

## SIGNAGE AND MULTILINGUAL NEEDS IN THE INTERNATIONAL AIRPORT

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One of the things I felt I wanted to talk about — everyone has talked about planning and design and facilities and operation and modes of transportation and all the things that make an airport what they are. People tend to ask us: well, environmental signing and graphics, what is that? What do you really do? The simplest thing that we say is: architects design buildings to function, and we tell people how to function within those buildings so they can find their way around.

That has changed a lot over the last ten years, in the sense that it used to be what we call static information systems, very few electronic systems. Now we find more and more information systems that are needed to deal with the international passenger, the foreign language problems that we deal with. Even though English is recognized and used world wide, there still is a concern and need here in the U.S. to make the foreign passenger feel welcomed.

Some of the ways that we do that, because of these changing needs, are through dynamic information systems. Where we miss in some recent facilities in the U.S. have just opened up, FIS facilities — "Can you show one of the best ones at work in the country?" I guess I'd have to say, even though we design systems, there aren't really that many great systems that just totally work.

One of the reasons is the concepts are developed, but through the lack of facility maintenance and the changing environment, they're not yet up to date. The standards that are developed are just not maintained. So a system is basically, excuse the term, bastardized after about five years and loses its entire integrity for information.

What makes us a good airport signage system? You have to talk about welcome to the U.S. displays, common use terminal electronic systems, immigration station systems, flight information display, arrival systems for departures and operations, station indicator displays, baggage claim directories, multilingual information, baggage information display systems, ground transportation information display systems, baggage loading directories, bus input devices, visual paging here in the U.S., (because it's now with the ADA compliance that affects our signage requirements significantly), and interactive information displays. Outside the facility you'll need to consider airline name displays, because of the need for sharing booths and counters. An airline may no longer have a fixed display but instead need one

that can change every hour or whatever period of the day is needed. Electronic needs are needed there.

Electronic gate information is needed to help you know that you really are at the right gate, you're really getting on the right airplane, and you're doing what you're supposed to be doing. And master clock systems are needed, because everybody wants to know if they're going to make the flight or not, besides looking at the FIDs or BIDS information and seeing the little time on the bottom of them.

One of the clock information systems that I always like to point out, as we designed for United Airlines, their terminal C, terminal D complex at Dulles International. Unfortunately for us, they needed the project done in 60 days. They said, "We need a complete sign system done in 60 days, designed, built, and installed. Can you do it?" I said, "Sure, we can do that." And we did, and it was a temporary system. Well, the temporary system was put in six years ago, and they liked the temporary so much, they never did the permanent one. So it's all — and all the clocks are battery operated clocks. They were temporaries, and I'm not sure who goes and puts the new Duracells in, but it must be the little rabbit going down the concourse changing the batteries all the time. But they all work, and they're pretty accurate. Sometimes things work when you're surprised.

We designed a sign for Detroit Metropolitan's FIS facility, which basically in 33 languages says "welcome to the USA." And we can change that to "welcome to Maryland" or welcome to other places.

Some of the airport functions that we're always concerned about related to signing and graphics are architectural design, circulation flow, existing sign systems, new design, operations that are untested, concession locations and design, advertising programs, art and display, concourse design, gate operations, parking, light rail, Amtrak, and remote facilities. These are all things that impact us from an information point, because it's all got to go up on whatever's left for information in the facility if it hasn't been designed to the facility from the beginning, which we like to do.

Before we develop one piece of information, we'll work with the architectural design team and understand how a facility operates. Most of our staff's background is in architecture, and we take pride on helping complement the architecture, so that we really work with

them to understand all the connecting passengers, how you get in, how you get out. And no matter what you do, as people, as we all do, whether it's driving on a highway or anyplace else, we learn how to beat the system. We're going to take the shortcuts and the rest of it. So many times, we wait to find out what the shortcuts are, and then we make signing modifications in the facilities.

But we're always concerned about the layout, the architectural details, the sign system, and the management on who is going to run the facility, how often it's going to change, and those kinds of things, try to build in as much flexibility as possible.

When you take an FIS facility and they build it and open it and then change it three times, you can imagine what that does to the information system. It was never intended, more than likely not planned, to deal with four changes.

We had originally proposed a \$1.6 million information system for Newark FIS facility. They said, "This is great. We want all of this." I said, "Are you sure? I don't think that you really know what this means and can afford it."

Well, we went down to a \$200,000 temporary sign system to operate this facility. We are now back up to a \$1.2 million sign system, because as it has grown, they recognized that there is really no way to deal with the international passenger and the flexibility that they need in this facility without the one or more sophisticated information system, which includes static and dynamic information.

What I'm going to run you through here is just some of the quick changes. These are some of the study graphics that we did. You know, "Welcome to New York." One of the complicated issues here is dealing with English plus four languages. Now we grasped, when we did Houston's intercontinental facility, that they were requested by the city, "We want to use Spanish, but convince us that we shouldn't." So we did a nice convincing argument, and it was all English. They did not use Spanish because of the burden on the information system and the size of signs it requires.

Raleigh-Durham has used four languages on static signs. This is now a challenge with five. And what we were able to do was convince the authority as you go through, the port authority, that unless we go to dynamic information, this is really too much for people to understand with four languages plus English. So we have documents, a welcome to sign if you get in there real quick. All of a sudden, you see the languages start to disappear. We've included in the dotted matrix that you see above the logo and a dynamic sign, which we can then put up the passport information, the I-94

passport forms. We can start to change that and it can be in English and any other language we want. So we can do it with the mix of the aircraft.

As you remember, coming from the B-2 or B-3 connector you could have different flights coming on each one. It allows us total flexibility to provide that in English, and if one flight is a German flight and another is a French and another mixture, we can change the messages to deal with those to really help the people out.

The FIS people have always — and customs always wanted to do this. The problem has been in the U.S. They don't have any money. So they rely on the airports to implement the systems. The airports say, "It's not our problem, and we don't have the money." The airlines say, "We're sure not going to pay for it." So that's why in the last ten years none of this stuff has been implemented. No one has the money to implement the types of systems.

Jody and I, when we did some work at Seattle for her, talked about their facilities. How can we deal with it? And the conclusion on this study that we did was really that this was what they needed. They needed dynamic signs to do — just do it in English and have the dynamic signs deal with the other language requirements in the facility. I don't think it's been implemented yet, though, has it, Jody? Again, it's a money issue.

We took a look at what would happen to the sign faces just seeing an initial sign, an arrow, using the international symbols, which we highly recommend with FIS facilities, and then the word immigration. I've cut these off so they'll fit. And taking four languages and stacking the requirements. You see what it does to the vertical height of the sign system.

Here we've dropped it down and taken it into two lines below a graphic bar that separates the primary English statement and dropped it down into the other four languages. That in itself, based upon the length of the word and the foreign interpretation, can be very lengthy. If you start to put languages in a certain order, they may have to change on another sign because they just won't fit line to line. So it causes a lot of problems.

This was, again, using smaller copy. ADA — it was very interesting. We went to the Department of Justice to discuss this, because on directional signs ADA has indicated a minimum of three-inch copy. What you see there as immigration is three inches, and we dropped the other ones down to an inch and a half or two inches in the graphics. ADA says as long as the English message is in three inch, you can have the other in any size you want, because it is not the primary message. It is a foreign application and considered secondary as long

as it's legible. They don't care about color for the field or anything. They're really saying you can pretty much do what you want. We hadn't thought about it, so you're starting to direct us what to do with it.

Here's a change where you start to take the word. The arrow is off the picture on — but to get a picture of the sign face. Now they've put a dynamic sign in there, that you can put that same mixup and just say immigrations and deal with it in whatever language you need to deal with it. The color of LEDs change, and that could be based upon what the color of the background the sign is going to be. But it gives you certainly a lot more flexibility in how to present the information.

This is comparisons. The top two panels are the left and right sides of the same sign, basically, that are giving you different direction. If you look at the bottom sign, that is what happens to the — this sign above, the messages on here, when you translate that using four languages plus English, that's what happens to that sign. To give you an idea, we've had to — what we've done is take the two symbols and stack them side by side. We've had to now put customs-agriculture and do a slash to help relate them, and then you've got the languages. You can see here, even on these large signs — and these are two feet high — trying to represent and separate — and we just say Japanese; we haven't even put it in Japanese. So, I mean, that's not the way the word will read. It's going to be in Japanese. But we thought that was a quick way to do it. The port authority thought that was a great idea.

But when you start to deal with it, you start to repeat the five-seven all the time with the messages for gates, for baggage claims, five and seven. It becomes a very complicated sign. The only way to deal with that and simplify it is through dynamic signing.

All right. I said I was going to be quick, and I'm going to be quick. The same type of thing represented here. I just wanted to show you some other complicated signs that are required in information and what happens down here and how you can change those. This becomes what we consider message overload. It is very tough to deal with. Many people, when they look at signage on a facility, read left to right; others do not. Others read just top to bottom in columns. Others will pick out the most important graphic pieces which will attract their vision and eyes and look at that and read it first and that may not be important. Then the languages, such as Japanese or Chinese, are attracted because of their features. You start to put a lot of things into information signs that can really confuse people.

Another example of it, dealing with exit and cashier information, connecting flights, the separation here is very difficult to deal with.

This is what we started to narrow down. Here's an example. When you get a primary sign of the immigrations and the symbol and call it pre-inspected passengers and then you change that, that's now taking it from all English to English and four foreign languages or taking it to the English with the dynamic, and you can pretty much say all of which you want here. But when there's no message, it just says immigration. This is actually blanked out. It's part of the sign. You really can't tell what it is. And that's the solution, basically, but we're going to another example of how it's complicated.

The same thing here, just in simple signs, even going on walls when you start to identify things. There's a lot more for people to look at. This being the primary selected — I'm not even sure if that's a word or not. We'll pretend it is, but I don't think so. I think my staff is playing games with me there. But if we start to look at how we might identify these — now the consideration, when you start to take the dynamics, if you're going to do it, where do you line up the information? Should this information start in a line here? Or do you have other options? Do you want to take the full length of it to give you flexibility?

Where we've said immigration on several of the signs, what we have done is what the FIS and immigrations people always do. They have 30 counters and today they decide they're going to operate number 1, number 7, number 15, and number 40, because those are their favorite numbers, and not because they want to put 4 counters together and have everybody together.

So we convinced the port authority this is a typical problem, and you don't know how many they're going to staff or where they're going to staff. The guy doesn't like to work at the north end because the sun's coming through the windows from the west and he doesn't want it in his eyes, so he's going to move to the other end.

Well, because of that, we've included the dynamics. Look, you can call any row whatever you want, wherever they're going to operate, by having these dynamic signs. You can change whatever counters they want open. It gives you that flexibility, and the port authority agrees that that's what they need, because they've seen it themselves; they know it's true.

Same thing here. When you start to — we have two signs dealing with dynamics. Where we're going to move information, we start to have a large dynamic matrix to handle that. This is the baggage claim display unit. As you might remember, at the end, when I said you came through customs, there was a unit at the end that provided separation for bag claims, and that's 5 through — 5, 6, and 7. This way is 1 through 4. And we start to incorporate an extra panel here, the visual paging requirements in the U.S. dealing with that.

There are much larger and more frequent pieces in there.

This is an example that is a stand-alone solid matrix so we can deal with any sizes of copy. We've also got an interpretation from the U.S. Justice Department about that, that they would like to see it three inches high in copy. Those who are displaying it currently on TV monitors are probably not meeting the requirement. They've never thought of it seriously enough to size copy, but a solid matrix gives us any amount of copy when we want to deal with electronics.

What happens when we start to deal with pylon directional signs, again what it does to the information system. Where you would just have four simple phrases now becomes very complex.

This is a — I'm going to go through just a couple terminals here real quick — Mickey Leland, which is Houston Intercontinental, terminal IB. This was, I think, a well-planned system when we worked with the design firm and having to integrate the sign system into the architecture. This in the U.S. was the first probably state-of-the-art facility done four years ago using a lot of electronic information and static information combined to complement one another.

The information that you'll see here — just some of the graphics — the large displays for changing flights and gate numbers as you come up the main escalator provide you with information work in with the commercial and the regular public signing, the bag claim identification areas in graphics. There are many more facilities. This is United's terminal one in Chicago. Again, we started this in 1987 dealing with curbside control because of flight information and using dynamic information. In many airports they're discussing this with airline names, particularly if we start to get a lot more of them back into the market. Where we have no room to display their names at curbside, we may find electronic signs at curbside.

Dealing with passenger information at the queuing booths and operation. But again, if you'll see, it's a mix of static, what we call static, and dynamic information, and that must be — I don't know if I should mention the name, but maybe I shouldn't; maybe I should — Pittsburgh new airport that opened up. I guess I did mention the name, didn't I?

I went through that facility, and one of the problems they have is they've taken a real nice approach to dealing with static and dynamic combined, and then they get you right to the counters where you start to have to know what the lineup — and they've done away with all static information. It's all electronic. So all you have are two bands of — some are green, some are red — all kinds of electronic information, and it just doesn't work. You do not know. They've now put up cardboard signs on stands to tell you what line you're supposed to be in, in English, because you really can't tell.

Those are the kinds of things we have to avoid. But the information system has got to be worked in with the architecture and the interior design. It's a real integral part of the entire facility, dealing with clocks and master clock systems.

I'm sure you've all seen most of this. This is BWI, which is a simple graphic piece. And then you can always get this. You can always decide that you're going to put static and dynamic up, and someone doesn't know what to put up. This happened at Newark. I wanted to go to Spain and they wouldn't give me a ticket. They said it was my choice. But the system's got to work. It's got to work for you, and someone has to program it and be aware of it. There's lot of checks and balances now built into electronic sign systems. It just doesn't have to happen at all.

What I'll do in closing is I'd just like to make one little statement, that information systems are changing in our facilities, not only in the U.S. but worldwide, and people really need to be comfortable wherever they go. They must have the reassuring effect. As they take a path to go to a specific place that it's easy to follow, that the information is clear, and that there's lots of backup information.

One of the things that our facilities do not provide are directories, which can orient you to food concessions, the types of concessions. If you're using a generic system that deals with functions, then you can go to an elaborate detailed system on the directories that say Burger King, McDonald's, the rest of it. So it can work both ways.

This information should support the traveling public's needs, and it should be expressed in other languages. And I think the U.S. is starting to take that approach.