



2018

Intervention and Reinvention: Rethinking Airport Amenities

Jens Vange

Follow this and additional works at: <https://scholarsarchive.byu.edu/thebridge>

Recommended Citation

Vange, Jens (2018) "Intervention and Reinvention: Rethinking Airport Amenities," *The Bridge*: Vol. 41 : No. 2 , Article 17.

Available at: <https://scholarsarchive.byu.edu/thebridge/vol41/iss2/17>

This Article is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in The Bridge by an authorized editor of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

Intervention and Reinvention: Rethinking Airport Amenities

by
Jens Vange

Over the past eight years, I've had the rare opportunity to explore in excruciating detail one of the most mundane spaces that most of us have experienced: airport restrooms. My immigration experience influenced the outcome of this exploration. My father, Erik Vange, immigrated to the US from Denmark during World War II and never moved back. My mom, Lissi, and my sister, Katrine, came over about ten years later. They settled in the Chicago area, and after a few years my parents decided to adopt a child from Denmark. Fortunately, that turned out to be me. I immigrated to the US when I was ten months old. As I grew into an adult, my dad's carpentry and my mom's artistry led me to a career as an architect. I worked at several smaller firms, in part because I was warned when I graduated college not to work at a large company or I would end up drawing stairs and restrooms all the time. Twelve years into my career, I was ready for a change and decided a large firm would be interesting to try. I joined Alliance, which is in Minneapolis. That was twenty-one years ago and it's still interesting.

We are part of a great culture, are very diverse, and are quietly innovative in a variety of commercial building types. We design teaching laboratories and research facilities, primarily at the University of Minnesota. Commercially, we also design highly technical laboratories for manufacturing medical devices, animal research, etc. We occasionally partner with international architects on large public buildings such as sports arenas, libraries, and theaters. We have a variety of long-term and singular retail and restaurant clients. We also do projects for eleven of the twenty Fortune 500 companies in Minnesota as well as numerous start-up companies to develop innovative and inspiring office spaces. Sixty percent of our current work is with airports, especially the spaces that engage the traveling public. Airports have been a long-time focus at Alliance, starting with our local airport in the 1970s. Sixty percent of our aviation work is at Minneapolis-

St. Paul International Airport (MSP). Last year we worked on over seventy projects there.

In my twenty years at Alliance, I've worked on and off at MSP. One of my biggest projects there was the renovation of the 1960s-era ticketing hall. The project was almost complete when 9/11 happened and everything changed. People had to keep their bags and belongings with them all the time. Lines formed everywhere. Travelers were frustrated and crabby. Flying wasn't so fun and carefree anymore. They started to complain—about everything: the checkpoints, parking, you name it. A few years later, our senior interior designer Sharry and I were called into the conference room by one of our firm's principals. MSP was launching a major long-term project to upgrade all their restrooms and he wanted Sharry and I to lead the effort. My first thought was, "Restrooms? What did I do wrong?" But it actually turned out to be a deep dive into the psychology and sociology of human behavior that has been a fascinating journey ever since.

Traditionally, restrooms in airports, as in other buildings, were tucked away in the leftover spaces. They didn't generate income and lingering wasn't encouraged, so pleasantries weren't a priority. It wasn't surprising then that the restrooms at MSP were their number one complaint. They had long lines, especially at the women's restrooms. They were hard to find with all the other signs screaming for attention. The stalls were small—you had to dance around your carry-on to close the door and get to the toilet. The stalls weren't very private. People felt vulnerable. There weren't clean or dry places to put all the things you now had to keep with you. And they felt unclean. Water drops tracked across the floor from the sink to the trash. Trash cans overflowed. Materials looked dated and worn. Some of the original restrooms from the early 70s were still in use. A change was long overdue.

As we got into the project we did two things. We went through and documented everything about each of the public restroom sets in the airport. There were one hundred. It took four weeks. Meanwhile, we met weekly with every airport stakeholder who had anything to do with the restrooms—plumbers, cleaners, airport police, etc. We dissected each part of the restroom, down to the coat hooks, and debated options to improve their functions. We analyzed the record of

complaints, which were lengthy and recurring. After nine months we had developed a prototype that was ready to be built and tested. The airport's senior architect, Alan; our interior designer, Sharry; and I had the perfect chemistry of experience, rigor, and drive to push past the old ways of viewing restrooms, but I feel there were a number of personal influences during this period of my life that helped steer our efforts into a broader and deeper level of exploration.

I've always felt different. I'm an introvert who grew up in a family of extroverts. In school I was one of the kids with a name that was hard to pronounce. My adoption always seemed to require explanation. I was the kid in gym class with the colored underwear, Christmas presents from my mormor and morfar in Korsør. No one ever wanted to trade lunches with me. I often had sliced potato or egg sandwiches, *leverpostej*, and leftover fish balls. That last one required even more explaining. In the course of my public education, I gravitated towards and became friends with the kids who also seemed different, because of ethnicity, race, disability, sexual orientation, or any of the aspects that our culture highlighted, often in derogatory ways. I found comfort in the similarity of their differences.

I observed through my family and my friends' families, who were mostly German, Indian, and Mexican, that first-generation immigrants tended to stay close to the familiar in location, relationships, and activities. In our household, we celebrated Danish Christmas. My sister and I learned folk dancing and gymnastics at the Danish American Athletic Club. Most of our family friends were Danish, and we visited Denmark regularly to visit our extended family. While I found comfort in these traditions, I also felt stifled. Growing up in two cultures, I felt pulled between both. I was Danish and American. I couldn't find a way to fuse them together, feeling like an outsider in each.

When I first moved to the twin cities of Minneapolis and St. Paul, there was a huge influx of Hmong from Laos that created the largest Hmong population in the US. They primarily congregated in the Frogtown neighborhood of Saint Paul. Now, a couple decades later, they are much more integrated, with a few remaining core communities. More recently there has been a wave of Somali and Ethiopian immigrants to the Twin Cities. They too initially clustered in tight communities. Now too the younger generations are leaving their nests

to other parts of the cities and the state. Seeing from the outside the same pattern I grew up with made me realize it was a natural progression for second-generation immigrants, which I consider myself to be, to move beyond the familiar and confining to integrate with and explore the larger world. I have a suspicion that this may be a trait that's generally unique to that second generation. It would be interesting to study that more. When I came up to Minnesota, I found myself still appreciating what I felt was different from others but also what I shared that felt the same. This dichotomy would prove an important theme in the development of our new restroom prototypes.

When I started working in architecture, my projects were small, mostly new houses and additions, along with low-income housing. Then came several hospital renovations for children, clinics for general practitioners and veterinarians, and a clinic for treating torture survivors. I also worked on facilities for adults and children with severe mental disabilities. A few K-12 schools and university projects dotted my portfolio along the way, and I worked on correctional facilities for the county. I was also involved with a handful of churches, including a Friends meetinghouse and a new sanctuary designed with the Danish architecture firm, Friis og Moltke, for a church outside of Minneapolis. I also had a few projects in the retail and restaurant worlds. In the last few years, I did quite a few office projects for small local companies and international corporations. And numerous airports. These projects helped me understand the complexity of planning, designing, and operating what is in effect a small city at an airport. It's a scale so large that it's easy to lose track of the interface between the people who travel through and those who work there.

A significant impact on my design sensibilities has also been my exposure to Danish design, from the modern furniture in my childhood home to seeing new buildings in my visits to Denmark throughout my life. A few Danish firms and architects have stood out to me, the first being MSAADA, which is a Minneapolis-based firm owned by Danish architect Poul Bertelsen. Most of their projects are in developing countries, and they focus on facilities that support their communities. It's an amazing model for bridging the world with much-needed expertise and resources. Arne Jacobsen was one of a group of modern architects and designers that studied the human body and

tried to create buildings and furniture that efficiently, simply, and aesthetically created comfortable places and spaces for people. Bjarke Ingels' firm, BIG, is a Danish architecture firm that is quickly gaining international attention for large and bold designs that respond to the growing need to make cities more sustainable and livable. These firms, for me, embody Danish design principles that I feel should be universal—they are simple, practical, sustainable, and therefore durable, beautiful, and most importantly, humane. All of these shape how we experience the built world. For restrooms in busy airports, experience is everything.

One last influence on my approach to developing these restrooms and amenities was coincidental and profound. At the same time this project started, I found my birth family. Not only that, I found out I had a blood brother, Rene, who was two years younger than me. Neither one of us knew about the other. This discovery is a whole paper in itself. From meeting members of my family of origin, I was able to piece together my roots and ancestry. Finding the answers to a lifetime of questions unclogged my mind. I finally got rid of the pebble in my shoe and could now focus on the world around me.

America exists because people from all over the world became tired or scared of old ideas, faces, and places and sought new opportunities elsewhere. The United States is the great experiment where differing peoples and cultures can clash, learn, adapt, and blend. No other place like this exists on the planet. Google, Amazon, and Facebook sprung from here because change and growth only happen when you mix differing ideas. My immersion in Danish and American cultures taught me to appreciate the good and bad in both. While that isn't uncommon, I feel my adoption brought a different layer of additional questioning that taught me that nothing should be taken at face value.

This attitude was reinforced in my involvement in creating nearly every building type and being exposed to people from every walk of life with vastly different needs. I saw the impossibility of accommodating every need without excluding others, but further recognized that every positive effort was at least a step forward. This was all reinforced by what I took from Danish design. Finding a balance between utility and beauty is a noble cause. And that sentiment has been

the driving force behind bringing balance into this most utilitarian of spaces. Simplicity, practicality, sustainability, beauty, and humanity can indeed coexist.

In 2010, our first two restroom prototypes were built at MSP. We have been extremely fortunate that the airport has viewed our projects as living laboratories where we can try out new ideas. If something doesn't work out, we refine or change the next one. It's a luxury very rarely afforded in my profession. Most of the bugs have now been worked out, but there's always something to work on. A product changes, there's a new technology, there are complaints, etc.

The restroom façade is the sign. As you go through the airport, you recognize the same materials and elements. The restrooms are also information hubs. Flight information is located here to look at while you wait for someone, as are emergency devices. There is an art display cabinet that is curated by the airport's art foundation with local museum's and art organizations providing revolving exhibits.

The restrooms are typically organized with the stalls on one side and sinks on the other, which works best with the space constraints at MSP. We have developed other configurations that can be used elsewhere. The floors are epoxy terrazzo with local stone pieces, chips of porcelain from Kohler's rejected toilets, and pieces of recycled mirrors to add a little sparkle. We decided against floor tiles because the grout always gets dirty and the joints make a constant clicking sound from luggage wheels. The walls are monolithic quartz panels. They are forty-four inches wide and up to ten feet tall and only three-eighths of an inch thick, like an enormous tile. The joints are hairline and seamed with epoxy. These surfaces are impenetrable and will last a half-century or more. The ceiling is perforated metal with highly sound-absorptive materials to dampen the noise, especially from the flushing toilets. Because the materials have a long life, the chosen colors are timeless and neutral. Color is provided by the art, signs, and the people.

The doors stay slightly open to help you find unoccupied stalls. Each stall is an ambulatory stall, meaning it has grab bars on both sides and it's three feet wide and five to six feet long. The accessibility code requires one of these in each restroom of a certain size. With an eye toward universal access, we decided that every stall should have

this configuration because the size provides space to maneuver. Plus, anyone can break a leg or need a little help getting up and down with sore joints. The partition walls are thick: nine and a half inches. This allows everything to be recessed, which provides more space. A niche is also provided for a carry-on and a shelf off the floor for a purse or bag. The urinals have similar thickened walls with niches and coat hooks. The urinal partitions extend out three feet and are the same height as the stalls for privacy.

The sink area is a model of efficiency. Dual sinks are typical so there can be a paper towel and trash within reach at the side of each station. Trough sinks eliminate counters that always get wet. Instead there is a twelve-inch-deep shelf behind and slightly higher than the sink to place belongings. We worked with a sink manufacturer to modify one of their standard designs to make it less deep, front-to-back, so people of short stature can reach the faucets and soap. There is also an outlet at each sink for shaving, etc. There is space at the sink so you can keep your carry-on next to you, in sight, and can hang your coat on adjacent hooks. The accessible stall in each restroom is a separate room within the restroom. This allows us to provide an automatic door that is opened and locked by pushbuttons so these users also have a touch-free experience. A sink is located within this space, because why should someone in a wheelchair have to wheel out to a sink with dirty hands?

At the sinks, everything is touchless. The faucets are powered by a small turbine so the flow of water recharges the battery. Foam soap comes from refillable five-gallon containers located out of sight in the adjacent pipe chases. The mirrors have integrated light panels so that faces are lit from each side rather than from above. This avoids shadows that make you look as tired as you feel. A built-in baby-changing table is provided in every restroom with an adjacent sink and trash. Below the sinks is a supply air grill so spills on the floor dry faster. The exhaust grill runs above the toilets on the opposite side of the room to quickly pull out odors. Trash is emptied from discreet access doors. Light throughout the restrooms are from LED clerestory light panels above the toilets and sinks to provide a soft ambient light that is accented with recessed ceiling lights where needed. Daylight is captured where available—the exterior curtain wall glazing has trans-

lucent film to provide an inviting glow in the space. This diffuse light and connection to the outside world is one of the aspects most often remarked upon.

We spent a great amount of time debating and researching the issue of paper towels versus hand dryers. To date we have been unable to find clear data that shows one is more sustainable than the other. Most of the reports are provided by the manufacturers, so they are suspect. Originally, we had both at each sink, but in the end, we eliminated the hand dryers since they competed for the same space as the trash. Hand dryers are often at a decibel level that can seize hearing aids for up to ten minutes before they reset. This protects the person's hearing, but creates a very unpleasant experience in the interim. Besides, you will always need paper towels to wipe off spills on clothes or children's faces. The trend is to have the hand dryer integrated with the faucet and soap, which seems to be the right move. New models are getting quieter. However, they take too long to dry. The busiest restrooms at MSP get over one hundred thousand people going through them every month. To avoid lines, it is unacceptable to have people waiting for their hands to dry. We prioritized making the restrooms aesthetically pleasing. The colorful tiles in the entrance make up one of the most exciting aspects of our restrooms. Each restroom location has a mosaic mural in the entrance. Each location's mosaic was created by a different local artist and celebrates natural and man-made features that are unique to Minnesota. Eight restrooms had been constructed by October 2017. Over the coming decades, the airport will be like a museum, with scores of mosaics to view around the airport.

The restrooms are also technologically advanced. When a restroom is being cleaned, a screen at the entrance indicates where the nearest restroom is located in each direction. The cleaning staff swipe their badges to change the message, which also increases the exhaust to speed up drying the wet floors and pull out chemical smells. This also updates when the restroom was last cleaned. Behind the scenes, pipe chases have traditionally been barely wide enough to get a person in sideways. If you need to repair something that requires tools, which is the case for most fixes, you need two plumbers. One to do the work, and one to guard the tool cart out in the concourse. We now provide pipe chases that have two to three feet of clearance with

a twelve-inch zone for pipes. While this requires a bigger restroom footprint, it provides space for the carts and allows for repairs without shutting down the restroom. Every restroom set also has an adjacent family room that has an accessible toilet, sink, and baby-changing area. The toilet is partially screened from the sink area for privacy if the user has a companion or kids along. This door is also opened and locked by pushbuttons. We developed a prototype for a waiting area across the concourse from the restrooms. In addition to providing comfortable seating while you wait, it also minimizes people waiting near the entrances, which clogs the circulation flow. The first of these was under construction in the fall of 2017. Based on our work at MSP, my team and I were invited to research and write a guidebook on airport terminal restroom planning and design. The Airport Cooperative Research Program, or ACRP, is sponsored by the Federal Aviation Association (FAA) and the Transportation Research Board of the National Academies. They have over one hundred guidebooks on every aspect of design in operating airports. Restrooms, not surprisingly, hadn't been covered yet. Ours was the first guidebook to use color with numerous images to keep the topic interesting. We created a variety of tools to help prioritize the airport's needs, then provided guidance to plan, design, build, and maintain their restrooms. Our research included focus groups, surveys, and case studies from twelve US airports we visited. I also wrote an essay on the restroom of the future that discussed ways of making restrooms truly universal, where ability, gender, etc. are no longer barriers.

While I tried to make this relatively mundane topic appealing, I was quite surprised to see that *The Atlantic* somehow got ahold of our guidebook and wrote a nice little commentary about it. I'm also co-author of another ACRP guidebook in conjunction with the Open Doors Organization on innovative solutions in airports for travelers with disabilities. Our team was selected to update our original guidebook with research and guidance for ancillary restroom spaces. These are primarily spaces for lactation, nursing mothers, service animal relief areas (S.A.R.A.), and adult changing. There are numerous other less common functions that will also be addressed, such as showers, sleeping pods, children's play areas, etc.

Part of the reason we were chosen for this project is our development of prototypes for lactation, nursing mothers, and service animal relief areas. Our nursing mothers' rooms are modeled after spaces commonly seen in larger department stores and malls. They're inviting and freely accessed but provide privacy. Ours have seating for multiple mothers in chairs that are comfortable for holding nursing babies. There are also outlets for recharging phones and a baby-changing area with a sink. The lactation rooms, on the other hand, are a private space for one person. An accessible counter is provided with outlets for the pump and phone charging as well as a more upright chair for comfortable pumping. Here too a baby-changing area is provided, and there is a sink with a higher faucet to make cleaning the pump easier. When a person with a guide dog has a layover, the only previous option to let your guide animal go to the bathroom has been to exit through security, find the outdoor relief area, then go back in through security. If you are elderly or in a wheelchair, this is hugely burdensome and stressful, especially if you have a tight layover. The FAA now requires airports of a certain size to have at least one pet relief area on the secure side.

We built one prototype at the Minneapolis airport that we were not satisfied with. Space was limited, and it compromised the design. The second attempt follows our prototype. It's a simple space with a ten- to twelve-foot-square turf area. Guide dogs are trained to walk in a circle around their person on a six-foot leash when going to the bathroom. You may have seen some relief areas with a fire hydrant. The hydrant is a hazard as the leash can get tangled on it or a person who is blind may trip over it. These are the kinds of considerations we hope to highlight in the next guidebook. The grass area is a permeable artificial turf with special pheromones imbedded to inspire dogs to go. The turf sits on raised plastic tiles so that the push of a button will flush away the waste below. Obviously, very good ventilation and frequent cleaning are required.

The last prototype we've been developing is to provide a space for adult diaper changing. With the increase of aging baby boomers, accommodations like this in airports is becoming a necessity. Our prototype integrates the changing table into our family room layout without adding a significant amount of space or creating a separating

room. The table can hold a person up to about four hundred pounds and is electrically height adjustable.

In the years since our restroom project started in Minneapolis, we have been integrating the planning and design principles in our guidebook throughout the country at our other recent airport projects. They're even using our guidebook in Sydney, Australia for the restrooms in their railway stations. Our latest project is at the Seattle-Tacoma airport, where we are updating twelve restrooms on three concourses over the next seven years. We are again developing prototypes. It is early in the project, so we do not know what the finishes will be yet. The Seattle managers have aspects they like and don't like about what was done at Minneapolis. It is exciting to develop a fresh perspective with new input but continue to build on the experience we have collected so far.

We have been fortunate to receive a little recognition for our airport amenities project. The Association of Women's Health, Obstetric, and Neonatal Nurses voted the lactation rooms at Minneapolis airport the best in the country. *USA Today* wrote a piece comparing our lactation rooms to those at other airports. *Airport World* magazine wrote a feature on our restroom and amenities program at Minneapolis airport. Most gratifying, though, was having the Minneapolis-Saint Paul Airport restrooms voted America's Best Restroom in Cintas' annual competition. Our work, it seems, is never done.

We currently struggle with a dilemma related to the space typically located next to the restrooms that has a single stall and a sink. It was originally intended for a small store or restaurant where they only needed one toilet per the building code. These were called "unisex" so both men and women could use them and two did not have to be provided. Then the American with Disabilities Act was developed and these rooms had a new purpose. Primarily because it was too costly to renovate existing restrooms to provide a bigger, accessible stall, these rooms initially provided this accommodation. Incidentally, the word "handicapped" and "special needs" should not be used. These names focus on a specific population, aspect of a person, or in the case of companion care, a specific grouping of people. The implication with the latter is that only someone traveling with an assistant can use this room. Similarly, it is implied that you can only use a family room if

you have kids. When I was growing up, a family room was in the basement in my high school friends' homes. Now we have gender as the latest attribute becoming the focus.

Interestingly, the wheelchair symbol was adopted by the International Organization for Standardization in 1968. A contest to design a universal accessibility symbol had been held and this symbol was chosen. It was designed by a Danish student, Susan Koefed. Originally, it was just a wheelchair, but somewhere along the way, someone added a head, sparking complaints ever since that the person in the wheelchair looks emaciated. Now new symbols are being designed. A common version depicts a person racing in a wheelchair. Again, this is the pitfall of focusing on an aspect of the person rather than the function.

I set up a meeting with the Minneapolis airport directors to make a final decision on our signs before we built too many restrooms with the wrong sign. We chose a sign that says "Restroom" because that focuses on the function of the room instead of who uses it. We also opted to use the then up-and-coming symbol for transgender persons, a half-man/half-woman figure, along with the traditional figures for man, woman, child, and person in a wheelchair. I have since regretted both decisions. The term "restroom" is confusing. The larger men's and women's rooms are restrooms too. More importantly, the half-man half-woman figure implies the person is uncertain about their gender. I have found this rarely to be the case. In Europe, a common new symbol is simply a toilet. It is definitely focused on the function. It sounds like Canada is considering this as a standard too. It seems like a minor item in the larger scheme of airport restroom design, but it does have a significant impact on the larger scheme of culture and attitudes. These are spaces we all use, and as such, they should reflect that in a holistic manner.