

EYE-CATCHING CARTOGRAPHY

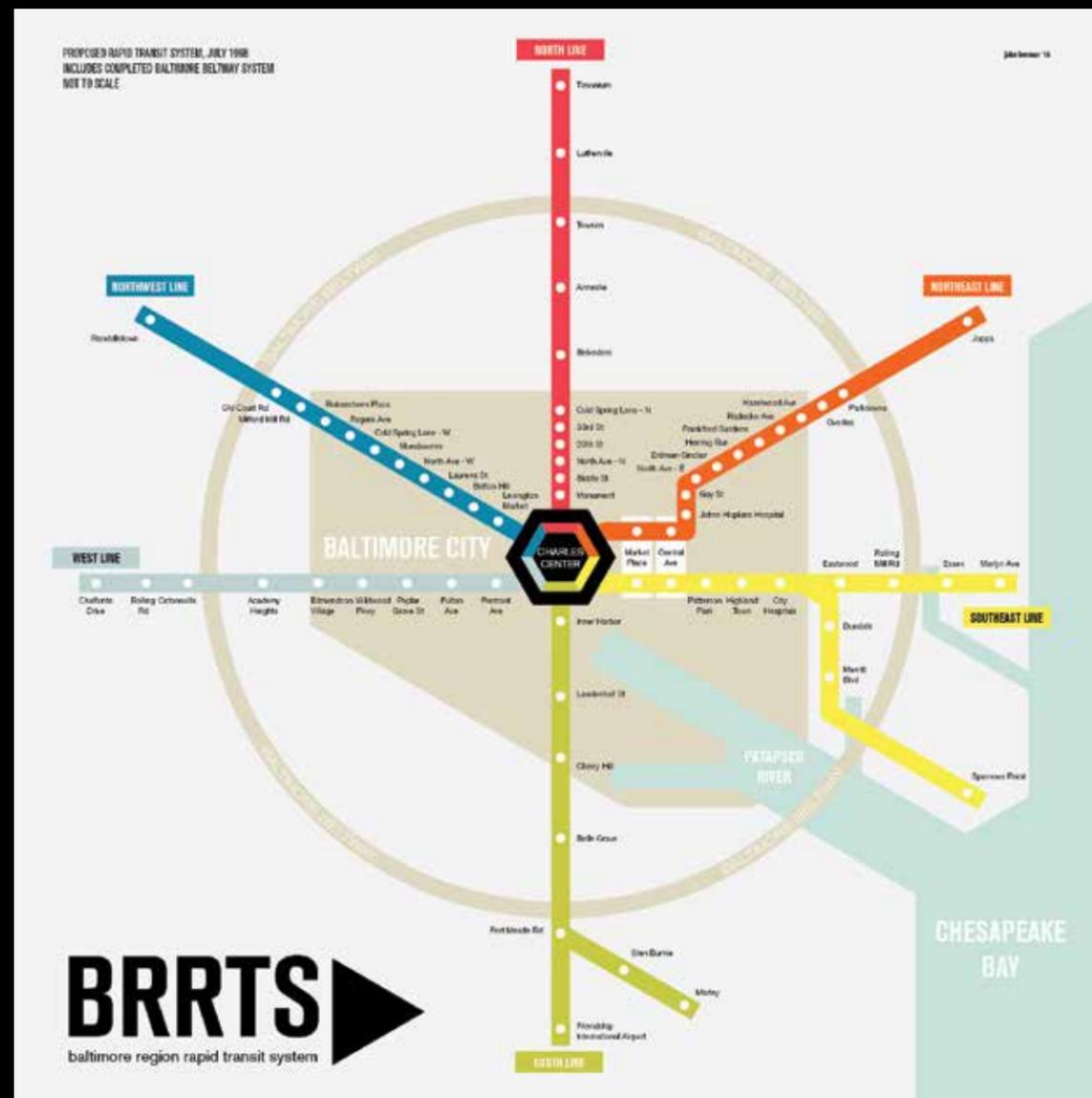
Railroad and transit maps as art

STORY

Justin Franz

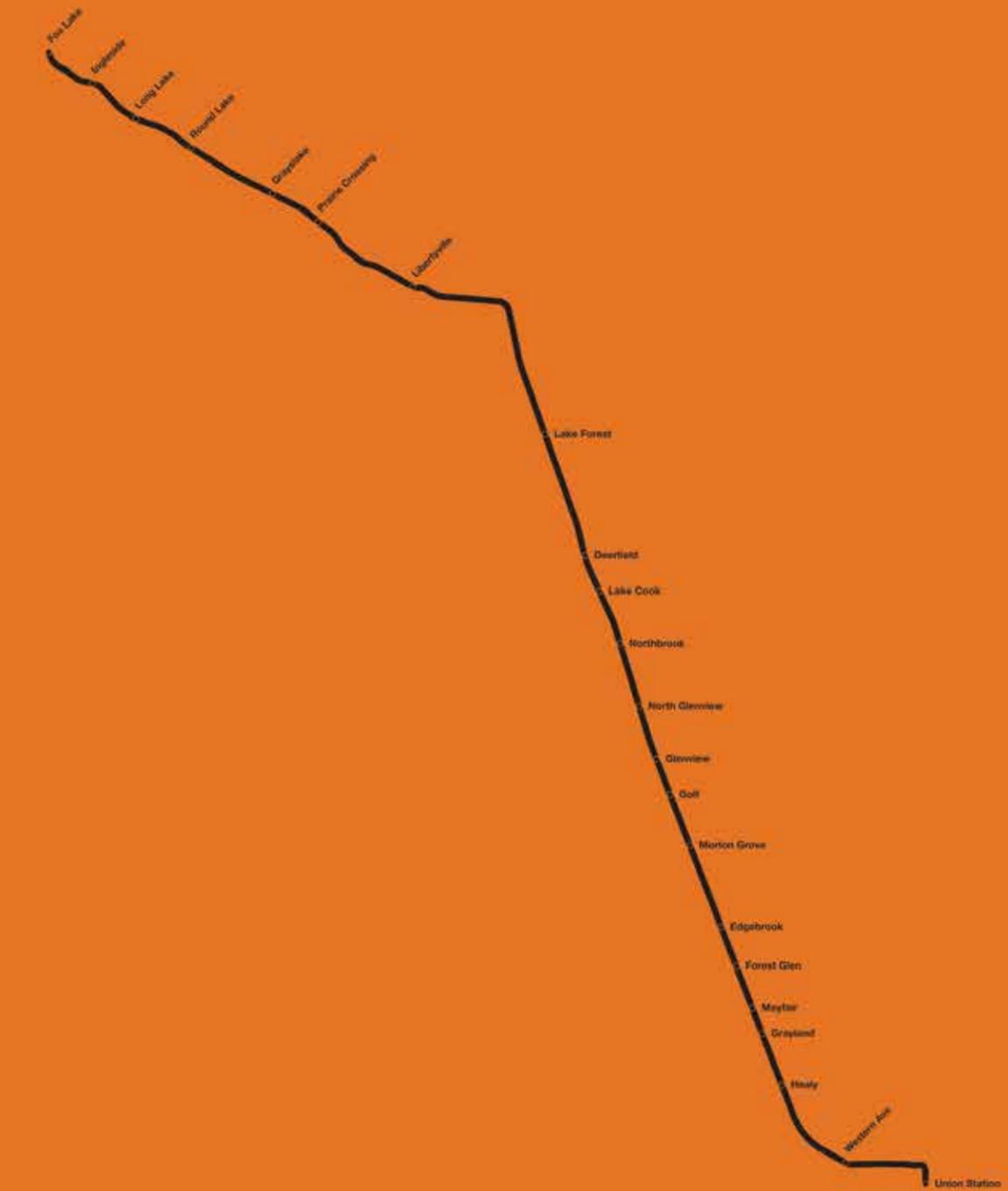
ARTWORK

As noted



Jake Berman
Baltimore proposed rapid
transit system map, July 1968
© Fifty-Three Studio,
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Opposite:
Andrew Lynch
Metra Milwaukee District
North Line, 24x36
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vanmaps.com



METRA
Milwaukee District North Line
Regional Transportation Authority

Stations / Total Stations	22	242
Stations / Total Stations	22	242
Radiuses / Total Radiuses	5.6m	76.1m
Radiuses / Total Radiuses	5.6m	76.1m
Radiuses / Total Radiuses	49.7	487.7

FOR AS LONG AS THERE HAVE been railways, there have been railway maps. For nearly two centuries, railroads have been creating maps to depict both the aspirations of their proposed construction and the reality of where their lines can move cargo and people. The first railroad map predates the inaugural steam-powered railway. In 1821, four years before England's Stockton & Darlington Railway was completed, its backers produced a map of the proposed rail line through the northern part of the country.

Since then, countless railroad maps have been created around the world depicting nearly every mile of track ever built. Some of these maps were simply tools for railroaders, shippers, and passengers. But others could be considered true works of art that convey both information and intrigue.

In fact, 200 years after that first map was crafted, railroad and transit cartography has become its own art genre, worthy of further inspection.

Cartography collector and author Derek Hayes has written more than a dozen books about maps, including the *Historical Atlas of the North American Railroad*, published by the University of California Press in 2010. In it, Hayes shares nearly 400 historic railroad maps along with the story of how the industry has used maps since its earliest days.

According to Hayes, railroad maps can generally be broken down into four categories. Survey maps, like the Stockton & Darlington map from 1821, are completed long before a tie or rail is laid down and are used to entice potential investors to support the proposed rail line. Engineering maps help railroads keep track of their system of infrastructure—including track and signal diagrams—that is spread across the landscape. Informational maps for passengers and customers show, usually in the simplest of forms, where a railroad goes and is commonly found on timetables. And finally, advertising maps, which Hayes writes are almost always the most visually interesting, were less about conveying useful information about where the railroad could take someone (like you would see on a timetable) but more about inspiring them to take the trip in the first place.

Otto M. Vondrak has designed numerous maps over the years for books and magazines, as well as for railroads like Pan Am Railways and the New York & Atlantic Railway. He says railroads often request very specific maps that show a level of detail that few would expect because they want to convey their total reach. For example, even if a railroad rarely exercises

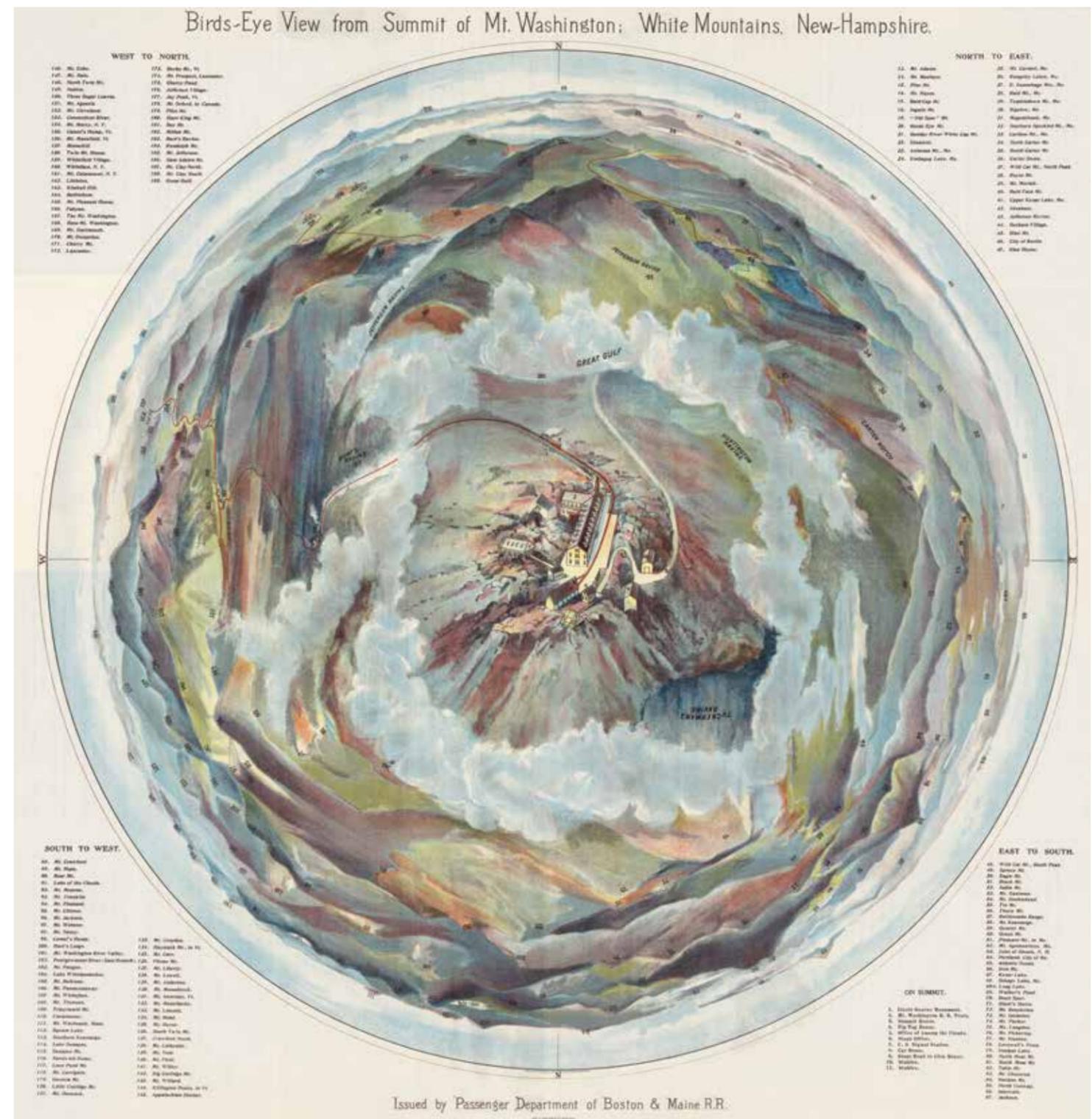
trackage rights over another company's route, it is likely the railroad will want to put that on the map to show a potential customer where it *could* take their freight. Those details often determine the map's scale. For example, Pan Am's operations occur primarily in Maine, New Hampshire, and Massachusetts, yet Vondrak's map included all of New England and parts of Canada and New York. (Full disclosure: Vondrak recently became the author's supervisor.)

"When I'm working on a map, I'm thinking about the information I want the viewer to learn," he says. "Maps are a marketing tool to show your shippers and customers the region and territory that you serve."

While informational and engineering maps are still produced and used today, artistic advertising maps commissioned by railroads are less common in the twenty-first century. Examples of these types of whimsical commercial illustrations can be found throughout railroad history, but author Katharine Harmon says they were most popular during the first half of the twentieth century. Two prime examples of these illustrations were produced by the Boston & Maine Railroad and Great Northern Railway.

The B&M map, titled *Birds-eye View from Summit of Mt. Washington, White Mountains, New-Hampshire*, overlays New Hampshire's iconic mountain range on an earth-like sphere with the state's tallest peak in the middle. At the center is a small, detailed map of the amenities found at the summit of Mt. Washington, including the Mt. Washington Cog Railway, which the B&M owned at the time. The various mountain ranges that surround Mt. Washington radiate from the center of the map and a key points out the various peaks, notches, lakes, and other destinations reached by the railroad. On the edge of the sphere, a small cluster of buildings represents Portland, Maine—the largest community on the map and one of the furthest locations included in the illustration.

The GN map, titled *Recreational Map of Glacier National Park, Montana and Waterton Lakes National Park, Alberta* is another birds-eye view that artist Joe Scheuerle completed in 1925. Scheuerle had primarily done portrait work, with a big emphasis on Native American subjects, and was one of many artists the GN hired to promote the railroad's connection to the park. The map shows a GN train on the edge of the park, next to one of the railroad's lodges, and the endless recreational opportunities found within the preserve. The map has cartoonish qualities with dozens of characters scattered about the park taking photos,



Geo. H. Walker & Co./ Boston & Maine Railroad, *Birds-eye view from summit of Mt. Washington, White Mountains, New Hampshire*, 1908, 71 x 68 cm, sheet paper, Library of Congress

hiking, golfing and generally enjoying themselves. Near the middle of the map, a bear sits atop a sign for Triple Divide Mountain, the hydrological apex of North America. The bear is pouring out three bottles of liquid to show that water from that spot can flow into the Pacific, Atlantic, and Arctic oceans.

While illustrated advertising maps like the ones described aren't as common in North America as they once were, artistic maps have grown in popularity since the 1970s, says Harmon, who has written a number of books about the trend, including *The Map as Art* and *You Are Here NYC—Mapping the Soul of the City*.

"People are drawn to maps of all kinds because we derive comfort from self-orientation. It is reassuring to get one's bearings in the world, especially a world as complicated as today's," Harmon says. "Maps based on geolocation are helpful because they get us around, of course—whereas creative maps made by artists and illustrators are compelling because they make us think about our surroundings in different ways, help us explore personal dimensions of spaces, or just make us laugh."

"The visual vocabulary of maps—lines and shapes and colors—gives artists a handy way to make statements about a place," she continues. "We all know that a dot represents a place. Artists can use that symbol, and others, as shorthand to convey messages about orientation, for example. Cartographers have to stick to one aspect of mapping; artists get to do what they want."

In recent years, artistic renditions of transit lines have become increasingly popular.

A decade ago, graphic designer Cayla Ferari and her husband John Breznicky, a mechanical engineer, moved to New York City. Ferari wanted to find some local transit-based art for their new apartment but that search came up empty-handed so the couple teamed up and created their own, turning the city's subway map into a large wall decal. After getting a number of compliments about the piece, they decided to put it on a poster.

"We really started because we just wanted to make some artwork for ourselves," Ferari says. "If you knew what the lines were, you really appreciated it, but

even if you didn't recognize the map it was still really neat to look at."

Like the real New York City subway map, lines sprawl across the poster. The only dots on the lines are found at the endpoints. After selling a few posters to friends and family, the couple quickly realized that what had started as a hobby was turning into a business. Today, Ferari and Breznicky operate under the brand Line Posters (lineposters.com) and have done pieces depicting the transit lines in nearly 30 cities.

Ferari draws the maps using Adobe Illustrator and on occasion adds curves that are not found on the real map to make something look more organic.

Graphic Designer Molly Blossse started making maps for the same reason: she couldn't find a piece she liked for her home. Originally from Baltimore, Blossse spent thirteen years in Chicago before moving back home. When she moved back, she wanted a piece to represent her time in the Windy City but could never find something that suited her taste so she made her own. The map features stylized names in the shape of each neighborhood that, taken together, form the shape of the city. A key part of the piece are the color-coded lines representing the Chicago Transit Authority "L" system. Since then, Blossse's collection has grown and she now works under the name Charmed Atlas (charmedatlas.com). When she can, she always includes transit lines because she says they are an integral part of the urban landscape.

"I just love staring at transit maps, even if I already know where I'm going. They're just so beautiful," she says. "In many cities, the train is a part of your daily life and these maps reflect that."

Andrew Lynch got into making maps not because he wanted to create art but instead wanted to learn something about his city. In the early 2000s, Lynch was going to school in Boston when he learned about a long-forgotten subway extension. Curious about it, he tried to find some maps but kept coming up short. Undeterred, he decided to make his own. That spurred more hypothetical maps of the Boston subway system and he continued his cartography when he moved to New York City.

Over the years, Lynch's maps have gone from informational to artistic and, after a few requests, he started selling them. Today, he has maps depicting a number of major transit and commuter rail systems, including New Jersey Transit, CalTrain and SEPTA (see more at vanshnookenraggen.com).

Continued on page 50

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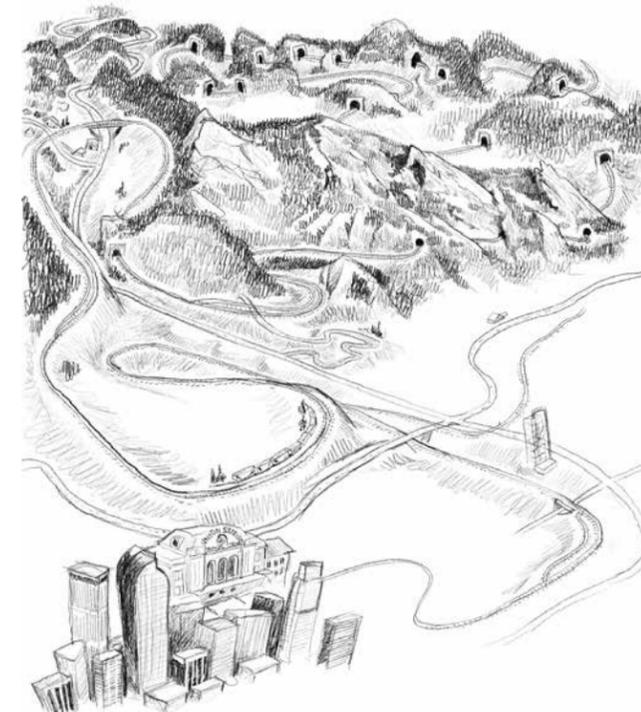
Opposite: Installation of *New York City*, 2017, by Line Posters, Inc., lineposters.com, photograph courtesy of Line Posters, Inc.

Joe Scheverle, *Recreational Map of Glacier National Park, Montana and Waterton Lakes National Park, Alberta*, 1925, 18x31½ inches, paper, Collection of Scott Tanner.



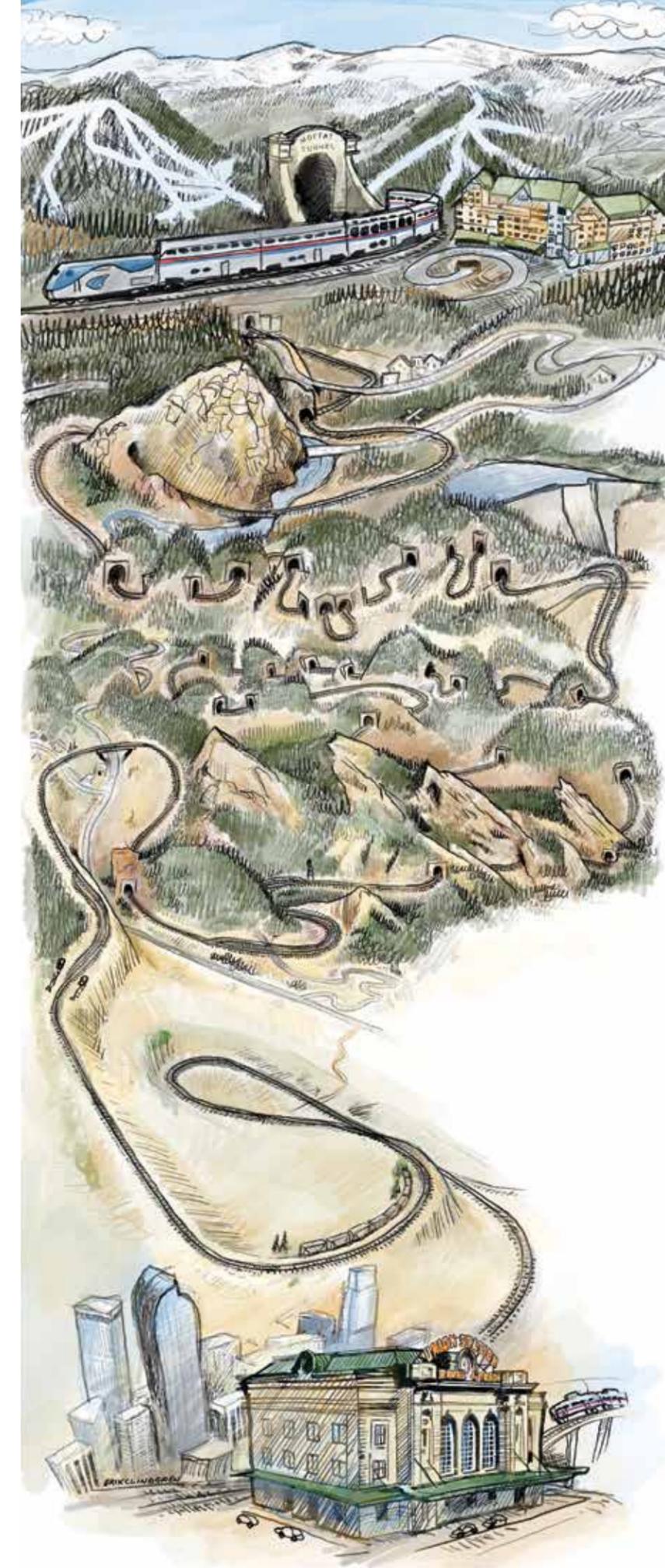
Mapping the Moffat Road

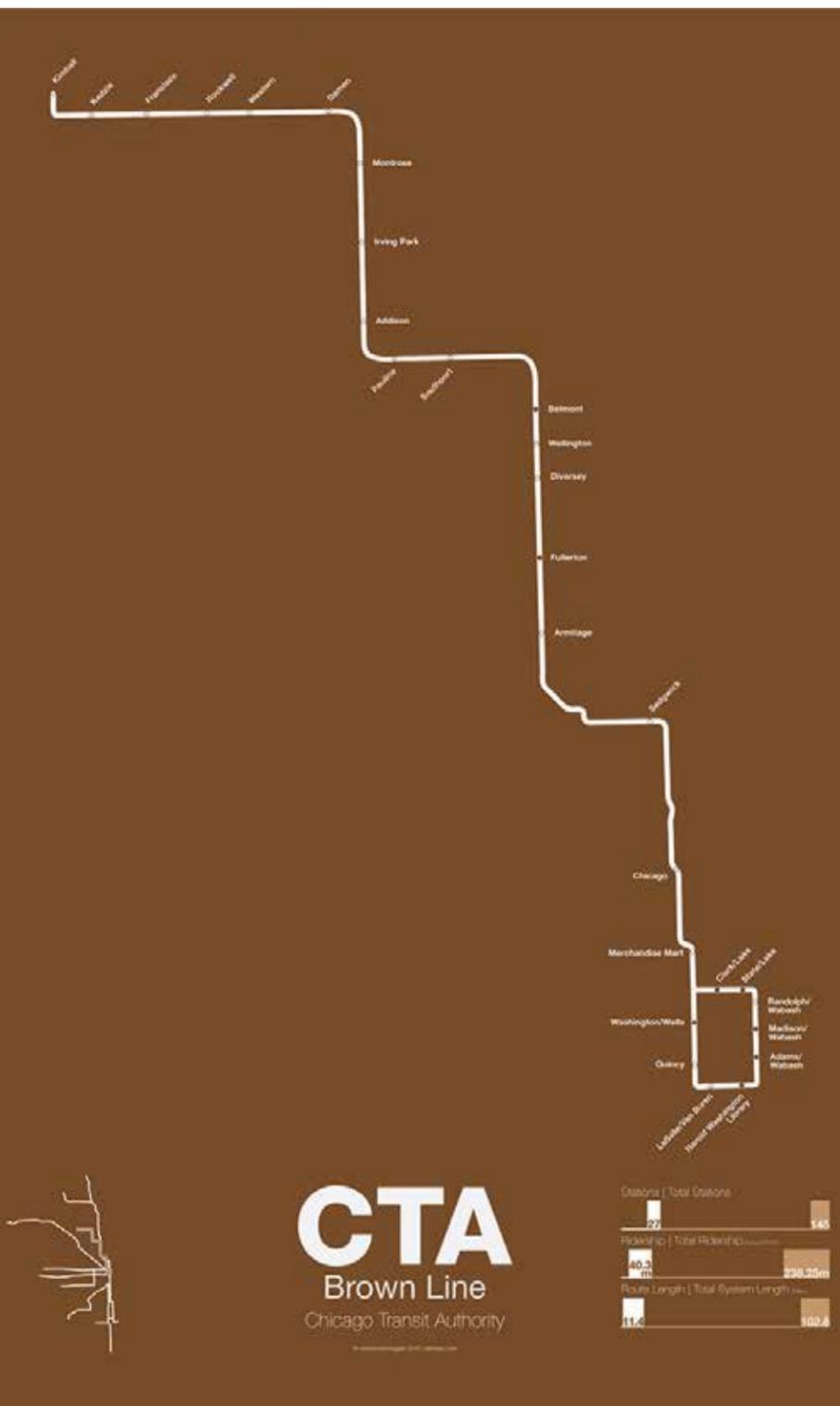
Photographs and artwork by Erik C. Lindgren



Artist and photographer Erik C. Lindgren drew upon his deep familiarity with the former Denver & Rio Grande Western's "Moffat Road" to create his map, opposite, of the route from Denver to Winter Park, Colorado. He began with pen-and-ink drawings, which he scanned and digitally colorized.

In two of his exceptional photographs of the route, a Union Pacific oil train climbs westward through Rocky siding beneath a rainbow on April 10, 2020 (above), while Amtrak no. 5 rolls into Tunnel 29 at Pinecliff on January 13, 2018.





Lynch says, “I started making them because they looked interesting. I was surprised by how people really connected to the maps, but it makes sense because people connect to geography. They look at a map and say ‘Oh, I lived there’ or ‘I had a job there’ or ‘I dated someone there.’”

Currently, Lynch is working on a map depicting every railroad in Chicago, an effort that has taken an enormous amount of research. He is also advocating for better transit by making maps for QueensLink, a proposed transit and park corridor that would connect the north and south ends of the borough.

Lynch and the other artists do most of their work digitally, but at least one mapmaker is doing it the old-fashioned way in pen and ink—at least partially. Colorado artist Erik Lindgren (see previous spread), also a talented photographer and model builder, has done a number of maps over the years on bristol paper, mostly as marketing tools for small towns in the Midwest. A few years ago, a friend of his began working on a book on the former Denver & Rio Grande Western’s Moffat Line and asked if Lindgren would do a map. The book project later fizzled out, but Lindgren kept working on the map, utilizing his deep familiarity with the line thanks in part to his many photography expeditions along it. The map covers Denver to Winter Park, Colorado, illustrating the rugged geography and many tunnels on the line, including the most famous of them all, the 6.2-mile-long Moffat Tunnel under the Continental Divide.

Lindgren drew the map on four different pieces of paper and scanned them digitally to stitch the pieces together. He then digitally colorized it. Later, Amtrak used the map to help market the *Winter Park Express*, a weekend ski train that runs between Denver and the Winter Park Resort.

Like any good piece of art, a map can captivate the viewer and tell stories about the people, places, and railroads that populate our world. Railroad and transit maps, in particular, illustrate yet another area where the railway and art intersect, capturing the attention of audiences both inside our community and beyond it.

And like any great piece of art, maps often demand a second look.

“You can look at the same map over and over again and you’ll find something new every time, even if it was right there in front of you the entire time,” Lynch said. “Maps are like treasure chests that just keep on giving.” •



Opposite:
Andrew Lynch
CTA Brown Line, 24x36
©2016, vashnookeraggen,
vanmaps.com

Left:
Molly Blosser, *Chicago Neighborhood Train Map*, 11x14, 2017, heavyweight matte paper, Charmed Atlas, charmedatlas.com

Maps with a message

Jake Berman's "Lost Subways" project

JAKE BERMAN WAS STUCK IN A Los Angeles traffic jam reading bumper stickers on the vehicle in front of him when a thought entered his mind: Why does it have to be like this?

"I just sat there wondering to myself, why am I stuck in traffic? Why can't I take public transit?" Berman recalls.

Berman couldn't fathom why a city as large as Los Angeles was so dependent on the automobile and why he was spending so much of his life sitting in his car. Not long after, Berman decided to do some research. That brought him to a map of the Pacific Electric Railway System, nicknamed "the Red Cars," that was once the largest interurban electric railway system in the country with over 1,000 miles of track.

"I was shocked," he says. "I had found a transit system that basically went wherever you wanted to go in the Los Angeles area."

The first interurban in the Los Angeles area dates back to 1895 and the system reached its peak in the mid-1920s before slowly declining thanks to the growing popularity of the automobile. The last Pacific Electric interurban ran in 1961. While Berman found plenty of history books about the Pacific Electric, most of them focused on equipment and dates. The

maps the interurban company made were adequate for the era but paled in comparison to what could be produced today with better design and expanded printing capabilities (early-twentieth-century transit maps were often only printed with one or two colors, Berman says). Berman wanted to create something that could convey to anyone, be it a diehard railroad enthusiast or just a regular citizen, the transit system Los Angeles once had—and had lost.

"The general public doesn't really care about what locomotive or cars were used and when they were used, they care about how you once were able to go from Point A to Point B using public transit," he says.

So Berman made a map. An attorney by trade, he has long loved graphic design and mapping—which he attributes to playing Sim City, the popular metropolis-building video game of the late 1980s and early 1990s. Over the years, Berman had designed numerous maps for fun, most notably spending more than 300 hours building a map of the New York City subway back in the late-2000s after he had missed an appointment because the MTA's own map did not show that a certain train was not running on the weekend. Berman's map later replaced the real MTA map on the New York City subway's Wikipedia page.

While the New York City map was designed to solve a problem, the Los Angeles map was meant to convey a message, Berman says.

"It's an illustration of the Los Angeles that used to be. Today, we associate Los Angeles with traffic and smog and palm trees and tacos. Well, the tacos and the palm trees have always been there, but the traffic and the smog wasn't," he says. "[I want people to realize] that America used to be like Europe, a place where you could have a car but you didn't need a car."

Berman's "Lost Subways of North America" project now includes 150 maps covering more than sixty cities. While some of the maps depict long-lost subway and transit systems, others show subway systems or expansions that were proposed but never built, including an addition to the New York City subway that would have connected New Jersey and a 260-mile-long transit system for Puerto Rico that was proposed in 1972. Both projects were later shelved.

"I think the maps make the point that you get what you vote for," Berman says.

Berman designs the maps on Adobe Illustrator and spends two or three months on each one. Before he starts working on a map, he spends hours researching the subway lines that once were or were proposed.



Left: Pacific Electric Railway car no. 1530 in Los Angeles, California, in 1959. Photograph by Fred M. Springer, collection of the Center for Railroad Photography & Art, Springer-TX1-16-13

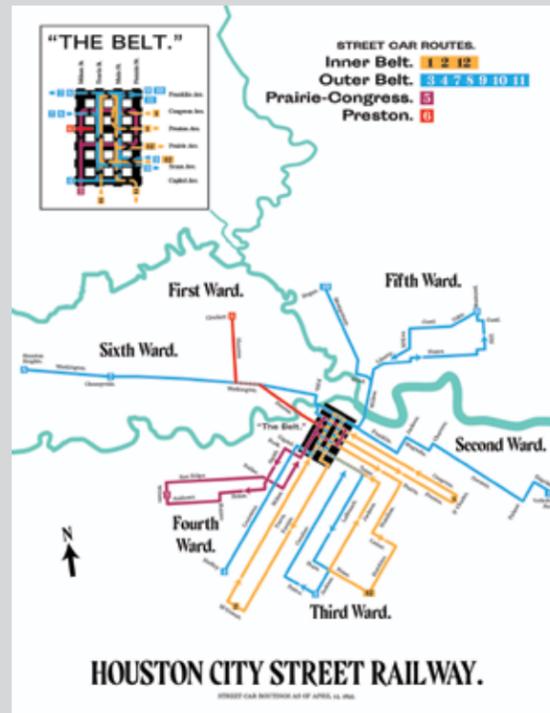
Below: Los Angeles Pacific Electric Railway streetcar map, 1926. © Fifty-Three Studio, fiftythree.studio

STORY

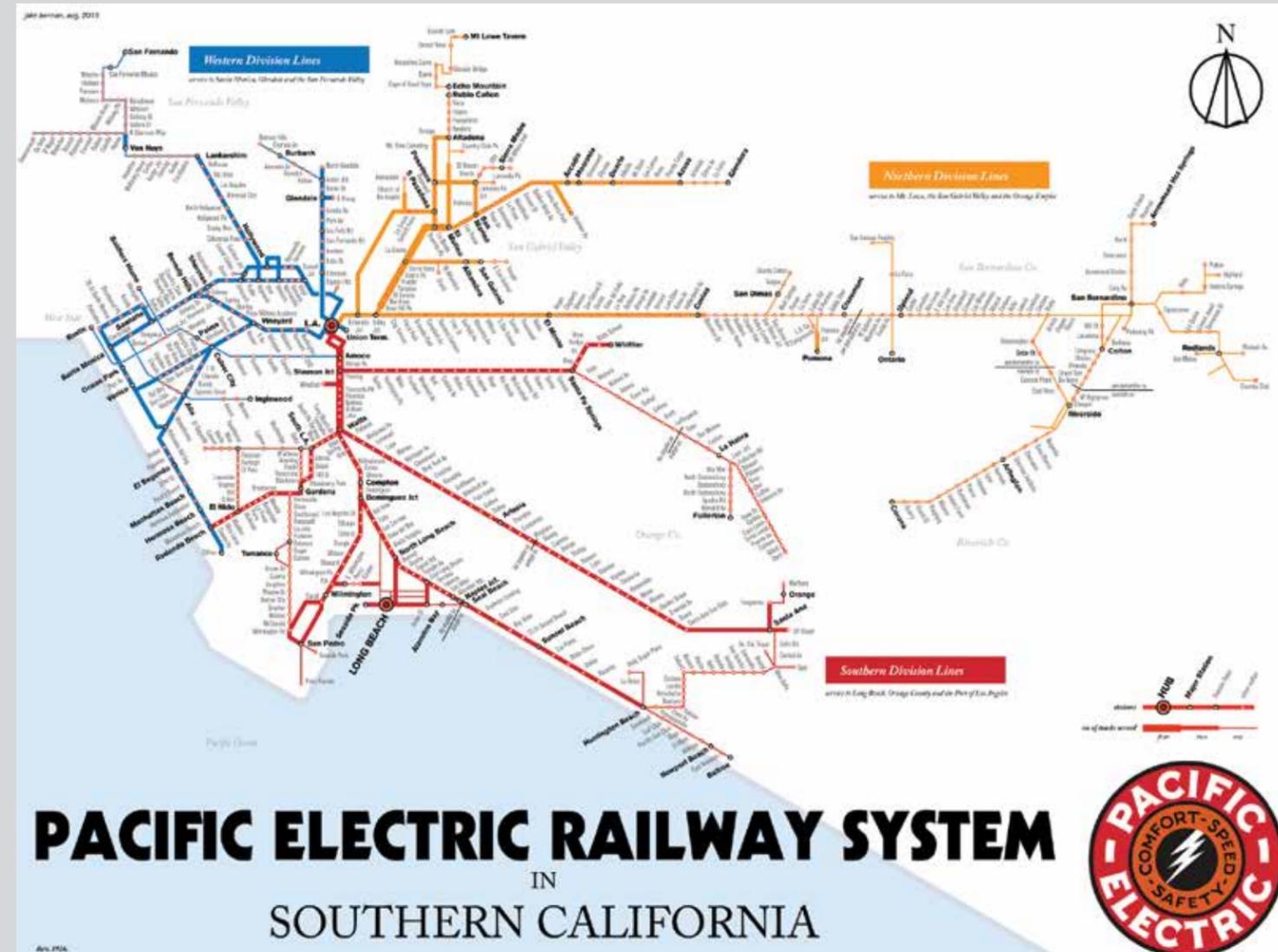
Justin Franz

ARTWORK

Jake Berman



Houston City Street Railway streetcar map, 1895. © Fifty-Three Studio, fiftythree.studio





Madison, Wisconsin streetcar system, 1920, which shows the Center for Railroad Photography & Art's home city as it appeared 100 years ago. The office is located very close to Monroe and Harrison.
© Fifty-Three Studio, fiftythree.studio

Opposite: New York City Subway map print, 1939
© Fifty-Three Studio, fiftythree.studio

Whenever he can, Berman works from original source material, including maps and old timetables, which means he spends many hours digging through physical archives. He learned about the New Jersey extension of the New York City subway when he found a copy of the plan at the University of California archives.

Once he's gathered information about the system, he starts designing the map. While the original transit system maps of the early twentieth century only had one or two colors, Berman has an entire palette available to him. Many of the maps look as if they could be found in a subway station today; the maps have a clean, modern design and easily convey where each line goes. However, Berman tries to include some design details from the era the map is based on, usually by using historically-accurate typography.

"It does not feel right to use Helvetica (created by Swiss typeface designer Max Miedinger in 1957) on a map depicting the 1920s," Berman says. "They just would not have done that."

Berman considers himself a transit enthusiast, although he doesn't go out spotting and photographing equipment. For him, transit systems are a way to explore the urban spaces he loves.

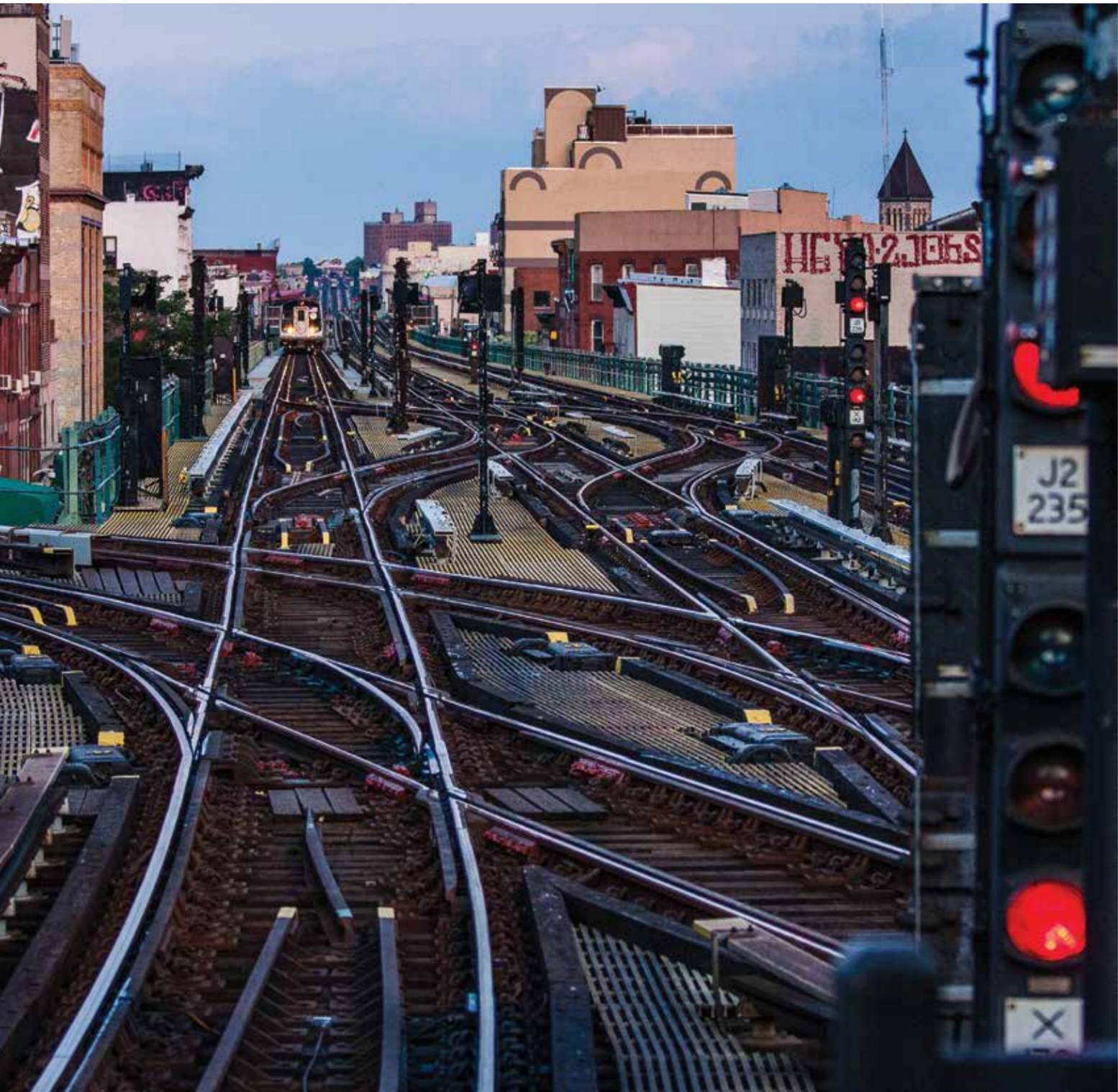
"I love exploring cities using transit because it enables you to explore and look around. You can't do that when you're driving and you have to focus on the road," he says.

Berman is hoping to eventually turn the "Lost Subways of North America" project into a book. See his work and purchase prints at fiftythree.studio or on Twitter and Instagram at [@lostsubways](https://twitter.com/lostsubways).



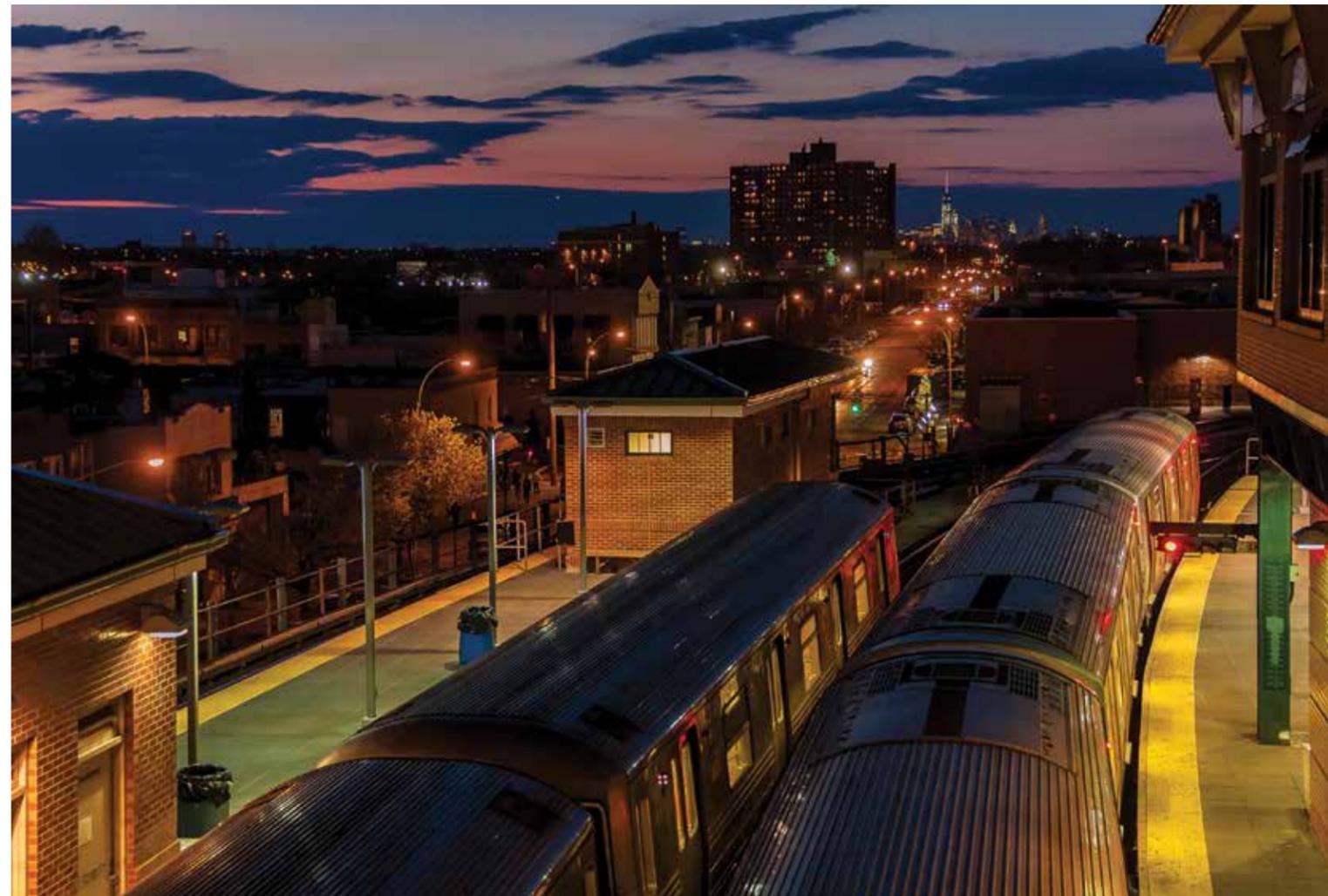
New York Subway

Photographs by Dennis Livesey



The New York Subway is a maze of mass transit—and a challenge to cartographers for more than a century. It also makes for evocative photography, as in these recent views by Dennis Livesey. They show the crossovers at Myrtle Avenue Station in Brooklyn (opposite), the new South Ferry Station (left), and two trains at Coney Island with Manhattan in the distance at twilight (below).

World events permitting, Livesey will share more of his New York Subway photography at Conversations Northeast in Storrs, Connecticut, on September 19, 2020.



Mapping an exhibit

A Q&A with the New York Transit Museum

IT IS ARGUABLY ONE OF the most recognizable transit maps in the world and it was drawn by a man with his eyes closed.

In the late 1970s, the MTA—Metropolitan Transit Authority, the public corporation responsible for New York City’s sprawling subway and transit system—embarked on an effort to redraw the city’s subway map. For years, people had complained that the old map (drawn by famous Italian designer Massimo Vignelli and considered a landmark example of modernist informational design) was confusing and its many straight lines were disorienting to locals and visitors alike who could not easily figure out where they were going.

To resolve that issue and others, the MTA hired Michael Hertz and Associates, a design firm that specialized in transit maps. The firm tapped one of its top designers to lead the effort: Nobuyuki Siraisi. Siraisi was a trained sculptor and painter who graduated from the Tokyo University of the Arts before coming to the United States. In an effort to include more natural curves on the map, Siraisi rode the length of every subway line with his eyes closed and then traced the perceived route in a sketchbook.

The map that Siraisi and his team of designers created in 1979 is still in use today and it was one of dozens featured in the New York Transit Museum’s exhibit “Navigating New York.” The exhibit, which was on display in Brooklyn for more than a year starting in 2018, looked at how New Yorkers have used the map to navigate their city and how they have been inspired by it to create art. *Railroad Heritage* spoke with the museum’s executive director, Concetta Bencivenga, to learn more. This interview has been edited for clarity and space.

How was the Transit Museum created and what makes it stand out?

CB: We were started in 1976 by a group of people at the MTA to preserve the agency’s own history. It was a hard time in the city—it was right about at the same time that the *New York Post* published that iconic headline “President Ford to City: Drop Dead”—but against that backdrop, some people decided to come together and do something special to celebrate the Bicentennial. So they asked if they could open up an exhibit about the city subway in an abandoned subway station. Most people would agree that the New York City Subway is one of the country’s great

engineering marvels. So they got permission to open up an exhibit for three months starting July 4, 1976. Some forty-four years later we’re still open and we’re one of the largest transportation museums in America. In 2019, between our primary location in Brooklyn and a satellite museum at Grand Central, we served over 700,000 visitors.

What was the catalyst for “Navigating New York?”

CB: Full-disclosure, we have a lot of map aficionados here at the Transit Museum and I’m a total map geek. I just love them. So putting together a show like “Navigating New York” was really just a no brainer for us and it’s a story we have wanted to tell for a long time.

Whenever people visit the museum and go into some of the historic subway cars—we have twenty different ones on display on the platform level of the museum—they always marvel at some of the historic maps on the inside of the cars. One of the things they always notice about some maps is that Manhattan is not always at the center and that’s because it wasn’t always the center of a subway line’s service area. And that’s something people always comment on because if you look at the current map, Manhattan is at the center of it because that’s where all the lines converge. So that was one of the sparks for this exhibit.

Where did the maps featured in the exhibit come from?

CB: We have over 800,000 objects, documents, and photographs in our collection and we are the official depository of the MTA. We have everything from the original subway station tiles to documents from Thomas Edison and we also have a lot of maps. The show was curated by Kathleen Hulser who did a deep dive into our own map collection and found pieces that put together told a cohesive history about wayfinding in the system. She also looked for maps beyond our collection that showed how people have been inspired by the subway system to create art that makes you look at the world a little differently.

How did you organize the show to tell a complete story?

CB: We have a few permanent exhibits at our museum in the Brooklyn, including one about construction of the subway system as well as one about the history of fare payment. We also have an exhibit space that we use for temporary shows, like “Navigating New



New York City Transit Authority, *New York City Subway Map, Diamond Jubilee, 1979*, 2007.42.15, Ben Chiaro Collection at the New York Transit Museum



Entrance to the New York Transit Museum's exhibit *Navigating New York*. Photograph by Filip Wolak and courtesy of the New York Transit Museum

Opposite: *City of Women*, 2016, by Rebecca Solnit, Jonathan Tarleton, Garnette Cadogan, Joshua Jelly-Schapiro, Molly Roy, and Lia Tjandra; revised and updated from the original in *Nonstop Metropolis: A New York City Atlas*

York,” which we can switch out a few times a year. Some of those shows are on display for more than a year, some are just up for six months.

We split the show into two halves and put lines down on the floor to look like an actual subway map. On one side of the exhibit we told a very linear story going through the history and development of the subway map, and then on the other side we featured pieces that were less chronological: exhibits about how maps are made and how people have been inspired by the subway map.

What are some things that surprised you about the exhibit and what were some of your favorite maps included in the show?

CB: One of the things I found really interesting was the first map of the unified subway system. In 1940, all of the city’s subway systems were merged into what is today the MTA, but one of the first maps to show the unified system wasn’t done by the transit authority; it was actually done by a local bank. Honestly, the bank’s map was better than what the transit agency later put out.

One of my favorite maps in the show is the “City of Women” map, which replaces each subway station with the name of a woman from that stop. It’s such a great piece that makes people look at something they’re very familiar with and see it in a different light. It’s such a fun map and we sell it all the time in the gift shop. We literally can’t keep it on the shelves. I think it’s an example of great art because it really sparks conversation. You can look at it and follow

the subway lines from Ruth Bader Ginsburg to Sonia Sotomayor. It’s particularly interesting when you consider just how many places and stops in the city are named after men. We also had some interesting maps that show how the population of various parts of the city changes throughout the day and week and one that showed the price of rent in the area of each station. Another favorite was the “New Yorkistan” map that was on the cover of the *New Yorker* after September 11 (The map came out during the early days of the war in Afghanistan and replaced familiar locations names with ones that sounded more foreign, so the Bronx became Bronxistan. It was one of the most popular issues in the magazine’s history).

Why are exhibits like “Navigating New York” important to your mission and do you plan on showing this exhibit again?

CB: There is a lot of emphasis on science and technology education, but we have an obligation to tell the whole story. And that’s not mutually exclusive. It’s not either-or, it’s yes-and. So while we can tell you about the 24,000-pound motor trucks on our platform and why it was so revolutionary because of its use of third-rail technology, we should also tell you about how a *New Yorker* cover helped the city laugh again after September 11.

I don’t think this show will go up again but I do think it will lend itself to future exhibits. Our museum tells the story of a transit system that serves a 5,000-square-mile area, so we have a lot of geography-related stories left to tell. •

