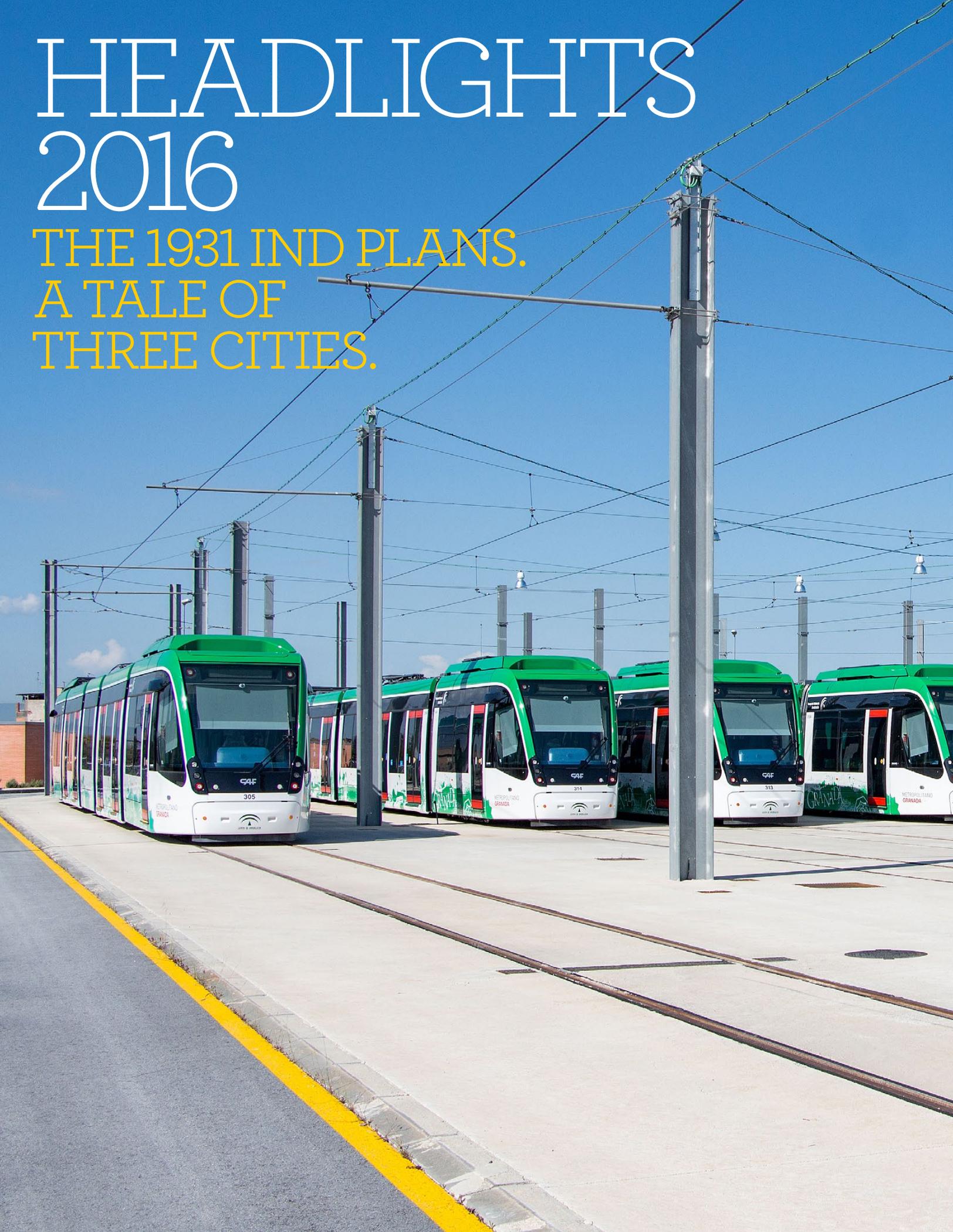


# HEADLIGHTS 2016

THE 1931 IND PLANS.  
A TALE OF  
THREE CITIES.



# HEADLIGHTS 2016

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# THE 1931 IND PLANS LOWER MANHATTAN & NORTHWEST BROOKLYN

By Eric R.  
Oszustowicz

The Second Avenue line that is scheduled to open at the end this year has been one of the longest on again, off again stories in New York City transit history. Portions of the line were actually finished in the early 1970s, and that was more than a half century after the line was originally proposed by Consulting Engineer Daniel L. Turner of the Public Service Commission in 1919. A scaled back proposal was actually approved in 1929, with construction scheduled to be finished in 1938. Sadly, the Depression, closely followed by World War II, meant building the Second Avenue subway would have to wait. But the line was tantalizingly close to reality, as this author discovered.

During the summer of 2014, a seemingly ancient blueprint was presented to me for inspection. I carefully unrolled it, revealing a detailed six foot by two foot track layout schematic. I had seen track schematics like this before, and the first place I knew to look was the lower right-hand corner to see the date that the blueprint was drawn and for what system it referred. Amazingly, it turned out to be one of the original IND plans, dated October 27, 1931, for not only the South 4th Street subway in Brooklyn, but also the Second Avenue subway in lower Manhattan.

**Schematic One**

# Lower Manhattan: The Worth Street and Second Avenue Lines

**Existing Line**

The Canal Street station on Sixth Avenue for the A, C and E line is on the upper left. The next station south is the Chambers Street-World Trade Center station along Church Street. The E train terminates at the eastern platform and the A and C trains utilize the western platform. The A and C lines then continue south to what was then known as the Broadway Nassau station and is today known as Fulton Street and then continue further through the Cranberry Street tubes, named for the street the tube travels under in Brooklyn.

**The Worth Street and East Broadway Line**

The first line that was not built is under Worth Street. When an E train leaves Canal Street traveling southbound, it is on the southbound local track. This track descends and goes under the two express tracks and reemerges on the east side of the express tracks to reach the terminal at Chambers Street. The Worth Street line would have used the same track leaving Canal Street, but would have switched off to the east. A train traveling west on Worth Street would have turned north and joined the E line south of Canal Street. The first station on Worth Street would have been bounded by Baxter and Mott Streets. The line would then have turned left approximately 45 degrees onto East Broadway while crossing over the Second Avenue line at Chatham Square.

The next station is at Rutgers Street. The F train currently traverses Rutgers Street and has a stop at East Broadway. When the East Broadway Station was built, provision for the line along East Broadway was provided. If you enter the mezzanine at this station, one can see the provision for the Worth Street line crossing above.

**The Second Avenue Line**

The line at right terminates on Water Street with a station bounded by Old Slip and Pine Street. Water Street becomes Pearl Street as one heads north. The next station is on Pearl Street bounded by Beekman Street and Dover Street. Dover Street is at the south side of the Brooklyn Bridge. Pearl Street becomes St. James Place as one heads north. The next station is at Chatham Square. The line then curves to the east and then north under what is Confucius Plaza today and is then under Chrystie Street. The next station is at Grand and Chrystie Streets. The 1970's plan for the Second Avenue line would have made this a four-track station. The station walls of the existing station at Grand Street would have been removed to allow construction of Second Avenue line tracks on either side. Deep tunnel boring will most likely be used instead if the line is extended to Hanover Square from 63rd Street, so there will be a separate Grand Street station, most likely with a connecting passageway between the two.



## The 1939 Proposal

The government of New York City made plans for expanding the subway system under a plan referred to in contemporary newspaper articles as the IND Second System (due to the fact that most of the expansion was to include new IND lines, as opposed to BMT and IRT lines). In this 1939 plan, with unification planned for the following year, all three systems were included. Very few of these far-reaching lines were built, though provisions were made for future expansion on lines that intersect the proposals. The core Manhattan lines of the expansion were the Second Avenue Line (with an extension into the Bronx) and the Worth Street Line. The Rockaways were eventually served by the subway via

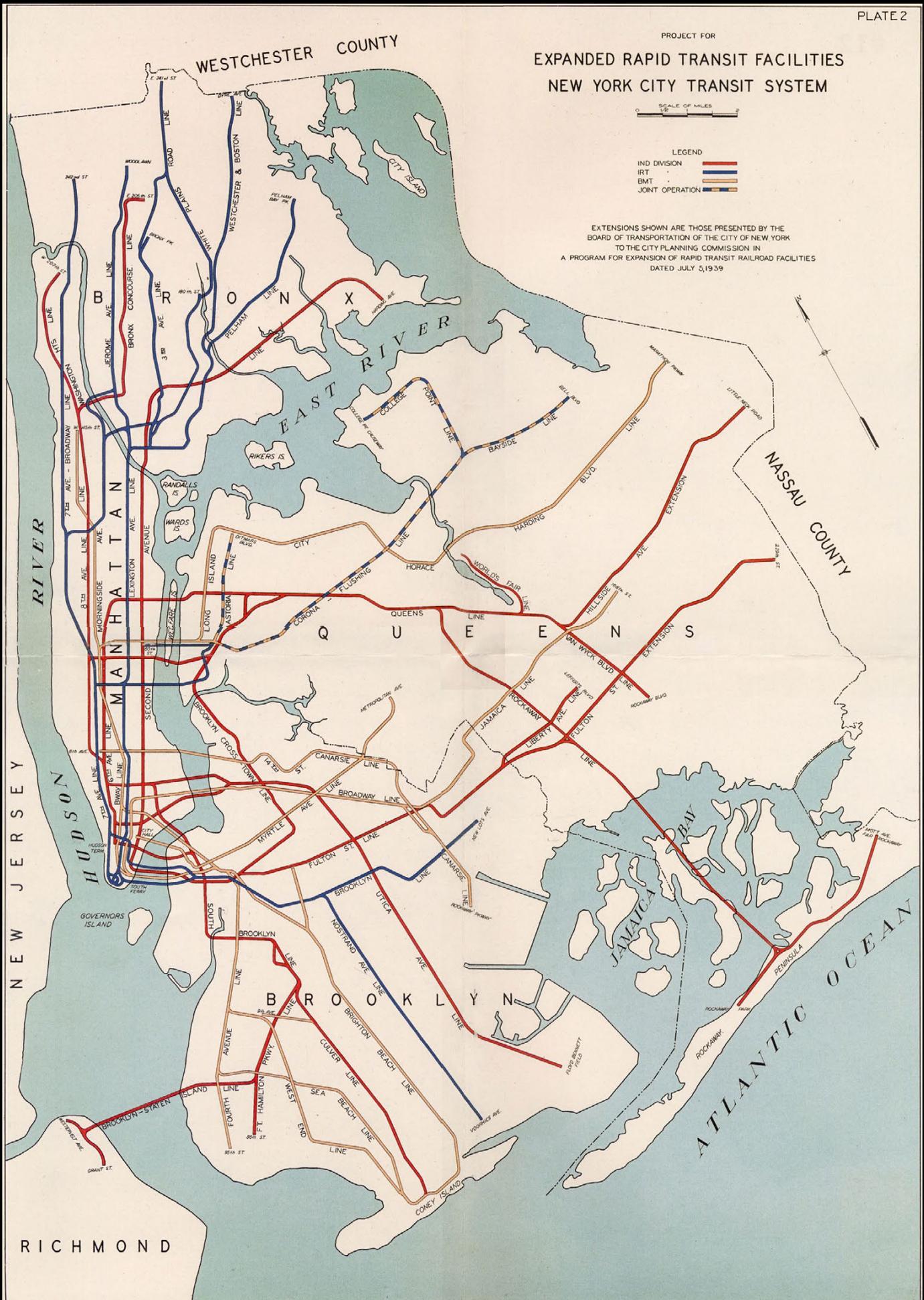
a city takeover of the Long Island Rail Road's Rockaway Beach Branch. As this grandiose expansion was not built, the subway system is only 75% of what it was planned to be.

There are many differences between the 1929 and 1939 proposals, but one striking difference concerns the Second Avenue subway. The 1939 proposal shows the Second Avenue subway extension to Brooklyn via what would have been known as the Water Street tube to the Court Street IND station and then continuing along Fulton Street. If this was constructed, the Transit Museum, which is located in what was the abandoned Court Street station, would exist in another location.

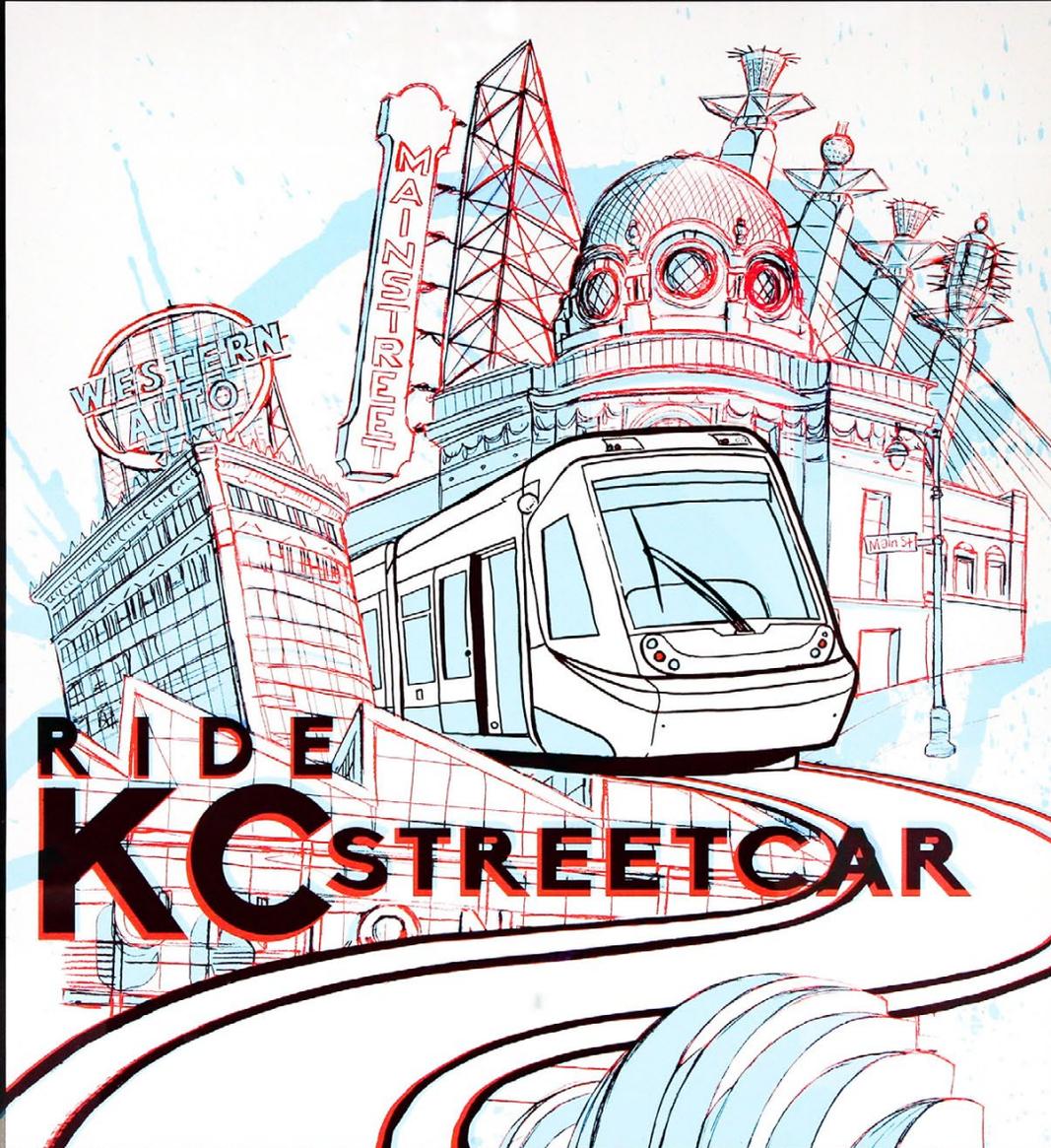
# PROJECT FOR EXPANDED RAPID TRANSIT FACILITIES NEW YORK CITY TRANSIT SYSTEM



EXTENSIONS SHOWN ARE THOSE PRESENTED BY THE BOARD OF TRANSPORTATION OF THE CITY OF NEW YORK TO THE CITY PLANNING COMMISSION IN A PROGRAM FOR EXPANSION OF RAPID TRANSIT RAILROAD FACILITIES DATED JULY 5, 1939



# KANSAS CITY



## RIDE KC STREETCAR

# GRAND OPENING

Union Station • Crossroads • Power & Light • River Market

## MAY 6-7, 2016

RideKC  STREETCAR

©KCAI's  2015, design by Madison Crabtree

# A TALE OF THREE CITIES

By John  
Pappas

At left, the KC Streetcar  
grand opening poster by  
Madison Crabtree.

ANDREW GRAHL PHOTO ·  
FRIDAY, MAY 6, 2016

There are continual reminders that we are living in a wonderful age, at least as far as being a traction fan in the 21st century is concerned. These are the times we'd hoped in the past would come someday. Practically every weekend sees an opening of a new light rail system, streetcar line or an extension of one of these.

With the start of Summer 2016, this trend has spread to medium-sized Midwestern cities that once had extensive postwar streetcar systems featuring large PCC fleets. First Kansas City, Missouri (population 475,000) on May 6, and then Cincinnati, Ohio (population 298,000) on September 9. To make the comparison a bit more interesting, further on we will add a third new, medium-size system to the mix, this one in Granada, Spain (population 238,000).

There are other examples, of course. Dallas opened an extension to their two-year-old Oak Cliff streetcar in September, and Washington, D.C. finally opened their inaugural streetcar line on H Street. Detroit is looking to be back in the streetcar business before the end of the year. But the two highlighted here have a number of things in common.





## Kansas City Opening Day

ANDREW GRAHL PHOTOS

(Far left) Kansas City held two days of celebrations beginning on Friday, May 6 at the historic Kansas City Union Station, which features the southern terminal of the line. After the speeches by Mayor

Sly James and others (top), some 35,000 people lined up to ride. As of this writing, weekday ridership is averaging 6,800. Special event Saturdays have seen over 13,000 passengers.



(Bottom) There is room for two streetcars in the stub terminal along the west curb of Main Street next to KC Union Station. The overhead walkway ties the station to the Crown Center complex on both

sides of Pershing Drive (seen in the background). Tracks are poised for easy extension south to the University of Missouri at Kansas City near 51st and Rockhill.

(Top) River Market West is located on Delaware at 4th Street and is the last stop in the River Market area before the five block non-stop run across the Interstate 35 freeway to 7th and Main. Car 804 boards first time riders in early afternoon on opening day.

(Bottom left) Car 803 passes the Muse of the Missouri statue on Main Street south of 8th. The tribute to the river is by artist Wheeler Williams. Main Street narrows considerably south of 9th.

(Bottom Right) Two cars pass at Main and Truman. The view is looking north toward the traditional downtown of Kansas City, Missouri. Much of this area has become condos and lofts. For the most part, tracks are located along the curb lane of Main Street, but with parking highly restricted.

(Far right) A streetcar rounds the corner in the River Market area between downtown and the Missouri River. The famous Country Club line of Kansas City Public Service terminated at 3rd and Main, a corner served by the new Streetcar.





# KC STREETCAR









## KCPS 1950s

JOHN STERN PHOTOS

(Far left) KCPS's streetcar system featured a variety of private rights-of-way, many of them with scenic surroundings. The Swope Park line featured two different sections. PCC

767 is inbound beside Rockhill Road about a block south of 47th Street on September 28, 1954. This portion of the line operated until the end of streetcars on June 23, 1957.

(Top) Here's another view of Kansas City Union Station and the intersection of Main and Pershing, this time looking north and taken some 61 years earlier than the dedication ceremony shown on page 46. A KCPS all-electric PCC is

outbound on the Country Club line on August 23, 1955. Billboards advertising passenger train service, both Rock Island's Golden State to California and Kansas City Southern's Southern Belle to New Orleans, can be seen on the east side of the street.

(Bottom) The Country Club Line featured extensive private right-of-way south of 43rd Street where it cohabited with freight trains, also run by KCPS. Freight service began in 1903 and outlasted the streetcars introduced in 1907 by about 10 years. Car 501 is southbound, scheduled to the end of the line at 75th Street. At

this point the right-of-way, which parallels Brookside Boulevard, is separated from it by homes. The current bus operator, Kansas City Area Transit Authority, still owns the right-of-way and has "banked" it for possible future use. Right now it serves as the Harry Wiggins Trolley Track hike and bike trail.

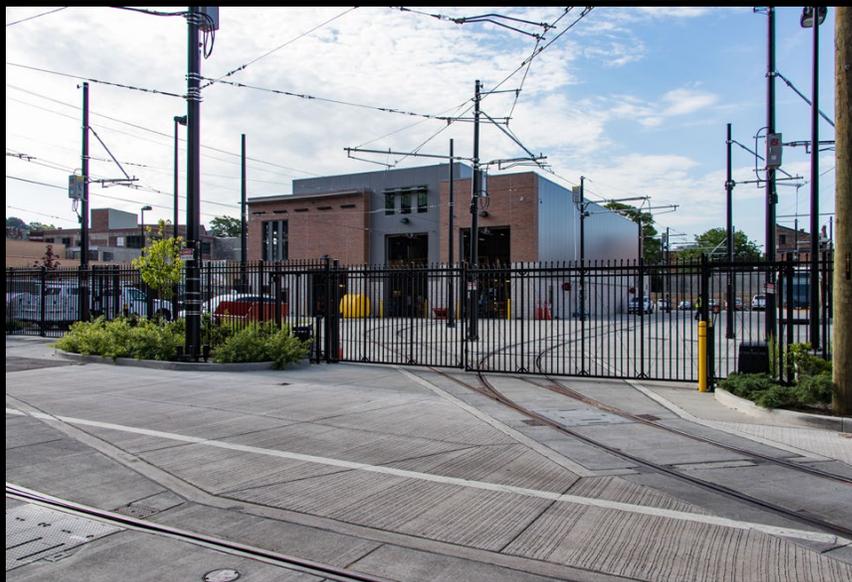
## Cincinnati

JOHN PAPPAS PHOTOS

Cincinnati Streetcar 1175 followed on from the delivery of the last new PCC 1174 in 1947. It is receiving some fine tuning over the pit in the modern two-track carhouse on Henry Street on June 14, 2016.

Entrance to the carhouse is from Henry Street. The track to the right in the foreground curves around the building to Race Street and forms a loop for turning around cars as needed.

The carhouse is compact, but has all of the contemporary design features including provision for a wheel truing machine and a mezzanine (over the track to the right) for easy access to roof components.





(Top) Car 1176 shows off the full look of the pre-wrap design. The three-module design has become popular for streetcar-type operations. If needed, it could be expanded to five or even

seven modules. However, three modules offers the simplicity of a two-truck arrangement with a fully suspended center section. The car is being backed out to begin operator training over the route.



(Bottom) Car 1177 is southbound descending the Walnut Street hill between 4th and 3rd. The building on the left housed the old Dixie Terminal on the second level. Green Line streetcars destined across the Ohio River

to Covington and other Kentucky destinations looped inside the building and accessed the Roebling suspension bridge by way of a ramp. After streetcars, the loop was used by trolleybuses and then diesel buses until 1997.



(Far right) Car 1177 crosses Race on 12th Street at the middle of the route's "figure 8." Provision has been made here to be

able to turn back in emergencies in either direction. This color scheme, shot on June 14, 2016, has since proven to be short lived.







## Cincinnati Street Railway

TOM SCHOLEY PHOTOS COURTESY OF  
THE DAVE OROSZI COLLECTION  
VIA NEWDAVESRAILPIX.COM

(Far left) A family portrait of the CSRy during the post WW II era. Lined up on the Depot Street side of Eighth Avenue Carhouse is Peter Witt 119 (1928),

conventional deck roof car 2258 (1919), curvesider 2506 (1923), acquired used from the Maumee Valley Traction Co., and 1940 air electric PCC 1114. The carhouse was active until the end of rail service.

(Top) The most modern cars acquired before the PCC era were these 100 "Peter Witt" design, lightweight vehicles, delivered by St. Louis Car Company in 1928. They lasted until the end of

service but, unfortunately, none were saved. The 70-Oakley terminated with a U-turn loop across Madison Road at the B&O's suburban Oakley Station until conversion on June 18, 1950.

(Bottom) Cincinnati Street Railway purchased 75 of these Cincinnati Car Company curve-side cars in 1923. The car is running on

the 41-Chester Park line which, along with companion 47-Winton Place, was converted to trolley coach on April 17, 1949.



# Granada, Spain

JOHN PAPPAS PHOTOS

As mentioned at the beginning of the article, it makes sense to include Granada in with the showcasing of Kansas City and Cincinnati. This new European system, 4,250 miles away from Cincinnati, provides both similarities to the two new U.S. systems and differences, many of which should be expected in a different part of the world and in a different role in its city's transportation scheme.

Granada will join Kansas City and Cincinnati in once again offering

electric railway service in 2016. The original system shut down in 1970. Their first route is 9.9 miles long and has street running, but also features center and side-of-road private right-of-way, traffic flyunders and a 1.5-mile downtown subway.

Granada is designed on the principle of a modern French tramway, as is true of many of the new Spanish systems. The track is standard gauge and the overhead is energized at 750 volt DC. Plans are to operate a 10 minute service with a complete

one-way trip taking 47 minutes. Platform lengths allow for operation of two-car trains.

It will also operate 15 CAF Urbos 3 cars. The design is similar in look to the two U.S. orders, but the cars have five sections and are 106 feet long, with six doors to a side. This requires a third truck under the middle section. The operator's cab and train controls are nearly identical to those of Kansas City and Cincinnati, and save for the yellow seat inserts versus blue U.S. seat

inserts, the interiors are nearly identical as well. CAF rates these at a maximum of 304 passengers and a maximum speed of 44 mph. In contrast, the official brochure indicates a total of 221 passengers.

Unlike the U.S. cars, these are fitted with an ACR Freedrive system to allow for off-wire operation up to six miles. The system uses lithium batteries and ultra capacitors and is advertised as non-proprietary to other rail builders in the transit industry.

During the ERA tour of Spain in May 2016, we were able to visit the shop and were given a special preview of the Alcázar Genil subway station, the southernmost of the three in the central area. Considerable attention was paid to excavating and preserving some of the artifacts discovered during the construction of the station and the result is architecturally striking.

Cars 301–315 were delivered over a three-year period beginning in 2012 as the project was originally to be completed and operational by 2014. Spain's money woes slowed that down and the new date for operation is now projected to be December 2016.

Car 305 (far left) sits in the outdoor storage yard along with eight of its brethren (inset). During our visit, five more cars were inside the shop and one was on the road testing a portion of the route which had been released for operation.







(Far left) Center platform of Alcázar Genil with both natural and back lighting.

(Top and bottom left, also pages 2 and 3) The running tunnel with unexpected paved trackway. Note the purple-hued lighting at points where emergency controls are located. In the foreground is the traction power cut-off box.

The overhead is a power rail instead of wire or catenary. This is a common design throughout Spain in both light rail and heavy rail subways.

(Bottom right) The stairs leading from the mezzanine down to the platform of Alcázar Genil.

