

Comportamiento de pasajeros en escaleras mecánicas de Metro y su impacto en la capacidad y experiencia de uso

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¿Qué *conviene** más?

- a) Los pasajeros se paran al costado derecho y caminan por el costado izquierdo
- b) Los pasajeros se paran en ambos lados de la escalera




Esto ha dividido a investigadores y Metros de varias ciudades del mundo

Washington

At Last, Metro Has a Message for 'Escalamps'

By Lisa H. Sun
Washington Post Staff Writer
Saturday, August 11, 2007



Sand to the RIGHT, already.

That has been the eternal plea — grumbled, spoken, yelled and otherwise communicated — of impatient Metro commuters stuck on escalators because tourists don't realize that in big, important Washington, you stand to the right so all the Type A people can hurry past on the left.

For the first time in its history, Metro has started telling them.

"Hi. Welcome to Metro," the station announcement begins. "We have a lot of escalators in our system. You'll notice that most people stand on the right side. And while you're riding, hold the handrail for your safety. Enjoy your trip, and thank you for riding Metro."

The announcement is one of a series that the agency has recently recorded to ever-so-gently remind riders of the system's rules, customs and quirks, including escalator etiquette and train-door operation.

Some announcements are new, such as the one that tells people that train doors are *not* like elevator doors. They will not automatically open again "if they close on your arm, leg or purse." Others reinforce the basic ban: "No eating, drinking or smoking anywhere in the system, including on outdoor station platforms."

But few are likely to be as welcome as the one laying out escalator protocol.

"We hear from our average customers and from people on the online chats asking us -- pleading with us -- can you please, please tell people to stand to the right?" Metro spokeswoman Lisa Furbstein said. "People who stand to the left instead of standing to the right are like speed bumps, and they slow down the pedestrian flow through the stations. They're known as 'escalamps' and 'escalifers.'"


More colloquially, they're known as annoying.

"The visitors are always getting on the left, and the locals are trying to rush like hell to get their train and get to work," said Calvin Lewis, 61, who commutes from Landover to Van Ness, where he is a staff member of the University of the District of Columbia's cooperative extension service. Lewis hasn't heard the new announcements but said they are an "excellent" idea.

Hong Kong

Stop walking on escalators: Hong Kong divided over MTR plea for people to stand still ... but what do you think?

By Lisa H. Sun
Associated Press Staff Writer
Saturday, August 11, 2007



On Hong Kong's escalators it's frequently a fight for survival as frantic commuters, tourists fidget with shopping and parents with young kids to get where they're going.

And for decades our suspicion rate has governed civilized escalator behavior, not only in Hong Kong but in many corners of the world. Stand on the right, walk on the left.

At first glance, the need to prohibit escalamps seems intuitive. "People who stand to the left instead of standing to the right are like speed bumps," a D.C. metro spokeswoman said back in 2005. "and they also slow the pedestrian flow through the stations." But recent evidence has found fault with the popular "right-stand, left-walk" rule: In a study of a busy subway station, researchers found that having one person stand on an escalator can actually reduce subway station congestion.

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Londres

Why Commuters Get Wrong About Escalator Etiquette

Walking on the left side may not save time after all.

By Amy Bernick
24 de agosto de 2007 at 10:26 GMT-3



Five things are more relevant to a frequent subway rider than those passengers who violate the unspoken rules of the metros. In addition to the person who tries to shove into a car as the doors are closing, or who jaywalks across multiple lanes, perhaps the most hated prototype is the traveler who clings up the escalator by standing on the left side. Among Washingtonians, these people are referred to as "escalamps," and they are often a serious source of complaint for hurried commuters eager to make it to work on time.

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Nueva York

Why You Shouldn't Walk on Escalators

The train pulls into Pennsylvania Station during the morning rush, the doors open and you make a beeline for the escalators.

You stick to the left and walk up the stairs, figuring you can save precious seconds and get a bit of exercise.

But the experts are united in this: You're doing it wrong, setting an advantage at the expense and safety of other commuters. Boarding an escalator two by two and standing side by side is the better approach.

By Christopher Miele
April 4, 2007



Tokio

Tokyo Wants People to Stand on Both Sides of the Escalator

When one side isn't reserved for walkers, it saves time for everyone. But transit users around the world just can't be convinced.

By Linda Dao
20 de diciembre de 2008 at 10:00 GMT-3



I'm one of those people who spend past everyone on the escalator. As long as the left side isn't blocked, no amount of judgement from fellow riders to the right, or safety warnings, or even falling from and crawling will keep me -- not just anyone. I'm certainly not alone; it's a common enough habit that some cities occasionally try to change such behavior for safety's sake.


London's tried, so has Hong Kong and Washington, D.C. New York's Tokyo's tried. East Japan Railway Company (JR East) laws had a campaign Monday calling on riders to stand on both sides of the escalators inside some of the city's busiest transit hubs. Signs are posted on walls and above escalators, reading, in both Japanese and English, "Walking on escalators may lead to accidents caused by collisions or tripping" (right-hand handrails carry-side).

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By Anu Swartz
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Metodología



Leer

Estado del arte en revistas académicas, estudios o definiciones de operación de metros del mundo y debates en la prensa



Observar

Personas en escaleras de estaciones:
U. Chile
Tobalaba
Manquehue
Los Domínicos
y más



Registrar

Video utilizando cámaras



Procesar

Video utilizando visión artificial de Datafromsky



Analizar

Comparando contra el estado del arte



Modelar

Utilizando Agentes



Simular

Utilizando Anylogic

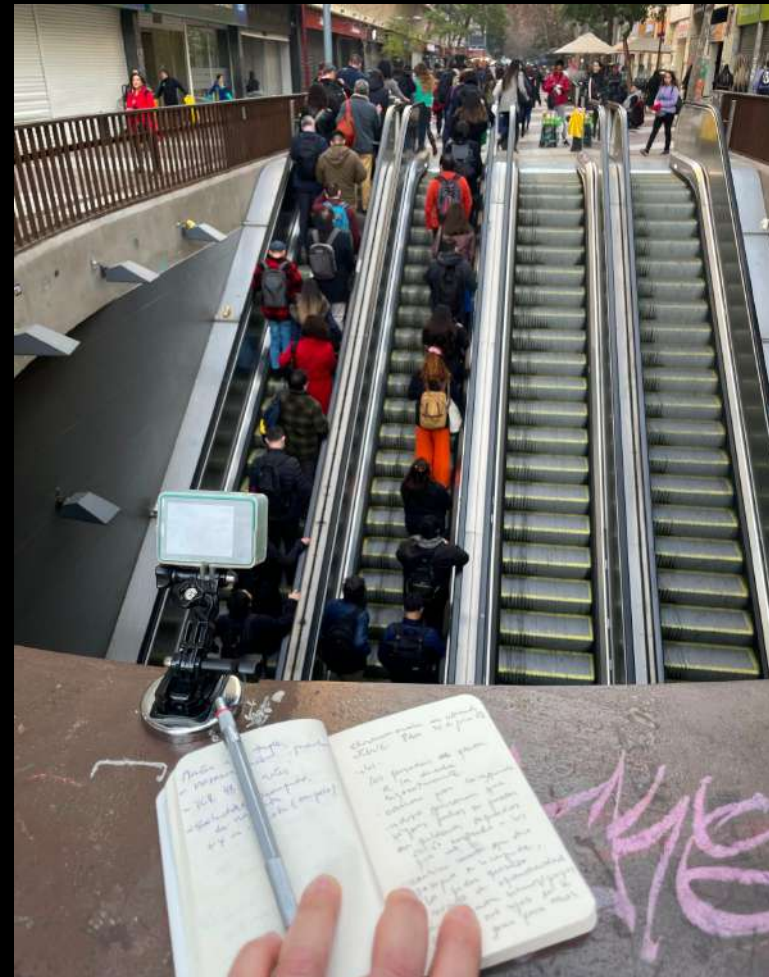


Evaluar

Diferentes escenarios

Caso Universidad de Chile

Escalera hacia Ahumada



Caso Universidad de Chile

Escalera hacia Ahumada

Se observó punta mañana y medio día

8:00 hrs



13:00 hrs



Caso Universidad de Chile

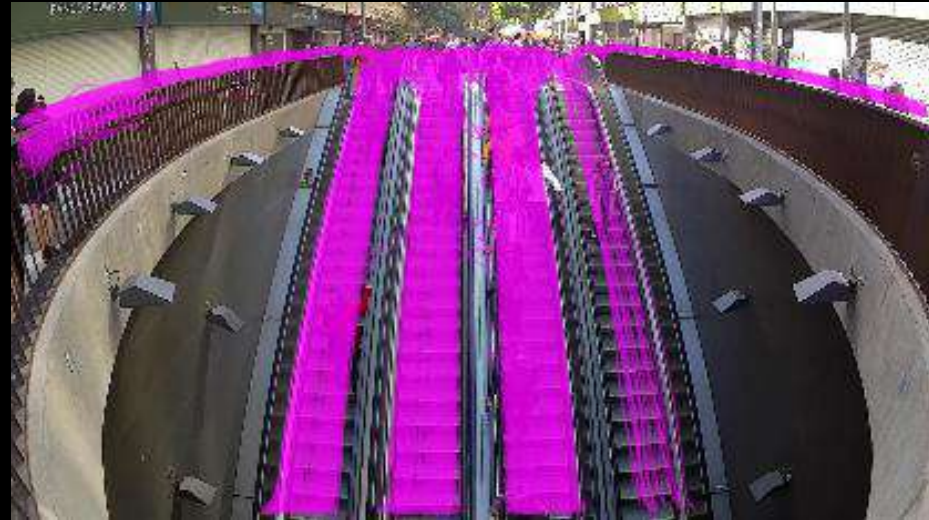
Escalera hacia Ahumada

Se procesó y estudió cada uno de los pasajeros identificados y sus trayectorias

8:00 hrs



13:00 hrs



Algunos resultados

Durante la mañana el 80% de las personas se para a la derecha, en cambio fuera de punta sólo lo hace el 60%

Durante la mañana las personas caminan más, a la vez que las personas que no caminan se ponen a la derecha, pero durante la tarde, las personas que no caminan se ponen en ambos lados o al medio (40%)

Las personas mayores demoran más en acceder al primer escalón

La mayoría de los observados son caminantes oportunistas, caminan hasta donde alguien le impide el paso, muy pocos piden permiso para seguir avanzando

Hay caminantes de última tramo, que reafirma la literatura

Simulación



Tres escenarios

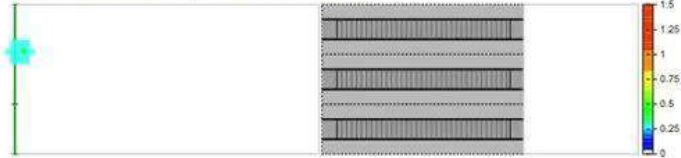
- pasajeros se paran en ambos lados
- pasajeros se paran a la derecha y otros caminan por la izquierda
- pasajeros caminan por ambos lados (modo evacuación)

Simulación de pasajeros accediendo a una escalera mecánica: 3 escenarios simultáneos con comportamientos diferentes

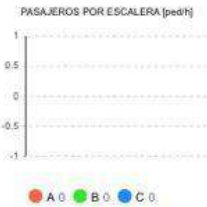
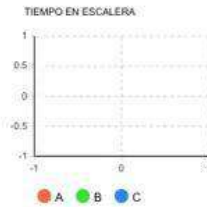
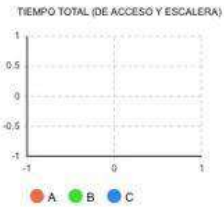
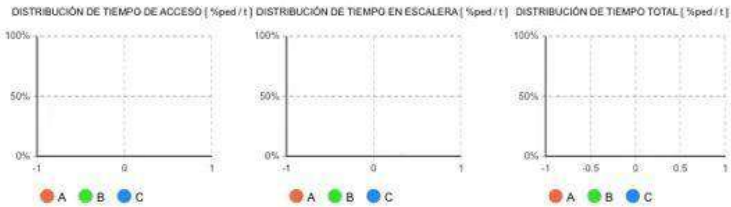
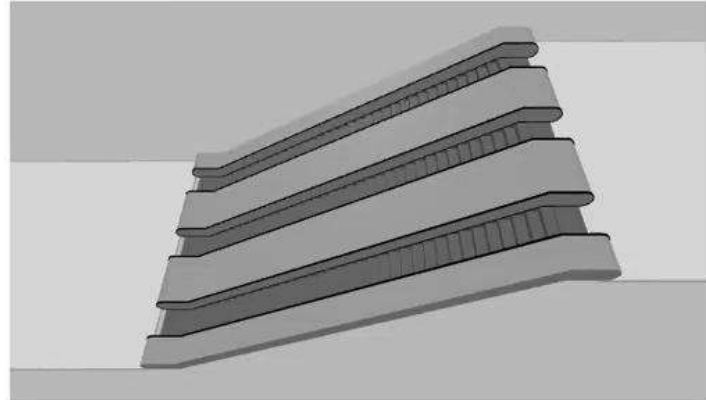
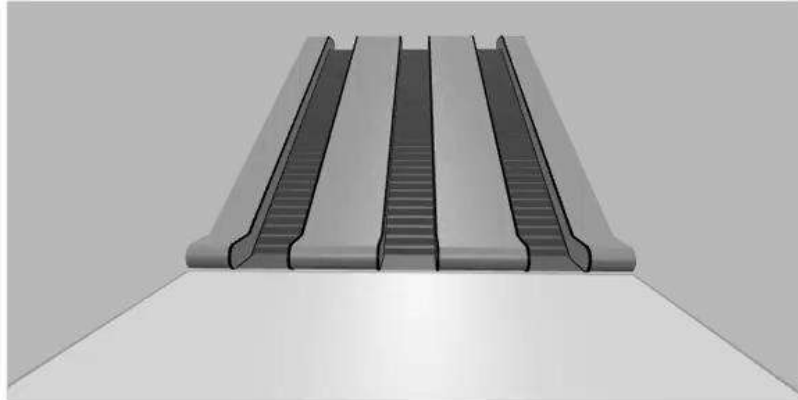
A) PASAJEROS NO CAMINAN Y SE PARAN EN AMBOS LADOS DE LA ESCALERA

B) PASAJEROS CAMINAN POR LADO IZQUIERDO Y SE PARAN EN LADO DERECHO

C) PASAJEROS CAMINAN POR AMBOS LADOS DE LA ESCALERA



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Resultados



No existe UN resultado ideal, va a depender del lugar, tipo de usuarios, contexto de actividades, momento del día.

No obstante, para igual flujo, la configuración con adelantamiento tiene menor tiempo y es mas confortable a todo tipo de usuarios

Gracias

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Con la colaboración de:



Para acceder al simulador web