

TRANSCRIPT: Interview with Atlanta's Commissioner of Public Works, Richard Mendoza, about synchronization of traffic signals.

Commissioner Mendoza has been in this position about two years and in public service for 20.

Location: The City of Atlanta Traffic Control Center

MENDOZA: From this center we can establish communications and some visual cameras with some of our signalized intersections. Right now we have on screen, from the left, overall traffic congestion map of the city. In the center, a live camera of the intersection of Piedmont and Pharr road, live pictures of current traffic conditions. On the far right, is the timing map and timing plan for the phasing of that signal we're seeing on the camera. We can actually monitor on the right screen the actual phasing the lights turning red, yellow, crosswalks, as well as the traffic engineers have the phasing timing plan underneath there so we can monitor actual operations .

MITTLEMAN: We're looking at the intersection here?

MENDOZA: Yes, they can change it remotely from this workstation, by adjusting timing plans. And that's the table of information you see on bottom on right side. You can change timing that signals it manually- that would require us to send a crew out to a signal cabinet at the location and with a laptop computer they can set the plans. The advantage of us being able to do this from here of course is for efficiency and optimization. We can also monitor actual peak time traffic conditions and based on peak times and non-peak times to optimize traffic flow.

MITTLEMAN: How many intersections watching at one time?

MENDOZA: We can currently watch one intersection at a time. We scroll through the intersections. We have a total of 946 intersections, actually, and we have communications to 144 of those. The remaining intersections at this moment, we're taking a phased approach to funding and establishing communications: fiber network, wireless network, to those so we can expand our capability here, remotely.

MITTLEMAN: Why can't we get the lights synchronized? It's like every green light leads to a red light, and so on? To me, it's wasting gas, wasting energy, and wasting time.

MENDOZA: The reason that is occurring, along many of our main corridors, we do not have communications set up between intersections, meaning they can't talk to each other to stay in synchronization. We can go and set the time and synchronization plans manually, but without communications connectivity between intersections and with this central control center, what happens is the clocks will drift out of time and we periodically have to go back and reset those manually. We are making investments in the current transportation network, most recently, we're applying 4.6 million in recovery zone bonds to the central business district. The midtown area was awarded a \$3 million grant from GDOT to modernize the signals.

What has to happen is the signal controller boxes themselves have to be updated. Wireless or fiber communications have to be installed between the intersections themselves. And then we need to bring that final link back to this traffic control center. Once that does take place then we'll effectively optimize synchronization plans and it will improve vastly the travel times for our public.

Out of the 946 intersections we have right now communications to 144. About 17%. We still lack about 83% of our intersections to complete that modernization of that network. The estimated cost for doing that is in the order of \$35-\$40 million.

We are taking a phased approach toward making those investments and we're making progress... but it's going to take a little longer than one shot in the arm at one time.

MITTLEMAN: Why is it so expensive?

MENDOZA: Most of the expense is infrastructure. The infrastructure required to modernize a traffic control system is fiber networks and wireless technology. And that's not an inexpensive investment. It's hard fibers running along poles, controllers, receivers, and with a network the size of Atlanta it's going to take a phased approach to get that up to that standard.

MITTLEMAN: What happened to the old fashioned sensors?

MENDOZA: They remain in place, but it's a manual operation. It requires technicians to go out into the field to make those timing adjustments in the cabinets versus being able to do this remotely from the control center.

MITTLEMAN: You can never get two green lights in a row! Isn't there a quick simple way to adjust that?

MENDOZA: There certainly is. You can call our customer service number, we'll make a service request and schedule those timings to be reset. We have around six full time traffic control and maintenance crews and they have the tools to go out and reset the timings based on major corridors and peak hours and peak times to fix timing. Now, understand, many of our current corridors just by virtue of how much we've grown in population and the influx of travelers we get in the city every day, a corridor can only handle so much traffic in terms of number of vehicles with or without synchronization. Many of our roads are operating at capacity. We can do the best we can on adjusting the timing but as long as we have the high number of vehicles we're loading on our roadways, we're still going to experience some delay in our travels.

MITTLEMAN: What about on the weekend? Less people are on the road but traffic signals are still making me stop? What about Flashing signals?

MENDOZA: In that case I'd encourage you to call public works and we'll dispatch a repair crew to evaluate signal timing. Detection on side streets, we'll check to see if that's working.

Many of our intersections have primary road and secondary roads.

The primary road is going to take majority of green time. We have detectors that detect vehicles approaching on side roads so main corridor stays green unless a vehicle approaching. Those sensing wires are in the pavement. They get broken with traffic, they need repairs, we just know when those repairs need to be made and we'll schedule a crew.

MITTLEMAN: Six crews for the entire city of Atlanta, 946 intersections?

MENDOZA: We do. We have 144 we've established communications to.

MITTLEMAN: That's a big gap. Would TSPLOST have made a dent?

It would've given the program a shot in the arm. It would not have filled the entire gap. We still would be proceeding with plans like we currently are to get state funding, federal funding. The new transportation bill was recently signed by congress so those monies are going to be reinvested into cities for transportation improvements. We will be aggressively pursuing those federal transportation enhancement grants and loans as well as working with our partners, the downtown and midtown CIDs and empowerment zones. While it would've helped it would not have gotten us all the way where we need to be so we're just going to continue moving forward of phasing in improvements we need to make until we do have our traffic control system and signals fully modernized.

MITTLEMAN: How many people work here?

MENDOZA: In this shop we have around six traffic engineers and operators.

That's a small staff for big city, no?

MENDOZA: I am looking at augmenting our full time operating staff for our TCC.

Our number one point of traffic signalized intersections is public safety. We have to make sure our travelers can navigate the intersection safely with no conflicts. In terms of timing and how they communicate and synchronization

along major corridors, we can still do that with the technology we have and we can still dispatch our crews out there to maintain adjustments of those timings. But we recognize there's new technology and communications out there that will make that job easier for us. So that's what we're going to continue to work toward, phasing in.

MITTLEMAN: Cities like LA have traffic issues, but the lights seem to be synchronized on the streets.

MENDOZA: You mentioned Los Angeles. Many of cities out West were planned on grid systems, where all streets run north, south, east, west, in half and one-mile increments. That's a lot simpler than what we have here in Atlanta.

MITTLEMAN: What's ours called?

MENDOZA: We don't have a grid system here I could tell you that right now. It's a spaghetti system. And so you know, we are dealing with what we have to deal with, with the best resources we have available.

MITTLEMAN: What would be your one priority if you had unlimited funds? And what's #1 for what you have?

MENDOZA: The number one priority would be first of all, I would do this in a phased approach. You can't do this kind of significant change all at one time. Prior cities I've worked in we've done something similarly in a five year time frame. First I would address our major corridors in city, east-west, north-south corridors. Those would be your MLK's, Piedmonts Peachtree, Northside Drive, Moreland Avenues, Ponce de Leons, Dekalb Ave. And then install needed fiber networks. Upgrade cabinets. Make about a \$1/2 million investment in our TCC. We do have some servers here that are older. We have replaced some PC's and controller switchers to get us up to status quo operability. So in the first year, order of magnitude, we could probably stand about \$5 million of initial investment.

MITTLEMAN: What have you got?

MENDOZA: Right now we're applying \$8.4 million. I'm thinking \$5million more on top of that. Between downtown CID funding, recovery zone grant - funding and state funding, and some overlap for street car signals, we're going to be investing about \$8 million. So I expect to see improvements in our traffic signal operations immediately but there's still more we can expand on.

MITTLEMAN: Where can we see this tangibly?

MENDOZA: Well, immediately, if you come in to downtown from 10th ave and Courtland you can see a progression of green light synchronization. Likewise, going away from the center of the city, on West Peachtree you can see a progression of synchronized traffic signals. The investments are made from the center city out. Because the density of signals we have is highest in urban setting downtown. I fully expect within the next year, two years, you'll see vast improvements along the corridors in our urban setting because of that \$8million of investment.

MITTLEMAN: How about more flashing lights when traffic is not so heavy?

MENDOZA: Flashing lights in my view don't work as well as detection. To maintain the utmost in public safety, better to have detection on side streets. With good detection and if we could get away from loops in the road to video heads, we could essentially do what you're asking: maintain green on major corridors but still retain ability to give side street a phase. I would prefer detection v. flashing yellows.

MITTLEMAN: What kind of detection do you have now?

MENDOZA: It's a wire in the pavement, a magnetic wire that senses presence of vehicle. I'd rather replace with video where practical. It's a different video. All it does is the pixel count, it detects the presence or non-presence of vehicles. It cues the controller to phase the green or red light. That's different. We have done some. They work like loops in ground, but not as subject to damage.

MENDOZA: I would encourage you to call the customer service number. We have qualified technicians. That's what they do, 404-330-6333 so we can get a tracking number.

MITTLEMAN: Do you feel under-staffed?

MENDOZA: I feel we are not understaffed. We have staff on levels for support.

In the last two years, like I said, we are making investments with the recovery zone bond money- that's \$4.6 million. That was bond money that the city issued bonds for a certain investment area in the downtown. We've made recent significant repairs in this center. So I'm feeling better about where we are with our traffic control center and improvements we're making to the signalized intersections.

But understand, to make significant impact, it's going to take time. Because 144 intersections out of the 946 total is still only around 17%, so we still have work to do for us to be able to impact a very measurable amount of optimization. Until then, we'll continue to utilize our crews to go out and manually set the timing and manually maintain the signals and continue to utilize this traffic control center to monitor and control communications we do have.

We can do it here remotely for 144. The other ones are still a trouble call. So you can see the advantage for us to increase the number intersections we have communications to.

Basically, it's the technology to send and receive data. It's nice to have eyes on it like this one, I don't know if we need to have cameras and eyes on all 900 intersections, many times you can get a camera on one intersection and you can see down the corridor to the next intersection.

But definitely, we want to get to the point where all of our intersections we can send and receive data from -- that way when we get calls in the morning, from you, that you're hitting red after red, we can bring up that whole corridor and we can actually see what it's doing. And then we can adjust that as needed.

There are 946 signalized intersections in the city limits of Atlanta, 450,000 population. It also includes the intersections on state routes, we maintain and operate those. So your North Piedmont, North Peachtree, Northside Drive, are state routes, we do the signals for GDOT as well. We also handle street lights, regular street lights, pavement markings, traffic signal maintenance. just about anything in the right of way.

MITTLEMAN: You're not 511?

MENDOZA: We're just connected, we're utilizing the GDOT cameras.

Just urge your listeners to, any time they encounter an issue with a signal, to please call our customer service number. We monitor that call 24 hours a day, 7 days a week. Traffic signalization and operations is a high priority for the department to maintain public safety and we have crews on standby 24 hours to respond.