Transportation Research Library & Archive

- Originally the library of the Los Angeles Railway (1895-1945), and intended to serve as both public outreach and an employee resource.

- Repository of federally funded transportation research starting in 1971.

- Began computer cataloging into OCLC’s World Catalog using Library of Congress Subject Headings and honoring interlibrary loan requests from outside institutions in 1978.

- Archive of Los Angeles transit history from 1873-present.

- Transportation research library for employees, consultants, students, academics, other government agencies and the general public.

- Partner of the National Transportation Library, member of Transportation Knowledge Networks, and affiliate of the National Academies’ Transportation Research Board (TRB).


- Member of Getty/USC’s L.A. as Subject forum.
Accessing the Library

- **Online:** metro.net/library
  - Library Catalog librarycat.metro.net
  - Daily aggregated transportation news headlines: headlines.metroprimaryresources.info
  - Highlights of current and historical documents in our collection: metroprimaryresources.info
  - Photos: flickr.com/metrolibraryarchive
  - Film/Video: youtube/metrolibrarian
  - Social Media: facebook, twitter, tumblr, google+, historypin, Tiki-Toki (timeline), Peopleplotr (family tree), Paper.li (news)
  - Dictionary/Glossary: dictionary.metro.net/
- **Email:** library@metro.net
- **In Person:**
  - 15th floor of the Metro Headquarters building at the terminus of the Red/Purple Line, Gold Line & Metrolink, on the east side of Union Station, downtown Los Angeles.
Transit’s Family Tree

Full Version Online: Peopleplotr (family tree)
Early Years – Horse Drawn – 1870’s
Early Years – Cable Cars – 1880’s

- As population and transit use grew in Los Angeles, horse drawn rail cars were quickly replaced with newer technology cable cars.

- Cable Cars proved highly unreliable operating under the unpaved dirt roads of early Los Angeles, they frequently froze, choked with dirt and gravel.
Early Years – Electrification – 1890’s

• Better technology, overhead electrically-powered rail cars, allowed the transit system to rapidly consolidate, expand, and create the sprawling Southern California we know today.
Pacific Electric (1898-1953)

- Made concept of suburbia possible. Connected the suburbs and the city center, served Los Angeles, San Bernardino, Riverside and Orange Counties, also ran some connecting buses and open top double decker buses on Wilshire Boulevard.
- Peak number of rail lines in 1925, peak ridership in 1923, and again during WWII due to rationing.
- It was the electric “Metrolink” commuter rail of its day, only much more extensive with 1,100 track miles, up to 2,700 trains a day, and multiple hubs.

Metro
Los Angeles Railway (1895-1945)

- Operated in the center of city streets, connecting points north, south, east and west with downtown Los Angeles, Pacific Electric and other transit service providers.
- Peak number of lines around 1925, peak ridership during WWII, 742 streetcars and about 650 track miles, also operated motorbuses and electric trolley buses.
- Known as the “Yellow Cars”. Grandfather of today’s urban bus system. Largely forgotten and frequently confused with Pacific Electric. Owned by Henry Huntington & Estate 1911 until 1945.
• Started as a steam railroad in 1887. Portion from Grand and Jefferson south to Hawthorne was re-built and electrified by the Los Angeles and Redondo Railway in 1902.
• Lines were later were leased to Pacific Electric for operations.
• “The Great Merger” of 1911 established two major transit systems for Los Angeles, Los Angeles Railway (the Yellow Cars) for local streetcar based travel connected to Downtown, and the Pacific Electric (Red Cars) for long distance commuter rail style travel that stretched into Orange, Riverside, and San Bernardino Counties.
Los Angeles Railway Line 5

- 21.8 miles, Eagle Rock – Crenshaw – Hawthorne Blvd
- 2,100 boarding per route mile
- 46,700 average weekday boardings, among the highest ridership lines.
- Walter Leimert built his commercial development at a major stop on the L.A. Railway to ensure both public transit users and automobile users were welcome, unlike the developers of Miracle Mile - Wilshire Blvd had no rail.
The Los Angeles Railway Streetcar System in the 1930’s.

Line 5 As It Connected Southwest LA to the local Los Angeles Railway local transit system.
The rail line was phased out in May 1955, in large part due to the construction of the Harbor Freeway, and little public will or political power to preserve rail lines owned by private companies.

Bus Line 5 was renumbered by SCRTD to Line 40 in 1979. All bus lines were being renumbered and re-organized into a grid system in time for the 1984 Olympic Games. Crenshaw Prairie Corridor studies picked up momentum after the 1992 Civil Unrest.
Why did rail service go away?

- Same basic business issues both pre and post WWII - huge capital costs to replace aging power substations, catenary wire and rail cars, buses become the economical alternative, rail-to-bus conversions begin in 1925, rapidly accelerate in 1950’s.
- Public Utilities Commission held back fare increases – 5 cents from 1877 to 1927, 7 cents from 1928 to 1945, 10 cents from 1946 to 1951, 15 cents from 1952 to 1956.
- No public subsidies for capital or operating costs available from local, state or federal governments.
- Cultural changes - automobile reliability improves, status symbol marketing, and women & minorities enter the industrial workforce.
- Modal improvements - brand new un-crowded highways and freeways.
- Transit service operators believed that the freeway system would accommodate and speed transit buses as a high speed backbone, thereby increasing their attractiveness to passengers.
- GM perfects and markets the 45 seat transit bus; air conditioning and air suspension become options.
- Diesel is not yet considered to be a component of a new phenomenon called “smog”.

Metro
Influences: 1939 New York Worlds Fair – GM’s 1939 Futurama Exhibit

- Concept for car, bus and pedestrian only cities.
- Imagined 14 lane freeway interchanges.
Los Angeles Metropolitan Transit Authority (1951-1964)

- Formed by the State in 1951 to study a monorail line from Long Beach to Panorama City within a one mile boundary of the L.A. River.
- Seven Member governing board appointed by the Governor. Released its first report in 1954. Powers expanded in 1954 to propose a new mass transit system for the region.
- Powers expanded again in 1957 allowing MTA to become a transit operator.
- Purchased Metropolitan Coach Lines (formerly Pacific Electric) and Los Angeles Transit Lines (formerly Los Angeles Railway), effective March 3, 1958.
Rail lines still operating in 1958:

- From Pacific Electric (1898-1953) via Metropolitan Coach Lines (1953-1958):
  - Long Beach, San Pedro, Bellflower, Watts Local, and Catalina Terminal.
  - Last “Red Car” runs to Long Beach on April 9, 1961.

- From Los Angeles Railway (1895-1945) via Los Angeles Transit Lines (1945-1958):
  - West Jefferson Blvd & Huntington Park (J), West Pico & East 1st St. (P), Whittier Blvd. & West 3rd St. (R), San Pedro St. & Western Ave. (S), Vernon & Vermont Ave (V).
  - Last “Yellow Car” runs on March 31, 1963.
The initial 1954 study of one monorail line, 45 miles/$165 million, grows in 1960 to a 75 mile/$529 million monorail plan with elevated rail along Wilshire.

- Expanded monorail plan meets strong opposition from Valley Boulevard, Wilshire Corridor and Beverly Hills.
- MTA’s plan is scaled down to a “Backbone Route” with subway under Wilshire Boulevard and at-grade rail to El Monte.
- Alweg and Goodell Monorail Co.’s release their own monorail plans and offer to build systems for “free” in exchange for next 40 years of MTA’s farebox revenue.
- MTA notifies private companies that any plan that does not include subway along the Wilshire route is unacceptable. MTA fails in its PR efforts with general public.
Los Angeles Metropolitan Transit Authority (1951-1964)

• Politicians vociferously battle over if and how transit would be subsidized and what the very definition of subsidy really is. Public becomes thoroughly confused.
• The MTA, without the ability to tax, issue bonds, or take property via eminent domain, without the existence of any Federal or State capital assistance programs, and still subject to taxation itself, holds two subway groundbreaking ceremonies: in downtown with Gov. Edmund G. Brown on 1/12/62, and in Beverly Hills with Mayor Jack Freeman, on 1/23/62.
• State Sen. Rees (D-Beverly Hills) re-writes MTA legislation to give the transit agency the powers it was missing, re-launching it as the Southern California Rapid Transit District (SCRTD) in September 1964.
Southern California Rapid Transit District (1964-1993)

- New agency has an eleven member board appointed by local elected officials, the powers of eminent domain, taxation through local referendum, bond issuance, and creation of Benefit Assessment Districts.
- It is enthusiastically welcomed in an event at the Ambassador Hotel with 400 civic leaders.
- Takes its legislative charge to create a new mass transit system for Los Angeles seriously and goes to work marketing public transportation as a needed and necessary community asset.
- Federal government forms the Urban Mass Transit Administration in 1964 (now called the Federal Transportation Administration).
- Operates transit service in L.A., Orange, Riverside and San Bernardino counties.
- Takes over 11 other failing or failed transit companies, standardizing routes and fares.
1968 Plan -
- Initial 62 mile system that could expand to 300 miles, projected cost of $2.5 billion, 8.5 year construction period.
- Rejected by voters, 44.8% yes.

1974 Plan –
- Initial 116 mile system that could eventually expand to a 250 miles, projected cost of $6.6 billion, 12 year construction period.
- Rejected by voters, 46.3% yes.

1976 “Baxter Ward” Plan –
- 281 mile system, 230 miles of elevated heavy rail and 51 miles of light rail, projected cost of $7.5 billion.
- Rejected by voters, 40.6% yes.
Known for Innovations & Special Services:
- El Monte Busway HOV Project
- Mini-Bus circulator routes and Freeway Flyer services
- Bus Technology
  - In-house Air Quality Testing lab
  - 1974 FTA/California Steam Bus project
  - Particulate traps, alternative fuels
  - Double Deck and Articulated buses
  - First large scale wheel chair lift equipped bus order in history
- Bus Scheduling and System Grid design
- Technology – Robotic Parts Delivery, Pre-GPS Radio tracking system
- FFGA for Metro Rail Subway Project & Construction
- Rail Start up for the first new Light Rail Line & Subway Line
- Earthquake service, Civil Unrest service, Papal Visit, 1984 International Olympic Games, and coordinating other large scale special events.

Metro
Southern California Rapid Transit District (1964-1993)
Los Angeles County Transportation Commission (1977-1993)

- State creates the Los Angeles County Transportation Commission (LACTC) in 1976 to coordinate between municipal transit operators and SCRTD, plan countywide transportation improvements and ensure efficient use of local, state and federal transportation funding.

- In 1980, a majority of Los Angeles County voters approve Proposition A (54.3%), a half cent sales tax for transportation improvements, 35% of revenue is dedicated for rail construction.

Map from 1980 Proposition A voter information materials
Los Angeles County Transportation Commission (1977-1993)

- A second half-cent sales tax for transportation, Proposition C, was approved by a majority of Los Angeles County voters (50.4%) in 1990, along with propositions 108, 111 and 116.

- The Transportation Commission begins negotiations with Southern Pacific, the parent company of the former Pacific Electric system, to acquire 450 miles of right-of-way in Southern California. The parties eventually agree on a purchase price of $980 million in 1992. The commuter rail system known as Metrolink is born and spun off as an independent five-county joint powers authority.
• 1988, the two agencies agree on an eight-point plan that includes consolidating all rail construction under a single third entity, naming the lines the Metro Red Line, Metro Blue Line and Metro Green Line, and open discussion of an eventual merger.

• 1992, the Governor signs AB152 (Katz) that creates the Los Angeles County Metropolitan Transportation Authority, also known as MTA or Metro, effective February 1, 1993. It becomes a planning, funding, construction, and operating multi-modal “super agency” for Los Angeles County.
Multi-modal Transportation System

- 1,433 square-mile service area, 183 bus routes.
- Nation’s largest clean-air transit fleet - 2,228 CNG buses + 173 buses leased under contract.
- 15,967 bus stops & 359,979,871 annual bus boardings.
- 89 miles of Metro Rail – 85 stations.
- 425 Carpool/HOV Lane Miles.
- 152 Tow Trucks on Metro Freeway Service Patrol with 300,000 motorist assisted annually.
- Metro Rapid BRT system.
- 520 miles of bike routes, bike lanes, and bike paths, every bus is bike rack equipped.
- Largest funding partner of 550-mile Metrolink commuter rail system.

FAQs: http://www.metro.net/news/facts-glance/
Metro’s Transit System

Metro Rapid

Metro Local

Metro Express

Metro Light Rail

Metro Heavy Rail

Metro Busway
Crenshaw/LAX – vital link in a new rapid transit system for L.A.
Los Angeles County Today

- 9.6 million population
- 4.4 million jobs
- 7.4% population growth in 1990s
- Ranks 2nd in urban density
... it's going to grow

Over the next 25 years...

- 2-3 million more people
- 1 million more jobs
- 30 percent more trips
- Increased sprawl
- More complex travel
- Speeds less than 20 mph
Freeway Speed

Comparision of Population Growth to Highway Speed

Note: Highway speed projections are average daily speeds. Peak hour conditions will be slower.
Long Range Transportation Plan

More...

Highways Projects
Car Pool lanes
Arterial Roads and Streets
Transit
Ridesharing
Bicycle lanes
Pedestrian Linkages
Joint Development
Video:

21st Century Transportation System for Los Angeles
Further Reading & Resources on Transit History

- Electric Railway Historical Association – http://www.erha.org
- Los Angeles Railroad Heritage Foundation – http://www/larhf.org
- Pacific Electric Historical Society http://www.pacificelectric.org
- This Was Pacific Electric - DVD - A documentary film by Tom Eberhardt
- Henry E. Huntington and the Creation of Southern California by William B. Friedricks
- From Railway to Freeway - Pacific Electric and the Motor Coach by Eli Bail.
- Los Angeles & the Automobile by Scott Bottles.
- Street Railways and the Growth of Los Angeles by Robert C. Post.
- Ride the Big Red Cars: How Trolleys Helped Build Southern California by Spencer Crump
- Inglewood Public Library – Adult Services Librarian Joel Rane Presentation – Rail Transit of Inglewood a Short Ride