wholesale rates from the cellular carriers and resell it to the public on an equal footing with the carriers themselves. Reseller gross profits range from 23 to 26 percent of the total revenues collected from the end user. This is one of the highest revenue margins available to resellers in the country. It's also worth noting that the resellers' percentage of the total number of units on L.A. Cellular has steadily increased and now approaches almost half of the new subscriptions coming on each month. In L.A. Cellular's experience, well-run resellers have been able to compete very effectively and make a profit once a relatively low volume of business is actually attained.

Competition in the Los Angeles market has taken a very varied form.

1. The cost of cellular equipment to the end user has fallen from over $2,000 a unit to under $500 a unit today.

2. Annual inflation rates of 3 to 5 percent have been absorbed by the service providers. L.A. Cellular fully expects its annual costs to inflate by a substantially greater factor in '89. This essentially means that in real terms, prices have dropped 3 to 5 percent a year since the service actually began.

3. Customer turnover, or "churn", is very high in the Los Angeles market and approaches one-third of our customer base at L.A. Cellular every year. This mean, for an example, that a carrier with 100,000 units on line has got to sell an additional 33,000 new subscribers each year just to maintain its current level of subscribers, and even more than that, to maintain his revenue level since, generally

speaking, the usage per subscriber is actually declining.

CHAIRMAN ROSENTHAL: There's a one-third turnover?

MR. CECIL: Yes, in the base. That's about 3 percent a month.

CHAIRMAN ROSENTHAL: Okay. So that maybe in asking the questions about whether or not people had complaints, they just don't---they just drop out.

MR. CECIL: Some people do drop out, but I would say that really what we're seeing here is competition between the facilities-based carriers, the resellers; and there are a large number of other mobile communication services that exist in this marketplace that are taking a number of those subscribers.

4. Facilities-based carriers have competed vigorously in expanding their effective service areas. For example, roaming technology now permits L.A. Cellular customers to receive service in nearly 90 markets across the country. Enhanced services such as personalized traffic assistance -- we call it "Starjam" -- have been introduced at no added cost to the subscriber. The customer today is essentially getting a much better product than he got in 1984, yet prices have remained the same or actually fallen.

5. A variety of new offerings have been tariffed at effectively lower rates than those originally approved by the Public Utilities Commission. These include enhanced service offerings at no additional charge to the customer, bulk rates for accounts with multiple phone lines, cooperative advertising payments which have the effect of substantially reducing wholesale tariffs to the certified resellers.

The PUC has oversight on cellular rates and terms and conditions of service. Up to this point, the Commission has not attempted to impose cost-based regulation on cellular carriers. L.A. Cellular believes that this continues to be the appropriate policy for the following reasons: First, cellular is discretionary as a service as really no other utility service is. Instead, it's just one of the newer alternative sources of mobile services available to the public. Thus, L.A. Cellular competes not only with PacTel Cellular and the resellers, but also with improved mobile telephone service and special mobile radio services which are licensed by the FCC. These two services provide access for mobile customers directly to the public telephone network at competitive rates. There are also other competitive mobile services, such as mobile data and advance paging which serve large segments to the marketplace. In such a non-monopoly market, L.A. Cellular believes that cost-based rate regulation can stifle initiative, encourage inefficiencies, and actually reduce cellular's competitiveness against this wide array of communication services that are available in the mobile marketplace. It also generally feels that cost regulation generally leads to higher prices in the long term rather than lower ones.

The promise of cellular is that competing statewide and nationwide mobile telephone systems will ultimately be constructed by cellular carriers and other mobile services. These systems will permit continuous conversations by users as they travel across city, county, and state boundaries. They also have the ability to bring telephone service to many rural areas where conventional wireline service is prohibitively expensive. Police, fire, and many other emergency services have improve the way they do business and will be even better able to do so as the technology expands.

All of this has occurred in an industry which is still in its infancy. Cellular technology has been

swiftly implemented, and private companies have invested in hundreds of millions of dollars in innovative approaches to mobile communications problems and needs. This has occurred in a period of economic prosperity and in a healthy regulatory climate.

Given the level of progress in the industry, I think it would be premature and unwise to expand the present regulatory approach. Indeed, other major states such as Pennsylvania and Texas where we also operate have opted to have no state regulation of cellular. We believe that competition, rather than more extensive government regulation, should mark the future of cellular, because it will provide the incentive to create the highest level of service to the public. Thank you very much.

CHAIRMAN ROSENTHAL: Let me ask a question, Mr. Cecil. How do you feel about the wireline carriers getting involved as co-owners of the non-wireline franchises?

MR. CECIL: Well, I have a partner, as a matter of fact, who is a wireline carrier, as a matter of fact. We're ...

CHAIRMAN ROSENTHAL: Doesn't that lead to the possibilities of collusion in terms of price fixing?

MR. CECIL: It might, but I can tell you this: I've found -- our partner is Bell South, and we're delighted to have them as a partner. We found that the telephone companies don't like each other. (Laughter.) I've found -- Bell South wants to be number one in Los Angeles, and they're going to do everything they can to be number one. And I would tell you that any concerns that I had myself about any collusion just have not materialized at all. They're very competitive, and I think it's actually healthy for the industry.

CHAIRMAN ROSENTHAL: Okay, yes. Senator Montoya.

SENATOR JOSEPH MONTOYA: Yes. Everybody has talked about the whole issue of---that it's a new technology and you've got to allow for shakeouts and basically resisting a regulating environment. Just drawing a comparison, for example, of the two -- how deregulation has worked out in the airline industry and looking at how deregulation and mergers have worked in cable where we've had basically deregulation. What you see is a concentration. And I think I agree with the author about wanting to have, you know, the entrepreneurialship and allowing the technology to progress forward. But I mean, at what point in time do the regulatory bodies or, for example, the California Legislature, not get involved because what the shakedown---the shakeout has led to is very little competition. I think that's the concern on all of these issues that we've had. While there's still a lot to be gained by new technological gains that may be made, at what point in time are we acting too late to regulate? That's a consideration. Everybody is saying "keeping it open for competition", but for example, the kind of partnerships that you just mentioned are of concern. What's your answer? How can we go on good faith when you see, in essence, I think, was the thing as to what's happened in the airline industry and to some extent what's happened in the cable industry? You're not getting more operators and smaller operators. There seems to be a tendency towards concentration and fewer and fewer numbers, and that's of concern even for one who likes to see as much competition as I like to see.

MR. CECIL: I think concentration by itself doesn't necessarily mean you're going to have less competition. To me, competition occurs in price, service, service quality, and delivery of new enhanced

innovative services. I think we've seen there's some fairly substantial advance of new and innvotative services that have come on since the beginning. I can tell you this, that we're building out our systems as fast as we possibly can so we can improve the service. From a price standpoint, as I've indicated, real prices have actually climbed 3 to 5 percent, we think, a year. We've actually introduced some new tariffs, which are below the old tariffs that we had.

Frankly, I think that not only is the narrow definition of cellular quite competitive, but when you look at it in the overall context of all the different other services that operate in the mobile communications marketplace, this is an incredibly competitive industry.

SENATOR MONTOYA: But I still think that the question that the Chairman asked much earlier, and so I would like you to answer it if, you know, that's the case, then why is it that in an area which has the greatest use, that isn't---that hasn't been the case?

MR. CECIL: If I can just offer something in that respect -- the marketplaces, different marketplaces have highly different demands, cost structures, operating modes, and things like that. Markets of roughly similar size, though, tend to be---have somewhat the same cost structures. New York, where we also operate, is the only market I think would be comparable to Los Angeles in size and -- not number of subscribers, but it's approaching that. It seems to me that, if you look at New York, actually the rates in New York are slightly higher than they are in Los Angeles. And by the way, rates is a complex issue. There's roaming, there's peak rates or non-peak rates, and those kinds of things, access charges and that sort of thing.

I think one of the key issues here is that particularly in Los Angeles and New York there is enormous need for capital. As I said, we put in, to start out, over $30 million to get the system started and put in at least that much since then. And so, that the need for capital to expand the system and provide better service is essentially the issue that's made the prices stay where they are.

CHAIRMAN ROSENTHAL: One of the things---one of the kinds of complaints that we hear, and it's not just the one company, but most companies -- for example, do you charge for interrupted or incompleted calls like PacTel does?

MR. CECIL: What we do is the following: If your call has been disconnected, we give you a credit. We publish that to our customers. They know that that's our policy.

For an incomplete call, I think there has to be some kind of a barrier to keep subscribers from taking actions that harm other subscribers. For example, if you let a phone call ring for 5 or 10 minutes -- and I have documented cases of many of these running for 30 and 40 and 2 hours sometimes, they tie up the system, cause congestion for those subscribers; and I think there should be some kind of a charge there to prevent people from doing that, or at least make them aware of that. So, we do charge a half rate for that kind of activity.

MR. JASCHKE: PacTel has the same policies in Los Angeles with the same rationale.

CHAIRMAN ROSENTHAL: But why only in L.A.?

MR. JASCHKE: Well, L.A. is the most congested system to date. In our other markets, we have similar policies where as long as the call is not completed by the cellular network or is not connected, there is no charge.

CHAIRMAN ROSENTHAL: It appears that L.A. users have to suffer because there are more users when it would seem to be the opposite direction. In other words, if there are more users, there ought to be some sort of a break in terms of this pricing, in terms of the usage.

MR. JASCHKE: Well, L.A. users benefit in the sense that we only charge them half for the incompleted calls that are not completed to the ....

CHAIRMAN ROSENTHAL: Yeah, but that's only because of my law. (Laughter.) You know, and you came before the Legislature, and you opposed even that, because I was trying to eliminate the cost for interrupted or incompleted call completely.

MR. JASCHKE: Again, what we're charging for is the use of the cellular network, and we only charge if that call is successfully completed by the cellular network. The instance of half-charging is when it goes to the landline and the landline is unable to complete that call. From our perspective as Mr. Cecil has mentioned, we need to discourage people from staying on the line or repeatedly retrying calls, because that ties up the usage and detracts from the service to the other consumers.

CHAIRMAN ROSENTHAL: Do the customers know that?

MR. JASCHKE: Yes, sir, they do.

CHAIRMAN ROSENTHAL: They find out when they get their bill.

MR. CECIL: Actually no. I think you bring up---have brought up a couple of good points on this subject. We have a responsibility to communicate very effectively with our customers. First, we try to train our agents who, sometimes in their overzealousness, I think, raise expectations beyond where they should be. So we've implemented a welcome letter which describes the system and how it actually works, and we follow it up with a phone call to try and see if there are any questions, and then fundamentally go back to them a couple more times in a written way to try and be sure that they understand how the system is going to operate.

In 1989 we're going to implement an audio cassette which people can take with them so they can listen to us in their car if they have any questions. But I think we have a responsibility to make darn sure they know about all those things.

CHAIRMAN ROSENTHAL: Because, after a period of time, you know, when the newness of that telephone in the car begins to wear off, they begin to think of it as the same as a telephone in their office or their home. And nobody keeps thinking, well, now, this one is different than the other one, you know, it's the same. And unless there's an ongoing program by the providers to keep people informed about the differences, then, you know -- because if you don't, we're going to get more complaints in the Legislature which is then going to come up with some other legislation perhaps to tie your hands a little bit further. I'm not suggesting that that's what we ought to be doing. If you do the proper job and you don't oversell -- when I say you, I'm talking about everybody that deals through you for equipment or for services -- people will then learn the limitations of these systems, but one of the concerns we have and the kinds of calls we get at the office and people just drop off the system, which creates a cost for us to provide the cell to somebody new.

MR. CECIL: I think you're absolutely right. That's one of the reasons why our interests are exactly parallel with your own in this area. It costs us to have these people drop off.

CHAIRMAN ROSENTHAL: Okay. Mr. Gene Harden, president of Allied Radiotelephone Utilities of California (Radiocall Corporation).

MR. GENE HARDEN: Good morning, Senator. I've been going through my prepared remarks, excising some things so I keep within the ten-minute time frame.

CHAIRMAN ROSENTHAL: Very good.

MR. HARDEN: President of Allied Radiotelephone Utilities of California -- Allied has long existed as the nonprofit trade association for the certificated paging and convention mobile telephone utilities in the State of California. For over 20 years, the association has promoted the interests of small locally-owned and operated businesses, serving small communities like Eureka, Redding, Kernville, and even larger regional and multiple state operations including PacTel Paging, Mobilcom and ICS Metromedia. We are one of those alternative technologies that some of the previous speakers have mentioned.

More recently, a number of Allied's members through their affiliates have become cellular carriers as well. Together California's radiotelephone cellular carriers provide service to over one million paging, conventional mobile, and cellular units to residents and businesses. This reservoir of industry data has enabled the association to provide guidance to the Legislature and Public Utilities Commission as to how effective regulation can promote and encourage the development of radio-based mass communications alternatives to traditional wireline technologies. At the same time, Allied has alerted the public to the dangers posed by excessive regulation in a competitive environment. In Allied's experience, the California Public Utilities Commission can play an effective role in encouraging the development of radio-based telephone technologies. Cellular is no exception, and I have a couple of examples.

In the area of interconnection, one of the most important prerequisites to a technically adequate cellular system is a fair and just interconnection agreement between the radio carrier and the wireline carriers that provide the telephone network. Historically, the wireline carriers have often refused to provide this interconnection and more recently have attempted to provide this interconnection on reasonable terms and conditions. With the support of the CPUC, which has defined cellular carriers as public utilities entitled to the benefits of the PUC Codes, cellular carriers have obtained the necessary telephone numbers necessary for their operations and the physical links to permit cellular subscribers to reach wireline telephone anywhere in the world. Allied resists any suggestion that wireline carriers should be permitted to charge anymore than their verifiable costs for these facilities.

Environmental concerns, and this is one that our particular company has worked with -- the CPUC also has the potential for resolving many of the environmental disputes which have arisen in connection with the construction of cellular facilities. It is unfortunate but true that in many of the communities where cellular is available it's very popular, but they would prefer to exclude cellular transmitters from their borders.

The CPUC is a lead agency under the California Environmental Quality Act and has made it clear that cellular is a utility service and that it is the final authority to resolve disputes over the suitability of a particular location as a transmitter site. My own company, Radiocall, has successfully invoked these principles to uphold its right to use the site that was critical for cellular marine mobile telephone and

radio paging purposes.

Allied has also warned against the dangers of excessive regulation. Processing delays at the PUC can be great, and cellular expansion efforts have often been delayed by many months, even where an application is uncontested. Even more troublesome are suggestions at the CPUC that some form of cross-rate regulation be introduced for the cellular carriers. Such regulation is designed for a monopoly utility furnishing indispensable services, and it's a very expensive and complex form of governmental control over private enterprise. It may also discourage this private initiative and encourage some cost inefficiences.

In summary, Allied believes that it would be premature for the CPUC, or California Public Utilities Commission, to impose more strict forms of regulation, which could have the effect of stunning the development of this fast-growing but relatively immature market. It has been barely four years since the first cellular units were provided service on a commercial basis. Since then, more than a dozen systems have come on-line with competing carriers in every major metropolitan market. Private industry is now investing hundreds of million dollars in perfecting and expanding their systems. And given the present health of cellular and its fast growth, Allied would urge against hasty change absent of showing a very good cause.

CHAIRMAN ROSENTHAL: Thank you very much. Any questions? Okay.

We will hear next from James Hendrix, president of Siskiyou Telephone Company.

MR. JAMES HENDRIX: Good morning. My name is Jim Hendrix. I am president of the Siskiyou Telephone Company and Cal-One Cellular. I am also chief financial officer for Siskiyou Cablevision Incorporated. These companies are located in Fort Jones, California, near the Oregon border. I've been associated with Siskiyou Telephone since 1970 and with Siskiyou Cablevision since 1981. Cal-One Cellular is a new company that was formed in the last few months to hold our one-sixth interest in California RSA No. 1 and to serve as general partner.

Siskiyou Telephone is an independent telephone company that was incorporated in 1896 which serves over 2,200 square miles in western Siskiyou County and part of Humboldt County in Northern California near the Oregon border. We have about 3,300 access lines, 7 exchanges, a Class 4 toll center of operators, and about 47 employees.

Siskiyou Cablevision serves about 970 customers with the very latest in cable technology including multiple pay services, a regional sports network, Storer and Impulse, Pay-Per-View, and local ad sales. It has three employees, and although it serves only 22 homes per mile, it is profitable due to the close control of construction cost, operating efficiencies, vertical services, and effective marketing. Seventy-five percent of the homes that it passes chose to be its customers, which is about half, again better than the national average. It has been described by experts as a model rural cable system.

Cal-One Cellular is a general partner for Cal-One Cellular Limited Partnership, which will be the Block B wireline licensee in California RSA No. 1. This RSA serves Humboldt, Del Norte, Siskiyou, and Trinity Counties in the extreme northwest corner of California. The most significant market areas will be the Eureka-Arcata-Fortuna area on the coast and the Interstate 5 corridor inland. Our limited partners are PacTel Cellular, Contel Cellular, Citizens Utilities Company of California, Golden State

Cellular, and California-Oregon Telecommunications Company.

My personal experience with cellular is quite limited since the RSA lottery was just held October 7 of this year, and our first partnership meeting is scheduled to take place one week from today.

Many people have asked why a small, rural, independent telco would want to run a cellular system. I respond, "Why not?" Our headquarters is located within our RSA. Many of our existing employees have the necessary technical and management skills, and it seems to be a logical form of diversification for us. It is a business that is similar to our existing businesses, one in which we provide local hands-on management and one that has a dynamic, exciting future. Having successfully built and operated a cable system, we have experience outside the regulated public utility environment and a competitive, unregulated, market-driven world. Telephone, cable, and cellular are all capital-intensive, service-oriented businesses that use the latest in high technology.

We plan to construct the Eureka cellular system in mid-1989 and the _____ I-5 corridor system in 1990. We think that one of the strongest arguments in favor of us being a cellular operator is that we are very close to our customers. We know many of them on a first-name basis and they know us. If they want something that we are not providing or if they are unhappy with us, they are quick to let us know. This is as it should be. My home phone is listed in the directory, and they know where my office is. We have always worked hard to bring our isolated rural customers the latest in technology. They vote on the programming that we carry on their cable system. This genuine concern with our customers is why we have almost zero complaints from the California Public Utilities Commission.

Our customers want the high technology services that their urban cousins enjoy. They are excited about cellular and want to see us be their cellular company. We are concerned that overregulation of this new industry will delay us in providing this service and dramatically raise the cost that they will pay.

Based on our experience as a small independent telco regulated by the Cal. PUC, we would urge the State Legislature and the PUC to resist the urge to overregulate cellular. Much has been said about what is wrong with the duopoly structure of the cellular industry. But I submit that cellular in the nation as a whole and California in particular wouldn't be enjoying the phenomenal growth and customer acceptance that it has achieved if the carriers weren't doing an outstanding job.

The main complainers are the resellers. These people are riding the coattails of companies like PacTel, GTE Mobilnet, L.A. Cellular, and McCaw, without making the high capital investments that these carriers have had to make to build their systems. If they don't like the margins, why don't they become a MacDonalds or a Minute Lube franchisee. (Laughter.) Maybe the margins are better there.

"If it ain't broke, don't fix it," is good advice to those that would overregulate cellular. The trend in most of the states is not to regulate cellular or to regulate it very little. The two carriers in every market, there is every reason to believe that each will try to competitively position itself with the largest coverage, the best service, the lowest price, the most features. Those that complain about the high rates in California have not adequately compared the size of the expanded calling area with some other major metropolitan areas. Sure, the rates are higher in Los Angeles than in Portland, Oregon; but consider the difference in the millions of people and the number of square miles that are in the local calling area. It costs a lot of money to build and operate these huge systems, comparing again Los

Angeles with Portland. The customer is getting a lot more value for the higher price he is paying. The cost of regulation is ultimately borne by the customer.

Our cable system has minimal local, state, and federal regulation. Three employees serve the needs of 970 customers. That is one employee for each 323 customers. The cable company's cost to regulation, record keeping, and financial reporting is about the same as most small businesses.

The telco, on the other hand, has 47 employees, serving about 3,300 customers, which is about one employee for every 70 customers. Part of this 4.6 to 1 differential is a result of having local operators on duty 24 hours per day. But a lot of the differential is the result of record keeping and regulatory activities related to the California PUC, Pac Bell, AT&T, Necca(?), State Board of Equalization, and others.

Not many years ago, all of our tariff filing, regulatory and intercompany relations were handled by one man at the California Independent Telephone Association. This man not only took care of our needs, but those of almost all of the other small companies in California as well. We now have six employees that spend most of their time on these matters, as well as outside CPAs, attorneys, and management consultants. The cost of this activity is in excess of $100,000 per year or about $30 per customer per year. This equates to about three months of local telephone service.

I would invite anyone to conduct a poll of our customers that have both regulated telephone service and unregulated cable service to see if there is any difference in customer attitude about even the quality of service, choices available with the price of telephone versus cable. You would be polling the same customer served by the same company ownership. One is government regulated; one is not. The poll question: Does the customer believe that the $30 worth of regulation makes the telco service better or cheaper than its unregulated cable service?

SENATOR JOHN GARAMENDI: Loaded question. (Laughter.)

MR. HENDRIX: My guess would be that cable would win out, since the customer feels that he has some real local input and control over his cable service. An example of that is where we let him vote on programming services that we have while his telephone service is controlled by some faraway bureaucrats.

As we consider getting into cellular, I am far more scared about overregulation than competition. True competition is as all-American as baseball, hot dogs, and apple pie. But my local closeness to my customer, I can absolutely try in a truly competitive marketplace; but overregulation can strangle me. It can delay the day that I offer new technology to my customer. It can make me charge a much higher price to pay for these attorneys and consultants. It can force me to do business with one hand tied behind my back. It might even force me to reevaluate whether I even want to be in the cellular business in a rural area.

Mr. Chairman, I can tell you many stories of regulation that has gone astray. Let's not let thishappen with cellular.

In closing, on behalf of my future cellular customers, let me urge you not to make some of the regulatory mistakes of the past and seek to impose a regulatory or legislative repair on a new industry that is not broken.

I'll be glad to try to respond to your questions. Thank you.

CHAIRMAN ROSENTHAL: As you've indicated, there are some unique rural concerns that we should be aware of---as of FCC awards rural franchises.

The concern, I think, that the PUC has expressed was to increase competition, not lessen it. Business Week, the latest issue or one of the recent issues, reports that big independents like McCaw, for example, who is here, will try to buy up all those rural franchises. What do you think about that?

MR. HENDRIX: I think that you have to look at the situation where other wireline companies have bought out the non-wireline. You've already talked about that issue, and you just asked the question about McCaw. But I think you've got to remember that these non-wireline licenses in the rural area, when they changed the rules to permit a lottery, anyone that had $6,000 or $7,000 could go in and invest in an application to get in that lottery. I think there were 525 people applied in the non-wireline in our market. One of them was selected. That might have been a group of people. It might have been some local plumber that just as a gamble, like playing the lottery, decided, "Hey, I'm going to gamble this $6,000-7,000 on you; it might be worth a couple million dollars if I win it." That local plumber, I think it was a local plumber that won the Chico non-wireline franchise, I understand. He's not in a position to build a cellular system. He was just playing lottery. You've got to remember that. So it's only natural that someone like McCaw or GTE Mobilnet or somebody else is going to come along and try to buy that license from him because they have the expertise and capital and the wherewithal to build the system and then serve the customers. The guy that won the lottery probably doesn't have the ability to attract the capital. He doesn't have the management background, engineering background, etc.

CHAIRMAN ROSENTHAL: Maybe there's something wrong with the franchise system.

MR. HENDRIX: Well, I think the FCC was confronted with a big problem -- how were they going to select who the franchisee will be. Well, they decided just like they did in low power TV and some other areas that they were going to go to lottery. I mean, I don't know if that was good or bad, but they were confronted with a tremendous problem and a limited staff to deal with it, and that was their choice in the way to deal with the problem.

CHAIRMAN ROSENTHAL: Thank you very much, Mr. Hendrix.

MR. HENDRIX: Thank you.

CHAIRMAN ROSENTHAL: Our final panelist in this group is David Nelson, president of California Cellular Resellers Association.

MR. DAVID NELSON: I am also a partner in a reseller---largest reseller in California, which is Cellular Service Incorporated. Our company services 16,000 customers in the Los Angeles and San Diego area.

I guess I'm the lone person at this table to believe in regulation. I believe very strongly in regulation. I believe that carriers are making a lot of money. The LASMSA partnership limited on their wholesale level, and cellular carriers in California require to keep both wholesale and retail sets of books. On revenues of $98 million in 1987, they reported income before taxes of $58 million. They might be running their retail as _____ at a loss _____ they're losing 40 -- excuse me, it's $58 million in losses.

Resellers have to do a number of things for their margin, which is generally, we consider in the L.A. area, about 21 percent. We have to do the marketing and acquire the customers; and to do that, we have to have a set number of agents and that requires we pay a set of bounties(?). This is a significant cost to the cellular provider, whether it's facility-based or whether it's a reseller. I'll read you an example from the statement we furnished the PUC. It shows what the cost and what the cost is, being affected to the consumer.

It is generally agreed in Los Angeles that, for example, PacTel has approximately 80,000 retail customers, including its own _____ certificated resellers. In a churn rate, loss of customers brought 3 percent or 2,400 customers vis-a-vis a new customer add rate for approximately a 3.7 percent for 3,000 customers per month. The term "a new customer" counts as not only a first-time user of cellular, but also a customer of any retail entity who changes to any other retail entity, whether it be reseller or carrier.

At present, virtually every time a new customer is added to the PacTel system in Los Angeles, at least $200 is paid as a commission to the agent or dealer. The agents or dealers are usually people that own car stereo stores, especially phone stores, or they may be dealing with cellular-only providers.

The addition of 3,000 new customers per month means that an aggregate of $600,000 in up-front commissions are paid by retailers including PacTel who resells on their own LASMSA system. In addition, an average residual of 5 percent is paid to those dealers by cellular retail providers. That 5 percent of the average monthly bill per customer in Los Angeles of $142 adds an additional $640,000 --80,000 customers times 5 percent of $142 equals $7.10 is being paid by cellular providers to dealers each month. That's a total of $1.24 million per month or almost $15 million per year is being paid solely to buy customers, and this is on systems that people are saying are approaching capacity.

The Resellers Association frankly doesn't understand why we're going all(?) including resellers who are paying so much money to put customers on a system that's approaching capacity when we could probably lower rates. Resellers don't believe that the high rates should restrict access to the system. The rates should be lower; and if you have to restrict access on some other method, _____.

So we have almost $15 million paid to---in---just on LASMSA system each month to add new customers. We have not yet ever seen any wholesale competition. We have not seen any retail competition. The Resellers Association members are active in five major cities in California; we have not seen any reduction. We were very interested in the Sacramento case because we saw McCaw, who said they were losing money, come in to say, "We need to raise rates." We never---we protested it. We didn't find any justification based on what their filing was to raise rates. We also then saw the Sacramento Valley Limited Partnership raise rates. I can tell you that they were making money in 1987, and why should a rate increase when they're already making money.

The resellers are a form of rate competition. We all bought in the business on the rate competition. The one problem we have had is the competition seems to be for---for the distribution network but not for customers. Most resellers seem to operate a lot more efficiently than carriers do. Our average cost, expenses, are around 8 to 12 percent among members. And PacTel, GTE, and some of the other companies, it's in the neighborhood of 24 percent. Our marketing expenses tend to be in the 10 percent range; theirs tend to be in the 25 percent range.

CHAIRMAN ROSENTHAL: Well, thank you very much. There are some who have said that resellers were only allowed into this cellular business as a transition device to promote competition until the second franchise was established. Do you have any comments on that?

MR. NELSON: I think that was the idea of -- some people are talking, former FCC staff members, who don't believe that was true. Initially when there was just going to be the one provider and carrier, there was going to be entirely a wholesale operation by a carrier and retail providers would all be resellers. You might say the same is true for the local, the interexchange carriers, of which there are a number in California, which do compete successfully on long distance rates; and I would say that resales are a valuable tool to promote competition, and I would witness that that section of the telephone industry is an exempt.

CHAIRMAN ROSENTHAL: Anyone else? Any comments regarding Mr. Nelson's testimony? He was the only one here who thinks that there ought to be some regulation by the PUC in terms ...

SENATOR GARAMENDI: Apparently, the -- excuse me, Mr. Chairman. Apparently, the regulation you would be looking for would be the access to the system, or control of the wholesale cost?

MR. NELSON: We've looked at the finances of the carriers, and the actual cost of carrying a caller, equipment, plans, charges by the local exchange company, using the air time figure plus wire---actually the cost of carrying the wireline, we're looking at a cost that would be based on that, and we believe that cost would be, if we were to look at the finances of the carriers should be significant and reduced perhaps by 55 percent in the major markets. I'm not going to say that in smaller markets we don't have a problem in terms of cost to financing the system.

SENATOR GARAMENDI: How are the rates presently determined?

MR. NELSON: The rates are presently determined as a result of some PUC hearings held in 1982 and 1983. That's been the benchmark that I think carriers and resellers have used ever since, and there's been no reexamination. That's why we welcome the OII.

SENATOR GARAMENDI: And that is---you expect that to give you the new definition of what the wholesale rates ...?

MR. NELSON: We can certainly expect for ourselves and for the consumer that the consumer will benefit.

SENATOR GARAMENDI: How would you like regulation of the resale market?

MR. NELSON: There are numerous ways to regulate the resale market without going into additional or a lot of rate hearings. You could do it on a percentage margin. You could do it on a cost basis. We all file annual reports. The regulation of a reseller is just the same as a carrier except we don't have 100 percent of revenue to work with. We only have about 20 percent of it to work with. A set percentage margin would help.

Other than that, but I think a cost has to be determined -- what is actually the cost of carrying the cellular ....

CHAIRMAN ROSENTHAL: Would any of the other gentlemen at the table like to comment upon the reseller's problem?

MR. JASCHKE: I'd like to make some comments on that. I think that you need to put the reseller's

complaints into perspective. In California we have more resellers than any other state and country, and we have continued to see entry into the resale market, which indicates the competitiveness of that market and the viability of that market. Resellers have been able to exit the industry by selling their customer bases in California at substantial profits. I'm sure that Mr. Nelson could be a millionnaire many times over if he were to exit the industry. So these claims of unfair competition just don't stand up.

Furthermore, the resellers really do not have the investment and the capital that cellular providers have. He talks about getting only 20 percent of the revenue. He has zero percent of the capital investment. Comparing the resale industry to the carrier industry is like comparing IBM to the Computerlands. Resellers are an arm of distribution, one among many that the carriers use. And our focus is on making those distribution arms as efficient and productive as possible. We use resellers. We use direct sales. We use agents. We use resale chains like Tandy. And there's a variety of ways to get the product to the customer. We're concerned with getting it there as efficently as possible. Resellers in this market have done very well. There's no reason to regulate them. That's a perfectly competitive business. And a number of resellers that we have in there indicate that it's a very viable industry.

CHAIRMAN ROSENTHAL: Mr. Cecil.

MR. CECIL: I have a lot of respect for the resellers because their business is increasing, at least in our system, substantially. They're paying higher commissions than we are, generally speaking. New resellers are coming into the Los Angeles market. They're very creative _____. Mr. Nelson's _____ is just a little better than ours.

Since the resellers' complaints are generally related to what I think is a very honorable role in making more money, it seems to me that they're doing very well and there's a profit to be made there.

CHAIRMAN ROSENTHAL: Anybody else?

SENATOR GARAMENDI: What opportunity do the resellers have to negotiate with the supplier, with the wholesaler in this case?

MR. NELSON: It's all set by tariff.

SENATOR GARAMENDI: You have no ...?

MR. NELSON: None.

MR. CECIL: It's true that there's a tariff. It relates specifically to the _____. For example, they negotiate _____ by advertising dollars. And frankly, the bigger they are, the more important they are to the carriers. And there are all sorts of ways of providing compensation. So, as I said, I have a lot of respect for the little guy . I appreciate them and they're doing a darn good job for us. Really quite an excellent job.

CHAIRMAN ROSENTHAL: Mr. Dickson.

MR. DICKSON: Yes. I'd also like to point out that there is competition between carriers for the reseller business. Although the rates by which the resellers procure service are set by tariff, those prices differ. The wholesale tariff from one carrier to the next, and I can use GTE and Cellular One(?) and does a good example, are not identical and in fact _____ representative of the competition going on between the carriers for the resellers business.

CHAIRMAN ROSENTHAL: Okay. Just on one other subject, just briefly. Is it true that most

equipment being purchased now is either hands-free or dash-mounted?

MR. NELSON: We are selling entirely hands-free equipment.

CHAIRMAN ROSENTHAL: Pardon? Oh, yours is entirely hands-free?

MR. NELSON: _____, at least 96 percent.

CHAIRMAN ROSENTHAL: Most of your ...

MR. NELSON: Yes, substantially so, yes.

CHAIRMAN ROSENTHAL: Fine. Thank you very much, panel.

We will now break for lunch, and we will reconvene at 12:45 -- 45 minutes.

-- Lunch Recess --

CHAIRMAN ROSENTHAL: Are we missing one of our panelists? Is Paul Vinitsky ...?

(Inaudible comment.)

CHAIRMAN ROSENTHAL: Well, maybe he'll show up later.

Okay, this next panel will deal with some of the problems concerning cellular safety. We have ... shall we start?

(Inaudible comment.)

MR. GLEN ADAMS: I'm from Motorola. I'm Glen Adams.

(Inaudible comment.)

CHAIRMAN ROSENTHAL: Fine. Would you -- oh, there you are. Why don't you begin?

MR. ADAMS: Okay. Well, what we'd like to do is we've been asked to discuss some of the existing technology for safety as how it concerns cellular and the emerging technology. The existing technology from Motorola was to try to do some advances in a user friendly atmosphere, trying to make the user easier -- product easy to use in a car; thus, improve safety.

A couple of things that we've done in our projects: We have a totally cable free installation bracket, so the installation is user driven rather than hardware driven. What it does is allows the customer or the user to install a phone in a convenient manner anywhere he wants to. It's not driven by hardware or tied anywhere with cable, so we can put it in a much easier atmosphere.

A couple of the other things that we've done is what we call "super speed dialing". The fewer items---or the fewer numbers you can have a customer push or a user push, the easier it is for that phone. We can do super speed dialing by simply pushing "1" and "Send", and send what is area location number one. "21" and "Send" pushes whatever is in location number 21. Our hands-free -- we call it digital voice privacy---excuse me, digital hands-free. Our hands-free is, we feel, a superior product enhancing the use of hands-free which translates back to the safety issue.

I think the real technology that we want to talk about today is the new emerging technology called "digital voice caller" or voice recognition. It's a true hands-free, eyes-free calling device. You can drive down the road, tell the telephone to turn on. It'll ask you for the number you want to dial. You can say, "Office." It will dial the office and tell you that it did call. It's a very, very simple procedure; very, very easy. You can load 40 numbers of memory into it, 40 name locations into it. You can have two callers or two voice _____, so that two people could use it with 20 numbers each. Also, it's a very, very hazardous(?) atmosphere in the car itself. We have a speech processor in the device now, which

eliminates background noise. So the hands-free quality improves as well as the voice calling(?).

So we feel on the safety issues that we've taken some major, major leaps and bounds as far as safety. The user can now keep his eyes on the road and his hands on the wheel while he's using the new voice caller.

CHAIRMAN ROSENTHAL: Is that voice caller now available?

MR. ADAMS: Correct. We are shipping it within the last two weeks.

CHAIRMAN ROSENTHAL: What's the additional cost?

MR. ADAMS: We're looking at a price tag of about $250-300 on an existing telephone. Initial production run will be in new products ....

CHAIRMAN ROSENTHAL: I see. So it won't be---you won't be able to retrofit your present equipment?

MR. ADAMS: At the present time, that is true.

CHAIRMAN ROSENTHAL: Okay. Will it be sold from the shelf?

MR. ADAMS: Yes.

CHAIRMAN ROSENTHAL: All right. Anything else that you'd like to add? I understand that you can't demonstrate it in this building. But following, some of us will be able to see it.

MR. ADAMS: We'll have a demonstration in the circle right out in the front parking lot. We can demonstrate it in the car. It is not designed to work in a large conference room. We've been in the development stages for well over 2½ years on this product, and one of the real heartbreaks or the problems to make it work was to make it work and work well in an auto environment, which is a very harsh environment. There's background noise and wind noise and ozones(?). And we have finally come to the engineering point where we can put it on the marketplace with 95 percent plus accuracy.

CHAIRMAN ROSENTHAL: Okay. Thank you very much.

Our next witness will be Steve Marshall, representing Barry Shiller from the California State Auto Association.

MR. STEVE MARSHALL: Thank you very much, Senator. Presently, CSAA has two different functions which require mobile communications. Unfortunately, in neither of those do we presently employ cellular telephones. So our experience with cellular technology, corporately, if you will, is not existent. We have not compiled a statistical data concerning the use of cellular telephones by our membership, but we are presently gathering some information from the claims standpoint of our insurance branch to try and keep track what effect cellular telephones are having on increases in claims cost.

We did, in 1985, participate with the Highway Patrol in the study which I think Mr. Haworth will discuss _____.

CHAIRMAN ROSENTHAL: Fine. Any concern about safety raised from the members?

MR. MARSHALL: Not so far as we're aware; no, sir.

CHAIRMAN ROSENTHAL: That's your testimony? That's the extent of your testimony.

MR. MARSHALL: Yes, sir.

CHAIRMAN ROSENTHAL: If I had thought it was going to move this quickly, we would have gone

through lunch and forgotten about coming back.

(Inaudible comment.)

CHAIRMAN ROSENTHAL: Oh, yeah. Let me read a letter which appeared in the L.A. Times. The headline is "Car phones".

> Every time I see someone talking on the telephone while driving a car, I think that the world has finally gone completely crazy. As if we didn't have enough deaths and injuries on our streets and highways, now we have more and more people driving around with one hand on the wheel while their attention is distracted by their conversations with bosses, customers, brokers, wives, friends, lovers, or whomever.
>
> What if they need to make a left or right turn. How do they work the turn signal with the phone in one hand and the other hand on the steering wheel? Isn't it obvious that this is a dangerous innovation which should never have been allowed? How important are most of these conversations anyway?
>
> Before many more drivers add these new toys to the rest of the gadgets in their cars, we need a state law prohibiting the use of a telephone while driving a car. We probably can't prevent people from installing phones, but their use should be restricted to passengers when the car is in motion and the driver, only when the car is parked.

Any comment?

MR. MARSHALL: Only that we've had no concerns similar to those expressed by our membership in Northern California which I represent.

CHAIRMAN ROSENTHAL: Okay. Those are the kinds of things that we get calls on in our office. And maybe we only get it because the large volume is in Los Angeles. But I've often wondered about the same question myself as I'm out on the freeways, watching somebody with an instrument in their hand.

Okay, we'll now hear from Bob Haworth, Captain of the California Highway Patrol.

CAPTAIN BOB HAWORTH: Thank you, Senator. My name is Bob Haworth. I represent the California Highway Patrol. My responsibilities in the department is in charge of Operational Planning Section in Sacramento. That section was the office of primary interest within our department for the mobile telephone safety study that I'll discuss in just a moment.

Thank you for this opportunity to present and discuss the California Highway Patrol's (CHP) perspective on cellular telephone use and highway safety implications.

As you know, the primary objective of the CHP is the safe, lawful, and efficient use of the highways. The rapid expansion of cellular telephone use presents two new challenges to my department in carrying out this objective. Two central issues that we are currently addressing are safety awareness and public service enhancement. These two issues, safety and enhanced public service, are what I will discuss today.

The issue of safety. In 1986, the California Highway Patrol conducted a mobile telephone safety study. The impetus for that was Senate Concurrent Resolution No. 8 of 1985, which you authored. The study was to determine if there was any significant safety hazards associated with telephone use while driving a vehicle. There were basically four parts of that study. One included driver performance; another, crash worthiness; the exploring of data collection and analysis techniques to further determine use/safety relationships; and safety benefits through use of the cellular telephone.

The driver performance assessment was conducted using an interactive vehicle simulator. This involved 72 test subjects who conducted various cellular telephone tasks while driving a simulated vehicle in a simulated urban environment. The findings of that particular portion of the study were that when having to dial a---use a mobile telephone using a ten-digit number, where the number had to be entered manually, there was a potential safety hazard -- more hazardous and resulted in greater driver error than, saying, tuning in an automobile radio. Also, another finding: Manual dialing causes a higher degree of inattention than the tuning of a car radio. Memory and voice activated dialing presents less of a hazard than the tuning of a car radio. When the telephone was mounted on the dash, the probability of accident involvement was less than half than which could be expected with a center console-mounted telephone. And finally, hands-free operation showed no advantage over hand-held when answering the telephone. However, hands-free operation could be beneficial if an emergency arises while a conversation is in progress.

With regards to those findings, I thought it was interesting today to hear that 96 percent of mobile telephone sales now are hands-free operation, which tends to mitigate some of our earlier concerns with this study.

Although vehicle simulators produce a higher degree of driver error than actual highway driving, the relative hazard levels associated with different tasks should be the same on a simulator as on the highway.

The results of the vehicle simulation tasks provided no conclusive evidence that use of cellular telephones will result in an increased number of accidents in the real-world driving environment. Without studying accidents in detail, there is no way of measuring the actual traffic safety threat posed by manual dialing.

The crash worthiness assessment explored the potential hazards posed to vehicle passengers by cellular telephone devices. The findings, through literature research, indicated that a higher potential for injury does exist when a telephone is mounted on or near the dash. However, avoidance of an accident through use awareness and convenient mounting locations was determined to outweigh any added hazard associated with an instrument-caused injury.

With regards to data collection. We currently have no way of noting on our accident reports, at least in an automated format, whether or not a cellular telephone is installed in a vehicle. In order to do this, the study found that it would be extremely expensive; and the bottom line was that there would be no absolute correlation between cellular telephone use and the incidence of accidents.

CHAIRMAN ROSENTHAL: Let me ask a question at that point. Is there any place for an officer to report if they believe the accident may have been caused by a car phone?

CAPTAIN HAWORTH: Certainly, in the summary, which would require -- a summary is a written narrative after the face page -- which would require in-depth review at the office after each of these accident reports was submitted. It could be done.

CHAIRMAN ROSENTHAL: Were there any indication that there might have been some accidents caused by the use of the telephone?

CAPTAIN HAWORTH: We have no information at this time that there were.

I would now like to address the safety benefits of cellular telephone use. This information represents an update on the preliminary findings of the mobile telephone safety study.

As many of you are no doubt aware, 911 emergency calls from cellular telephones are routed directly to one of six CHP dispatch centers throughout the state. An analysis of mobile cellular telephone 911 calls received by the Highway Patrol shows that use of these telephones in emergency situations represents a primary traffic safety benefit. The number of mobile cellular 911 calls received by the CHP has significantly increased since the industry began providing this toll-free service. In 1987, the CHP received over 171,000 cellular 911 calls. For the first nine months of 1988, this figure was more than 233,000. So anticipated at the end of this year that we will be in upwards of 275,000-300,000 calls.

CHAIRMAN ROSENTHAL: Let me ask you a question at that point. Of this number, have you determined how many may be duplicate calls? For example, the one accident may bring in a dozen phone calls. What happens if the system is so overworked to the point that other emergencies may not be reported?

CAPTAIN HAWORTH: That is a factor as far as the system being overworked, and we do not have any correlation on the number of duplicate calls. One of the reasons for this is the Los Angeles Communications Center at this time is the only computer-aided dispatch that we have that may have that capability; the five are not at this time, the five other dispatch sites. In the future, that would be a capability that we will have. We just don't have it at this time.

And I might add that the answering points might be anywhere from two to five places within a dispatch center, depending on its size, so it's hard to put that all together at this time.

CHAIRMAN ROSENTHAL: Okay. So nobody's complaining about not getting through?

CAPTAIN HAWORTH: No. Those calls are answered on a priority basis.

One recommendation of the mobile telephone safety study was an ongoing cellular telephone safety public awareness campaign. A well-planned, effective public awareness campaign has the potential to not only incrase the use of celluar telephones for reporting emergencies, but also to decrease the probability of traffic accidents caused by inattention to driving during cellular telephone use.

In April 1988, the CHP published a pamphlet entitled, "Cellular Mobile Telephone Safety Tips". I have a copy of this pamphlet. Basically, this provides safety information for motorists. They are available at all of our offices throughout the state. We have made these available to private industry, the cellular telephone industry for dissemination to _____.

CHAIRMAN ROSENTHAL: So you are working with the industry then in terms of safety?

CAPTAIN HAWORTH: Absolutely.

CHAIRMAN ROSENTHAL: How about the car rental places?

CAPTAIN HAWORTH: In researching our files on who we've disseminated this to, I don't recall that we have sent it by letter to the car rental agencies. However, we are currently developing a list of the entire industry, major providers, and the rental companies, and sending them a copy of this particular pamphlet, encouraging them to reproduce it if necessary to disseminate it.

CHAIRMAN ROSENTHAL: One of the concerns I've had in the past about the car rental, using myself as a subject, whenever you get into a car that you've rented, which is different than the car you've

been driving, there's a certain period of time to find out where everything is in that car. Similarly, if you go from your own car where you might have a cellular telephone to one which is different than yours in the other car might also be a---some period of time before you become acclimated to that new equipment, which is the reason that I tried to deal with car rentals in terms of being somewhat different than driving your own car in which you're much more familiar with how it responds to whatever gadget you're monkeying with. Do you have any ...? Different city, nighttime, different kind of automobile than you've been driving.

CAPTAIN HAWORTH: Well, I think it's a valid concern. Certainly that was pointed out in our study that we did in 1985. That was that familiarity with the equipment tended to reduce the amount of driver error. And when you're unfamiliar with something, naturally your inattention goes up and it could be an additional hazard.

It should be of interest to the Committee that the Highway Patrol has furthered their effort in conducting a public awareness program. We have sought through the 1989-90 budget process a budget change proposal for $60,000. This is currently approved by the Department of Finance, and we anticipate that it will be part of the Governor's budget. This money will be used to provide additional pamphlets such as this, maybe not in that format. But even more importantly, we intend to produce several television and radio public service announcement tapes for dissemination throughout the state.

I might add in summary, two programs that we currently have ongoing in the department where we have operationally recognized the benefits of cellular telephones. For the past year and a half, three telephones have been installed in division commanders' cars in three locations in the state to enhance their capabilities of managing their particular commands. Preliminary information on that assignment of telephones has been very positive. In fact, we anticipate that we will expand that distribution of equipment.

CHAIRMAN ROSENTHAL: Commissioner Smith has been very cooperative in this whole effort. I hope the new commissioner, because I understand Mr. Smith is retiring.

CAPTAIN HAWORTH: Yes. And finally, one last program that we have in the department where we're going to further utilize cellular telephones because we recognize the benefits operationally is that through asset forfeiture money, we are conducting a project in the next two years where we will purchase 60 telephones, distribute them through commands throughout the state. And the purpose of that will be to enhance our ability to manage emergency incidents on the highway. Those telephones will be assigned to our supervisor cars in those locations in the state that have cellular telephone capability now.

As I have previously stated, the primary objective of the CHP is insuring the safe use of highways. It is our belief that by working together, the Highway Patrol and the cellular telephone industry can maximize the benefits of cellular telephone use while minimizing the potential hazards. Public awareness and development of telephones which are safe to use are the keys to achieving these goals. We are committed to working toward these goals with private industry.

Thank you.

CHAIRMAN ROSENTHAL: Thank you very much, Mr. Haworth. The other members, I think, went on to other activities.

We'll hear now from Paul Vinitsky, Vice President, Special Projects, Budget Rent-a-Car of Southern California.

MR. PAUL VINITSKY: Good afternoon, Senator. We find -- I also represent an organization, the state organization of the Car and Truck Rental and Leasing Association, called CATRAL. I am on the board there, and I have the opportunity to discuss some of these matters with other companies such as Hertz, Avis, National, etc.

Our finding, of course, is that the majority of cellular phones are rented either at the airport locations or such special areas such as Beverly Hills; and most of those people who are using the cellular phones, of course, are business people, professional people, who have had the experience, have their own or have experience, rather than just a tourist who in isolated cases would come in and use the phone. Even under those conditions, we do offer an instruction chart. We make sure that the customer is familiar with the phone. And if there's any questions, we go through and explain it to them.

We have no knowledge of any particular problems or accidents, really to any degree at all, because of the use of the cellular phone. It does serve as a very important function to many of these people who do come in from out of town; and obviously, they can use the phone rather than have to stop someplace and their opportunity to make their contacts before they go to the next place. So we find that there is very definitely a very important need and a use, and most of these phones are a portable type of which they can use them either in the car; at the same time, they can take them out and use them even from their hotel rooms in certain places or at certain business locations.

CHAIRMAN ROSENTHAL: You do---you advertise their use though in your ...?

MR. VINITSKY: Yes, we all advertise that the phones are available.

CHAIRMAN ROSENTHAL: And you do provide some operating instructions?

MR. VINITSKY: Yes, we have an instruction chart and a picture of it and how they -- I think you find most of the phones still have basic areas of which how to operate them. So, as you say, it's just the location or something like that. And they seem to pick up on it very rapidly without any basic problems.

CHAIRMAN ROSENTHAL: So you've not had any problems with ...?

MR. VINITSKY: We've had no problems at all, Senator.

CHAIRMAN ROSENTHAL: I want to thank the panel for their presentation.

At this time, I'd like to offer the microphone to anybody in the room that would like to add something. I don't think we have any consumer groups that are organized yet, pro and con; but that may be something in the future.

I think that the Legislature and the Commission probably just want to keep some oversight to make sure that everything is working out, so I'm not sure if we'll keep a hands-free view of the cellular telephone for the next few months and years. But it's been a number of months since we've looked at the subject. I've carried legislation dealing with some of it. I don't have anything in mind right now, but I don't know what will happen after the PUC looks at you.

I appreciate everyone coming. And if no one has anything further to add, either in rebuttal or in confirmation, the hearing is adjourned.

ADDENDA

Written testimony submitted at time of hearing:

California Highway Patrol, Captain Robert Q. Haworth, witness.

GTE Mobilnet of California, John P. Kelley, General Manager, Pacific Region, witness.

LIN Cellular Communications Corporation, Robert Cecil, President, witness.
LIN is a Partner in Los Angeles Cellular Telephone Company, ("L.A. Cellular").

CALIFORNIA HIGHWAY PATROL
CAPTAIN ROBERT Q. HAWORTH
SENATE COMMITTEE ON ENERGY
AND PUBLIC UTILITIES - INTERIM HEARING

LOS ANGELES, CALIFORNIA
DECEMBER 12, 1988

CELLULAR CAR TELEPHONES - PROGRESS AND PROBLEMS OF THE GROWING COMMUNICATIONS TECHNOLOGY

THANK YOU FOR THIS OPPORTUNITY TO PRESENT AND DISCUSS THE CALIFORNIA HIGHWAY PATROL'S (CHP) PERSPECTIVE ON CELLULAR TELEPHONE USE AND HIGHWAY SAFETY IMPLICATIONS.

THE PRIMARY OBJECTIVE OF THE CHP IS THE SAFE, LAWFUL, AND EFFICIENT USE OF THE HIGHWAYS. THE RAPID EXPANSION OF CELLULAR TELEPHONE USE PRESENTS NEW CHALLENGES TO MY DEPARTMENT IN CARRYING OUT THIS OBJECTIVE. TWO CENTRAL ISSUES THAT WE ARE CURRENTLY ADDRESSING ARE SAFETY AWARENESS AND PUBLIC SERVICE ENHANCEMENT. THESE TWO ISSUES, SAFETY AND ENHANCED PUBLIC SERVICE, ARE THE SUBSTANCE OF MY PRESENTATION TODAY.

FIRST, THE ISSUE OF SAFETY.

IN 1986, THE CHP CONDUCTED A STUDY TO DETERMINE THE TRAFFIC SAFETY IMPLICATIONS OF INCREASED CELLULAR TELEPHONE USE. THE STUDY ADDRESSED A NUMBER OF CELLULAR TELEPHONE USE ASPECTS IN ATTEMPTING TO DETERMINE WHETHER SAFETY WAS A LEGITIMATE CONCERN. DIFFERENT FACETS OF THE STUDY INCLUDED: DRIVER PERFORMANCE EVALUATION, CRASH WORTHINESS, EXPLORING DATA COLLECTION AND ANALYSIS TECHNIQUES TO FURTHER DETERMINE USE/SAFETY RELATIONSHIPS, AND SAFETY BENEFITS THROUGH USE OF THE CELLULAR TELEPHONE.

THE DRIVER PERFORMANCE ASSESSMENT WAS CONDUCTED USING AN INTERACTIVE VEHICLE SIMULATOR, DESIGNED TO PRESENT DRIVERS WITH SITUATIONS AND TASKS COMPARABLE TO THOSE ENCOUNTERED IN URBAN DRIVING DURING COMMUTE HOURS. SEVENTY-TWO DRIVERS HAD

THEIR PERFORMANCE TESTED WHILE USING MOBILE CELLULAR TELEPHONES IN A VARIETY OF WAYS. THE CONCLUSIONS REACHED IN THIS PORTION OF THE STUDY WERE THE FOLLOWING:

- MANUAL DIALING CAUSES A HIGHER DEGREE OF INATTENTION THAN THE TUNING OF A CAR RADIO.

- MEMORY AND VOICE ACTIVATED DIALING PRESENTS LESS OF A HAZARD THAN THE TUNING OF A CAR RADIO.

- WHEN THE TELEPHONE WAS MOUNTED ON THE DASH, THE PROBABILITY OF ACCIDENT INVOLVEMENT WAS LESS THAN HALF THAT WHICH COULD BE EXPECTED WITH A CENTER CONSOLE MOUNTED TELEPHONE.

- HANDS-FREE OPERATION SHOWED NO ADVANTAGE OVER HAND-HELD WHEN ANSWERING THE TELEPHONE. HOWEVER, HANDS-FREE OPERATION COULD BE BENEFICIAL IF AN EMERGENCY ARISES WHILE A CONVERSATION IS IN PROGRESS.

ALTHOUGH VEHICLE SIMULATORS PRODUCE A HIGHER DEGREE OF DRIVER ERROR THAN ACTUAL HIGHWAY DRIVING, THE RELATIVE HAZARD LEVELS ASSOCIATED WITH DIFFERENT TASKS SHOULD BE THE SAME ON THE SIMULATOR AS ON THE HIGHWAYS.

THE RESULTS OF THE VEHICLE SIMULATION TASKS PROVIDED NO CONCLUSIVE EVIDENCE THAT USE OF CELLULAR TELEPHONES WILL RESULT IN AN INCREASED NUMBER OF ACCIDENTS IN THE REAL-WORLD DRIVING ENVIRONMENT. WITHOUT STUDYING ACCIDENTS IN DETAIL, THERE IS NO WAY OF MEASURING THE ACTUAL TRAFFIC SAFETY THREAT POSED BY MANUAL DIALING.

THE CRASH WORTHINESS ASSESSMENT EXPLORED THE POTENTIAL HAZARDS POSED TO VEHICLE PASSENGERS BY CELLULAR TELEPHONE DEVICES. THE FINDINGS, THROUGH LITERATURE RESEARCH, INDICATED THAT A HIGHER POTENTIAL FOR INJURY DOES EXIST WHEN A TELEPHONE IS MOUNTED ON OR NEAR THE DASH. HOWEVER, AVOIDANCE OF AN ACCIDENT THROUGH USE AWARENESS AND CONVENIENT MOUNTING LOCATIONS WAS DETERMINED TO OUTWEIGH ANY ADDED HAZARD ASSOCIATED WITH AN INSTRUMENT-CAUSED INJURY.

WITH REGARDS TO ADDITIONAL DATA COLLECTION:

THE HIGHWAY PATROL REALIZES THAT FURTHER RESEARCH IS NEEDED TO ASSESS THE POTENTIAL SAFETY HAZARDS ASSOCIATED WITH CELLULAR USE IN THE REAL-WORLD DRIVING ENVIRONMENT. HOWEVER, CONSIDERING THE MULTITUDE OF FACTORS CAUSING DRIVER INATTENTION, IT WOULD BE VERY DIFFICULT TO ISOLATE CELLULAR TELEPHONE USAGE AS A SIGNIFICANT CAUSE OF ACCIDENTS. IT

WOULD BE DIFFICULT BUT POSSIBLE, VIA HAND-SEARCHING THE MASS OF FUTURE TRAFFIC COLLISION REPORTS, TO KEEP TRACK OF THE NUMBER OF TRAFFIC COLLISIONS IN WHICH INVOLVED VEHICLES CONTAINED CELLULAR TELEPHONES. WHILE THIS COULD BE DONE, IT WOULD BE VIRTUALLY IMPOSSIBLE TO POSITIVELY CORRELATE USE OF THE CELLULAR TELEPHONES WITH CAUSATIVE COLLISION FACTORS. THE STUDY CONCLUDED THAT IT WOULD BE VERY DIFFICULT AND COSTLY, SEVERAL HUNDRED THOUSAND DOLLARS, TO DETERMINE IF A SUBSTANTIATED RELATIONSHIP EXISTS BETWEEN USE AND SAFETY.

I WOULD NOW LIKE TO ADDRESS THE SAFETY BENEFITS OF CELLULAR TELEPHONE USE. THIS INFORMATION REPRESENTS AN UPDATE ON THE PRELIMINARY FINDINGS OF THE MOBILE TELEPHONE SAFETY STUDY.

AS MANY OF YOU ARE NO DOUBT AWARE, 911 EMERGENCY CALLS FROM CELLULAR TELEPHONES ARE ROUTED DIRECTLY TO ONE OF SIX CHP DISPATCH CENTERS THROUGHOUT THE STATE. AN ANALYSIS OF MOBILE CELLULAR TELEPHONE 911 CALLS RECEIVED BY THE HIGHWAY

PATROL SHOWS THAT USE OF THESE TELEPHONES IN EMERGENCY SITUATIONS REPRESENTS A PRIMARY TRAFFIC SAFETY BENEFIT. THE NUMBER OF MOBILE CELLULAR 911 CALLS RECEIVED BY THE CHP HAS SIGNIFICANTLY INCREASED SINCE THE INDUSTRY BEGAN PROVIDING THIS SERVICE TOLL-FREE. IN 1987, THE CHP RECEIVED OVER 171,000 CELLULAR 911 CALLS. FOR THE FIRST NINE MONTHS OF 1988, THIS FIGURE WAS MORE THAN 233,000.

ONE RECOMMENDATION OF THE MOBILE TELEPHONE SAFETY STUDY WAS AN ON-GOING CELLULAR TELEPHONE SAFETY PUBLIC AWARENESS CAMPAIGN. A WELL PLANNED, EFFECTIVE PUBLIC AWARENESS CAMPAIGN HAS THE POTENTIAL TO NOT ONLY INCREASE THE USE OF CELLULAR TELEPHONES FOR REPORTING EMERGENCIES, BUT ALSO TO DECREASE THE PROBABILITY OF TRAFFIC ACCIDENTS CAUSED BY INATTENTION TO DRIVING DURING CELLULAR TELEPHONE USE.

IN APRIL 1988, THE CHP PUBLISHED A PAMPHLET ENTITLED, "CELLULAR MOBILE TELEPHONE SAFETY TIPS". AS YOU CAN SEE, THIS PAMPHLET COVERS TIPS ON OPERATING CELLULAR TELEPHONES SAFELY, AS WELL AS THE PROPER METHOD FOR REPORTING EMERGENCIES BY DIALING 911. THIS PAMPHLET IS AVAILABLE AT ALL HIGHWAY PATROL OFFICES THROUGHOUT CALIFORNIA. ADDITIONALLY, THE CHP HAS BEEN WORKING WITH THE CELLULAR TELEPHONE INDUSTRY TO EXPLORE OTHER WAYS OF PROMOTING THE SAFE USE OF CELLULAR TELEPHONES.

IT SHOULD BE OF INTEREST TO THE COMMITTEE THAT THE CHP IS PURSUING FUNDING FOR AN EXPANDED PUBLIC AWARENESS PROGRAM FOR CELLULAR TELEPHONES. WE HAVE SUBMITTED A BUDGET CHANGE PROPOSAL FOR THE 1989/90 FISCAL YEAR TO IMPLEMENT THIS DESIRE. THE DEPARTMENT OF FINANCE HAS RECOMMENDED THE $60,000 REQUEST BE APPROVED AND INCLUDED IN THE GOVERNOR'S

BUDGET. THIS FUNDING WILL BE UTILIZED, IN COOPERATION WITH THE CELLULAR TELEPHONE INDUSTRY, TO EDUCATE THE PUBLIC IN MAKING MEANINGFUL, EFFICIENT, AND SAFE CALLS. THE CHP RECOGNIZES THAT CELLULAR TELEPHONES WILL HAVE A SIGNIFICANT IMPACT ON MOTORIST LIFE STYLES AND OUR ABILITY TO PROVIDE MAXIMUM BENEFIT THROUGH PATROL SERVICES.

WE BELIEVE IT IS OF ADDITIONAL INTEREST TO THE COMMITTEE HOW THE CHP PLANS TO USE CELLULAR TELEPHONES FOR OUR OWN OPERATIONAL PURPOSES. FOR THIS REASON, I OFFER THE FOLLOWING SUMMARY OF OUR PLANS.

WE ARE IN THE FINAL STAGES OF A STUDY OF CELLULAR TELEPHONES WHICH WERE INSTALLED IN THREE FIELD DIVISION CHIEFS' VEHICLES. THE FINAL CONCLUSIONS HAVE, AS YET, NOT BEEN FORMULATED; HOWEVER, INITIAL FINDINGS INDICATE THE CELLULAR

TELEPHONES PROVED VERY BENEFICIAL IN THAT THEY PROVIDED THE CHIEFS WITH EXTENDED ACCESS TO THEIR COMMANDS, HEADQUARTERS AND ALLIED AGENCIES.

AT PRESENT, COMMUNICATIONS FROM CHP UNITS ARE LIMITED TO RADIO TRANSMISSIONS BETWEEN DISPATCH CENTERS AND OTHER FIELD UNITS. REQUESTS FOR ALLIED AGENCY ASSISTANCE, TOW TRUCKS, AND SPECIALIZED SERVICES MUST BE RELAYED BY THE DISPATCH CENTER. THIS PROCESS CAN BE PARTICULARLY CUMBERSOME WHEN MANAGING EMERGENCY RESPONSE AT LARGE - SCALE EMERGENCY INCIDENTS.

CELLULAR TELEPHONES IN SUPERVISORY PATROL CARS WOULD ALLOW DIRECT COMMUNICATION BETWEEN THE EMERGENCY INCIDENT SCENE MANAGER AND THE REQUESTED PROVIDER OF SERVICES. DIRECT TELEPHONE COMMUNICATIONS COULD REDUCE RESPONSE TIMES AND

SPEED REMOVAL OF TRAFFIC OBSTRUCTIONS BY ALLOWING THE SCENE MANAGER TO REQUEST SPECIFIC EQUIPMENT AND PERSONNEL NEEDS AT THE SCENE.

THE HIGHWAY PATROL IS IN THE PROCESS OF DEVELOPING A PILOT PROJECT, WHEREBY PORTABLE CELLULAR TELEPHONES WILL BE PROVIDED TO SELECTED HIGHWAY PATROL AREA OFFICES. THE CRITERIA FOR SELECTION OF THE FIELD OFFICES WERE METROPOLITAN AREAS WHICH EXPERIENCE A HIGH DEGREE OF ROUTINE TRAFFIC CONGESTION, AND OF COURSE, WHICH HAVE CELLULAR CAPABILITIES. THE FIELD SERGEANTS WILL USE THESE TELEPHONES FOR THE MANAGEMENT OF EMERGENCY INCIDENTS AND CONGESTION. WE WILL STUDY THE USE OF THE CELLULAR TELEPHONES FOR ONE YEAR TO DETERMINE THEIR EFFECTIVENESS. AT THE END OF THE STUDY PERIOD, RECOMMENDATIONS WILL BE MADE REGARDING THE ADVISABILITY OF PROVIDING CELLULAR TELEPHONES STATEWIDE IN ALL AREA OFFICES.

AS I HAVE PREVIOUSLY STATED, THE PRIMARY OBJECTIVE OF THE CHP IS INSURING THE SAFE USE OF HIGHWAYS. IT IS OUR BELIEF THAT BY WORKING TOGETHER, THE HIGHWAY PATROL AND THE CELLULAR TELEPHONE INDUSTRY CAN MAXIMIZE THE BENEFITS OF CELLULAR TELEPHONE USE WHILE MINIMIZING THE POTENTIAL HAZARDS. PUBLIC AWARENESS AND DEVELOPMENT OF TELEPHONES WHICH ARE SAFE TO USE ARE THE KEYS TO ACHIEVING THESE GOALS. WE ARE COMMITTED TO WORKING TOWARD THESE GOALS.

AGAIN, THANK YOU FOR THIS OPPORTUNITY TO PRESENT THE CHP PERSPECTIVE ON CELLULAR TELEPHONES. I WILL BE HAPPY TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.

BEFORE THE SENATE COMMITTEE ON ENERGY

AND PUBLIC UTILITIES

COMMENTS OF GTE MOBILNET OF CALIFORNIA LIMITED PARTNERSHIP AND GTE MOBILNET OF SANTA BARBARA LIMITED PARTNERSHIP

JOHN P. KELLY
GENERAL MANAGER -
PACIFIC REGION
3857 Breakwater Avenue
Hayward, CA 94545

Dated: December 12, 1988

Good morning Mr. Chairman and members of the committee, and thank you for giving me this opportunity to comment on the current status of the growing cellular industry, as well as comment on the future opportunities and challenges that face us all as this technology continues to grow in use. My name is John Kelly and I am the Pacific Region General Manager for GTE Mobilnet.

My comments today will focus on three principal areas:

1) An overview of GTE Mobilnet and its cellular operations nationwide
2) Discussion of the status of GTE Mobilnet's California operations
3) Future issues that will affect GTE Mobilnet in California

Prior to beginning, let me give a brief overview of my background. I joined GTE Mobilnet in 1983 as Operations Manager for the San Francisco/San Jose greater metropolitan areas. In this capacity I was responsible for overseeing development and construction activities in this area through the time that the cellular network became commercially available April 2, 1985. After this time my role expanded to include operating the San Francisco/San Jose cellular network. In August of 1985 I was transferred to GTE Mobilnet's Headquarters in Houston, Texas where I held the positions of Manager - Market Development and Director - Market Development. Both positions were primarily responsible for developing product, promotion, and distribution plans for GTE Mobilnet's cellular markets nationwide. I assumed my current position of General Manager

- Pacific Region in June of 1987, after GTE Mobilnet re-organized the company forming four regions each with the responsibility for engineering, operations, marketing and customer service for their respective serving areas.

I. GTE Mobilnet Incorporated with headquarters in Houston, Texas is a wholly owned subsidiary of GTE Corporation headquartered in Stamford, Connecticut. GTE Mobilnet is in the business of providing cellular service, with operations in cities nationwide. GTE Mobilnet is not a part of General Telephone Company of California (GTC) and is not affiliated with GTC in any way other than through a common parent.

GTE Mobilnet currently operates cellular systems in nine states, including; Hawaii, Oregon, Washington, California, Indiana, Ohio, Pennsylvania, Florida and Texas. The company is divided into four regions; Pacific Region - with operations in Hawaii, Oregon, Washington and California; Midwest Region - with operations in Indiana, Ohio and Pennsylvania; Florida Region - with operations in Florida; Texas Region - with operations in Texas.

In California, GTE Mobilnet Incorporated is the General Partner in two limited partnerships. The GTE Mobilnet of California Limited Partnership operates cellular systems in the following Metropolitan Statistical Areas (MSA's):

MSA	Date On-Line
San Francisco - Oakland	4/2/85
San Jose	4/2/85
Santa Cruz - Watsonville	8/8/87
Monterey-Seaside-Salinas	8/17/87
Napa-Fairfield-Vallejo	4/7/87
Santa Rosa - Petaluma	5/22/87

GTE Mobilnet of Santa Barbara Limited Partnership operates the cellular system in the Santa Barbara MSA which came on line 11/30/87.

II. As of December 1, 1988, the cellular network in the greater San Francisco Bay Area covered approximately 6000 square miles, using 64 cell sites. This is more than three times the coverage area, and almost 5 times the number of cell sites that were originally active just a little more than 3 1/2 years ago when the system first became commercially available. This expansion to the network has provided twice the local calling area (the area in which a cellular telephone may call without incurring any toll charges) from what it was on April 2, 1985.

The cellular network in Santa Barbara covers almost 1000 square miles from 5 cell sites.

The aggressive expansion of the cellular network in the greater Bay Area was for three reasons:

- Increased number of licensed serving areas
- Quality objectives of GTE Mobilnet
- Growth in subscribers

Interestingly, at this point in time, the growth in the number of subscribers has not been the only reason for expanding the cellular network. An important issue facing cellular carriers who serve metropolitan areas along California's rugged coastline, has been providing quality transmission to the subscribers they serve. Unlike serving flat terrain where a radio signal continues for miles unobstructed, the California coastline presents numerous challenges to radio engineers. The

mountainous terrain directly impacts the number of cell sites required to serve a geographic area. When a cellular system is first built in this type of terrain, the top of mountains can sometimes be used affording greater coverage from a single cell site. This is possible because the number of subscribers using the network in the early days does not require the reuse of the frequency spectrum granted by the FCC. As the number of subscribers increases, and the need to reuse frequencies occurs, it becomes necessary to remove high cell sites and replace them with many more lower cell sites. This requirement to lower the height of the cell sites is necessary so that common frequencies used by more than one cell site do not interfere with each other rendering an unacceptable call quality.

When sites are lowered off the top of mountains and are no longer looking down on the entire area being served, and are instead closer to ground level with a more limited "line-of-sight", the phenomenon called "dead spots" occurs. This is the situation where a particular area has limited or no radio signal reaching it, making it difficult or impossible to complete a call, or retain a call in progress. This occurs because the area is usually obstructed by a land mass from a neighboring cell site, and as such does not receive the radio signal being transmitted by the site.

This phenomenon occurs regularly in the commercial broadcast industry (radio and television) when broadcasting to an area of mountainous terrain. Though annoying in these instances, it is totally unacceptable in the cellular telephone industry because users have come to rely on their mobile telephones as extensions of their office or home telephones. To render the highest quality

cellular transmission, while ensuring adequate channels to accomodate the growing number of subscribers, necessitates adding cell sites at a more rapid rate than in systems of relatively flat terrain. This is not without its cost, making cellular systems in California among the most capital intensive in the U.S..

While continuing to improve the quality and scope of cellular service to its subscribers, GTE Mobilnet has continued to add value to the basic network by introducing numerous new services.

Added services in GTE Mobilnet's cellular markets include:

- Follow-Me Roaming Service
- Voice Mail Service
- Driver Guide Service (Northern California only)

With Follow-Me-Roaming service, the difficult task of calling a cellular telephone when out of its home area is made simple. In the past, when a cellular user left his home area and traveled to a distant city also served by a cellular carrier, it was usually not too difficult for that user to place outgoing calls. Incoming calls, however, were another story. Someone trying to call this "roaming" cellular telephone user would first have to know what city this roamer traveled to, then would need to know the "roamer access code" for this distant city. Armed with this information, and a general knowledge of how to use it, the calling party could then attempt the call to the cellular subscriber who was roaming. Naturally, the most difficult component for the cellular subscriber was

in notifying all interested parties about where he was traveling to and what the roamer access code was. Typically, only a few people were ever notified resulting in few if any incoming calls while roaming.

With Follow-Me Roaming the cellular user's calls automatically "follow" the user to whichever city he has traveled to. GTE Mobilnet has developed the hardware and software that allows different subscribing cellular systems to communicate with each other. This allows incoming calls to cellular users that are roaming to be as simple as calling the user in the home area. Whenever a cellular user travels to a distant city that is part of the Follow-Me-Roaming network, he has the choice of "registering" by simply dialing three digits on his cellular telephone. By registering, the distant city notifies the home city of the location of the user, and from that point all calls to the cellular user's ten digit cellular number are forwarded to the distant city. In this way a calling party to a cellular user outside of his home area simply calls the normal 7 or 10 digit cellular number, then lets the cellular network find the user in the distant city.

Voice Mail service allows any GTE Mobilnet subscriber the option of having an "answering machine" hooked up to his/her cellular phone. If the cellular user is away from their phone they simply activate the Voice Mail service. All incoming calls will then be greeted by a personal message instructing the calling party to leave a message of up to three minutes in length. When the cellular user returns to his cellular phone, he simply retrieves all messages left while he was away.

One more example of adding value to the basic network service, is a service called Driver Guide available exclusively to cellular subscribers on the GTE Mobilnet network in Northern California. By dialing *MAP (*627) on their cellular telephone, a subscriber is connected to the Driver Guide bureau where an operator will give detailed directions between any two points in the Bay Area. There is no premium charge for this service, and only normal airtime rates apply.

III. The future holds alot of promise for the cellular industry in California, but there are numerous challenges that will have to be met. The primary challenge that faces cellular carriers in the major metropolitan markets in California is expanding the network to accomodate the growing subscriber base with the best quality network. Two things will impact this issue:

- Availability of cell sites
- Technological advances

The first issue speaks to the desire of most communities to have quality network service available in their area, without having any of the trappings of this technology visible in their area. In an age where more and more communities are requesting that all utility service be buried and out of view, it has become increasingly difficult for cellular carriers to acquire and build cell sites. Zoning difficulties emerge as more cell sites are built to accomodate growth and quality, and delays of up to three years in obtaining approval to build cell sites have occurred.

With the continued penetration of lower wattage portable cellular telephones, this issue will become more visible, as more sites are required in the future. It will no longer be possible to always locate a site in an industrially or commercially zoned area. Communities will be faced with the issue of locating a cell site in residential areas, or suffer degradation in service.

As subscriber growth continues, the need for more efficient use of the allocated radio spectrum will be necessary. The cellular industry is today analyzing the next step in the deployment of cellular technology; utilizing digital radio transmission as opposed to today's analog radio transmission. Migrating to digital radio technology will allow more subscribers to utilize each available radio frequency, making it possible for the cellular network to accomodate more subscribers. The introduction of digital technology holds a number of challenges, not the least of which is the network plans required to deploy this technology in the most cost efficient manner.

The number of cellular subscribers in California has seen solid growth since its inception, and the industry has grown with it. As in any new industry, periodic reassessment of the issues, such as that being done today, is important to insure the industry is on the right track. GTE Mobilnet is proud to be part of the cellular industry in California, and will continue to work to provide the highest quality, most cost effective service to its subscribers.

Respectfully submitted,

GTE Mobilnet of California
Limited Partnership
GTE Mobilnet of Santa Barbara
Limited Partnership

By 

John P. Kelly
General Manager -
Pacific Region
3857 Breakwater Avenue
Hayward, CA 94545
(415) 783-9200

STATE OF CALIFORNIA

SENATE COMMITTEE ON ENERGY AND PUBLIC UTILITIES

Interim Hearing

Monday, December 12, 1988

TESTIMONY OF ROBERT CECIL

I am President of LIN Cellular Communications Corporation, which is a partner in Los Angeles Cellular Telephone Company ("L.A. Cellular"). L.A. Cellular is the non-wireline or A Block cellular carrier in the Los Angeles Cellular Geographic Service Area ("CGSA"). The CGSA includes Los Angeles, Orange, Riverside, and San Bernardino Counties. It is the largest CGSA in California from the standpoint of both population and territory. The vast majority of our subscribers are sophisticated business users such as real estate and construction firms, professionals and medical affiliates.

Cellular service began in the Los Angeles area with the inauguration of PacTel Cellular's Block B operation in mid-1984. Because of the way in which the FCC allocated cellular licenses, Block B carriers have enjoyed a substantial headstart over their Block A competitors. Thus, L.A. Cellular was not able to begin direct service to the public until March 27, 1987. Despite this handicap, L.A. Cellular now has over 75,000 units in service, representing less than 7/10 of one percent of the population of the CGSA. While this is still less than PacTel Cellular, a strong, competitive market has emerged, and we believe that in many areas our service is superior to that of the competition.

Cellular telephone service in California is currently distinguished by significant risks, difficult geographic conditions, and a constantly changing technology. It also requires continuing infusions of new capital in order to expand coverage and minimize system congestion. In Los Angeles, for example, L.A. Cellular began operations with only 39 cell sites; today, only twenty months later, the Company has more than 80 cell sites in service. Our first Mobile Telephone Switching Office ("MTSO") is operating at near capacity, and a second one will soon be installed. This has meant that L.A. Cellular's initial investment of between $30 million and $40 million has been followed by tens of millions of dollars in added investments in the two years following cutover. The new MTSO, the further moves toward digital techniques, and other technical responses to customer needs will require additional multi-millions of dollars in capital infusions every year. Thus, there is substantial technical and financial risk associated with the new technologies that are necessary to provide advanced communications to the end user.

L.A. Cellular's competition in Los Angeles includes not only PacTel Cellular but also a dozen or more certificated resellers. The resellers purchase cellular service at tariffed, wholesale rates from the cellular carriers and resell it to the public. To the public, the resellers are on an equal footing with the carriers themselves. Reseller gross profits range between 23% and 26% of the total revenues collected from the end user. This

is one of the highest revenue margins available to resellers in the country. It is also worth noting that the resellers' percentage of the total number of units on L.A. Cellular has steadily increased, and that resellers are currently responsible for nearly half of new activations on the system. In L.A. Cellular's experience, well-run resellers have been able to compete very effectively, and to make a profit once a relatively low volume of business has been achieved.

Competition in the Los Angeles market has taken a variety of forms. These include the following:

1. The cost of cellular equipment to the end user has fallen from over $2,000 per unit in 1984 to as low as $700 today.

2. Annual inflation rates of 3-5% have been absorbed by service providers. L.A. Cellular fully expects its annual costs to inflate by a substantially greater factor in 1989 and following. Thus far, these cost increases have not been reflected in increased prices.

3. Customer turnover ("churn") is very high in the Los Angeles market, and approaches one-third of the customer base per year for L.A. Cellular. This means, for example, that a carrier with one hundred thousand units on its system must activate 33,000 new units every year just to keep its current level of customers, and even more if revenues are to be maintained since usage per subscriber is generally declining. Among other things, the churn phenomenon indicates that substantial competition now

exists among service providers, resellers, and other mobile communications services.

4. Both facilities-based carriers have competed vigorously in expanding their effective service areas, and in increasing the reliability of their systems. Roaming technology now permits L.A. Cellular customers to receive service in nearly ninety markets. Enhanced services such as personalized traffic assistance ("Starjam") have been introduced at no added cost to the subscriber. The customer today is getting a dramatically better product than in 1984 -- yet prices have remained the same or fallen.

5. A variety of new offerings has been tariffed at effectively lower rates than those originally approved by the Public Utilities Commission ("PUC") for PacTel Cellular. These include enhanced service offerings at no additional charge to the customer, bulk rates for accounts with multiple units in service, and cooperative advertising payments which have the effect of substantially reducing wholesale tariffs to certificated resellers.

Cellular telephone service is subject to the oversight of the PUC as to price and terms of service. The PUC has played a valuable role in resolving consumer complaints, assuring a level playing field among competitors, and in fostering the rights of cellular carriers to fair interconnection terms vis-a-vis wireline carriers.

The PUC is also making commendable efforts to clarify the procedures to be followed by cellular carriers under the California Environmental Quality Act ("CEQA") when they desire to expand their systems. Cellular systems are highly complex, and depend on carefully placed transmitter sites which are linked to each other and to the MTSO. When, as has often happened, a local jurisdiction refuses to accommodate cellular facilities within its borders, the integrity of the entire system is threatened. The PUC has the right to act as Lead Agency under CEQA, and to override the often conflicting decisions of local jurisdictions.

While cellular rates and conditions of service are subject to PUC oversight, the Commission has not attempted to impose cost-based, rate regulation on cellular carriers. L.A. Cellular believes for a variety of reasons that this continues to be an appropriate policy. First is that cellular service is discretionary in a way that other utility services are not. Second is that cellular is not a monopoly service. Instead, it is just one of the newer alternative sources of mobile services available to the public. Thus, L.A. Cellular competes not only with PacTel Cellular and the resellers, but also with improved mobile telephone and special mobile radio systems licensed by the FCC. These two services provide access for mobile customers to and from the public telephone network at competitive rates. There are also other competitive mobile services such as mobile data and advance paging systems which serve large segments of the market. In such a non-monopoly market, L.A. Cellular believes

that cost-based rate regulation can stifle initiative, encourage inefficiencies, and reduce the competitiveness of cellular relative to other mobile services. Cost-based regulation leads to higher -rather than lower- prices over the long run.

The promise of cellular is that competing statewide (and nationwide) mobile telephone systems will ultimately be constructed by cellular carriers and other mobile services. These systems will permit continuous conversations by users as they travel across city, county, and state boundaries. They also have the ability to bring telephone service to many rural areas where conventional wireline service is prohibitively expensive. Police, fire, and other emergency services have already been immeasurably helped by the advent of cellular, and will be far better able to do their jobs as the technology expands.

All of this has occurred in an industry which is still in its infancy. Cellular technology has been swiftly implemented, and private companies have invested hundreds of millions of dollars in innovative approaches to mobile communications problems. This has occurred in a period of economic prosperity and in a healthy regulatory climate.

Given the level progress in the industry, it would be premature and unwise to expand the present regulatory approach. Indeed, other major states such as Pennsylvania and Texas have opted to have no state regulation of cellular. We believe that competition - rather than more extensive government regulation- should mark the future of cellular. This will provide the

incentive for the industry to create the highest level of service to the public.