COUNCIL OF THE CITY OF PHILADELPHIA
JOINT COMMITTEES ON LABOR & CIVIL SERVICE
AND TECHNOLOGY & INFORMATION

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RESOLUTION 080777 - Authorizing the City Council Committees on Labor and Civil Service and Technology and Information Services to hold joint hearings to explore the implementation of technology and changes to workflow process to enable the City to provide better services to its citizens more efficiently.

COUNCILMEMBERS PRESENT:
Brian J. O'Neill, Chair
Bill Green, Vice Chair
William K. Greenlee
Curtis Jones, Jr.
Frank Rizzo

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COUNCILMAN GREEN: Hello. If everyone could please take their seats. The Joint Committees on Labor & Civil Service and Technology & Information is now in session. Present are, to my left: Councilman Frank Rizzo, Councilman Bill Greenlee, and Councilman Curtis Jones, Jr.

Will the clerk please read the title of the resolution.

CLERK: Resolution No. 080777, a resolution authorizing the City Council Committees on Labor & Civil Service and Technology & Information Services to hold joint hearings to explore the implementation of technology and changes to workflow process to enable the City to provide better services to its citizens more efficiently.

COUNCILMAN GREEN: Thank you.

As Philadelphia and our nation's financial outlook continues to grow bleaker, the need for transformative change in how our government operates

grows stronger. Whenever the City is faced with a budget crisis, the City makes incremental changes in its operations. Services are reduced, overtime is cut, and taxes are raised; it is a piecemeal approach that simply bides us time until the next financial crisis.

Right now, we are in the process of cutting basic city services because we can no longer afford to provide them. We must do better. If we cannot afford to provide these services at their current cost, we must find a way to make the provision of these services less expensive and more efficient.

Our current fiscal crisis presents us with a unique opportunity. This crisis is of monumental proportions and requires a solution that is on a similar scale.

Technology can be the vehicle for transformative change. For example, the Commonwealth has implemented strategic sourcing, a consolidation of

technology purchases under one roof rather than by each individual department. The Commonwealth estimates that they will save taxpayers $50 million a year through this one simple change.

I believe that this type of reorganization and cost savings can be achieved on the city level and look forward to hearing from Allan Frank, the City's Chief Information Officer, on this topic.

Strategic sourcing is just one way the City can use technology to reduce costs while increasing the quality of services provided.

During my campaign, I released a paperless government plan, which details numerous proposals aimed at changing the way we deliver services to our citizens.

For example, some City departments process the same paper form thousands of times a month, hundreds of thousands of times a month. This means that a citizen fills out a form and

paper, which is then handed to a City employee, processed, and then manly entered into a computer. Placing these forms online and setting up kiosks to allow citizens to electronically complete these forms eliminates the paper-pushing and allows City employees to spend time personally serving citizens rather than sitting behind a computer screen.

A handful of City departments have already implemented a form of document imaging, improving workflow processes, resulting in increased deficiencies and fewer errors. Mr. Frank will share some of these stories.

It is my hope that these hearings will facilitate a dialogue among City Council, the Administration, and the public. We are pleased to have both the Managing Director, Dr. Camille Barnett, and the City's Chief Information Officer here to testify about the progress the City has made and its plans for the future.

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We understand that transforming Philadelphia government will take time and money. We are fortunate to have just elected a president that understands the importance of technology to our nation's economy. President-elect Obama has pledged that he will rebuild our nation's infrastructure, including a significant portion of the $700 billion on technology infrastructure in our states and cities. Obama is looking to bring broadband to every community, lower health care costs by investing in electronic information and technology systems, and to modernize public safety networks.

Federal money dedicated will be coming to Philadelphia for technology infrastructure. The question is: Will the City of Philadelphia be ready for it?

Thank you very much for coming in to testify, Dr. Barnett. If you could just give us a few moments on your performance-management group, your work process flow studies, and the importance

of Philly Stat to achieving some of the goals that you've been talking about and I mentioned.

Thank you.

MANAGING DIRECTOR BARNETT: And thank you, Council. It's a pleasure to be with you this morning. I'm Camille Barnett, Managing Director.

I want to begin by saying that the current financial crisis that the City and the country and, indeed, the world is in, as difficult as it is, it does give us motivation to change the way we do business. And one of the things that we've consistently said is, we're not going to be able to cut our way out of this problem.

We can look for efficiencies and incremental changes, we can reduce services, but if we don't use this as an opportunity to fundamentally change the way that we do business, we will not have met the challenge of the times.

Fortunately, we've been at that

process of fundamentally changing the way we've been doing business since this administration started. One of our key strategies is to link the various management systems in the City to improve performance. So even though the City of Philadelphia has a five-year plan that is connected to its annual budget, we want to strengthen both of those documents by making them results-oriented, and that's one of the things that we have done in this first year.

In addition to having the budget and the strategic plan aligned with the measurable results that we're producing, we want to have a performance-management system that holds us all accountable for achieving those results.

In this first year of the administration, there are two major initiatives to look at improved performance. The first is Philly Stat and the second is 3-1-1.

Through our Philly Stat process,

which is a discussion that we have with multiple departments around the operational results they're achieving, we focus on developing measures that are customer-oriented, tracking our progress, spotting trends, redeploying our resources in different ways.

And one of the other things that we have learned is that if we look at the various processes that we have, we can do business-process re-engineering -- that is, look at the process and take out unnecessary steps -- and save a great deal of time and money as well as improve the service.

That's one of the areas where using technology in a different way has real results for citizens, because if we rethink and redesign these processes and then automate them, we find that we can have a high-performing government service.

So that's what we've been concentrating on in the first year.

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We want to complete that circle of a performance-management system by having regular employee and customer feedback that helps us each year as we update the five-year plan and the budget.

One of the other key strategies that we have begun to use is to use our technology resources in different ways. And I'm very pleased this morning to share the table with our new chief information officer, Allan Frank, who is looking at the way we use technology throughout the City and has embarked on a plan to really reform our use of technology so that it is customer-oriented and helps us improve operations.

So that's a little introduction on what we've been doing this year.

COUNCILMAN GREEN: Thank you very much.

Could you just briefly expand on the sort of work process review that the performance review team is working on? And then we'll go to Dr. Frank's

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testimony.

MANAGING DIRECTOR BARNETT:

Sure. One of the things that happens in Philly Stat is that we often ask about turnaround time. So, for example, we have a problem with overtime in the prisons, and when we looked at this issue in the Philly Stat session, one of the things that the administrators told us was that it takes a really long time to hire prison guards; at that time, it took us almost a full year from the time that someone said they wanted to be a correctional officer until they were actually hired. That's a really long time.

So what we began to do is use our performance-management team to work with not only the prison officials but also the human resources officials to design a new process. And one of the things that we learned we could do was to do several of these steps, like background checks and medical evaluations

simultaneously rather than doing them subsequently. And that's cut our hiring time in about half.

There's still more work with we can do in that area, but it's one of the examples of ways that we can see improvements quickly.

If we can hire correctional officers, we can staff the prisons correctly so that we don't have to rely exclusively on certain shifts being staffed with overtime.

COUNCILMAN GREEN: Thank you.

Specifically what I was referring to there -- and, hopefully, Allan Frank can talk about it -- also is not just collapsing steps, but I believe what you're doing is mapping the number of steps it takes for a process.

MANAGING DIRECTOR BARNETT: We do that.

COUNCILMAN GREEN: So if something is 11 steps, and then is there a way to do that process with four steps

only.

MANAGING DIRECTOR BARNETT: Mm-hmm.

COUNCILMAN GREEN: And that's where I think changing work process flows and technology come into play, reducing a lot of different steps.

MANAGING DIRECTOR BARNETT: It's really difficult for people to see the whole process unless we draw that flowchart.

COUNCILMAN GREEN: Right.

MANAGING DIRECTOR BARNETT: And particularly since most of our processes involve more than one department, it's important to get all of the departments involved in really describing what the situation is, looking at the various steps, and then cutting out the ones we don't need.

COUNCILMAN GREEN: Thank you.

Mr. Frank, please begin your testimony.

MR FRANK: Thank you. Good

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morning, Committee Chair Greenlee [sic], Councilman Green, and Councilman Jones. It's --

COUNCILMAN GREENLEE: People get confused all the time. It's the other way around.

MR. FRANK: There you go. The other way around? There you go.

(Laughter.)

MR. FRANK: I'm Allan Frank, the Chief Information Officer for the City of Philadelphia, and it's my pleasure this morning to discuss the City's evolving information technology strategy really to help the entire City government improve its overall processes and informations and so forth.

This is my first time in front of Council so I'm looking forward to spending the next hour or so taking you through the strategy.

COUNCILMAN RIZZO: (Inaudible; off-mic.)

(Laughter.)

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MR. FRANK: There you go.

MANAGING DIRECTOR BARNETT: Maybe shorter.

MR FRANK: Maybe shorter. He said I had three hours. I'm just going to try to wear you down.

So just to remind everyone that I joined the City formally actually September 2nd. We're now at some point in the middle of December, so I guess I'm approaching my 90 days. I have to say I feel that I've been here probably about nine years at this point. And really, with all that's been going on, frankly, I've had a tremendous opportunity to dig in to where the City is and, certainly, as Dr. Barnett indicated, what we're trying to do across the City to improve the performance of the operations of the various departments.

And as pointed out earlier from Councilman Green is, you've got the process issues of how do you change workflow, but you really can't do it

without technology.

So what I want to take you through is -- and I'll try to be as quick as I can; I can barely say my name in an hour. I think everyone should have a copy of the deck. And what I'm going to be doing is going through this presentation, which will give you a sense of where I am after my first 90 days and, I think, the evolving sense of what we're going to need to be doing certainly over the next several years.

(Technical difficulties with PowerPoint presentation.)

MR. FRANK: All's I have to do is get the technology working. I need an official button-pusher there.

(Technical difficulties continues.)

MANAGING DIRECTOR BARNETT: I think your presentation just got shorter.

(Laughter.)

MR FRANK: By the way, this is an example of what can go on with

technology, so as soon as we --

MANAGING DIRECTOR BARNETT:

There we go.

MR. FRANK: What I would like to start out with, first of all, is that the approach we are taking, or need to take, is what I'm calling a "best practice approach" to creating a citywide shared technology strategy and a set of services. And what I really mean by that is, the City of Philadelphia is unique in many ways, but many of the issues and problems that it has relative to technology is very similar to other governments and, frankly, other commercial institutions. And what I'm providing you with is my insight from the last 90 days and my 35 years of experience in serving clients.

So, first of all, let me tell you what I think our two broad goals are: Number one, to reduce our annual IT spending run rate, which is really a fancy way of saying "our operational

costs for IT," and that's across the City.

And I think it's important to note that I am the CIO of the entire City technology, but the division of technology itself is only one part of IT, and that much of the IT activities goes on across the departments of the City as well.

And part of one of my first goals, which I'll talk about later, is around what we're calling "IT consolidation," which we also discussed as a part of the needed reform across the City to drive down overall operating costs.

The second thing is around IT procurement, which is how we spend our IT dollars for professional services, for purchases of hardware and equipment across the City, which again has not been centralized but has pretty much been done across departments.

And the third, which I'm going

to get into some detail, the need for a refreshed technology infrastructure and a communications network.

So what I'm suggesting is those three things are going to be really key initial drivers to reducing IT spent. That's just one part of the equation, how effectively can we do this at the lowest rate.

But the most important side, though, is how do we become an enabler for City service performance improvements. So the network's got to work, the hardware's got to be up, we've got to be able to support video-conferencing and all the things we need to do, but we've got to first put in place the right infrastructure. Then we can become an enabler to reduce paper, automate and simply processes, improve cross-departmental communications collaboration. And, frankly, there's a tremendous opportunity to leverage all kinds of technologies, as I'm sure you're

aware of, for handhelds, the Web, citizen self-service, you name it.

So I'm really looking at this as two pieces in summary. We've got to drive the ongoing operating budget for IT across the City down, and that's a forever savings, and that's going to come from consolidating select IT functions from across the departments, changing the way we source and procure IT across the City. And we have to invest in refreshing our technology infrastructure.

You can hit the next slide. Okay.

And the reason I'm going to focus now on the infrastructure is, unfortunately, it's very hard for us to be able to put in place imaging, document management, improve systems and workflow if the basic network of the City and the hardware and technology itself isn't up to the task to where we need to be in the 21st century.

Currently, the City's network is

a patchwork across buildings, with limited ability essentially to manage, secure, and operate and control it. So though the division of technology can run the network, we actually cannot see from end to end so that we can better manage and operate it.

The second thing is the City's computer servers. The hardware are distributed across departments, with obviously limited ability to gain any efficiencies for operational support, environmental control, management security, and disaster protection.

And we've also got to look at the basic PC and desktop hardware, management support, security, and virus protection deployment across the City. And I'll show you some statistics later, but we're basically talking about that piece of equipment that each individual needs to use.

And, again, if you're going to have a vision of how we're going to use

technology to enable City government, City government is really the sum total of people effectively working together, so we've got to make sure that the people have the equipment that they need, and we range everywhere from people having PCs and equipment that's two years old to over eight years old. So we have to focus on fixing this current environment.

I want to make sure that you understand that -- which I'm sure you understand, that the IT environment is complex. But when you look at developing an IT strategy, there's really two elements that I traditionally look at and tend to do so for the City: Number one, what we need to do; and second, how we choose to do it.

And when we talk about what is IT, I have to look at it across five areas, kind of running the railroad, the day-to-day running of the networks and the servers, and all the computer programs of the City. Second, how do we

deliver access to our customers through the Internet, e-mail, self-service applications, and the Web. How do we provide security and protection for business continuity, network security, and the like. We also have to manage and govern our people and what they do.

And, finally, innovation, where there's kind of a good news/bad news with where we are with technology in the City. The bad news is, we probably have about, I'm just saying, probably about a decade of underinvestment in my view in technology.

So the good news is that we can actually leapfrog. We didn't make some of the investments perhaps when it would have been ideal and made my job a little bit easier and get some of the efficiencies out, but we now have a real opportunity, given where the state of technology is, frankly, to really leapfrog and provide some real opportunity to enable the City in its

performance. So there is a good news/bad news.

Next slide.

So in a nutshell, the actual strategy that I'm developing has, first of all, three specific goals, and then I'm going to take you through the core elements of the strategy that we are currently undertaking and will do so over the next several years.

It's kind of a simultaneous equation of three goals. We have to, first of all, obviously provide and enable high-performance government. I mean, what we really have to be is an enabler for all of City government. And to do so, we have to deal with it with its cost structure and so forth.

We have to consolidate citywide IT and reduce costs; but at the same time, we have to provide better service around IT. And we have to make sure that we have a stable and secure IT operating environment. In other words, the

infrastructure has to work and has to work all the time.

So for me, that's three simultaneous goals that I have that have to build a new strategy.

Now, the way I'm doing it, 'cause it's very complicated, and I'll probably have a statistic later. We have probably -- and we're still counting -- over 800 servers, 19,000 desktops or computers, 300 locations that our networks touch across the City, and you know we have, you know, how many City employees we have doing all of the things that we do.

So you have to peel this onion, in my view, with three layers, which is the cans and the wires and the networks and the servers and the hardware; that's all got to work, it's got to work all the time, it's got to be secure, and we've got to be able to have a network that is for 2008 with the way people actually need to access the Internet, need to be

able to share information, and so forth.

The second piece is the organization and the process strategy. IT is a function just like every other business and operating function of the City, and so, the way IT itself has to operate, you need to look at it as a business, how it's organized, and what our processes are.

And the reason I bring this up is that the core element of dealing with the consolidation of City IT, as I will talk about later, I've counted roughly 500 -- we have roughly 500 people doing IT in the City officially, and that doesn't count the people that might be doing it as a side job.

So when we talk about IT organization and consolidation, what I have to look at is what it is that the departments do, what is it that we should be doing centrally, what are the skills of our people, how do we upgrade their skills as necessary, and how do we manage

the processes across the City to get all of the work done of IT. So it's a non-trivial activity, but it's actually a cornerstone of how we can start to increase effectiveness and reduce our operating costs.

The third element of the strategy is really the core of then how we enable better performance, which is our application software and our use of information. We have hundreds and hundreds -- I'm still counting -- of citywide and departmental computer applications that have been in place anywhere from the 1980s to have been implemented as recently as the last year, and we've got to get our arms around all of the different applications in all of the departments that are, actually, when you talk about wanting to increase performance, when you want to actually change the business and operating processes of the departments, ultimately what they're doing is a reflection not

only of what they have to do to serve the citizens but of what the system is requiring them to do; or if it's completely manual, the force to deal with manual activity.

So this whole notion of application software strategy really goes hand in hand with process improvement. It's not about me wheeling out a new piece of software; it's about working with the departments and, as Dr. Barnett indicated earlier, through our performance improvement initiatives of actually driving change back through the departments, starting with 3-1-1 and going all the way back, and then making sure we have the application software to support it.

Next slide.

So, you know, sometimes technology strategy and architecture is viewed as something overly complex, and this probably looks like a complex diagram to you, but to me it's simple.

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Form has to fit function, very similarly to the way you do architecture for your house. And for us to re-architect how our networks and our technology infrastructure and all of the application investments that we need to make, we have to do it against the backdrop of how we see the City's business operating model working.

And this is a very important picture because what we're trying to build is a new technology vision that drives us to another view of how government can function. Even though we obviously have what, around 53 operating departments, and obviously, you know, a number of other entities, one way of looking at the technology around our business is to say no, the City actually has a set of citywide core services that it needs to operate, and it's got very specific departmental services as well.

A departmental service might be Licenses & Inspections and what they do.

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A citywide service might be human resource or finance or any other functions similar to that.

So what we're trying to say is that what we want to try to identify are common business services that could be utilized and shared across City departments on the left so that they're not duplicated and replicated. So over time, what we want to build is a model of the shared common business services that can be leveraged across departments.

And on the right side of this picture, the same way as we want to have common business services, we also want to have common technology services so that they're not duplicated and replicated across every operating department.

There are things very specific to departments, but there's things that are the same. You know, how you load your -- you know, turning on your PC, loading software, kicking the server and backing them up, running a help desk.

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There's any number of activities that could be done, you know, managing your network that could be managed as a common service, and what should be done in departments is very specific to those departments.

So this is actually a business model picture for me that's driving how I ultimately architect the City's technology, this notion of common business and technology services that can be broken out and allow us to fundamentally operate differently.

Next picture.

I have to tell you that transforming IT will require substantial funds. And, frankly, I'm calling it "creative"; it's going to require a creative dual-pronged investment strategy.

Without getting into too many specifics, I've talked about infrastructure, issues that we've had over the years. We've got applications

that have been sitting on mainframes that are from the 1980s. We really have to look in total in my view, my current feel is an infrastructure investment of between 15 and $25 million. That's things like upgrading the networks, making sure that we have hardened and secure and backed up data centers, that we take our servers and start to consolidate and refresh the technology, and all that kind of stuff, make sure everybody's got the technology that they need.

And on top of that, the business application software, another 50 to 75 million that needs to be invested in, in my view, over the next five years or so. That really becomes the core enablers, you know, to support business process change.

So, in total, from my perspective, at a high level, you know, we're talking about a 75 to a $100 million investment, which, by the

way, is fairly consistent, it's interesting, with past studies that I saw that were done within the City as late as 2002. So, you know, I'm not -- I don't think I'm telling anybody anything that they didn't understand.

I'm looking at how we actually create an investment pool two ways. We obviously have to find capital, long-term capital, to invest in these required initiatives.

But I strongly believe that the approach that we are taking, and should take, is that we can also invest by reinvesting our consolidation savings. In other words, if we can actually operate IT more efficiently across the City departments, we can use those savings to reinvest those dollars into the needed infrastructure and applications to support the future performance improvement of the City. So, to me, it's that two-pronged strategy we have to get creative on.

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Go ahead.

So to make the point -- and this is really what we specifically started this fall and, we indicated, is a part of the actual -- of the City budget-cutting process. We're starting -- we've started this whole thing around consolidating IT, and I'm going to get into that in a little bit more detail what we're specifically doing.

But by consolidating IT functions, developing a better IT procurement and sourcing strategy, meaning how are we spending money on consultants, what are we paying for those consultants, do we really need consultants, or are we better off, frankly, investing and hiring or the skills of our own people in the City and use consultants when we clearly just don't have the skills initially.

So I see a tremendous opportunity through this three-prong effort. And, by the way, refreshing some

of the network and server stuff that we need to do in the short-term allows us to become more efficient in how we do IT.

Okay. The thing is -- and I think I've told you this -- is that we do have a lot of moving parts, and a lot of this is contained inside the City departments. So we really fundamentally have to, and will, operate IT differently. And as CIO of the City, I do have accountability and responsibility to make sure that we're driving to a consistent kind of one-city model for IT, recognizing, though, that departments still have to get their business done.

We have over 500 IT staff. As I indicated, we're still serving -- we've roughly got about 800 servers spread out over the city. And we've got 19,000 computers, 16,000 e-mail accounts in over 300 locations.

And, you know, by the way, some of these statistics are large. However, I also believe that -- and we intend to

do this, that frankly, the number of e-mail accounts are low; that in order for to us ultimately automate -- eliminate paper, become more efficient with our City employees, we've got to make sure that everybody has an ability to be able to log in and can gain access either through a kiosk, through their own computer, or even employees, while they're at home, to be able to gain access for needed information.

Okay. So let me peel the onion on the strategy. I'm going to start with organization; this is very specific of what we're doing, and this is in process in many cases.

As a part of what we said we are doing with the budget cuts, and will continue through 2010, is consolidating common service functions. I'm primarily looking at things called Help Desk; that's very similar to you're calling up a customer service number and saying there's something wrong with my

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Blackberry, the application I'm running or my PC, PC support, service support, and network support. So what we're looking at his how we're doing that across the City and do we consolidate those common functions so that it gives us the opportunity to become far more efficient.

The reason I'm starting with these sorts of activities is that if I can't even manage the basics of the network and the PCs and the Blackberries across the City in one model, I don't think we can do rocket science. So this is really the core services where a lot of the people are deployed today across the departments.

And none of this deals with specifically improving the performance of the departments; it's taken for granted, it's fix my PC, it's just making my computers operate. So I'm looking at the utility functions of IT, and let's get those costs down as quickly as we can.

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And at the second, this is the place where you, as councilmen, when you have a problem, this is where you feel the pain first, and my ability to be able to deploy applications and new Web capabilities or imaging are going to rely on how well our people manage some of these functions.

The second is rationalizing citywide and departmental IT management and governance processes; that's a fancy way for saying: Who's doing what to whom; what is the role of DOT traditionally, which has been a centralized function; what is the role of IT in each and every department. And that relates to IT management, how they're setting priorities. As each department goes through its operational performance improvement activities over this next year, how does IT align with that, within those departments; what imaging applications do we need to build; what imaging capabilities do we need to

build along with that.

So applications support, business analysis and project management: What things should go in the departments; what things should be centralized.

And then, finally, the organizational and process strategy around what I'm calling horizontal competencies. That's fancy term for saying "the same skills that are needed across departments."

GIS is a perfect example of it. We successfully have this model where GIS, which is geographic information, is used by many of our City departments, be it Public Safety, Licenses and Inspections, Water, Streets, and so forth, where we have databases that can tell you where every street, manhole cover is, every light, every wire, every pipe that the City runs and owns. You can see how different departments have to contribute to that database.

The competency community that we

have are these people across City departments and DOT that work with that technology. So what I'm doing also is connecting the dots of people across various technology communities, across departments, so we can start to share best practices.

Next slide.

So putting it together, the actual strategy that we are undertaking to do consolidation can be simply put in this chart. If you look at the problem of what is departmentalized versus what should be within citywide DOT, what I've said is that what should be centralized is the -- all of the servers that run the City's programs and applications and the networks and that are Help Desk, application support, network management, how we procure and purchase IT, and our service support should be centralized.

What should be, frankly, run much closer to the departments are those parts of IT that truly touch the

departments. And what you want to touch the departments are the things that are going to make business impact. It's not about, Does my PC work? What you really wants to make sure that you have in the departments are the business analysts and the IT people with the skills that can help them with business solutions. How do we make you more efficient? what piece of software can I put in place to be able to make what you do more effective?

And so, what I want to do is effectively focus both the people and the technology dollars within departments on exactly what we're all talking about: Performance improvement. And take the dial tone and all the things that are the same across departments and make them common and make them single-process and make 'em best-practice that you would see in any great city government and you would certainly see in any world-class IT organization.

Now, over to the right is -- and

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the reason I want to bring this up is very interesting. The other thing you have to look at is physical location. We have over 300 locations where our networks touch, okay? If you ask the Water Department, by the way, how many physical locations they have, they have 600. They just -- our network doesn't touch all 600, but they're little pumping stations or something.

The other issue you have is where the City operates its government outside of downtown, and it could be the Streets Department, L&I, Recreation, Fairmount Park. I mean, there's physical places. And so, you also have to say to yourself, how many IT people and what support and what technology do we have to put out there? I think police districts are a great example, public safety. It doesn't all end up -- it's not, you know, all in Center City.

So we have to also say to ourselves, how do we rationalize what we

do in each of these physical locations? because it's not just about departments. So the core to our consolidation strategy in this regard is, for instance, we're looking at the Municipal Services Building, we'll be look at One Parkway, and we're looking at City Hall as our first three places, to say, Okay, how do we best support these buildings? Because what I'm talking about is the PCs, the networks, the things that you tend to want to have someone close to you.

And the question is: How do we rationalize what we do in those buildings? And can they go up an down the elevators instead of, maybe we have one depart -- I'm just making this up. One department might have five people doing IT support, and another department right down the hall might have one person, and maybe what you can do is start to rationalize what you have in terms of equipment and IT people by floor and by building, which is exactly what

we're doing.

Next slide.

The other part of this is, I've got a lot of remedial work to do. A lot of this activity has, unfortunately, been spread and dispersed and, from my perspective, not done very well across City departments. And I don't think DOT has done it well.

Let's just talk about the nature of the Help Desk. Your Blackberry goes, you PC goes, who do you call, okay? And then if they can answer the question, great; but if they can't answer the question, how do we fix it?

So we've got to put our own process in place. So not only are we looking at this by building, but we're looking at it by department.

And I don't want to break anything, so we're tranching departments three groups. Basically, small, medium, and large departments is one way of looking at it.

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Those with one to five IT people, no Help Desk, just a few servers.

Intermediate environments that have medium impact, maybe six to twenty IT people, more than ten servers, they might have some constituent impact.

And then the most complex environments I don't want to break, so I want to get to those last, or I want to be really careful. Those that have total front-facing impact to our constituents -- Police, Fire, Streets, DHS, that sort of thing.

So I'm looking at building and how to consolidate, but I also have to look at the department to make sure I understand what they're doing.

So these activities are ongoing through 2009 and are really the basis of our strategy for IT consolidation.

Keep going.

So in the end, that's how we're dealing with the organization piece.

On the infrastructure side, very

quickly, the strategy is, how do I wrap networks and servers and computers and make sure it's always up and they never go down and they're secure and adequately backed up, and we have the bandwidth to handle everybody's needs, both the expanding need of internal City government. But, frankly, I think the way we connect with our constituents is getting to be high bandwidth. So how do we deal with that?

So my point with this picture is simply, we've got to start with how we want to run city government in 2008 and beyond and how we wrap the infrastructure around it.

So keep going quickly.

So there are three elements to our strategy, which we are beginning: One, to converge and build a single end-to-end network and environment; that's a fancy way of basically saying "redesigning our network in the City," the wide-area network and all of the

lines to all of the places in the City, the ability to handle the Internet better, the ability to handle the types of applications that we're talking about in the future, imaging, a lot more Web applications inside the City, and so forth, and to make sure that it's always up.

The second part of the strategy of infrastructure is to consolidate, improve, and harden our computer -- basically our server rooms, our data rooms, the computer centers. And, as I said, we have over 800 servers, of which 250 of them, I can tell you, are in my shop; the rest of them are spread all over the City.

And the fact of the matter is, is that we have the capacity for as many as 800 to 1,000 serves on our raised floor, which is a data center built, you know, I think in the '90s, and is, you know, fairly state-of-the-art. So what I'm looking to do is effectively how do I

bring this stuff in, how do I make sure everything is backed up, fix the network at the same time so you don't care whether the server is sitting under your desk or not, and we're managing, you know, as a farm. Then what I can do is take on 800 servers and start to consolidate 'em down to a hundred, using state-of-the-art technology.

So, again, less moving parts, more reliable, more efficient, but it's these three elements that I have on this page that are going to allow us to then deal with performance improvements.

The last thing that we have to do is also, as I said, refresh and deploy secure PC platforms. You know, everybody's got to have pretty much the same type of platform. We can't have eight-year-old PCs today; they don't work with today's software. And we've got to inventory that, and we've got to deal with, how do we make sure there's an ongoing citywide refresh policy so that

we can deploy this consistently across the City.

And, by the way, currently we have probably -- I don't know -- 50 different ways we image PCs, 'cause every department puts software on it in a different way. So I have to make that process more efficient.

Keep going.

The most important part is the application software. And this is where we're working very close with the rest of our performance-improvement team members across the departments, which is to implement new core business applications. And some of our highest priorities right now are time and attendance, as we want better ways of tracking overtime, better ways for us to track time in itself across City departments. We want to implement that.

Procurement and sourcing systems, including ways of sourcing on the Web, and expanded human resource

systems and self-service.

We also want to implement and improve collaboration and information-sharing. When you talk about imaging and document management as an example, you're putting things into a database. The issue is, what do you want to get out?

And so, this ability for all of us within City government to be able to share not just the equivalent the electronic paper but the information of the City in doing its business through a common platform.

And, third, we must rationalize and migrate our legacy environment. Our financial systems are old, and our legacy equipment, our payroll and pension systems go back from the time of horse-and-buggy, and we've got extraordinarily aging departmental systems. So we've got to deal with how we refresh that over a period of time.

So keep going.

And I'm not going to attempt to

even explain this slide. I put it here to tell you that when we talked about operating efficiency, document imaging, better information delivery, better applications, this is actually the blueprint that I've developed, which is called "a reference architecture."

Where we're driving to is basically building a new technology infrastructure that supports the concept of an integrated citywide data warehouse. It should be departmental data, documents, images, and operating data, the ability to get out of the system what you need. So we can then create this sort of infrastructure to now drive performance improvement.

Go over to the next slide.

Lastly, I also want to say that the Web, not only phila.gov, but our own internal information-sharing, like Citynet, the way we connect to ourselves and our constituents, we're looking at, frankly, rebuilding our external Web and

internal capabilities for information-sharing.

We're currently in the process, for instance, of looking how to reach out to the business community better. How do we improve information delivery, and how do we even collaborate electronically through town halls online. And so this concept is called a "mind-share initiative," where what we're going to be doing is rebuilding the way constituents and City government actually connects together and collaborates and shares information.

Why don't we go to the next slide and forget this one 'cause this is actually -- this is real technology.

So we're actually designing this stuff now. So when I talk about -- this doesn't mean anything to you, but I'm just telling you that we've really gone very far to be able to -- see, it's not about just saying we're going to create a cost savings; there's a lot of moving

parts here, we're very far along.

Keep going.

And, finally, and in conclusion, there are so many things to do. The way I've netted this out is that I've got nine key initiatives, strategic initiatives, from an IT perspective that are driving what I do, and that will take some time.

Build this new architecture of technology and applications. We're rationalizing the old stuff in the City. What do we have to bring in new, what's just too old. We've also got a lot of retired employees coming up that these applications were built by them, and we have to deal with how we maintain it.

We have to improve our infrastructure. We're moving to a zero-based IT budgeting process. We're going forward, looking at the projects of IT across the City each year. We have to look at our IT resources. As I said, we have over 500 people, and we have great

skills across the City. The question is, does one department know that another department has those same skills? and can we better utilize those skills through more transparent information of what IT skills we have?

The governance process needs to be modeled. As I indicated, we're developing a new IT procurement and sourcing strategy, a technology leadership model, and, more importantly, IT performance metrics for ourselves and those that we report back through the Philly Stat process and to you as City Council.

So keep going. I'm just going to -- keep going; I'm going to forget this slide.

So, in conclusion, information technology is absolutely a core element. And being the technologist in the room, I would have to tell you that it's the core enabler, in my view, to high-performance government.

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The way we're looking at it is, as I've said, kind of a three-part goal. We've got to do it low cost, we've got to be an enabler for performance improvement, but we've got to have a secure and stable environment.

So that's what I've been busy dealing with over the last 90 days. We're in process with much, you know, the beginning parts of everything that I've told you. And, clearly, where we're heading is down this path, which I think we're all excited about, and we've got to get creative in how we get there.

So thank you.

COUNCILMAN GREEN: Thank you very much for your testimony.

Councilman Rizzo, Councilman Jones and I and, I'm sure, Councilman Greenlee have questions, but Councilman Rizzo asked to ask his question first 'cause he --

COUNCILMAN RIZZO: (Initially inaudible, off-mic.)

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... so I can kind of wait.

COUNCILMAN GREEN: Okay, great.

Well, then, I'd just like to -- if you boil everything down to what you said, and I really appreciate this presentation because it's very helpful to see the road map of where you're going. But really, when you talk about infrastructure or the first step of what you have to do, it sounds to me like really what you're talking about is the highway everything runs on and getting that correct.

MR. FRANK: Yeah, and the service stations.

COUNCILMAN GREEN: Yeah. So you're talking about the fiber and the triplex, getting that to work so that you can have control from a central location. Is that a fair way to describe it?

MR. FRANK: Yes.

COUNCILMAN GREEN: When you talk about what you have to fix upfront --

MR FRANK: Yes. One element is

the fiber and is the ability for us to connect from, let's just say, our data center all the way out to an individual desktop, whether it be within the city ring or out at a remote location.

COUNCILMAN GREEN: Right.

MR FRANK: That's one element.

The second are the computers, both in the data center, to be able to handle then the applications.

And, third, the equipment we each use.

COUNCILMAN GREEN: I'm just going to ask a few questions and then let my colleagues have some questions.

But what percentage of the IT staff in the City is directly reporting to you as in the DOT?

MR FRANK: You know, I don't -- I don't -- I could give you a number.

COUNCILMAN GREEN: It's 3 percent.

MR FRANK: It's 3 percent?

COUNCILMAN GREEN: Yeah.

MR FRANK: Okay.

COUNCILMAN GREEN: And isn't that a problem really for -- when you talk about consolidating IT, frankly, the only way for you to achieve your goals or for Council and other people to hold you accountable for them, I would think, would be for you to have all IT people reporting directly to you with, you know, an indirect report to the department that they work in.

Is that somewhere that you think is useful to go to?

MANAGING DIRECTOR BARNETT: I think one of the things that we've discovered as we've begun to do this assessment is that it's less a question of where people report than how we think about the services and where they're provided.

Our chief information officer has enough authority now to do the changes in the IT work and structure even if everyone doesn't officially report to

him. I do think that it's one of the things that we're looking at, but it's not our central strategy.

COUNCILMAN GREEN: I find it very difficult to get performance. I've been in business in other -- I find it very difficult to get performance out of people or to hold them accountable when I'm not the person that hires and fires them.

MR FRANK: Can I respond?

COUNCILMAN GREEN: Yeah.

MR FRANK: First of all, what I would call what we have is an "evolving federated model," which is very common in corporations as well. So it's not necessarily bad that there's a difference between leadership and ownership and control.

First of all, I do believe I've been given all of the tools to be able to work with the departments in IT. And, frankly, if I can't give the departments a rational, appropriate reason for why I

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need to do something, you know, it brings it up to question to begin with.

COUNCILMAN GREEN: In the previous administration, one of the major complaints that I've heard from talking to -- and I've talked to many of the City's former CIOs -- is that they spent probably 60 percent of their job trying to get buy-in from departments for changes, and it just took so long that they weren't able to do that.

And what I'm afraid of is if somebody's not in charge, then everything you do becomes a negotiation.

MR FRANK: I agree.

COUNCILMAN GREEN: And that's a problem.

MR FRANK: Well, I do agree that that's a long-term problem if that occurs, but I also think that we're on a road, we're on a journey, and the way IT -- I didn't draw an org chart, okay? I would draw the picture differently five years from now than I would today

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because -- and I would -- even if you said I had total control, okay, I mean, you know, line control, what I said I'm doing is, I first want to look at, what are the commodity things that departments are doing.

There's two ways of getting there, which are, you know, is the ring tone, the PC, the Help Desk stuff, the common stuff. And I also said at the same time, I'm not doing that very well myself centrally; I can't deal with all of the volume anyway. So let me get all this rationalized in place.

What I said that where I saw departmental IT leadership required, whether it's a direct reporting relationship or not, is at the IT management level and dealing with business process and all that stuff.

So, yeah, I do think eventually, you know, in my ideal world, it should evolve to that, but I don't think it's absolutely necessary. And I'm very

comfortable with how we're organized today, and I have been given all of the tools.

COUNCILMAN GREEN: Great.

I just wanted to go briefly to the cost aspect of getting this done in this environment. And I don't know if you -- in the paper I mentioned earlier, a paperless city government, the way I suggest we get there is to take -- to do small investments that yield savings and then to reinvest those savings over time every year as they're achieved.

And I'm just wondering what -- obviously, that's a significant amount of money in order to achieve these savings and efficiencies. What current model we have to get the funding necessary to make this investment.

And then the second half of that question is: Is there an ROI that goes along with that expenditure, and do we know what that is yet?

MR FRANK: Well, first of all,

if we're talking about different initiatives that could be going on across the City, I mean, as they are, like document management and imaging and those kinds of things, the low-hanging fruit, I guess, is what you're really talking about. I mean, that's ongoing now, and we continue to work with departments.

But I also want to say that, look, as a total city government, we're looking, and Dr. Barnett is looking, at how we perform as a government.

So where you -- in my view, really where you get your big return and your big hit with technology is when it's done consistent with kind of a broader look at how we operate. So the low-hanging fruit we're continuing to get.

Is there an ROI model? No, not that I've seen.

COUNCILMAN GREEN: Well, so the problem is, you know, it will be hard for us to appropriate $75 million over the

next seven years to transform the way the city operates unless an ROI case can be made. And as we're looking at what's happening in different departments, and I know that, you know, the pension department is a perfect example of where they went from seven people performing a function to two just through the use of OCR, which does not require aditional investment in the highway, et cetera.

MR. FRANK: Mm-hmm.

COUNCILMAN GREEN: Can we put in place or is there a way to figure out what those savings are and kind of add them up so that we have them for you to reinvest and continue process improvement continual IT investment to save more money.

In other words, it seems to me that we ought to think about kind of banking those efficiencies for use to invest in future efficiencies so that they're there to fulfill this plan.

And is that something that the

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Administration is considering or we can try to look at?

MANAGING DIRECTOR BARNETT: Yes, it is. And we think that we're spending -- we know that we're spending a lot of money on IT now. We also know that we're not spending it as efficiently as we could and we're not getting the return on investments that we could be getting.

So one of the things that we're currently doing is assessing what we're spending, accounting for it, looking for ways to achieve efficiencies, and then, as you've indicated, to reinvest those efficiencies.

One of the things that we've done to be sure that we do this citywide rather than on an ad hoc case-by-case basis is to change the governance structure of IT. One of the things that we did when we developed the division of technology was to put in place what we call a "technology board," that, with

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Allan, makes decisions about changes in the infrastructure, which projects to go next. And each of those decisions needs to be accompanied with a return on investment.

So that strategy is in place, and that technology board is chaired by me and has the deputy mayors and the finance people on it.

COUNCILMAN GREEN: When you look at the savings on a department-by-department basis, and some of the examples we know where OCR technology is used and other technology, if you look at when that technology was put in, that department didn't really lose any funding.

So that's another concern I have about having the IT budget be in the department versus in a central place, because if you create -- if you create savings, you can keep it to reinvest it. If it stays in each department, it's not necessarily going to make its way back

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into reinvestment and technology; it's going to be spent for something else.

MR FRANK: But we are now, and will be, looking at all IT costs horizontally across departments.

COUNCILMAN GREEN: Okay.

MR FRANK: Okay, so -- but we're doing what you said, which is tracking and controlling those budgets going forward.

COUNCILMAN GREEN: Okay.

Councilman Rizzo?

COUNCILMAN RIZZO: Could you go back to 90 days. Shortly after you arrived, you did some reorganization, which I think was a good thing. You put phones back where they belonged in Public Property. I think you said you guys are going to deal with the future, let the phones and things go where they belong.

So many people are still confused. Could you explain how that's been restructured?

MR FRANK: Well, first of all,

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when we're talking about -- it's called the communications function --

COUNCILMAN RIZZO: Right.

MR. FRANK: -- which is basically our voice communications. So that deals with Verizon and the Centrex phone and so forth.

It evidently was moved to the Division of Technology, then called "MOIS," maybe a year, a year-and-a-half ago, from what I understand, and I moved it back under Public Property because I -- for me, I felt it was a distraction and that the individual that was in Public Property, the Deputy Commissioner, would be an excellent person to be able to run it.

And then in the future, where, you know, I see the opportunity for voice-over IP and a much more simplified environment. So I felt, given all I had to do with infrastructure, as I pointed out -- and under this model, I still am accountable. I'm still the CIO, and they

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know that it still reports to me from a technology perspective. The fact that I happen to have it over there is --

COUNCILMAN RIZZO: It wasn't working well. No disrespect.

MR FRANK: Right.

COUNCILMAN RIZZO: Now it is again back on track.

MR FRANK: Right.

COUNCILMAN RIZZO: And doing that has been noticeable to the customer.

MR FRANK: That's why I moved it.

COUNCILMAN RIZZO: Tell me about dependability with computers. It doesn't seem like a week goes by that we don't see the Kimmel Group rebooting something and not knowing a whole lot about computers, that card scan doesn't work, this application doesn't work.

Is that just the norm in the world of computers? Or is our dependability rate a lot higher than other places -- or a lot lower than other

places? Excuse me.

MR FRANK: What you're seeing is the symptom of why we need to simplify and consolidate the IT environment. This dependability issue comes from everything being non-standard.

And so you might have -- I don't know how many people, for instance, are serving City Council, maybe two people, okay? And there's another two somewhere else and another three somewhere else, and everybody's putting different software on their computers. There is no reliability, there is no central function.

In the normal business, a normal IT shop, there would be a small group of people that are focused on just making sure that your desktop has all the software on it and that it works, and that they can manage it, frankly, remotely. The only time somebody should actually have to be at your desk is if the thing is smoking and you physically

have to have it taken way.

COUNCILMAN RIZZO: Well, that's what amazes me. One minute, it can work; and the next minute, it doesn't work. And then you have to call the Help Desk, or we have to call the Kimmel Group to come up and fix it. They come up, they fix it; two hours later, it doesn't work again or something else doesn't work again.

MR FRANK: Well, that's also -- I'd have to look at the age of your equipment, but no, this is not usual, this is not world-class; this is a symptom. It just shouldn't be.

Computers break all the time, okay? Don't get me wrong. But there's way too much motion going on, and it's from non-standardization of hardware, software, and so forth.

COUNCILMAN RIZZO: That's important to me that when you need something, you need it; you don't need the person from the repair shop to come

help you get a phone number out of your computer. So, okay, I'm glad to hear you say that. And I'm not going to take too long; I just have a couple of other questions.

And you mentioned bringing costs down. We're talking about today the problems we've had with our police radio system. The recommendation from Deputy Commissioner Punzo is that we go forward, which I support, on an upgrade of our existing system that will cost approximately -- don't hold me to it -- I think the number is $40 million to upgrade that system.

What I would like to know, when we do upgrade this system, presently we have police cars with laptop computers in them that work on a Verizon card or an AT&T card -- I think it's a Verizon card -- to communicate data.

Has there been any consideration that in this upgrade that some of the expense -- we spend a tremendous amount

of money on these wireless cards for every laptop that we have in every police car. Is there a way that we can save the City money by utilizing the upgrade to the radio system?

I understand there are subcarriers on the system that can send data. There's a lot of things that a radio system can do. Could we investigate the possibility of utilizing this upgrade to do some other things that we spend money on, like wireless cards for laptops in police cars?

MR FRANK: Yeah, I can't speak specifically whether what they're contemplating specifically could handle certain kinds of --

(Indiscernible; parties talking over each other.)

MR. FRANK: But without a doubt, without a doubt, we should pick up that rock, and whether it's this existing radio proposal or, frankly, the use of wireless, the real -- those terminals

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that they have in the police cars, there's no question we're going to want to push more and more information and that those Verizon cards are costly.

COUNCILMAN GREEN: And, actually, Councilman, there will be testimony later today about other alternatives to assist the police with that very issue, whether it's a 7 or 800 megahertz, which is, I believe, what you're talking about, which is very low data rates, or looking at existing infrastructure of the City of Philadelphia to do 4.9 WiMAX very inexpensively or something like that.

I also agree with you that there are tremendous opportunities for efficiencies. There are many departments -- Tulsa, Kansas City, Milpitas, California -- that have kept officers in the field 20 to 25 percent more of the time, kept them on the street instead of having them come in and fill out paperwork just by using that kind of

technology to have them file reports right from the field.

COUNCILMAN RIZZO: But my point of bringing this up is if we're moving forward and the Managing Director approves this upgrade and we have the money to do it -- and I understand there's a significant amount of 9-1-1 money that the State has to do this, that we think a little bit more than just an upgrade of the system.

Where can the upgrade also bring costs down like the example of eliminating the need for wireless cards that some high school kid has?

MR FRANK: Oh, no, no. I totally agree. And, again, I think it's a great point. I think the new technologies that we are looking at, whether it be WiMAX or something else, to give us this wide-area coverage would be a great -- you know, a thing, 'cause I think, as you said, the low-frequency stuff isn't going to do it.

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COUNCILMAN RIZZO: Thank you.

Thank you for that opportunity to question Mr. Frank.

COUNCILMAN GREEN: Thank you.

Councilman Jones?

COUNCILMAN JONES: Thank you, Mr. Frank.

And I want to applaud you for having these hearings. And it is timely in light of our budget circumstances to look for efficiencies by way of technology.

And I thank both Dr. Barnett and Mr. Frank for their testimony.

Let me ask some basic questions because I'm what could be classically described as an end-user. So sometimes when you speak in terms of these technologies, my eyes glaze over, and I have to reach over and ask Bill, "What did he mean by that?" And so I'm going to ask real basic questions and, hopefully, I'll get some real basic answers.

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How many departments and agencies are we talking about in our universe that require use of technologies as a government?

MR FRANK: Well, every department, but I think there's roughly --

COUNCILMAN JONES: How many is that --

MR FRANK: -- about 53? It's 53, or something like that?

MANAGING DIRECTOR BARNETT: Yeah. If we count all of the offices and all of the departments.

COUNCILMAN JONES: There are 53.

MANAGING DIRECTOR BARNETT: Organizational units, there about 53.

COUNCILMAN JONES: And if you were to say out of those 53 -- and we're talking about quasi-agencies? Are we including the RDA?

MANAGING DIRECTOR BARNETT: Yes.

COUNCILMAN JONES: Okay. So there are 53 little universes of IT, in

other words?

MANAGING DIRECTOR BARNETT: Mm-hmm.

COUNCILMAN JONES: So out of that, how many of them are at least compatible to one another to be able to exchange information, basic information?

MR FRANK: It's impossible to say; that's the problem.

COUNCILMAN JONES: Okay.

MR. FRANK: What we're doing now is brute force. I mean, I put out surveys where we're going to be doing -- I couldn't answer specifically what one PC is versus another. That's exactly the work that we've got to do.

There is general compatibility. I mean, using -- we have basic Office Suite software, things like that. But, unfortunately, we've got different operating -- different -- some departments have very old PCs, some have new PCs.

Their level of incompatibility

is really high right now, which is why I want to deal with cleaning those things up.

COUNCILMAN JONES: So kind of, sort of, you haven't mapped out yet what our current inventory universe is, and do you know if someone's using an IBM mainframe over here and --

MR FRANK: Yes. At a high level, I do.

COUNCILMAN JONES: Okay.

MR. FRANK: But if you had a hundred PCs in your department, I wouldn't be able to tell you right this second 25 percent of them are incompatible with these other 75. I could tell you we have a hundred PCs, we've probably got 20 servers, you know what I mean? And it's at that level.

COUNCILMAN JONES: And very generally, by way of hardware, what is the average life span of a computer and/or mainframe?

MR FRANK: Two different things.

First of all, it's only flavors of computers: Obsolete ones and ones not on the market yet.

(Laughter.)

MR FRANK: So the problem that you have is, you know, the view of, you know, age and so forth kind of differs from organization to organization.

Normally, I would say four years is the general life that you would look for a PC.

COUNCILMAN JONES: So to re-engineer and retrofit all of these 53 departments, how long will it take you to go from department A to get -- from Department 1 to Department 53?

MR FRANK: Well, first of all, I don't want to paint a picture and say that you've got to now take out all PCs of all 53 departments and start over. It's just refreshing those that need it, okay?

What we're looking to be able to do is to -- I think it's kind of a

six-month, nine-month effort to get our arms around that stuff.

COUNCILMAN JONES: 'Cause I'm going over your testimony of leapfrogging over some of the wasteland of infrastructure and going right to the head of the curve of where we should be with your Star Wars kind of presentation.

The other thing that I would ask also is, as an end-user and problem-solvers -- and I applaud again that you brought Roman and the Greek here. The Roman is the people who build the infrastructure; the Greek is the people who have to be end-users and philosophize on how to solve these problems.

There are some specific problems that need to be on the radar screen and in a cost-effective -- I think the chairman talked about a return on investment that in the analysis, whether technology aids us in reducing cost-improving service that I would think needs to be looked at as maybe even

beta-testing points for this example.

One is tax incentives. If tomorrow, a client from Chicago that somehow the Commerce Department was able to bring in and said, We want you to be at 439 South Broad Street and we have a building there that's X-square feet, and you're in this empowerment zone, enterprise zone, we have no way by pushing a button on a address what square footage, what's the type of business, what's the type of employees, how many, the number of them, to say what those tax incentives in one bunch would mean to that business.

And if we can't do that, that inhibits our ability to attract any out-of-town clients to Philadelphia because we can't quantify in one push of a button, using technology, what the benefit to moving to Philadelphia is.

So if I were to say, end-user-wise, these are the kinds of things that department heads really in

real-world terms need to be able to quantify. That's number one. I'm going to give you a couple of them.

We worked together, Dr. Barnett, when we met with the Center City District, and we looked at how they use handhelds in going down the street and looking at a business and said that that sign is inappropriate and this light is out and were able to, in real time, put that back to their system, report it in an efficient way, have the meter running, if you would, on a problem to be solved, sent to a department, and were able to do that. And we looked at that in mazement and said that's the kind of thing our L&I inspectors need.

And have we basically used technology in that way? Have you taken them up on that beta-testing for our departments?

MANAGING DIRECTOR BARNETT: The specific beta-testing that we talked about when we were there we have not yet

done, but it's at the top of our list, and it's one of the improvements to our 3-1-1 system we want to have.

But, yes, it's one of the things that we will look at very closely after we get the basic infrastructure fixed.

COUNCILMAN JONES: Okay. That's a fair answer.

The other thing we talked about, L&I. The other one I want to talk about is telemedicine. I've been, since I've been here almost a year now, whining in any way I can about not having a medical health facility that is owned by the City in my district, but I would never say that again if we could use -- and I'm paraphrasing what the Administration talks about, better using our inventory of resources within the neighborhood.

If we had a rec center, a truck could pull up once a month, open up some technology, and use telemedicine to deal with my young people who can't get to the doctors or my seniors who can't get to

the doctors.

Are we incorporating technology in the end-user since, in those ways, instead of building a health center that may cost $7 million, investing a quarter of a million dollars in equipment that is mobile and, thus, allowing to reduce the three-month wait it takes for a regular citizen to actually see a doctor.

MANAGING DIRECTOR BARNETT: It's an example of one of the things that we can change with technology. Like many of the ideas we've had, it has to wait until we get some of the basic stuff fixed.

But it's also something that emergency medical services have used very effectively. There are many ways that I think we could use the telemedicine idea to improve our health and emergency services.

COUNCILMAN JONES: And, finally, again -- well, a couple of others, and I'll do it quickly.

The prison population. We have

overcrowded, we have court-mandated levels of incarceration. For lack of an $18-a-month phone line, there are people who are languishing in prison at a fee of about, I think it was, $100 a day, $95 a day.

For $18 a month, we could have them on house arrest, and the use of technology, once again from an end-user perspective, can actually deal with the return on investment that our chairman talked about in a real and meaningful way.

So as we start to talk about the Star Wars of, you know, information highways, at the end of the day, I wanted to deal with specific things like this.

And the final one was, we did a tour of my district up on Main Street, and we called 9-1-1 to call in a problem that we saw. The technology went to the 9-1-1 in -- what was it? Uh...

COUNCILMAN GREEN: Lower Merion?

COUNCILMAN JONES: Lower Merion.

And didn't come to -- and it had to be transferred to the Philadelphia 9-1-1 system.

So when we start to talk about technology, I'm for it. If we, tomorrow, had a bill dealing with $75 million worth of appropriations, unlike the federal government, we're not writing blank checks until we know specifically what we are going to get at the end of the day by way of improvement.

And those are things that I would be concerned about and will ask again as this maturates and actually becomes real by way of appropriation.

COUNCILMAN GREEN: Thank you.

COUNCILMAN JONES: Thank you, Mr. Chairman.

COUNCILMAN GREEN: Thank you, Councilman.

Picking up on one of the points that Councilman Jones raised about PCs, one of the proposals that we put forward was a move to thin client devices. And I

understand you have to fix the highway first, but that solves a lot of the problems that you discussed in having to have new PCs on a schedule.

Also, I would suggest -- I don't know if you have any comment on that, but is there really a reason why most City employees need their own hard drive on their desktop? I would say not. Most everything they can do can be done on a server.

Would you agree with that or...

MR FRANK: Um...

COUNCILMAN GREEN: In other words, the --

MR FRANK: No, no, I got it, I got it. That's why I want to fix the network and everything else.

COUNCILMAN GREEN: Okay.

MR FRANK: But I think that on the thin client piece, the big limiter of being able to implement that is the application. So that if we have these old, aging applications, it would be very

difficult -- it wouldn't run. So I think, in theory, thin clients or lower-end kind of computing devices might make sense for certain applications.

I think the other thing you have to realize is that where thin client may not be the best is with today's architecture, we all take for granted when we surf the Web ourselves on our computer that there's a lot of software actually running on your computer through that Web browser.

And so, actually, PCs today aren't -- you know, even netbooks aren't that expensive.

COUNCILMAN GREEN: Okay. Well, I would -- you're the expert.

(Indiscernible; parties talking over each other.)

MR FRANK: You can't do it right now; do you know what I'm saying?

COUNCILMAN GREEN: Yeah. So, I guess, finally, I would say that -- are we exploring ways to get the highway

investment we need without spending any City dollars?

And I can think of a perfect way to do that, and that is to go and our VOIP and have our VOIP provider as a part of what they have to do, change the edge devices on our fiber and fix the network at least in the triplex to begin with.

They would do that, and we could lower our cost per line from seven bucks to, say, three bucks and have someone else pay for it, improving our cash flow. And I know we've been kind of delaying this but I actually don't think it requires any upfront investment by the City.

MR FRANK: We're working with our network vendor now, looking at alternative designs, all with the requirement of a converged network for voiceover IP within the triplex area.

COUNCILMAN GREEN: I think if we issued an RFP, we could get that done for free and lower our costs. Rather than

working with our current network provider, we ought to maybe open that up to the marketplace.

MR FRANK: I don't know, but I would agree that by the time we're done, we probably should go out, and if we put out for RFP, we may put out multiple RFPs; I don't know.

COUNCILMAN GREEN: Yeah.

MR. FRANK: I'm just saying I a looking at it right now to see what savings we could get in the short term.

Again, the big issue that I have, the fundamentals, is if I don't even control the network end-to-end from your desktop to the central point, it's pretty dangerous to implement any of these other things until I get the basics in place.

So I do think voiceover IP would be great to do. I would have to first make sure, can I even run the wire from your desk to the central point. So I do -- it's just a matter of time.

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COUNCILMAN GREEN: Okay.

MR FRANK: I agree.

COUNCILMAN GREEN: I think it's one way to get the highway fixed and paid for by a third-party provider of that service at a much reduced rate to what we're currently paying for phone lines.

I throw that out there just as a thought.

MR FRANK: Any good ideas I'd be open to.

COUNCILMAN GREEN: Great.

Any further questions for these witnesses?

Excuse me for one second.

One other thing I would like to throw out there -- this is not a question -- is, I do believe that a large portion of this $700 billion bailout package is going to be for technology infrastructure, as I said at the beginning.

And a lot of -- hopefully, you have a very clear plan for where you're

going. If we can put it in writing and have it in Washington on January 20th in terms of the investment that's required, it's something that we ought to consider in terms of being ready to go on January 20th when he signs that bill.

And I think if, you know, the people who are there first are going to become the model that they're going to use for other cities, they're going to do test cases, see what works. And, hopefully, you guys are on top of that in terms of preparing a technology infrastructure plan for the City as well as the other infrastructure needs that the federal government seems to be willing to take on.

MANAGING DIRECTOR BARNETT: Yes. We submitted some initial lists of both regular infrastructure and technology infrastructure already in Washington, and we'll continue to refine it.

COUNCILMAN GREEN: Thank you very much.

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I am going to recess this committee for five minutes. We'll go into a committee hearing on... What committee, Brian?

COUNCILMAN O'NEILL: The Joint Committee of Technology & Public Safety.

COUNCILMAN GREEN: The Joint Committee of Technology & Public Safety. They're going to not read a report but submit a report for the record, and then we will reconvene.

Thank you.

(Above committee meeting is held, then adjourned.)

(Proceedings of current committee resume.)

COUNCILMAN GREEN: Thank you. The Joint Committee on Labor & Civil Service and Technology & Information is now back in session. Joining us is Councilman Brian O'Neill, who is chair of the Committee on Technology.

The next witness is Derek Pew, who is the CEO of Network Acquisition

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Corporation.

(Witness comes forward.)

MR. PEW: Good morning.

COUNCILMAN GREEN: Good morning.

COUNCILMAN O'NEILL: Good morning.

MR. PEW: Usually I'm more animated but I'm going to be doing a lot of reading today because there's a lot of points for us to get across.

In fact, I'll just tell you, next slide. Thank you.

Good morning. My name is Derek Pew. I am the chief executive officer of Network Acquisition Company, the entity that acquired the Philadelphia Wireless Network this summer.

I would like to thank the Labor & Civil Service Committee Chair, Councilman Bill Green, and the Technology & Information Services Chair, Councilman Brian O'Neill, who I've seen before, and all of the members of the joint committees for inviting me to speak

today.

I've prepared a short slide presentation that's up on the wall, and I believe there are copies available, too.

The purpose of my testimony today is to provide an update on the wireless network and to address ways in which the City of Philadelphia could be using the network to improve efficiency and reduce cost.

This slide gives you a general overview of what was acquired from Earthlink, and I think that there's a lot of misunderstanding about what this network is actually capable of, given what Earthlink was trying to do with it before.

The original Earthlink network, as the slide says, is originally about 80 percent built. We have been improving and expanding that. Currently, we have leases to 25 towers around Philadelphia that support that network but are able to do a number of other things that I will

talk about in a couple of slides.

We have roughly 4,000 wireless mesh nodes that are deployed around the City, the right to use another 2,000 streetlights for mounting assets. We are the only company in the Philadelphia market that can integrate wire line and wireless technology, and I think that's important to what this hearing has been focused on. And we have a large inventory of wireless hardware that we can use to extend the network.

When NAC acquired the network in June, the network had fewer than 10,000 unique users. Since that time, we have focused on improving and expanding the network free to anyone that can receive its signal for Internet access.

I'm happy to report that over 125,000 users were on the network during the month of November, with roughly over 28,000 users in any given day.

To put that number in perspective, if each of those 125,000

users had otherwise spent $10 for their (indiscernible), the total amount saved by having free access was roughly $1.25 million in November. And if I were to extrapolate that over an entire year, $15 million.

We're experiencing roughly 5 percent growth per month in the number of users. It's our current belief that the number of network users will surpass 10 percent of the population of Philadelphia sometime in the first quarter of 2009. We're confident that NAC's Philadelphia network is now the most utilized single hot spot in the United States of America.

This is a completely unique situation, and what's most exciting is that the network is still not complete, and our planned expansion will improve its reach and usefulness to an even greater number of users in the future.

From the start, it was the intention of NAC to salvage this network

because we saw the social value of free connectivity to the general population, but in order to sustain that social value, the business needs to self-sustain through revenue derived from commercial and municipal applications.

Because the cost of network construction was previously absorbed, this existing vast and ever-improving network is very often the low-cost and optimal solution for certain applications.

My intention for the remainder of my presentation is to provide you with a better understanding of the capabilities of this network and the way fits into budgetary reductions and efficiency initiatives of the City.

Unlike most, if not all, third-party wireless networks, NAC's network in Philadelphia can be used to safely and securely extend City networks out to field employees and field assets directly, without passing through the

Internet. Moreover, because the build cost was previously absorbed, it is generally the lowest cost solution where it's been deloyed.

The network really consists of two kinds of services: The WiFi mesh that is deployed on streetlights throughout the City, and the tower sites that support that mesh, which can also provide direct raw-band connectivity using secure microwave, WiMAX, and WiFi standards. I'm going to focus on this mesh first.

WiFi is not, and should not be, viewed as an all-or-nothing solution; it should be viewed as a piece in the puzzle of how the City uses networks to automate and make more efficient the delivery of City services and to save cost.

A significant feature of NAC's network in support of that automation is the network's ability to provide customized services to users based on their location and to prioritize user

access to the network.

Sometimes a network is a good absolute replacement solution to existing services. Good examples of this would include automated meter-reading for parking, water and gas-utility meter-reading, house arrest, on-street parking enforcement, L&I support, and work order tracking for the City's 3-1-1 initiative.

Other times, the network is a complementary solution. For example, the location of a police cruiser might be best identified using the WiFi network for purposes of automated dispatch; but for critical applications, it may just be one of the networks that are all continually used to ensure an available communications pathway.

In this way, instead of a purely cellular device, an emergency responder would use a cellular WiMAX WiFi device capable of talking to any available network. The public already uses these devices in the form of 3G phones, of

which the iPhone is a good example. IPhone.

In times of disaster, it is not uncommon for networks to become overloaded or destroyed, and the most effective means of sustaining connectivity is through multiple-network approaches. Indeed, because the WiFi network in Philadelphia is a mesh, each node routinely seeks out a way to gain connectivity even if the primary pathway has been destroyed or overloaded.

Today, the existing WiFi network, with some additional build-out, would be the lowest cost and highest bandwidth network that could still provide direct private connectivity to police database; but that only makes it the first choice of a multi-network device, not the only choice.

Behind the WiFi mesh -- you got me one ahead, but behind the WiFi mesh are 25 towers. These towers use fiber and licensed microwave to support the

WiFi mesh, but they're also capable of providing dedicated bandwidth nearly anywhere in the City, using licensed microwave, WiMAX, or WiFi standards.

Today, roughly 30,000 employees -- I think it's less than that number -- in about 53 government departments go to work in about 270 municipal buildings spread across the City. Only 11 of those buildings are on the City's fiber network. Nearly all of those buildings can be reached from the towers, allowing for a low-cost extension of City networks to all of those locations.

These towers can also support new network deployment in the same way they support the mesh. For example, if there was a desire to deploy WiMAX services using the City's 4.9 gigahertz spectrum, NAC pole rights could be used for mounting new assets, and NAC towers could support broadband to those assets, all at a lower cost and a higher speed of

deployment than new construction.

Finally, new government initiatives like video surveillance or traffic management can be supported from these towers instead of building new high-sight facilities.

Next slide.

Most of the City's exploring these possibilities would be faced with the cost of building the network to support municipal initiatives, but this is not the case in Philadelphia. Without any new build costs, the City can immediately begin to achieve the cost savings and efficiency that other cities have.

On Slide 8, I've listed some examples of these efficiencies:

From public safety, 24 percent faster emergency response in Milpitas, California;

20 percent more time in the field in Grantberry, Texas;

25 percent savings in officer

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overtime in Savanna, Georgia;

For Licenses & Inspections, 9300 hours of staff time saved in Oklahoma City;

Inspection information available on an average of 22 hours faster in Oklahoma City;

For parking enforcement, $100,000 for savings per square mile per year in Houston, Texas;

Savings of $1.5 million over five years in Corpus Christi for water and gas meter-reading.

In all of these cities, it's the exact same network that already exists in Philadelphia that the city had to build to achieve those goals.

In closing, let me just say that over the past five months, we've focused our time and effort on improving and expanding the network. I'm happy to report that it continues to improve. The network has grown from fewer than 10,000 unique users in June to more than 125,000

new users during the month of November, with roughly 28,000 users in any given day.

The network may require certain modifications or improvements, but it represents a clear opportunity for the City to reduce costs and increase efficiency without the outlay of capital.

Thank you for your time.

COUNCILMAN GREEN: Thank you very for your testimony.

That's amazing: 125,000 users, and you're in 80 percent of the City.

So when you talked about -- I think Kansas has a network similar to Philadelphia's, Oklahoma City, Tulsa, Milpitas, California, et cetera, all of those cities actually built their own network at public expense and have shown a positive return on investment for that build-out.

And you gave some specific examples here with respect to keeping people in the field so that they don't

have to come back and make reports.

Could you explain why for non-critical functions like reporting, for example, the current network that's with 2.4 bandwidth may be the cheapest cost way for the City of Philadelphia to get those productivity enhancements that can happen from field people being able to file reports directly and also getting data about who owns the house in front of -- while they're standing in front of the house, et cetera.

MR. PEW: Sure. It's -- let's start on the why is it so inexpensive. And the answer to that is -- I think I said it a couple of times in the presentation -- the cost of this construction was already borne. So all we're doing right now is paying for the management and maintenance cost of the network and transmission costs of the network. That makes it low-cost.

It's generally ubiquitously deployed at this point. There's

obviously large sections of Center City that were never deployed and need to be deployed if it's going to be a city-scale project.

But the way the network works is, it automatically provides location information for an end-user. It can provide that back to the home office. It can either provide an Internet connection for that handheld device for the field employee to gain access to their databases back at the home office through the Internet.

Or, what I think is more interesting -- and this a little more on the technological side -- we can build direct pathways to the computers that are back in the home office right to the handheld device, without the necessity to pass through the Internet. Absolutely different from any other network. That reduces management costs, quick to deploy.

There's a number of preexisting

handheld devices that are already on the market that, with slight modification, can be deployed. I think you can migrate into a solution where, as the City improves its core networks, you can move from an Internet-based model (indiscernible) to a direct-connectivity model back to the databases in the City and basically allow what Councilman Jones said previously, realtime startup, realtime solution, realtime work process management out in the field, which doesn't happen today in Philadelphia.

COUNCILMAN GREEN: Thank you.

Do you have any questions?

COUNCILMAN JONES: If you were to describe other municipalities and best practices, what could we as Philadelphians look to as a good example of utilization of that process?

MR. PEW: There's a number. I'll raise a couple that are to some points you raised before, which I thought were great points.

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The mobile telemetrics for medicine. Tucson, Arizona currently uses a very similar network structure that we have here in Philadelphia, it already exists, to run information directly to EMS vehicles at the time that a patient is brought onto the vehicle.

Now, they do it in a highly sophisticated way, a two-way video, where the doctor can actually see the patient when they're in the EMS vehicle. That's more complicated, not something you would do in a first step.

But if you look at the kinds of things you're trying to do, which is create field connectivity for a dedicated doctor that might be in a Philadelphia health services building, like the one next to my building that I went to for a free flu shot, which you don't have in your neighborhood, they can connect directly to that truck, using our network.

We can provide advanced

information for patients running to ER rooms to avoid overcrowding in those ER rooms. And we can allow for the triage that has to happen in those ER rooms before people get there.

In terms of public safety, I think Oklahoma City might be the best example of that. Oklahoma City, to Councilman Rizzo's point, uses the WiFi network to actually locate police cars, automate dispatch, provide GIS information to the laptop computers that are in the police cars, which goes to your point about trying to figure -- you had a GIS question before, which was, you know, how do I know what this building looks like, how many square feet it is.

There is a GIS project in Philadelphia that was ongoing in the last straight, which, I'm assuming, is continuing. And that kind of information is important to police officers. How do you get that information in the field.

Today, the only real problem we

have is that the network is not built all the way through the City, and there are places where this would work perfectly for the police department today and other places where it wouldn't work quite as well.

COUNCILMAN GREEN: Councilman Jones missed the point about L&I. If you could just give him that example, also.

MR. PEW: Sure. Licenses & Inspections -- handheld devices that are available today, my kids have them. Do you have children, Councilman Jones?

COUNCILMAN JONES: Absolutely.

MR. PEW: All right. So your children probably have an iPod or something like it. And those devices can store an enormous amount of data. They're inexpensive. L&I databases can easily be transported out into the field on inexpensive devices.

The real question is: How do you initiate work process orders? How do you track work process out in the field?

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And how do you avoid the delay of someone being out in the field and seeing something and then coming back, writing up a report and then waiting for it to get in a database?

And the answer is those handheld devices, and some of them today and many more in the very near future are all WiFi-compatible.

So an ability to use the WiFi wherever you see it and connect back to your database and make a realtime change is a very small use of data. Pretty much anywhere that this network is in Philadelphia, it will easily handle that small amount of data moving back to the main office.

And it's an unbelievable automation. It's an unbelievable automation tool.

I want to go back because I think you missed a slide. If you look at your slide number eight, I think it's going to give you a lot of information.

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If you look at Oklahoma City, where they've been using it for L&I, 9300 hours of staff time saved annually was their estimate last year or this past year. Exact same nodes that already exist in Philadelphia, basically the same system. Twenty-two hours faster inspection information.

If you think about that, that's the really the time it takes for somebody to go back to their office, go home, have dinner, wake up, come back in in the morning and write their report the next day. It doesn't happen in Oklahoma City; it happens instantaneously.

This is the same for public safety. Today, an inspector goes out into the field, there's a crime. How does the City in general know about that crime? What do they know about that criminal until the police officer comes back to the department and goes through the reporting process and that report ultimately makes it into the database?

This allows for realtime connectivity all around the City all the time, particularly for low data uses. And low data uses would be typing something. Typing things, low-data use. Videotaping something, a little harder.

But you get my drift. It's a nice network for a lot of functions.

COUNCILMAN GREEN: Councilman Jones also had a question about prison for the last panel. Could you talk about the potential for the network with respect to prison.

MR. PEW: Yeah. There's so many ways to improve that, Councilman Jones. My wife is a municipal court judge, so I'm well aware of the prison overcrowding situation. She and I talk about problems in the police/judiciary/prison system all the time.

Let's start with house arrest. It is a tiny incremental cost to this network to track the location of a device on a test signal through that network.

It is a WiFi transmitter. It is light. It can be made incredibly indestructible. It is cheap to manufacture. The only expensive piece is the ankle bracelet.

If you move to a GPS system, it's heavy, complex. The WiFi network will not give us as precise tracking as a GPS system would, but it will track to within about a half a city block.

And, realistically, if you're indoors, the GPS system is not going to work very well, and the WiFi system will still see some decent amount of indoors.

If you're talking about $18 a month and you're talking about current systems that don't tend to track people around the City, that just tend to track whether someone's in their home or not, which is what the historic system in the City has been, this is an entirely different solution, and we'd be happy, at $15 a month, to save the City $3 a month for that kind of service. I'm confident it would be a lot less than that,

depending on volume.

COUNCILMAN JONES: You actually save us a lot more than that if we calculate the cost of incarceration at $95 a day.

MR. PEW: Well, let me give you what-if's.

If automated dispatch was linked to all the police cars so we knew where they were in the City, if a police officer, for some reason, was not able to make it to the courtroom, he should be able to, on an automated basis, tell that and dispatch that customer back to the prison instead of leaving them in the courtroom while they're waiting for trial.

If you're moving prisoners from the Sheriff's Department by use of the -- either by use of the Sheriff's Department from an incarceration facility back to the courthouse and it is an impossibility for that trial to happen, there is absolutely no reason for that criminal to

continue to come all the way into the city, and it's much better to send them back.

There's a lot of integration issues between the police and judiciary that don't have to do with our network that would also help with overcrowding problems.

COUNCILMAN JONES: It's just incredible to me that Fedex can track a package and we can't track an inmate or someone on house arrest as efficiently. And we really need to take a kind of -- and I don't know and maybe Allan can come back.

Is there a task force to look at what best practices are out in the private sector by way of technology? We always, as a government, seem to be a half a decade to a decade behind by wave of use of technology and kind of evolving to where the private sector is.

And is there a task force that meets and talks about what the latest

"hotchy-totchy" 5,000 technology is and how to bring it to City government to make it more efficient?

MR. PEW: I don't want to put words in Allan's mouth because, as far as I know, that doesn't exist out in the real world. I think Allan had a firm that did that before, and I'm sure Allan has his own projects for city government for that purpose.

Let me tell you that -- and I think Allan said this in his testimony. Again, I don't want to put words in his mouth. I don't believe you're always looking for the latest "hotchy-totchy" device.

COUNCILMAN JONES: Okay.

MR. PEW: I think what you're looking for is the lowest-cost way to efficiently something.

I will tell you, the nodes that are in the wireless network in Philadelphia are not the most "hotchy-totchy" nodes ever produced;

they're really, really good at what they do.

COUNCILMAN JONES: Mm-hmm.

MR. PEW: And there's certain applications that they will always be good for, regardless of what the next "hotchy-totchy" device is that comes out. And you've made me say "hotchy-totchy" four times now.

COUNCILMAN JONES: I know.

(Laughter.)

MR. PEW: But there will be other applications where a new technology is absolutely critical in order to make it work, and it's that integration of all those things, and I think I heard Allan talk about his own book, what's happening in the City, trying to figure out what works, what doesn't work, what needs to be replaced. And that's all part of what you do in business: Try to find the least-cost way to maximize your results.

COUNCILMAN JONES: And there's one other thing, Mr. Chairman, if you'll

allow.

I don't think we've spent enough time on the human, the end-user, the civil servant, or appointed servant that actually uses the technology, because one of the things that I realized when I ran a small development corporation was: You can employ all kinds of technology; if, at the end of the day, the user is resistant and won't take to training and says to themselves for some reason that this is going to eliminate my job, or I've done this -- I think the example was the cow who went up the hill in a crooked path, and because he did it so often, it became a crooked road, and therefore -- you know, I mean, we are resistent, tropophobic, if you would, to change in particular, technological change.

So how do we get the unions and the workforce to buy into technology in an efficient way? And how do we incorporate that into our everyday operations as a government?

And I haven't heard enough of that.

MR. PEW: Okay.

COUNCILMAN GREEN: I'm not sure Derek's qualified to answer that question.

MR. PEW: Wish I was.

COUNCILMAN GREEN: And I'd advise you not to.

(Laughter.)

COUNCILMAN GREEN: But we are -- I think it's important to note that, you know, we are very fortunate to have Allan Frank leave the private sector and come into city government. What he's done for his career is help companies become more efficient through the use of technology. And it's exciting to have that kind of expertise in-house.

Thank you very much for your testimony.

MR. PEW: Thank you.

COUNCILMAN GREEN: The next witness is Pericles Haleftiras.

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(Witnesses come forward.)

MR. HALEFTIRAS: Good morning.

COUNCILMAN GREEN: Good morning, Mr. Haleftiras. Who is up there with you.

MR. HALEFTIRAS: This is Tim Boukouris, former SEPTA police officer, who, in particular, if we get into some questions about the citation process of what we're going to talk about, Tim's available to answer.

COUNCILMAN GREEN: Okay. Please proceed with your testimony.

MR. HALEFTIRAS: Okay, thank you.

I have to say, when I flew in last night from San Diego, I was pleasantly surprised that the weather was warmer here than it was in San Diego, so this is good.

COUNCILMAN GREEN: We do what we can.

MR. HALEFTIRAS: Thank you.

Anyway, my name is Pericles

Haleftiras. I am a senior solutions architect with SAIC, Science Applications International Corporation.

And first, I'd like to thank the joint chair of this joint committee, both Councilman Green and Councilman O'Neill, for the invitation to brief the committee on this proposed project.

The intent of this project is to demonstrate and validate a government-only, dual-purpose broadband wireless overlay solution for the City of Philadelphia. And I think it's very appropriate, given some of the prior discussion up to this time, that this flows very nicely into some of the comments about DVDO cards in public safety vehicles, about leverage of the existing infrastructure. And this project that is being proposed specifically addresses those kinds of issues.

The City of Philadelphia has been working with an NAC, as you heard

from Derek, to explore ways to leverage the former Earthlink muni WiFi infrastructure to save money and to improve upon the delivery of services to the people and businesses of Greater Philadelphia.

SAIC has proposed and to both the City and to NAC an approach to enhance the capabilities of the current network utility through a government-only broadband wireless augmentation strategy that would simultaneously address three important operational needs of the City.

The first of those needs is to provide a dedicated broadband wireless capacity to the edge of the network in support of bandwidth-intensive, mission-critical, public-safety, emergency-management, and homeland-security applications.

These applications would include things like collaborative situational awareness. Collaborative situational awareness is, in effect, a map-based

picture that is updated in realtime that brings in multiple sources of data that is integrated together and forms a single view of the unfolding situation. And that is what we mean when we talk about situational awareness.

The collaboration component comes in when incident commanders and field personnel can annotate that picture in realtime; in a sense, a John Madden-like telestrator, where they're identifying where to set up staging areas and traffic control points and perimeters and so on. And all of that information is being shared amongst all the other common operating pictures that are connected through the network resource.

Resource management and mobile video is, as public safety moves into greater and greater utility of mobile video, it's going to require a significant amount of bandwidth to support the movement of that kind of data out to the edge of the network, where the

public safety individuals need it the most. So this is to address that particular need.

Secondly, the pursuit of cost-reducing municipal field applications, non-traffic citations, meter-reading. You've heard Derek talk about a fairly large portfolio of municipal field-oriented applications that would help reduce costs of operation, improve delivery of services, increase revenues, and improve cash flow to the City.

And, certainly, the third element would be to leverage those sum costs in the very infrastructure that Derek talked about.

And I want to make clear that there is no one answer to the issue. So to Derek's point of a combination of technologies and how you maximally leverage those technologies in different ways for different situations is really the key. This augmentation strategy that

was being proposed adds another component to that mix for the City to consider how to leverage.

The purpose of this project is to demonstrate and validate the viability of adding a 4.9 gigahertz WiMAX data overlay network to the existing NAC WiFi configuration. That network overlay would include dynamic provision capabilities to ensure that public safety broadband applications, those mission-critical, situational-awareness-type applications, would take priority over other municipal field applications on that new government-only augmentation network that is being proposed.

Secondly, we would develop options for cost, business models, and associated tradeoff considerations.

COUNCILMAN GREEN: Pericles, excuse me. Just I wanted to clarify what you were saying last time. What you're proposing is broadcasting over a different bandwidth. So when you say

"government-only," you're talking about in the 4.9 space.

MR. HALEFTIRAS: That's correct. So 4.9 is the government-mandate spectrum that is unique to government.

COUNCILMAN GREEN: All right.

MR. HALEFTIRAS: So this would not be available to the public. So this is a government-only application. And that is a significant concern of public safety leadership that they would like to have their own broadband wireless network.

Now, what we're proposing here with this augmentation strategy is to kind of deliver the best of both worlds, which is to leverage all of the mounting infrastructure, all of the good work that's going into the NAC existing footprint, including the backbone, the critical fiber backbone, and leveraging that capability. But where the signal leaves the building and goes out to the edge, where it would connect with

vehicles and people with handheld devices, patrolmen, public safety, firefighters, and so on, that spectrum would only be available to public safety or municipal-issued handheld devices. So the public would not have access to this 4.9 gigahertz overlay.

The other advantage of that 4.9 is a huge amount of bandwidth that is made available. And as public safety is moving towards these richer media applications with the live video, live data feeds, a realtime, updated situational picture of what's going on. That kind of bandwidth is going to be required to do that.

Importantly, though, this particular overlay is of significant interest to DHS as well, and we believe that there's an opportunity to secure DHS funding --

COUNCILMAN GREEN: I'm sorry. DHS?

MR. HALEFTIRAS: The Department

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of Homeland Security.

COUNCILMAN GREEN: Thank you.

MR. HALEFTIRAS: ... funding to enable this project to move forward, and in the event that the pilot demonstration proves the viability approach to secure additional funds from DHS to roll this out on a citywide basis. Hence, the dual-use nature comes as an added benefit of this investment, federal investment, in advanced public-safety capability.

COUNCILMAN GREEN: Okay.

MR. HALEFTIRAS: So specifically, what we're proposing to do is that in working with NAC and several other teammates, we would install hardware and software necessary to implement this 4.9 WiMAX capability with a limited coverage footprint over a very select geography. So we'll put in place a pilot footprint to demonstrate the viability of the concept.

The 4.9 gigahertz overlay will connect into the existing NAC muni WiFi

mounting infrastructure and leverage the backbone, as we we've talked about.

We are coordinating with several deployments that are going on in the region of this type of advanced situational-awareness capability, particularly at SEPTA and upper Delaware County, Upper Darby. And we would provide the means for connecting into this limited pilot footprint 4.9 WiMAX overlay to a small number of vehicles and handheld devices that we would provide to those participants in order to demonstrate the capability to the City of Philadelphia.

A limited number of City police vehicles and officers would be provided and equipped with mobile data computers and handheld devices that could also tie into that WiMAX overlay such that they could participate in the proposed demonstration exercise firsthand.

A terrorist scenario requiring mutual aid between the City, SEPTA, and

Upper Darby, or other suitable agencies if we so determine, will be staged within that coverage footprint within the City limits. The scenario will specifically demonstrate the ability of this new network configuration to support the establishment of a shared collaborative situational-awareness picture between all of those participants, extending that out into tactical handheld devices that would be provided to SEPTA and City SWAT as part of this demonstration scenario.

So we're talking about extending the capability of delivering this high-bandwidth situational-awareness application out to the very edge, where a SWAT team is entering a building and has that connectivity with it.

Concurrently, we're going to field an application for citations, and this would be for non-traffic citations. It will be demonstrated. That citation capability will be a field application and a handheld device that would be

operating simultaneous to the staging of this terrorist incident.

And by virtue of this dynamic provisioning of that overlay network, you would see that the non -- the non-traffic citation system's performance would begin to degrade as the incident scaled up, because the bandwidth is being shunted to where it's needed most for public safety, because this is a government-owned, government-only broadband infrastructure overlay to the WiFi.

Okay. Benefits of the 4.9 gigahertz WiMAX wireless dedicated spectrum for public safety and government use:

It eliminates competition for bandwidth.

It is not dependent on a single carrier. So the point of DVDO cards, they're gone, and now we have a large, high-bandwidth footprint to reach handheld devices and vehicles throughout the City of Philadelphia.

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No air time costs.

Higher frequency allows significantly increased bandwidth, enabling higher utilizations of media-rich applications, which is where public safety and homeland security are going in terms of equipping their constituency with the best information in the right time to make the best decisions possible to save lives and property.

Many devices are now being developed and are emerging that are bringing more and more of this rich-media type of application to public safety. This is a perfect network to take advantage of those kinds of capabilities as they emerge.

From its citation workflow automation, which is, I know, of significant interest to the committee, we have been looking at the current existing non-traffic citation workflow process. And currently, that process is an 11-step, very manually-intensive process that takes

literally 90 minutes, an hour and a half, in order to go end-to-end and process a single citation.

We expect that this citation system that will be demonstrated as part of this proposal will be able to reduce that process to 4 steps and 15 minutes per citation. We have been given figures that currently there are between 350 and 400 non-traffic citations issued on a daily basis in the City.

So you can extrapolate in terms of saving a minute -- one hour and 15 minutes per citation. And there's up to 400 citations being written every day in the City.

There's a potential for significant cost savings. Notwithstanding the fact that this citation process, as it currently is, takes patrolmen off the street, where they have to take the detainee back to the station, put him in a cell, write up the paperwork, and so on.

Citations would be issued from

the field device, eliminating the need for transport of detainees to the station and return to the scene, keeping police officers on the street for increased visibility and productivity.

We would provide automated input of the non-traffic citation data into the existing power system. This is also a very manually-intensive process that occurs today. What we're proposing to demonstrate would show an end-to-end workflow automation that would be a significant improvement over the current state of affairs.

And that pretty much is the description of what we're proposing to do under this project.

COUNCILMAN GREEN: Thank you.

Among the benefits, obviously, there are significant cost savings by keeping police officers in the field that have been demonstrated in other cities through the use of this technology, but could you specifically talk about what

happened to police departments that were using DVDO cards versus government-only 4.9 kind of space in the crisis on 9/11 with respect to those two options.

MR. HALEFTIRAS: That's a very good point.

And if you talk to Police Chief Ramsey, he will tell you his story of 9/11 in Washington, D.C. And when we talk about these richer situational-awareness applications and provide much better understanding of the situation at hand, Chief Ramsey will say he loves that idea, he wants it everywhere, but he does not want to rely on a commercial carrier to deliver that to his police vehicles, because during 9/11, the cell towers providing DVDO coverage were the first to go down in terms of usage, and they were basically in the dark in terms of communications.

COUNCILMAN GREEN: Right.

MR. HALEFTIRAS: Hence, the 4.9 overlay, there is no DVDO cards in those

mobile data computers or laptops in vehicles, if you will.

COUNCILMAN GREEN: Right.

MR. HALEFTIRAS: And you replace that with a modem, a similar modem, but that modem connects to that WiMAX cloud that would be overlaid that we're talking about.

So the modem is replaced, it doesn't go to a commercial carrier, it would connect into this proposed 4.9 WiMAX overlay.

COUNCILMAN GREEN: And the cost per vehicle or cost per, quote/unquote, you know, computer or connectivity device through the use of this technology, I believe, is significantly less expensive than several thousand DVDO cards on a monthly base.

MR. HALEFTIRAS: That's correct. On a monthly basis, there is no wireless cost.

COUNCILMAN GREEN: Right.

MR. HALEFTIRAS: The cost is the

initial modem that you need to plug into the laptop.

COUNCILMAN GREEN: Right.

MR. HALEFTIRAS: And once you make that investment, which would be part of the proposed grant that would be put together, if we can demonstrate that this concept is viable and workable, that would be a one-time cost, and then you eliminate the one-time monthly ongoing support.

COUNCILMAN GREEN: And one of the things you didn't mention but I'd like you to talk about is the benefits of both the 4.9 that's out there and the 2.4 -- the 4.9 that you're proposing and the 2.4 that's currently out there in terms of redundancy in the event, you know, our current towers were, you know, part of some terrorist event or even just failed like they did over the summer.

What are the benefits of having an alternative, you know, bandwidth out there that's government-only?

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MR. HALEFTIRAS: Well, I think addressed that Derek addressed that fairly well in that there is no one, single solution. So having a portfolio capability that you can switch to and accommodate, given a certain situation arises, provides a tremendous benefit in terms of flexibility and agility to deal with any situation that might arise.

The ability for a multi-protocol router -- Derek talked about devices that are WiMAX, WiFi, and DVDO, if you will, so that, depending on what is available, you can switch over and not lose the connectivity.

I mean, that is a tremendous amount of flexibility that would be provided in that environment. And I believe that what we're talking about with NAC would provide the maximum amount of flexibility.

And I will say this, that 4.9 in WiMAX, which is a huge increase in bandwidth, may not necessary for all

applications where you might want to consider leveraging the 2.4 existing WiFi infrastructure for certain applications that don't demand the high-bandwidth capability.

COUNCILMAN GREEN: Right. Could you discuss perhaps -- I know we're moving to new police radios. If they had 4.9 capability on them and the agencies that we coordinate within the City of Philadelphia in terms of federal and state also had the ability to switch to a 4.9 broadband platform to communicate to an extent, what does that mean in terms of their ability to communicate with each other in terms of interoperability between agencies and departments SEPTA and the Philadelphia Police Department, et cetera that currently have their own separate radio systems?

MR. HALEFTIRAS: Well, I think that Mr. Boukouris, who actually retired from SEPTA, was involved in their communications in the particular area

that you're talking about.

(Addressing Mr. Boukouris.) So you could probably better talk to that.

MR. BOUKOURIS: Good morning. Timothy Boukouris, B-O-U-K-O-U-R-I-S.

When it comes to interoperability, if it's a voice-over IP system, it doesn't matter what radio system that they're currently existing on. If we can bridge it over voice-over IP, you can bridge the communications together.

Before leaving SEPTA, I put in a RIO system -- it's a radio interoperability system -- that does exactly that and bridges communications between SEPTA and about 27 different other agencies in the region.

Using the 4.9 WiMAX backbone, if you have a voice-over IP device, it wouldn't matter what agency you were with; you could set up user talk groups and let them talk to each other, not unlike a Nextel talk group; it's just

done virtually through a computer system.

COUNCILMAN GREEN: Thank you very much.

Councilman Jones?

COUNCILMAN JONES: Thank you, Mr. Chairman.

I would be interested in knowing to what -- I understand the inner agency, inner department need to communicate within the City of Philadelphia's borders. Are we also going to take into account that we border townships like Darby and Lower Merion and others that we, in cases of crisis -- and, in fact, we have some inner-city arrangements in cases of emergency when it comes to fire and other catastrophes.

But by way of communication, how will these things also communicate one township to another? 'Cause if something happens on City Avenue, Lower Merion is closer to me and my district than Center City. So how does that work?

MR. HALEFTIRAS: So let me

address that, because that's a great point.

And if you'll notice in the scenario that we've identified, we're including Upper Darby in the mix, and we're including them because they are scheduled to deploy some of the this advanced situational-awareness capability.

And what we want to do is demonstrate how we would connect SEPTA, who is also scheduled to deploy this kind of capability, and we would enable this mutual-aid situation that you're describing how that information in that realtime picture would now be shared, and Upper Darby resources and SEPTA resources as well as the City of Philadelphia resources that we give temporary access to that, so that they can participate, they would all be looking at the same picture. They would all be singing from the same hymnal when they go to responding to the incident.

We are also positioning to leverage several of the southeastern counter-terrorism task force initiatives that going on in terms of regional interoperability. There's an RF communications program that we're looking at how to integrate what we're proposing to do with the 4.9 megahertz overlay into that as well as the LEGIS Program, which you may be familiar with; this is the justice information -- regional justice information-sharing system that has been put in place. There's 18 agencies throughout the region that are sharing justice information now.

We want to bring all of that in and demonstrate to the City how they can take advantage, how you can take advantage of this capability and particularly enhanced and enabled by this government-only broadband overlay.

COUNCILMAN JONES: Mr. Chairman, if you would, as a result of these hearings that you put on, might share

that with the surrounding counties. And there is some talk about a regional meeting among both commissioners, elected officials that start to address some of the infrastructure problems, whether it's transportation, or, in this case, technological communications, and share with those counties. And maybe we can kind of approach this in a multi-jurisdictional manner.

Thank you.

MR. BOUKOURIS: I'd just like to add something, if I could, to your last question, Councilman.

I also sat on the Southeastern Pennsylvania Counterterrorism Task Force Subcommittee on Communications, and currently, there's a radio exchange program that's in place between all of the counties, including Philadelphia. And in a major event, there are bridges that be set up, and they're ready to go. And your folks over at the EEOC have access to that equipment.

So, on a day-to-day basis, if they have a traffic stop on City Line Avenue, you're correct, there's no communication there. But, God forbid, there is a major incident on City Line Avenue like a hazmat overturned tractor-trailer or something, there is that bridge equipment already there in place, ready to be turned up, if you will, and it sits over at the Fire Administration Building in Philadelphia. And then Montgomery County and Lower Merion also have access to that, and so do the other surrounding counties.

COUNCILMAN JONES: Good to know.

COUNCILMAN GREEN: Thank you.

One final question, and that is: Can you talk about what the sources for funding, potential sources for funding, of this proposed demonstration, and then also final deployment of this are possible to the extent that you can get into that so that we can understand that we're not asking the City to devote

resources to this at this point in time, but that even though they wouldn't be all of the benefits that have been mentioned by Mr. Pew, and you would then be available to the city.

MR. HALEFTIRAS: That's correct. And I think this project, this proposed project, addresses the sweet spot of several lines of grant funding, including you actually funding specifically the public safety interoperability grant program is another source of funding for this kind of initiative. And there are several other smaller situational-awareness-oriented pockets of interests within DHS and DHS funding that this fits under very nicely.

So there are multiple federally supported grant programs that, with the sponsorship of the City, I believe that we could tap into and demonstrate this on a short-term viability basis and then on a long-term dollars to roll this out throughout the City.

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COUNCILMAN GREEN: Any more questions?

COUNCILMAN JONES: No.

COUNCILMAN GREEN: Thank you very much for your testimony.

This hearing is held to the call of the Chair.

(Proceedings end at 12:30 p.m.)

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C E R T I F I C A T E

I HEREBY CERTIFY that the proceedings of the City of Philadelphia Joint Council Committee on Labor & Civil Service and Technology & Information are contained fully and accurately in the stenographic notes taken by me on Wednesday, December 10, 2008, and that this is a true and correct statement of same.

_____

JOSEPHINE CARDILLO
Registered Professional Reporter

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