News

Low-floor trams begin service in Melbourne, a runaway incline kills a rider in Los Angeles, and other transit news from around the world.

Book Reviews


Feature

Newark City Subway

Frank S. Miklos details the stormy history of the Newark City Subway.

On the Cover

Newark, New Jersey. Outbound Newark City Subway PCC car no. 2 stops for a passenger at the Norfolk Street station in July 2001. William F. Keigher

During the morning rush hour (below), fares were collected at the bottom of the stairs of the Park Avenue station so that passengers could board the City Subway cars using both the front and rear doors, as this view from April 1955 illustrates. Sprague Library Collection
St. Clair County MetroLink Extension Opens Early

An eight station, 17.4-mile long extension of the MetroLink light rail line to Belleville, Illinois, opened on Friday, May 4, 2001, nearly five months ahead of schedule. Passengers were allowed to ride free that weekend with revenue service starting the following Monday. Through service is provided across the Mississippi River to the Lambert Field Airport in Saint Louis, Missouri.

The St. Clair County extension of MetroLink utilizes both new right-of-way and abandoned CSX railroad right-of-way. 24 new light rail cars were purchased for the extension. The total cost for the St. Clair County extension was $339.2 million. The federal share was $243,930,961 (71.92%) and the local share was $95,238,895 (28.08%). The local share was attained through revenue from the 1/2¢ sales tax approved by voters of St. Clair County in November 1993.

The St. Clair County MetroLink Extension is a three-phase light rail construction project. Phase 1 extends MetroLink from its prior terminus in East St. Louis to Southwestern Illinois College in Belleville, Illinois. Phase 2 is currently under construction and is scheduled to open in mid-2003. Phase 2 will extend MetroLink 3.5 miles northeast to the Shiloh-Scott station. Phase 3 will extend MetroLink 5.3 miles from Shiloh-Scott to MidAmerica Airport. When complete, the St. Clair County MetroLink Extension will stretch over 26 miles and connect communities in St. Clair County with communities throughout the St. Louis region.

ST. LOUIS, MISSOURI

ST. CLAIR COUNTY METROBUS AND METROLINK
WWW.METRO2001.ORG

METRO (FORMERLY THE BI-STATE DEVELOPMENT AGENCY)
WWW.METROSTLOUIS.ORG

SAN JOSE, CALIFORNIA

Milpitas Extension Opens

Santa Clara Valley Transportation Authority (VTA) began service on a 1.9-mile extension of the VTA Light Rail system on May 18.

Two new stations, Cisco Way (at Tasman Drive) and I-880/Milpitas (at Alder Drive), have been added to the Mountain View-Baypointe line.

The new section starts at the Baypointe Transfer Station in San Jose and runs east within the median of Tasman Drive to Interstate 880 in Milpitas. It is the first phase of a larger service expansion, the Tasman East Light Rail Project, which will eventually extend 4.8 miles through eastern Santa Clara County when fully operational in 2004. Four additional stations will be built.

Phase one to Milpitas cost $75 million; the 2.9-mile section opening in 2004 is budgeted at $193 million.

High-floor Cars to be Phased Out

Concurrent with the Tasman East Light Rail Project, VTA has announced plans to operate a 100% fleet of low-floor cars on the VTA Light Rail system.

New Kinkisharyo low-floor cars are being delivered. When all of these vehicles are in service the original fleet of high-floor cars built by UTDC will be offered for sale.

Both Salt Lake City and Sacramento have expressed an interest in purchasing these cars. It appears that 20 cars will go Salt Lake City and 26 cars will go to Sacramento. Four cars will be retained by San Jose.

SANTA CLARA VALLEY
TRANSPORTATION AUTHORITY (VTA)
WWW.VTA.ORG
Four 100% low-floor LRVs, built by Alstom in France and shipped to Australia for final assembly, hit the rails in October 2001; 16 new trams were operating by the end of the year. Yarra Trams of Melbourne has ordered a total of 36 Citadis 300 TGA 202 low-floor trams.

The next stage of development for Yarra Trams will see the construction of 18 “Superstops” to service the new low-floor trams, the upgrade of another 200 tram stops, a 1.4 mile extension of its route into Box Hill and the continued improvement of tracks. A Superstop is Yara Tram’s term for a state-of-the-art tram stop designed to be more accessible, comfortable and easier to use. It includes a raised platform with ramp access, a safer environment for boarding or disembarking from trams, real-time information for tram arrivals and departures, and other facilities.

Above, two Citadis 300 TGA 202 low-floor trams pass vintage Milano Peter Witt no. 1692 — on loan from the Tramway Museum at Loftus, near Sydney — at the Victoria Parade “Superstation” at Brunswick Street. The new triple-track tram interchange will now be called St. Vincent’s Plaza, after a well known hospital located nearby. H.R. CLARK

The bodies of the Citadis trams, including bogies and electrical equipment, leave La Rochelle, France and are shipped by boat to Port Melbourne. At Preston Workshop they are outfitted with air conditioning, automated vehicle monitoring equipment, automated ticketing equipment, upholstering and final painting. Yarra Trams consists of a fleet of 201 trams carrying 60 million passengers more than 5.7 million miles per year.

Vintage Tram Refurbishment Taking Longer than Expected

Work on the refurbishment of Melbourne’s fleet of historic W-class cars is proceeding slower than expected. The major portion of the project involves overhauling the aging braking system on the vehicles. The first trams to return to operation went into service on the City Circle route with the remaining cars expected to enter service at the rate of one per week. In addition to the City Circle route, the vintage trams will also see service on the popular tourist routes to Toorak and St. Kilda. When the current program is completed less than 100 W-class cars will remain in active service.

Below, three-module Alstom Citadis 300 TGA 202 tram.
Length of each module: 75.5 feet
Width of each module: 8.7 feet
Module capacity: 40 seated and 150 standing

WWW.YARRATRAMS.COM.AU
VICTORIAN PUBLIC TRANSPORT (VICTRIP)
WWW.VICTRIP.COM.AU/CITY_CIRCLE/INDEX.HTML
SALT LAKE CITY, UTAH

University Line Opens in Time for Winter Olympics

The University Line, a 2.5 mile extension to the TRAX light rail system of Salt Lake City, was opened on December 15, 2001 — almost one year ahead of its contract schedule — in time for the 2002 Winter Olympics. The $118.5 million project connects Main Street with Rice Eccles Stadium at the University of Utah where the opening and closing ceremonies of the Winter Olympics will take place. Utah Transit Authority (UTA) opened the original TRAX light rail line, which runs 15 miles from Delta Center in downtown Salt Lake City to the southern suburb of Sandy, in 1999.

UTAH TRANSIT AUTHORITY (UTA)
WWW.RIDEUTA.COM/TRAX

CALGARY, CANADA

Two Stations Added to Light Rail Line

A two-station extension of Calgary’s original Anderson Road light rail line was opened on October 9, 2001. The new terminal at Fish Creek-Lacombe has parking for 930 vehicles. An additional 260 parking spaces are located at the Canyon Meadows station. Several bus routes serving South Calgary were restructured to connect with the light rail trains at the new stations. A further extension with more stations will open in 2003. Ridership on the light rail system has grown to over 188,000 per day.

Calgary Transit operates a fleet of 95 Siemens-Duwag built LRVs that operate on 20 miles of track and 33 stations. Operations began in 1981 with one line starting at Anderson Road and ending at 8 Street S.W.

The system is comprised of two lines known as route 201 and 202. The 201 line has a North-South orientation reaching from Fish Creek-Lacombe in the South to Brentwood on the North. The 202 line is East-West oriented starting at Whitehorn and ending at 10 Street S.W. (downtown).

Maintenance is done at the Anderson Road complex which has a storage capacity of 55 LRVs. The remaining LRVs are stored at the Haysboro storage facility.

CALGARY TRANSIT
WWW.CALGARYTRANSIT.COM

LOS ANGELES

Runaway Incline Kills Angels Flight Rider

A tragic runaway on the Los Angeles Angels Flight incline on February 1 took the life of one rider and injured seven others. The two cars had passed each other on the mid-point siding when the car named Sinai on the north track suddenly rolled backwards and crashed into the other car, named Olivet, near the bottom of the incline. One of the passengers was thrown from the free-wheeling car and died later of massive injuries. His wife was also seriously injured but was expected to survive.

Angels Flight was reopened in 1996 at a new location a short distance south of where it stood until it was dismantled in 1969. The rebuilt incline was not constructed with a counter-balance mechanism, but instead had a separate drive mechanism for each car. There were also no overspeed brakes on the cars or safety cables to halt cars in an emergency. A preliminary investigation showed evidence of the drive mechanism for Sinai becoming disengaged. The incline has been shut down indefinitely until repairs are made and the safety of the operation is assured.

ANGELS FLIGHT
WWW.WESTWORLD.COM/~elson/LARAIL/ANGELSFLIGHT.HTML
Houston Electric: the Street Railways of Houston, Texas

by Steven M. Baron
Published by the author, 1996
435 Park Avenue, Lexington, Kentucky 40502
8½” x 11” hard cover, 223 pages, $39.00

Houston has not received much attention from electric railway historians partly because its last cars ran before World War II, and partly because of the paucity of sources. Steve Baron has now rectified this omission in this fine volume covering the streetcar years in the Bayou City.

Mule car service began in 1868 when the city had about 10,000 inhabitants, but it soon ceased. During the 1870s and 1880s rival companies battled for dominance, which was secured by the Houston City Street Railway in 1890. Electric service began the following year, and expanded throughout the decade. The high costs of electrification, paving assessments and labor disputes resulted in reorganizations out of which the Houston Electric Company emerged in 1901, with management in the hands of the Boston engineering firm of Stone and Webster. Free transfers were instituted with a new city franchise, but segregated seated, imposed by city, resulted in a boycott and indirectly led to a strike which broke the union. Stability returned in the years before World War I, as new lines were constructed and additional cars acquired. The jitney menace was overcome, not without difficulty, and Birney cars were introduced in 1918. The bus arrived in 1924 and played an increasingly important role in subsequent years. The high point of streetcar mileage was 1927, after which a slow decline began.

Although Houston Electric ran an efficient and modern rail system and was a member of the Electric Railway Presidents’ Conference, the company was an early convert to complete bus substitutions. Among the factors which led to this decision were financial problems caused by the Depression; expansion of the city beyond the ends of the rail lines; high rail maintenance expenses; paving assessments; and improved bus technology. The last cars ran in June, 1940.

Houston Electric is organized chronologically; about half of it details the growth and decline of the rail cars. The eight subsequent chapters cover such topics as a brief chronology from 1941 to 1991; the Houston Heights line: Highwood Park, a company-owned amusement park; a description of each route; the Milby car barn; the power facilities; an illustrated roster, and a quick look at nearly electric lines. An appendix offers operating statistics; endnotes provide documentary support for the text; a bibliography and index conclude the book. There are a number of maps, many reproductions of advertisements and related material and over 240 photographs which are sharp and clear on the book’s high quality paper.

Baron’s writing is smooth and easy-flowing. He has demonstrated his skills as a historian by producing an exemplary history based on sources such as city and county records, financial manuals, trade journals, newspapers, local histories and archival materials. Unlike many privately-printed works, Houston Electric is professional in every respect and shows careful attention to detail and production. With its reasonable price it should be welcomed not only in the homes of rail aficionados, but on the shelves of university libraries, too.
Trolleys in the Land of the Sky: Street Railways of Asheville, North Carolina and Vicinity

By David C. Bailey, Joseph M. Canfield and Harold E. Cox.
Published by Harold E. Cox, 2000
80 Virginia Terrace, Forty Fort, Pa. 18704
8½”x11” soft cover, 96 pages, $14.00

Little has been written on the electric railways of this North Carolina mountain town, until now. The authors of this book have gone to great lengths to rectify this situation in this new volume, from the reactivated press of Harold E. Cox.

Unlike most cities, Asheville never had a horsecar line. As the railroads penetrated the region, the town grew and the need for a public transportation system led to a number of abortive attempts to establish a trolley line. In 1888 the Asheville Street Railway succeeded, with regular service beginning the following year. Other lines were constructed with the last opening in 1911. The property became part of the Carolina Power and Light Company in 1912, itself part of the Electric Bond and Share holdings.

The company’s history is similar to that of many small town operations: there were strikes, in 1913 and 1926; floods along the French Broad River in 1916; inflation and labor shortages during World War I; and declining traffic as the automobile gained in popularity. In 1934 the company decided to convert its operations to buses, and the last car ran in September. Interestingly, the company ran only single-truck passenger cars; the last fleet modernization was between 1924–27, when 24 Birney cars were purchased.

The book is organized topically. There are chapters on the history; the cars; the routes; other regional lines, operated mostly by a former Rhode Islander named Richard Howland, who promoted a number of short-lived enterprises and one of greater duration; proposed lines; and on some of the people, high and low, who kept the cars rolling.

Layout and design are vintage Harold Cox, with short covers, staple binding, three-column text pages, and numerous photographs, with reproduction ranging from adequate to good. There are 15 maps and many illustrations of advertisements, tickets, transfers, and related items. Neither an index nor a bibliography is provided.

Nonetheless, a wealth of information is presented here, in a generally readable style. We owe a debt of gratitude to the authors for documenting the history of these remote and long-gone traction operations. With a very reasonable price, this book is recommended for all with an interest in the history of urban transportation.

Capital City Streetcar Days, 1878–1933

by O. R. Cummings. Published by Harold E. Cox, 1996
80 Virginia Terrace, Forty Fort, Pa. 18704
Soft cover, 56 pages, $12.00

Veteran traction historian O. R. Cummings has produced another in his growing list of studies of New England traction properties. The focus of his attention in Capital City Streetcar Days is the Concord & Manchester Electric Branch and the related Concord Street Railways in New Hampshire.

The beginnings of local rail transportation in Concord can be traced to the chartering of the Concord Horse Railroad in 1878, which began service in 1881 with a line to neighboring Penacook, a total of about 7 miles. After a brief flirtation with steam dummies, electric cars arrived in 1890. By 1901, several residential districts were served by the single- and double-truck open and closed cars, as well as a park on the Contoocook River at the end of the line in Penacook.

Around the same time, the Boston and Maine Railroad began construction of an interurban between Concord and Manchester, over 16 miles distant. It acquired the local Concord lines and rebuilt them, operating all its electric routes as the Concord and Manchester Electric Branch. Although the electric roads generally covered their operating expenses, they did not earn enough to pay the interest and dividends on the capital.

After World War I a period of decline set in. This was hastened by the construction of paved roads and an increasing number of automobiles. Economies resulting from one-man operations were not enough to save the trolleys, which ceased operation in 1933. B&M buses replaced the trolleys.

Cummings has covered the topic in his usual thorough fashion, describing the power stations, rolling stock, financial data, operating details and the impact of the trolley on community life. The format is typical of a Cox publication: triple columns of text with facing pages of three photos. Reproduction is adequate to good. An excellent center-spread map makes the routes clear. An index and bibliography are lacking, but the $12.00 price is very reasonable.

Anyone with an interest in small trolley lines during the peak of the traction era will appreciate O. R. Cummings’ Capital City Streetcar Days.
An era came to an end on August 24, 2001, when New Jersey Transit’s PCC cars operated in the Newark City Subway for the last time. New Kinkisharyo low-floor LRVs took over the service the following Monday.

Few remember that the seeds of this revolution took a lifetime to sow. The City Subway was constructed in the bed of the Morris Canal, which was abandoned in 1924. The canal linked Jersey City on the Hudson River with Phillipsburg on the Delaware. It was an engineering marvel in its time, with numerous locks and inclined planes to transport barges across New Jersey’s rugged terrain. The canal cut through the heart of downtown Newark and became something of an eyesore after it was closed.

As early as 1911 there were proposals to utilize the Morris Canal right-of-way for a rail transit service. The city fathers were anxious to do something with the unused canal bed, so they revived plans to utilize it for a rail line. In 1927 they approved the purchase of the right-of-way from the state, which acquired it from the Lehigh Valley Railroad in 1922. An agreement was reached with
This view from the Central Avenue Bridge of the Morris Canal in 1913 (below) shows the location of the future ramps connecting the 23-Central trolley route with the City Subway.

IRA DEUTSCH COLLECTION / NORTH JERSEY ELECTRIC RAILWAY HISTORICAL SOCIETY
Public Service in 1929 to operate the proposed rail service, but the city retained ownership of the right-of-way.

The line was originally known as the City Railway, but early in the planning it was decided to put the line underground through downtown Newark. From that time on it became known as the City Subway, although to this day some maps still identify it as the City Railway. Placing the line underground gave the city a much needed new street to relieve congestion on Market Street and Central Avenue, the only two major east/west arteries serving the downtown area.

A subway for trolleys already existed one block north of the proposed line. Opened in 1916, it ran under Cedar Street and connected the lower level of the Public Service Terminal on Park Place with a portal leading to Washington Street about three blocks to the west. The terminal was built to divert the flow of trolleys away from the city’s major intersection at Broad and Market Streets. At the time this was the busiest trolley intersection in the country with over 550 trolleys passing through it in a single hour.

The Cedar Street subway served several important trolley lines, mostly from the suburbs west of Newark. Routes from the northern, eastern and southern suburbs, along with the long interurban services to Trenton and Perth Amboy, operated into the upper level of the Public Service Terminal.

In the late 1920s track was installed on Washington Street, north of Central Avenue and south of Kinney Street, to provide additional connections to the Cedar Street subway. After that time most of the trolley routes operating into the Public Service Terminal used the tracks and platforms on the lower
In this aerial projection of 1914 the Morris Canal can be seen running through downtown Newark and into Branch Brook Park.
The Central Avenue Ramps

Outbound car No. 2725 (left) on the 29 Bloomfield route is about to pass under the ramp for the 23-Central route. The original Central Avenue Bridge from the days of the Morris Canal remains in place to the right of the ramp.

As early as 1911 there were proposals to utilize the Morris Canal right-of-way for a rail transit service.

Service on May 26, 1935. Three surface trolley routes were diverted into the subway at that time.

The 21-Orange line split into two branches, each of which had its own connection to the subway. The West Market Street branch reached it through ramps located in the underground portion of the subway just east of the Warren Street station.

New trackage was constructed on Warren Street to provide a link to the existing tracks on West Market Street.

The Warren Street installation was the last new street to receive trolley trackage in New Jersey until rails were installed more than 60 years later on Essex Street in Jersey City for the Hudson-Bergen light rail line.

Switches were installed at the intersection of Warren and Norfolk Street to enable cars on the 1-Newark, 25-Springfield and 31-South Orange routes to operate into the subway, but this was never done. Trolley service on those lines was abandoned within two years of the subway’s opening.

The Orange Street branch of the 21 route joined the subway at the only grade crossing on the line. The ramps for the 23-Central line were located just west of the Norfolk Street subway station while the ramps for the 29-Bloomfield line connected with the subway just south of the Bloomfield Avenue station. The subway served two more stations beyond Bloomfield Avenue, namely Davenport Avenue and Heller Parkway. An entirely new route, known as the 7-City Subway, was established to serve the outer portion of the subway.

Some service on the 21-Orange and 29-Bloomfield routes continued to operate on the surface into downtown Newark to provide connections to the Pennsylvania Railroad station on Market Street. A rush hour service was also provided on the 23-Central route between 14th Street and the upper level of the

The Central Avenue ramp (above) looks down on the same location shown in the Morris Canal photo on page 10.
into downtown Newark.

In conjunction with the extension of the City Subway to the Pennsylvania Railroad station, the service on the 21, 23 and 29 routes, which had operated into downtown Newark on the surface, was discontinued. Full-time service on all of those routes was then operated into the subway and all trips terminated at Pennsylvania Station, as it came to be known.

The extension brought with it a connection between the lower level of the Public Service Terminal and the City Subway. This was one of the most complex portions of the subway construction. The outbound track connection was a single-track spur branching off the subway, but the inbound connection descended a grade to pass under both tracks of the subway for a grade-separated junction just west of the subway terminal at Pennsylvania Station.

The new subway terminal had two inbound tracks for unloading and three outbound tracks for boarding. They were connected to an inner loop track and an outer loop with crossovers for full interchangeability between all tracks. There was also a spur track with a pit between the loops for emergency repairs to a disabled car.

Direct service to Pennsylvania Station was provided on four routes through the Cedar Street subway. The 13-Broad and the 27-Mount Prospect routes began running a rush hour service via the connecting trackage from the lower level of the Public Service Terminal. All of the service on the 43-Jersey City and 17-Paterson routes now terminated at Pennsylvania Station. The 17 route shared trackage with other routes over its entire length and was no longer an important service. The lower portion of the route duplicated the 13-Broad route between Newark and Nutley. At the time of its extension to Penn Station it was down to just a few rush hour trips.

Connecting trackage between the Cedar Street subway and the City Subway was eliminated after less than one year of use.
To Erie RR (Abandoned)
Scotland Road
(Abandoned)
To Eagle Rock
(Abandoned)
To South Orange
Via Swamp Road
(Abandoned)
To Erie RR (Abandoned)
West Orange Sta.
To Public Service Terminal
and Cedar St. Subway
(Abandoned)
Pennsylvania Station
Kinney St. Line
to Penn Sta.
(Abandoned)
Carteret Place
To South Orange
Via Swamp Road
(Abandoned)
First (Abandoned)
Central Ave.
14th St.
Cantiague St.
West Orange
via Orange St.
West Orange St.
Orange St.
(ABandoned)
Orange St.
(ABandoned)
Central Ave. Bridge
Central Ave.
Bloomfield Ave.
7th St.
Franklin Ave.
Bloomfield Ave.
State St.
Orange
MONTCLAIR BARN
MONTCLAIR BARN
Pennsylvania Station

Public Service of New Jersey
Trolley Lines in
Newark & Environs
1944

ERA MAPS
Sandy Campbell,
Designer
(Based on John G. Kneiling’s map in the September 1944 Headlights, not to scale)
The Cedar Street Subway in Trolley Days

A 17-Paterson car (top) emerges from the portal of the Cedar Street subway shortly before the rails were set into paving for use by all-service vehicles.

A 13-Broad car and a 27-Mount Prospect car (middle) pause at the top of the ramp leading to the Cedar Street subway. Both of these routes would be extended to the City Subway terminal under Pennsylvania Station through connecting trackage that was used for less than a year.

Motor buses (bottom) continued to use the subway until the 1960s when the lower level of the Public Service Terminal was closed.

Surprisingly, the Cedar Street subway tunnel still exists. To see what it looks like today, check out “Newark’s Best Kept Secret” on the Railroad.net website:

[www.railroad.net/articles/railfanning/newarksubway/default.asp](www.railroad.net/articles/railfanning/newarksubway/default.asp)
The original plans for rail service in the canal bed called for a line operating all the way to Paterson. This would have provided a rapid transit service between New Jersey’s largest city and its third largest city. However, Newark was the only city to provide the funding for the purchase of the canal bed and the construction of the rail line. None of the other municipalities along the canal right-of-way followed through on their portion of the project. The Town of Bloomfield converted about a mile of the canal into a roadway known as Morris Canal Drive, which was later renamed John F. Kennedy Drive. Several more miles of the canal bed were utilized for the construction of the Garden State Parkway in the 1950s. A few isolated remnants of the canal remain, but these are not nearly enough to have any role in a rail transit service.

The ramps to the City Subway at Warren Street straddled Raymond Boulevard just west of downtown Newark. A car descends the grade heading inbound (above left) to an underground junction between the Warren Street and Washington Street stations. Another car (above right) emerges from the portal of the Warren Street ramp.

Cars on the 7-City Subway, 21-Orange and 23-Central routes were based at the Roseville car house (below). Most of the various classes of cars used in those services were captured in this photo including deck-roof car 3215, single-ended car 2671 and monitor roof car 3253. The original plans for rail service in the canal bed called for a line operating all the way to Paterson.

Through the connecting trackage between the Cedar Street subway and the City Subway after less than a year of use.

On November 22, 1940, the 7-City Subway route was extended one stop to a new terminal at North Sixth Street at the Newark/Belleville city line. Thus, by the time the subway was completed, part of it had been abandoned for more than two years. Shortly after the line was extended to North Sixth Street, the name of that station was changed to Franklin Avenue. In August 2001 it assumed its third identity when it was renamed Branch Brook Park.

Until April 30, 1938. At the time of its abandonment it was the last trolley service on the streets of downtown Newark. The demise of the 43 route brought with it the elimination of trolley service two years. Shortly after the line was extended to North Sixth Street, the name of that station was changed to Franklin Avenue. In August 2001 it assumed its third identity when it was renamed Branch Brook Park.
NEwARK CItY SuBwAY
Don’t be fooled by what appears to be ghostly images. Two photos were overlapped to produce this virtual panorama of the Warren Street portals of the City Subway. Car 8013 turns onto Warren Street from the outbound ramp while single-ended car 2618 prepares to descend the ramp into the subway.