



NONPROFIT ORGANIZATION · SEOUL, KOREA

Seoul Metropolitan Subway Transfer Map for Wheelchair Users

A citizen-built accessibility map guiding wheelchair users, seniors, parents with strollers, and anyone with limited mobility through Seoul's subway transfers — turning a 40-minute ordeal into a confident, plotted route.

2016 Founded as a cooperative **2024** Registered as a nonprofit **2026** Metropolitan-area expansion

THE CHALLENGE

Getting around Seoul is a maze if you use a wheelchair

Seoul's subway network has grown to 24 lines over 50 years — but it was never designed with wheelchair users in mind. Every transfer becomes a search for a working elevator, a long detour, or a wait for staff assistance.

28x

longer transfer times for wheelchair users than non-disabled riders

Thesis of Yewon Jeong, Department of Transportation Management, University of Seoul (2022)

30–40

minutes commonly spent wandering in search of a working elevator

Rider-reported experience

26%

of wheelchair users have given up on a job due to mobility barriers

Seoul Nat'l Univ. (Prof. Kim Seung-seop)



“Why are you bothering able-bodied people by coming out of the subway?” — a comment wheelchair users in Korea still hear today. It reflects a transit system that makes disabled riders feel like the inconvenience.

Muui: building “a world without barriers”

Muui (무의) is a Seoul-based nonprofit working at the intersection of disability rights, urban design, and public data. Since 2016, it has organized citizens — disabled and non-disabled alike — to research, design, and publish the accessibility information that Korea's transit agencies don't provide.

Muui defines its mission as removing three layers of barrier:



Physical barriers steps, gaps, and missing ramps that block a route entirely



Psychological barriers the fear and uncertainty of not knowing if a route is passable



Barriers of awareness a public that doesn't yet see accessibility as everyone's issue

200+ citizen researchers, including 30+ wheelchair users, have contributed field data since 2016.



Muui community members at a citizen-research meetup

A decade of building accessibility data, block by block

Muui's transfer-map work began in 2016 and has expanded every year since — first as an all-volunteer effort, then with corporate and foundation partners.

2016–2017

First transfer map

18 stations mapped with Kaywon University; design-guide MOU with Seoul Design Foundation

2018

Citizen-powered scale-up

~100 volunteers (incl. SK Group, Hanyang Univ.) expand coverage to 43 stations / 198 segments

2023

Foundation-backed refresh

T-money Welfare Foundation funding updates 53 stations and adds 27 new ones

2024–2025

API + live website

Route data restructured into an API; subwaytransfer.kr web service launches

2024: Muui formally registers as a nonprofit organization (사단법인) in South Korea, building on 8 years as a cooperative.

Map's search box shows a complete accessible route

subwaytransfer.kr lets a rider enter a start and end station and instantly see the most accessible transfer path — which elevator to use, which car to board, how long the walk will take, and how difficult the transfer is rated.



Turn-by-turn transfer routing

Elevator-to-elevator directions, not just station names



Time & difficulty estimates

Know before you go how long a transfer will really take



Built by the people who use it

Verified in the field by expert researchers including wheelchair users, not guessed at a desk



“For the first time, I found the courage to commute by subway.” — a 29-year wheelchair-using office worker, after discovering the map



More Impact: Maps to Signage change

Maps even led to onsite signage change

SUBWAY FOR ALL · 모두의 지하철

Subway for All (모두의 지하철) is Muui's public-design research project: Muui's transfer-map data is used to redesign real station wayfinding signage, installed together with Seoul Metro — then verified in the field.

Transfer time, City Hall Station

40%

reduction in average transfer time

16m 03s

before

9m 37s

after

Source: field measurement following the 2026 signage redesign; reported by Kyunghyang Shinmun

경향신문

2026년 04월 21일 화요일 021면 사람과 사람

휠체어 타고 서울 지하철 가면 '청록색 띠'만 따라가세요

사단법인 무의, 공공디자인 프로젝트 '모두의 지하철' 실증조사

지하철을 이용하는 시민이 환승하려면 갈아타려는 노선의 색을 따라 걸어가면 된다. 하지만 휠체어를 이용해야 하는 시민에게는 틀린 답이다. 비장애인들이 가는 환승길대로 따라가다 보면 매번 계단을 마주하기 일쑤이기 때문이다.

턱 없는 세상을 만드는 사단법인 '무의'가 서울시, 서울교통공사, 현대로템 등과 함께 추진하고 있는 교통약자 지하철 이동 편의 개선을 위한 공공디자인 프로젝트 '모두의 지하철' 실증조사 결과를 20일 발표했다.

실증조사는 올해 1월 '휠체어 이용자 신규 안내표지'를 설치한 시청역(1·2호선) 환승구간을 대상으로 실시했다. 그 결과 신규 안내표지를 따라 이동한 휠체어 이용자의 환승시간이 크게 단축되고, 경

로를 이탈하는 사례도 1회 미만으로 줄어든 것으로 나타났다.

휠체어 이용자들은 그동안 시청역 1호선(서울역 방면)에서 2호선(충정로 방면)으로 환승하는 데 평균 16분3초가 걸렸다. 안내표지를 부착한 이후 환승 시간은 평균 9분37초로 기존보다 6분26초 단축됐다. 엘리베이터를 찾지 못하고 경로를 이탈하는 횟수도 기존 5.7회에서 0.9회로 1회 미만으로 줄었다.

환승의 어려움으로 지하철 이용을 꺼리던 휠체어 이용자들은 이번 안내표지 설치 이후 사회 활동에 대한 적극적인 의지를 보이기도 했다. 실증에 참여한 참가자 중 80%는 안내표지 설치 후 '약속이나 모임에 기꺼이 참여하고 싶어졌다'고 답했다. '모두의 지하철' 안내표지 디자인은 고



서울 지하철 시청역에 부착된 모두의 지하철 안내표지 앞에서 유아차를 이용하는 시민이 지나가고 있다. 무의 제공

통약자가 그려진 '청록색 띠(인디케이터)'를 도입한 게 가장 큰 특징이다.

각 지하철 노선은 노선별 고유 색깔을 갖고 있어 환승 시 해당 노선색을 따라 걸으면 되지만 휠체어 이용자에게는 해당되지 않는다. 이런 교통약자들에게 '청록색 띠만 따라가면 된다'는 메시지를 줌으로

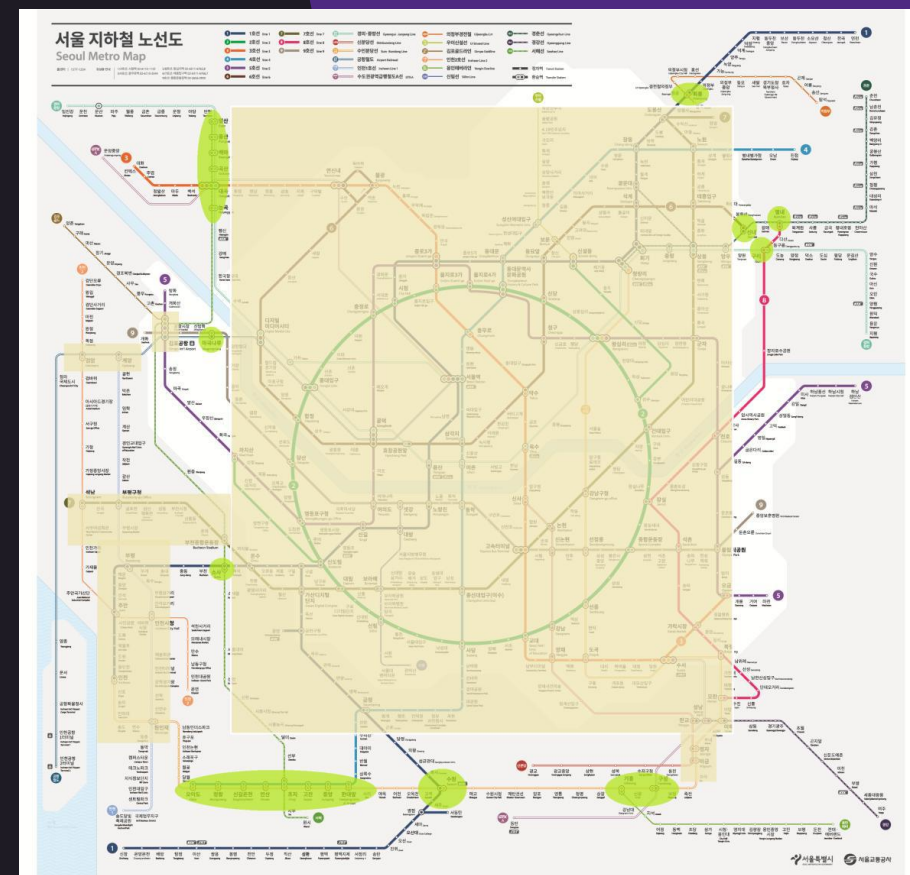
“Follow the mint-color line” — Kyunghyang Shinmun, April 2026

National press coverage of Muui's color-coded wayfinding signage, co-developed with Seoul Metro and now expanding to more stations through 2027.

From a Seoul map to a full metropolitan network

Muui has already built transfer-route data and a live API for 96 stations across Seoul. With help of Global Giving donations, Muui extends that same rigor across the wider Seoul metropolitan area — and adds a new layer of accessibility information beyond routes alone.

- 01 **Expand route coverage** Suin-Bundang, Seohae & Uijeongbu lines
- 02 **Add accessibility layers** Restrooms, chargers, staff assistance
- 03 **Measure real impact** Usage, time saved, cost avoided



Green highlights = station data still to collect in 2026

More accessibility information to cover entire Seoul Metropolitan area

PHASE 1

Expand the transfer route map

- Full data survey of transfer routes at new stations
- Structure route data for API development
- Update the live website and API with new coverage

96 stations already API-ready in Seoul. Next: **Suin-Bundang, Seohae & Uijeongbu** lines.

PHASE 2

Layer in accessibility facility info

Beyond routing — the practical details riders need once they arrive:



Accessible restrooms

location, wheelchair charger, emergency bell



Nursing rooms & amenities

family-friendly facilities at each station



Station safety info

safety ramp availability, staff assistance status

Help Muui expand the maps by funding

Approximate USD figures at ~₩1,370/\$1; exchange rate fluctuates. A 12-month operating budget covering staffing, data collection, engineering, and impact measurement.

Item	Detail	Annual Cost (KRW)	Approx. (USD)
Project management & operations	Part-time program management (0.7 FTE) across the year	25,200,000	\$18,390
Data collection & verification	Field research, ₩20,000/hr × ~30 hrs/month	7,200,000	\$5,260
Site maintenance	Server, hosting & system management	7,200,000	\$5,260
New development	Metro-line & facility-data API expansion, UI/UX build	5,000,000	\$3,650
Impact measurement	Usage analytics & outcome evaluation	5,000,000	\$3,650
Site design	Accessibility-info UX/UI design	3,000,000	\$2,190
Site hosting	Server & domain	1,200,000	\$880
Administrative costs	General overhead	1,200,000	\$880
TOTAL		₩55,000,000	\$40,150

EXPECTED IMPACT

A more navigable Seoul subway for +10 million people + visitors with limited mobility



+10M people

Korean people with reduced mobility including ppl with disabilities — +30% of the population — gain a more predictable way to ride the subway



Visitors from overseas

With Seoul gaining popularity as tourist destination, the project can make the city more accessible for visitors using wheelchairs or strollers



Fewer

Emergency staff calls and mobility-related safety incidents

“Sia, the daughter of Yunhui Hong, Muui's chairperson ventured onto Seoul subway alone at age 12 — after seeing this map.”

What your donation makes possible

Every gift funds real fieldwork — no amount is too small to move a station from unmapped to accessible.

\$15

Covers transportation costs for a wheelchair-using researcher to reach a research site

\$20

Funds field research for one subway transfer segment

\$60

Funds a full data update for a station already covered on Muui's map

\$80

Creates brand-new map information for a station Muui's map does not yet cover

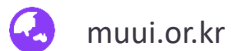
\$100

Covers one month of operating costs for the subwaytransfer.kr web application



Thank you for helping us remove the barriers, together.

Every gift funds field research by wheelchair users, keeps subwaytransfer.kr free and current, and moves Seoul one station closer to a transit system that works for everyone.



muui.or.kr



subwaytransfer.kr



Instagram @wearemuui



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