

Electric Railway Association
2022 Annual Convention
San Diego, CA

July 9, 2022

Wayne Terry, MTS Chief Operating Officer



1888 - National City Sweetwater Bridge



1895 - El Cajon - Westbound



1904 - Coronado Tent City



1920 - Carriso Gorge



1923 - 15th Street Barn - Pacific Beach



1924 - Coronado Line to Bay Ferry



1924 - Broadway Looking East



1934 - Rosecrans / Point Loma



1936 - La Jolla / Bird Rock Area



1940 - Mission Bay Bridge



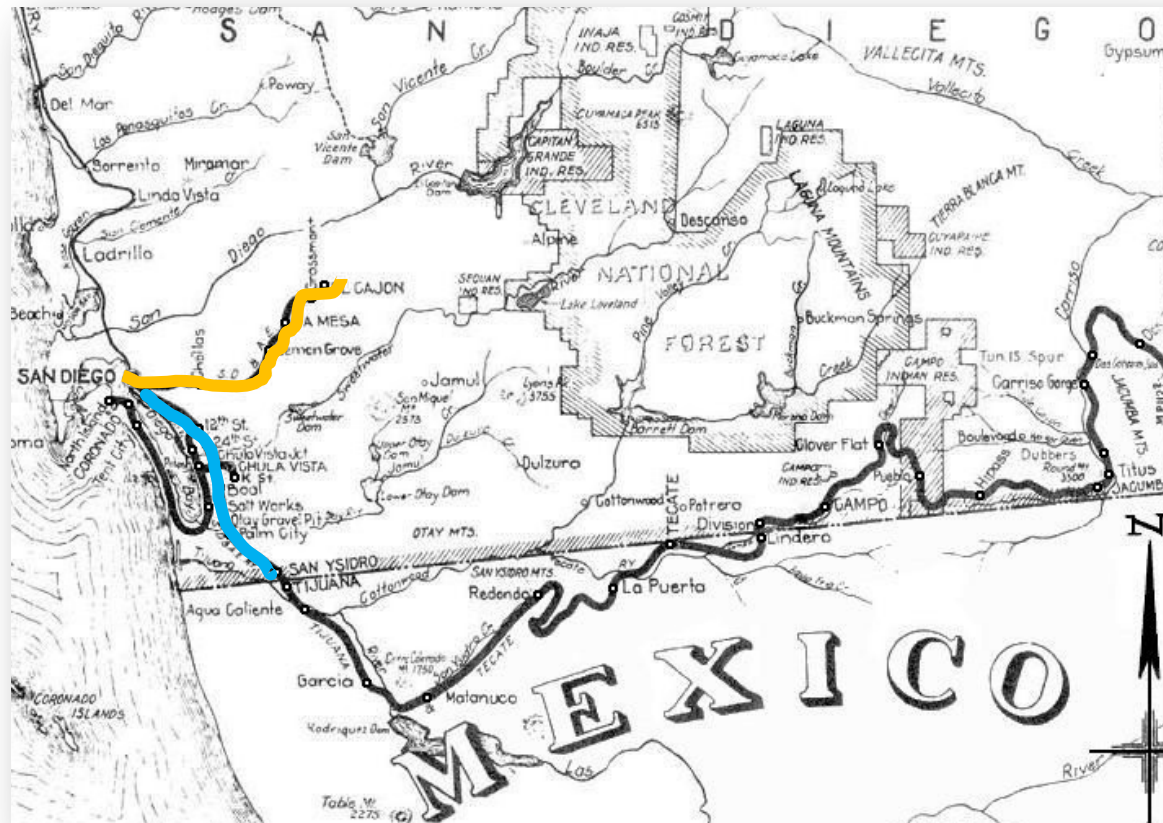
1948 Santa Fe Depot / Tower Bowl



1954 New Bus Fleet / Last Streetcar Trip

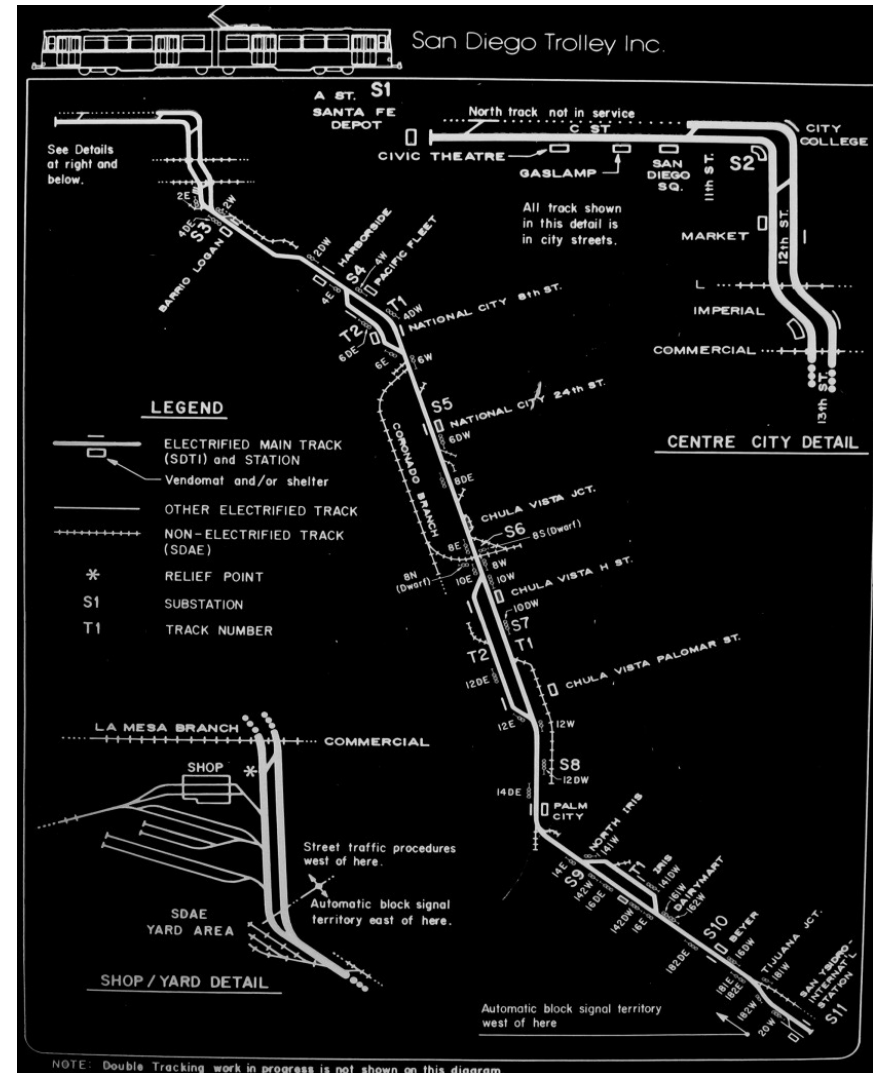


SD&AE Railway/San Diego Trolley, Inc.



Original Line Segment

- First SDTI Line Constructed with Minimal Capital Investment
- Used Existing (1919) Infrastructure with Modest Upgrades
- 90LBS Rail Set on Wooden Ties (Some Dating to the 1930s) with Sub-Standard Ballast
- Stations at Grade with Minimal Passenger Amenities



SAN DIEGO TROLLEY

JULY 19, 1981



Light Rail Renaissance



Growth of the Trolley System

Start Up:	1981
Euclid Extension:	1986
El Cajon Extension:	1989
Bayside Extension:	1990
County Center Little Italy:	1992
Santee Extension:	1995
Old Town Extension:	1996
Mission Valley West:	1997
Mission Valley East:	2005
Vintage Silver Line:	2011
Green Line Extension:	2012
Mid-Coast Corridor - UCSD	2021



San Ysidro Station - 25K-27K Daily Boardings



Euclid Avenue Transit Center



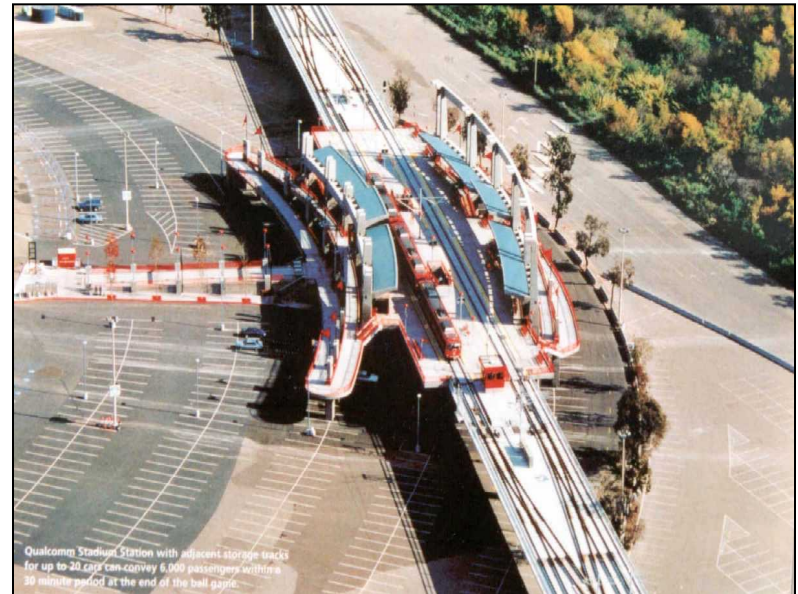
SDSU Station (First Subway)



Petco Park - Opened 2004



Qualcomm Stadium - This was a Typical Post-Charger Game Crowd



Another Overwhelming View



Convention Center Station - Comic Con



System Rehabilitation - Budget

Low Floor Vehicles	\$233M
Blue Line Infrastructure Replacement	\$107M
Blue Line Stations	\$64M
Green Line & Orange Line Stations	\$44M
Program & Construction Management	\$23M
Freight Improvements	\$148M
Total Cost	\$619M

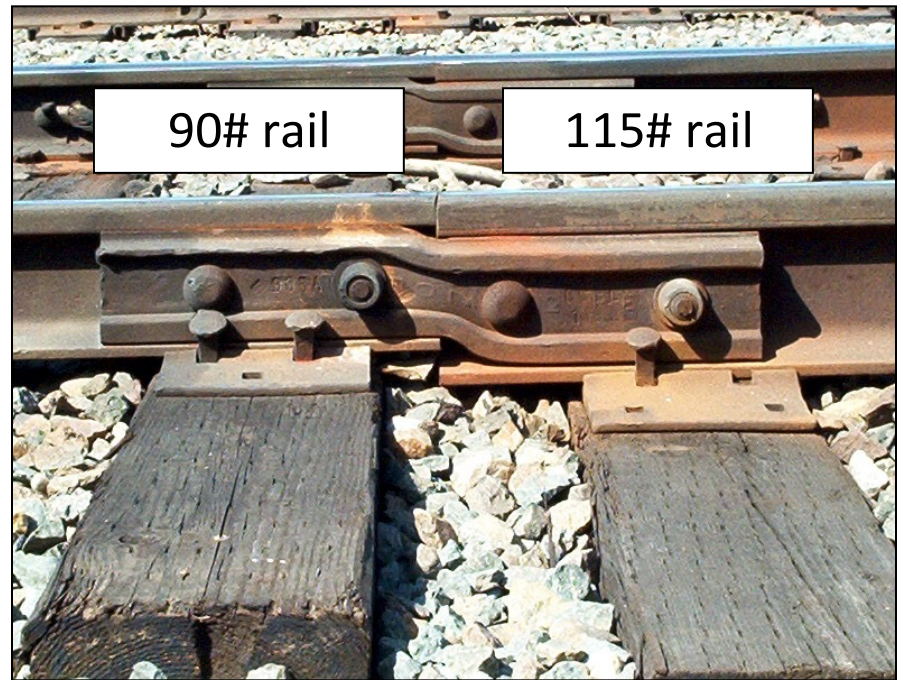


System Rehabilitation Funding Sources:

TransNet II	\$179M
Proposition 1B	\$288M
Federal Stimulus	\$53M
Proposition 1A	\$59M
Other Federal including NAFTA	\$40M
Total	\$619M



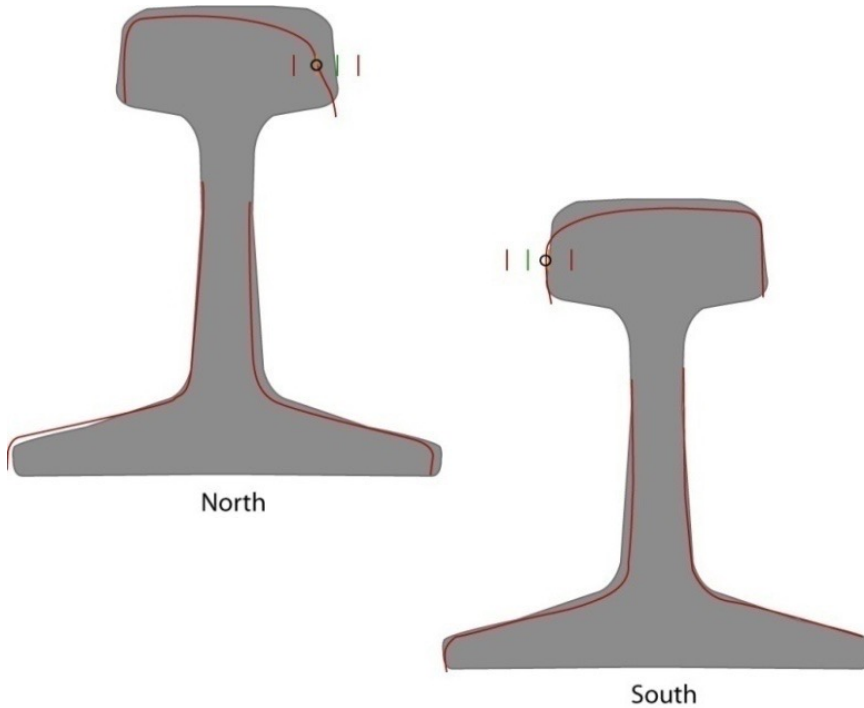
Blue Line - Aging Infrastructure



8th Street Station National City - Before



Track, Ties and Ballast Replacement



Blue Line - State-of-Good-Repair

First Stage was Complete
Catenary Replacement
and Reconfiguration

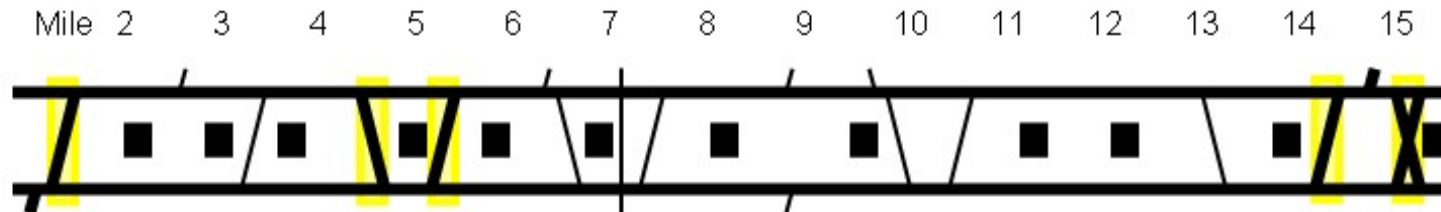
27-Weekend Closures

Significant Community
Outreach



Aggressive Bus and
Trolley Shuttle Service



Existing Blue Line Crossovers



LEGEND:

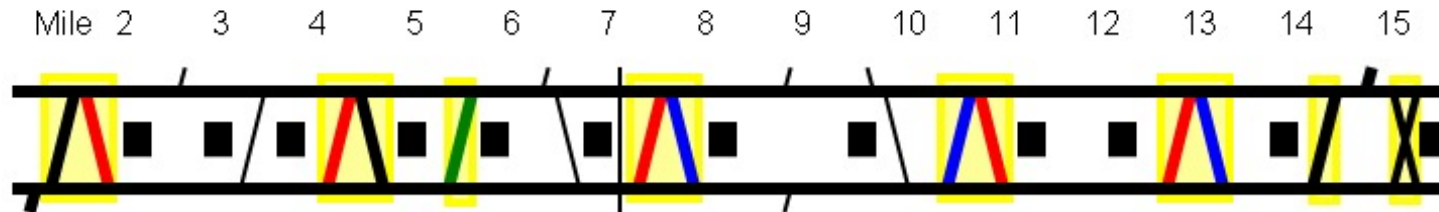
-  Existing Manual Crossover
-  Existing Interlocked Crossover

- Five interlocked crossover locations
- Four used to accommodate freight train operation






Blue Line: Interlocked Crossover Installations



Blue Line Crossovers

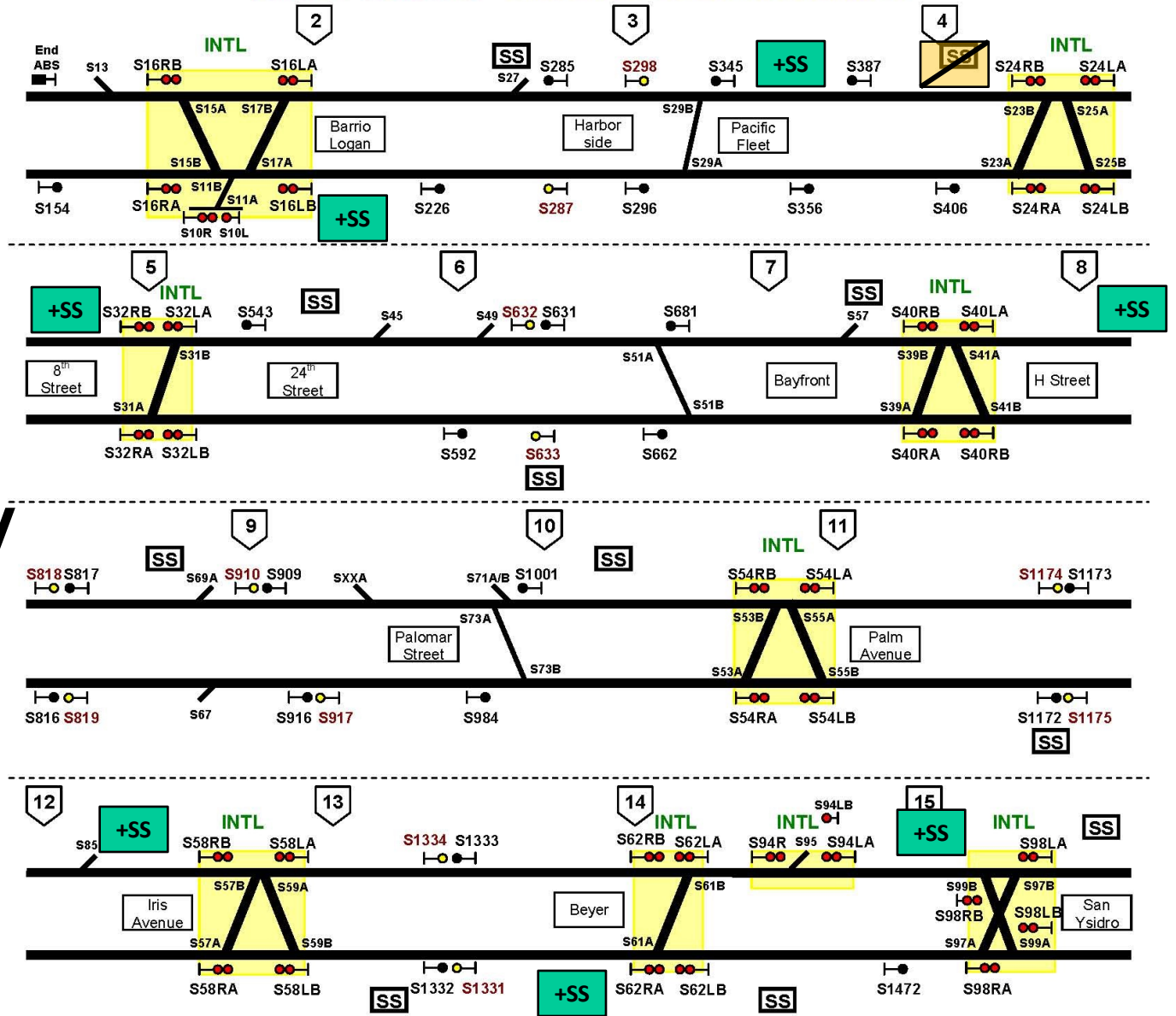


LEGEND:

-  Existing Manual Crossover
-  Existing Power Crossover
-  Upgrade Existing Manual Crossover
-  New Power Crossover
-  Relocate Existing Power Crossover

Installed or Modified 8 new Interlocked crossovers

Enhanced TPSS to Support Operation of the new Siemens S/70 LRVs



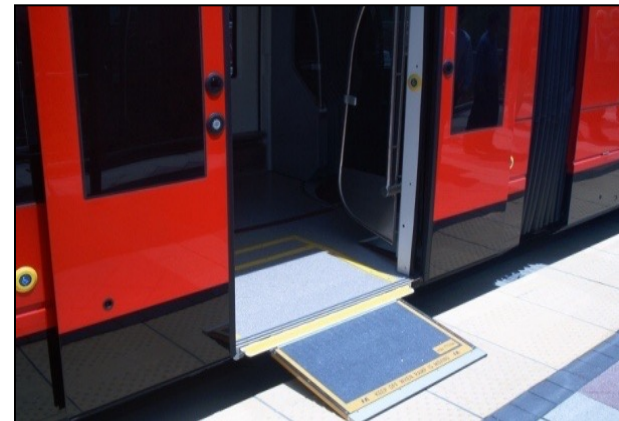
New Signal System with Reverse Run Capability



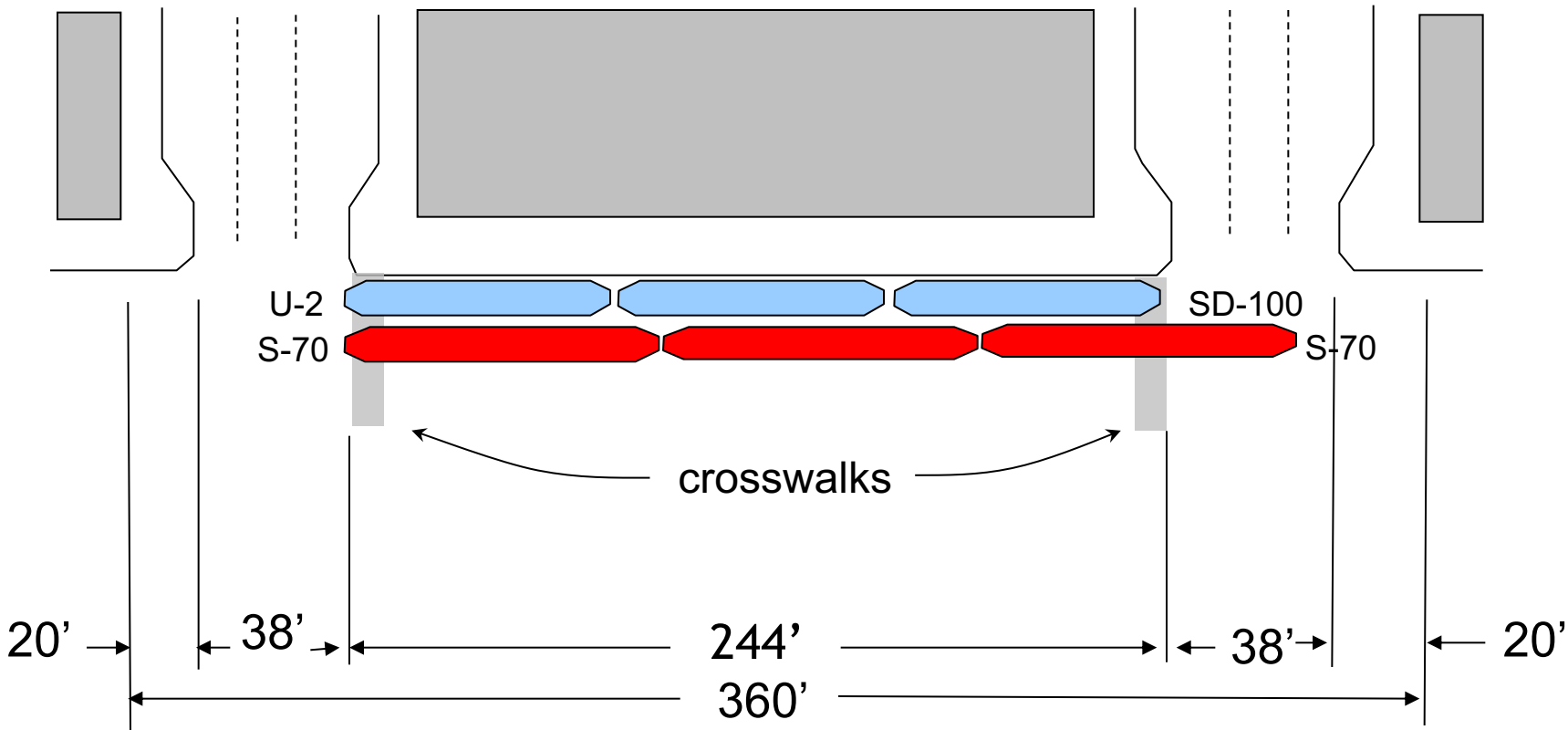
System-Wide Low-Floor Operations was Desperately Needed


14,000+ Wheelchair Lift Activations per Month

Schedule Adherence Severely Impacted by Multiple Boardings per Trip

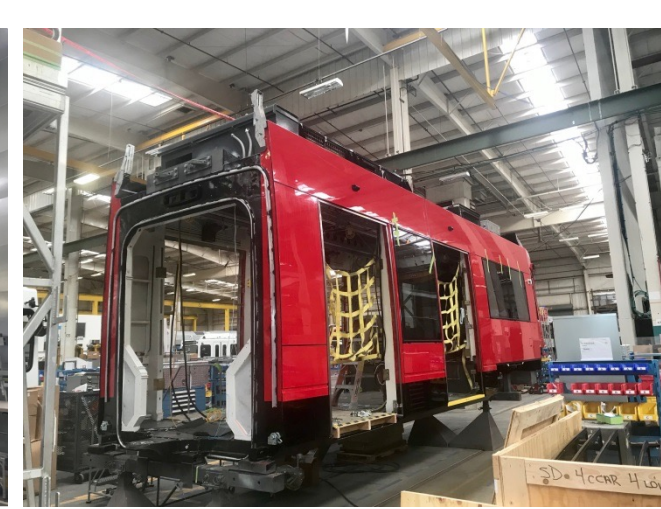


Typical C Street Block

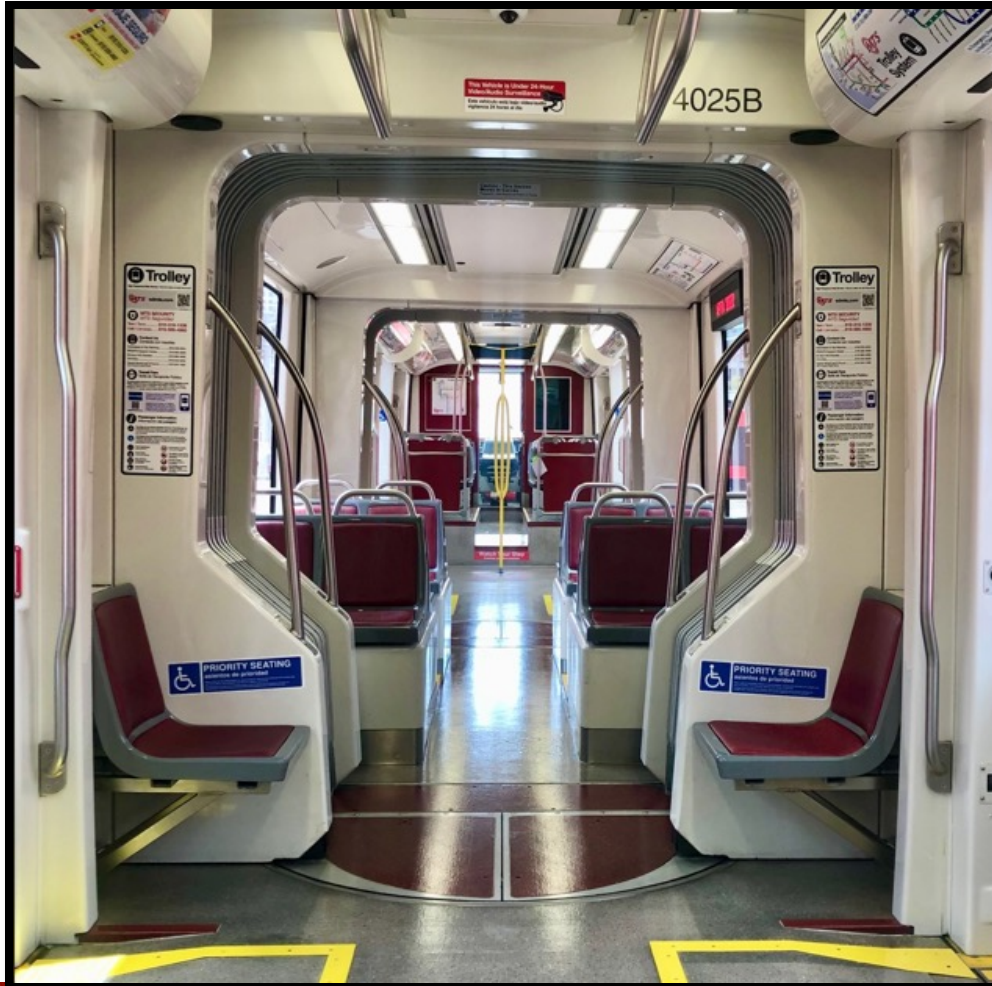


 SD100 (3-cars = 244 feet)

 S70 (3-cars = 272 feet)



4000 Series S/70 LRV Center Seating



MTS Light Rail Vehicles

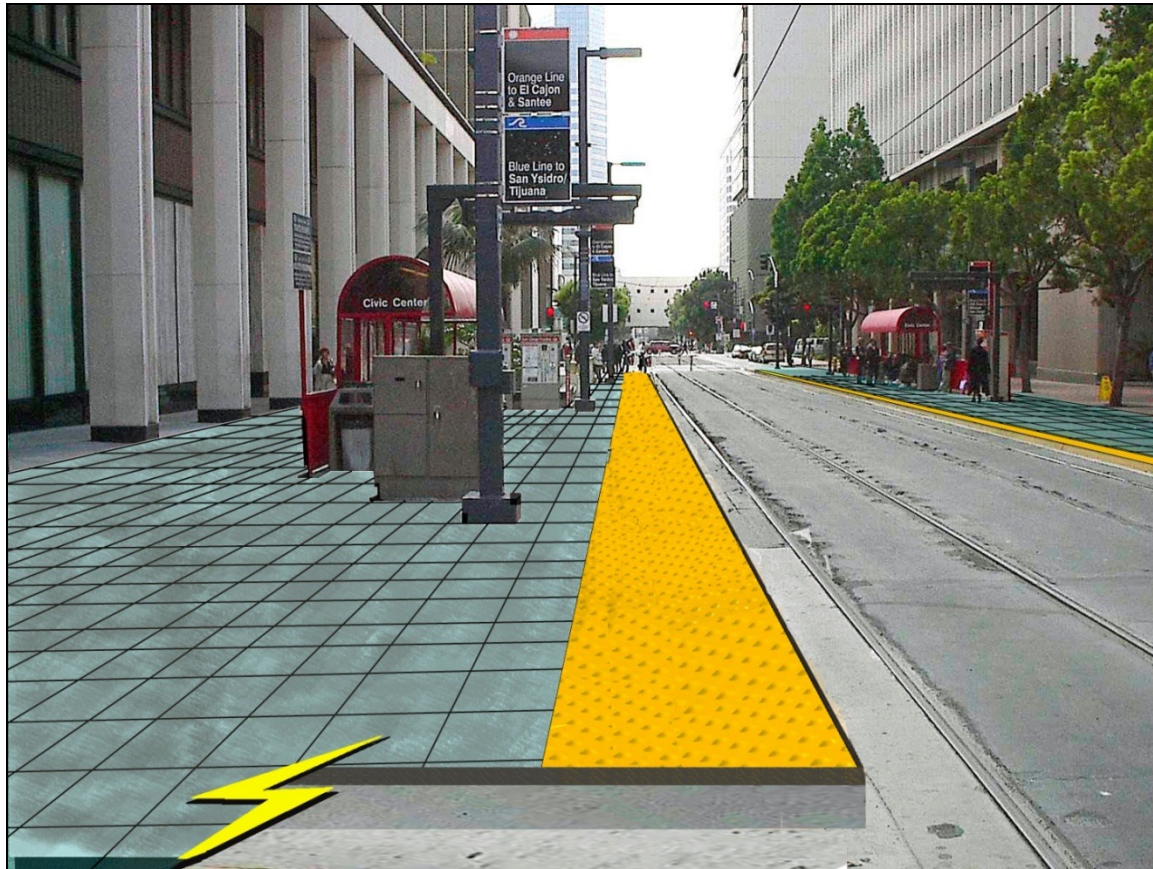
Fully Compatible



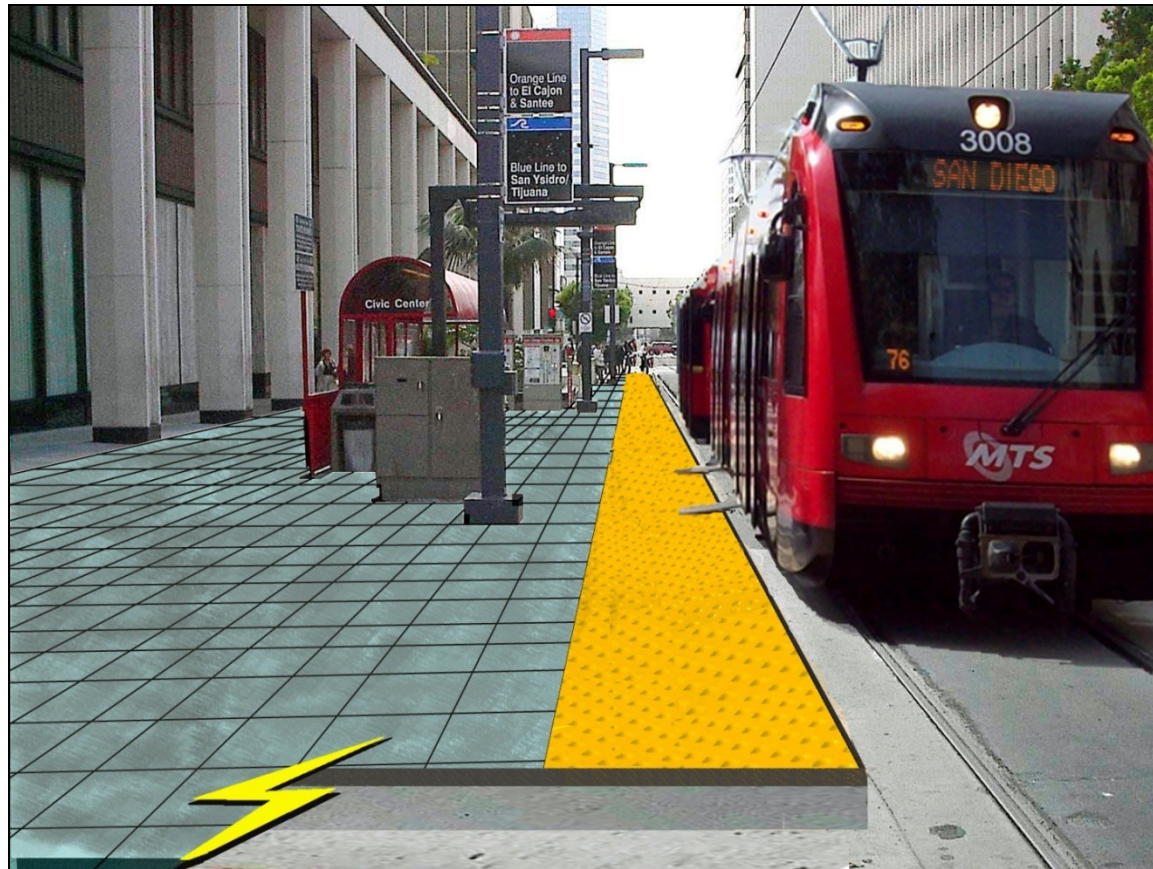
Vehicle	Length
Siemens S70 Seated: 64 Max Load: 220	90.7'
Siemens S70 US Seated: 60 Max Load: 200	81.4'
Siemens SD-100 Seated: 64 Max Load: 188	81.6'



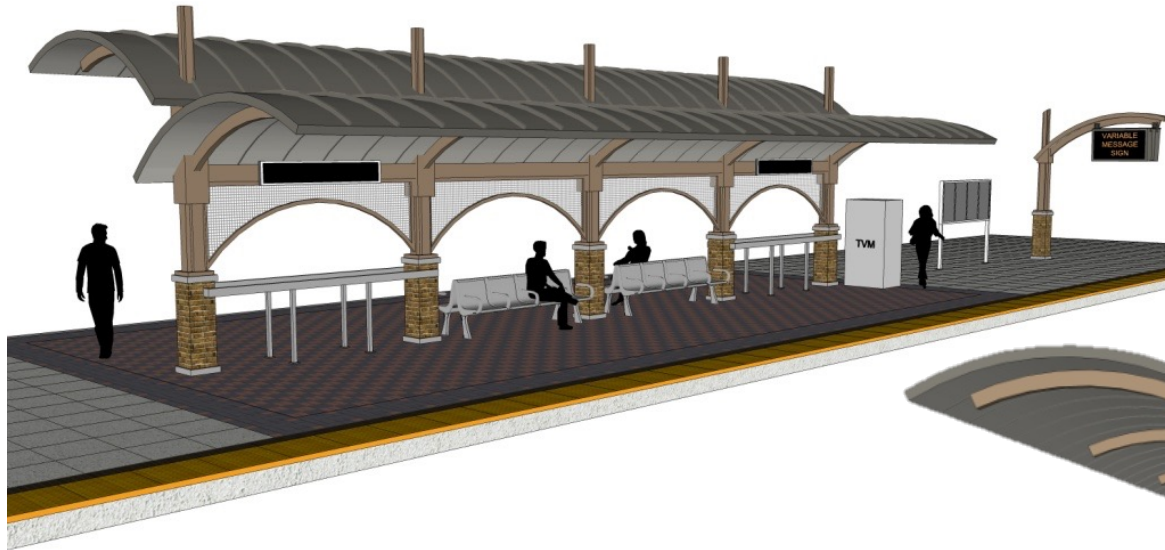
6-Inch Station Platforms Receive a 2-Inch Tile Overlay



6-Inch Station Platforms Receive a 2-Inch Tile Overlay



STATION SHELTER DESIGN FOR BUS/TROLLEY BERTHING



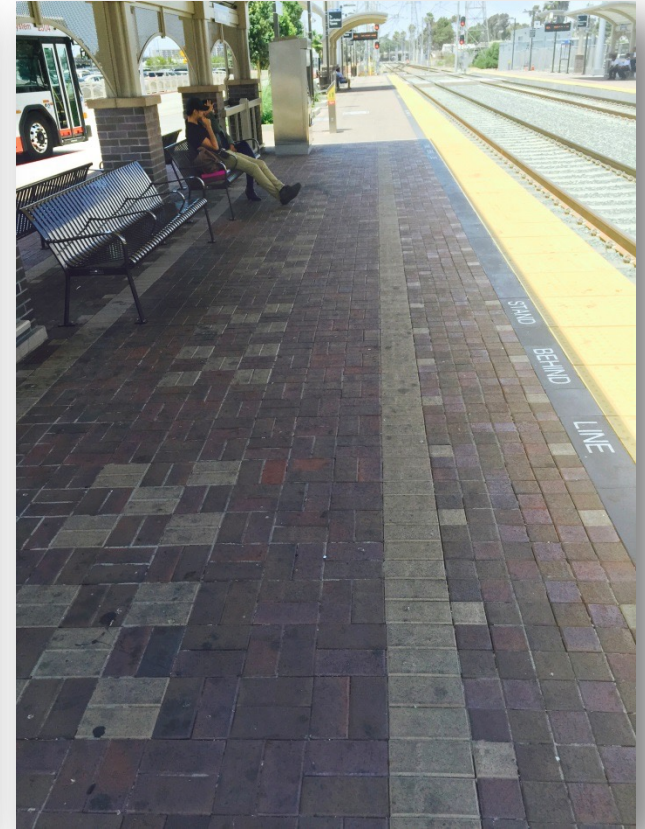
Double Barrel: View One

Double Barrel : View Two



8th Street Station National City

AFTER



Low-Floor Service on the Blue Line - Fall 2014



45 5000 Series S/700 (36 for Mid-Coast)



5000 Series S/700 LRV Center Seating Modification



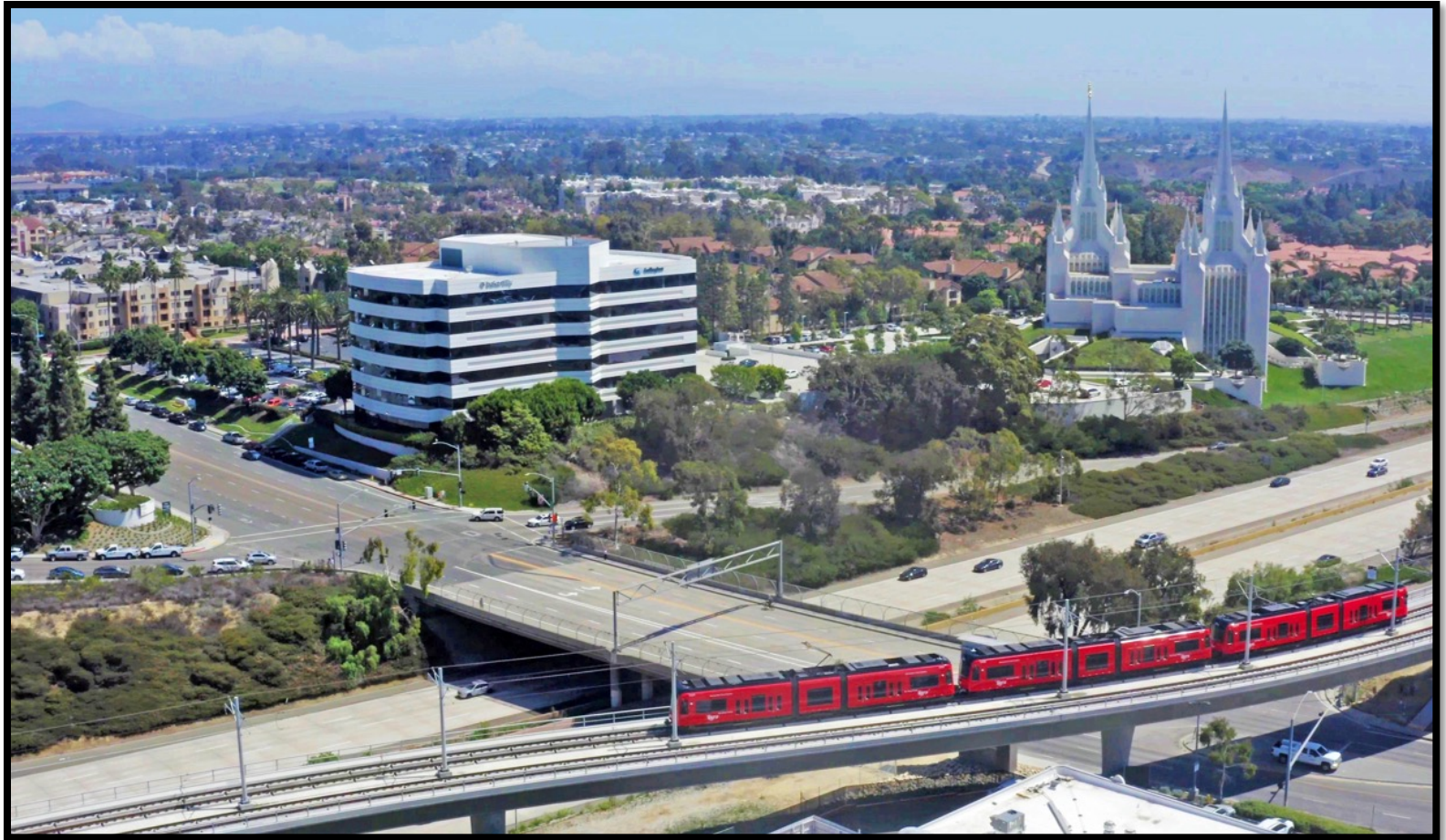
Siemens S70 & S700 Series LRVs



Mid-Coast Extension Opens 11/21/2021



Mid-Coast Extension - Aerial View



Mid-Coast Extension Opening Ceremony 11/20/2021



The Siemens U2 LRV fleet disposition:

Mendoza, Argentina - 18 LRVs Still in service

Homeland Security - 2 cars used for explosives training

Railway Museums - 6 cars to various museums

Consulting Group - 18 cars Knoxville/Memphis?

Karl Strauss Brewery - 1 local brewery use

Heritage fleet - 1001 restored for use on Silver Line

Scrap - 25 LRVs scrapped on site



The Siemens U-2 LRVs Receive a Second Chance at Life in Mendoza, Argentina



The Siemens U2 LRV's Arriving Mendoza, ARG



At 2M Miles + 18 Siemens U-2 LRVs are Currently Providing Service in Mendoza



U2 in the snow for the first time



"Me Gusta Mendoza"



Department of Homeland Security - San Antonio, TX

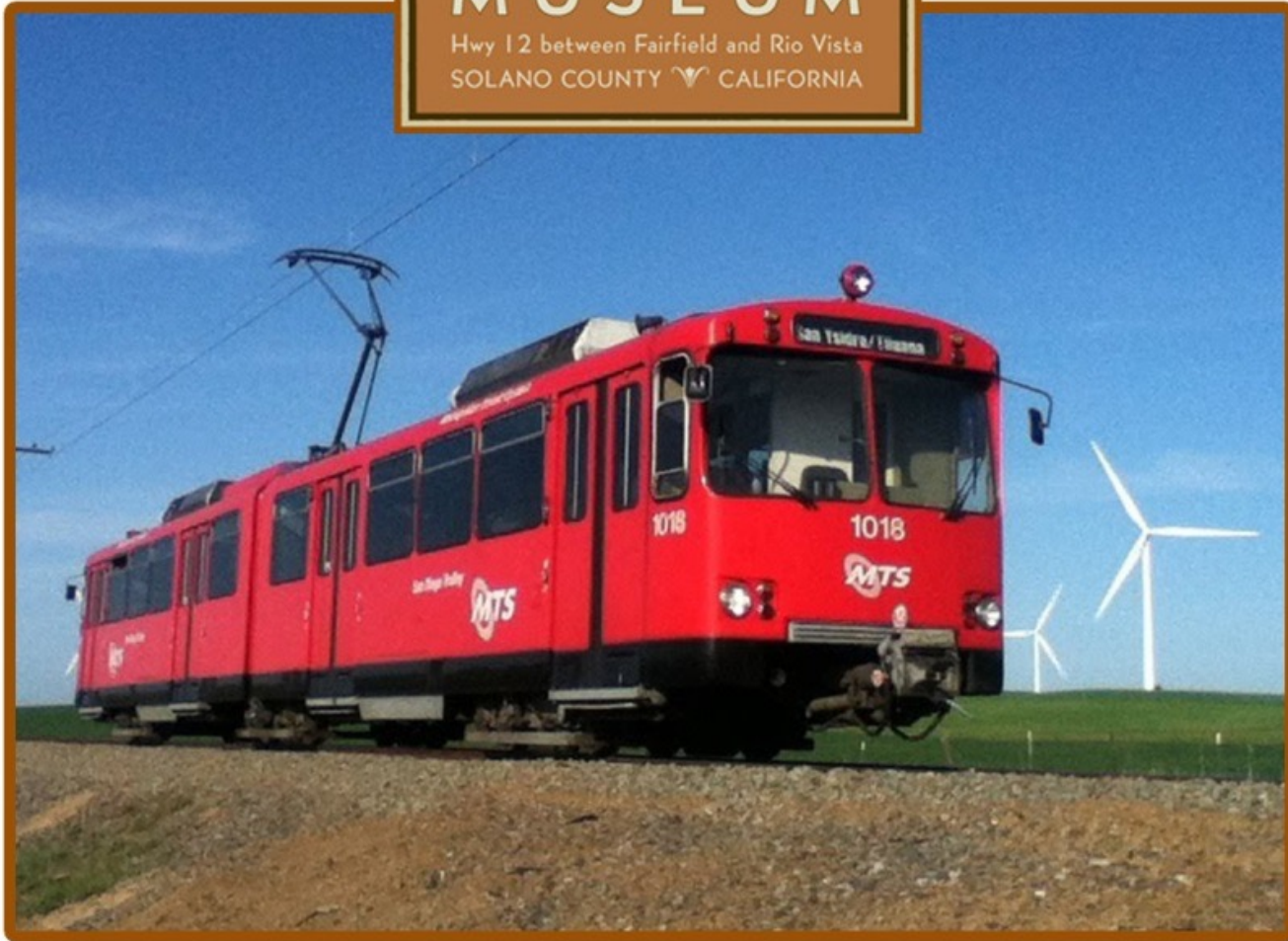


7/13/22



at the
**WESTERN
RAILWAY
MUSEUM**

Hwy 12 between Fairfield and Rio Vista
SOLANO COUNTY CALIFORNIA



Karl Strauss Red Trolley Ale



Memphis Area Transit Authority - Current testing ongoing evaluation of vehicles for future use there.



7/13/22

52 Siemens SD100 LRVs

- 13 LRVs have been recycled (Cost \$10K per unit)
- Currently receiving replacement Siemens S700
- 39 SD100 LRVs will see future service in Mendoza, Argentina, along with the former U2 fleet.



SD100 LRV Donation Ceremony - Mendoza, ARG



First 3 SD100 LRV Rebranded and in Service





SAN DIEGO VINTAGE TROLLEY, INC.

**In 2005 San Diego Vintage Trolley was created. A non-Profit
Subsidiary of MTS**







From a Scrap Yard in Lake Tahoe, CA





The project was championed by MTS Board Chairman Harry Mathis who grew up in San Francisco riding the PCC cars and dreamt of bringing PCC streetcars back to San Diego





The car body and structure was given a complete restoration





On August 27, 2011 with a bit of historic fanfare, 529 was placed into service on the San Diego Silver Line



San Diego MTS Silver Line



Vintage Trolley Heritage Fleet



Eastbound Silver Line PCC meets a Westbound Green Line Train on the Bayside Corridor



Following the successful launch of PCC 529 funding was allocated to restore a 2nd PCC car. Former NJ Transit 10 would soon become MTS PCC 530. This would provide a “Spare” vehicle for service when needed.





Qualification testing was done after revenue service hours by MTS personnel under the oversight of the California Public Utilities Commission





MTS PCC 530 was placed into revenue service in April 2015.





The Silver Line Fleet

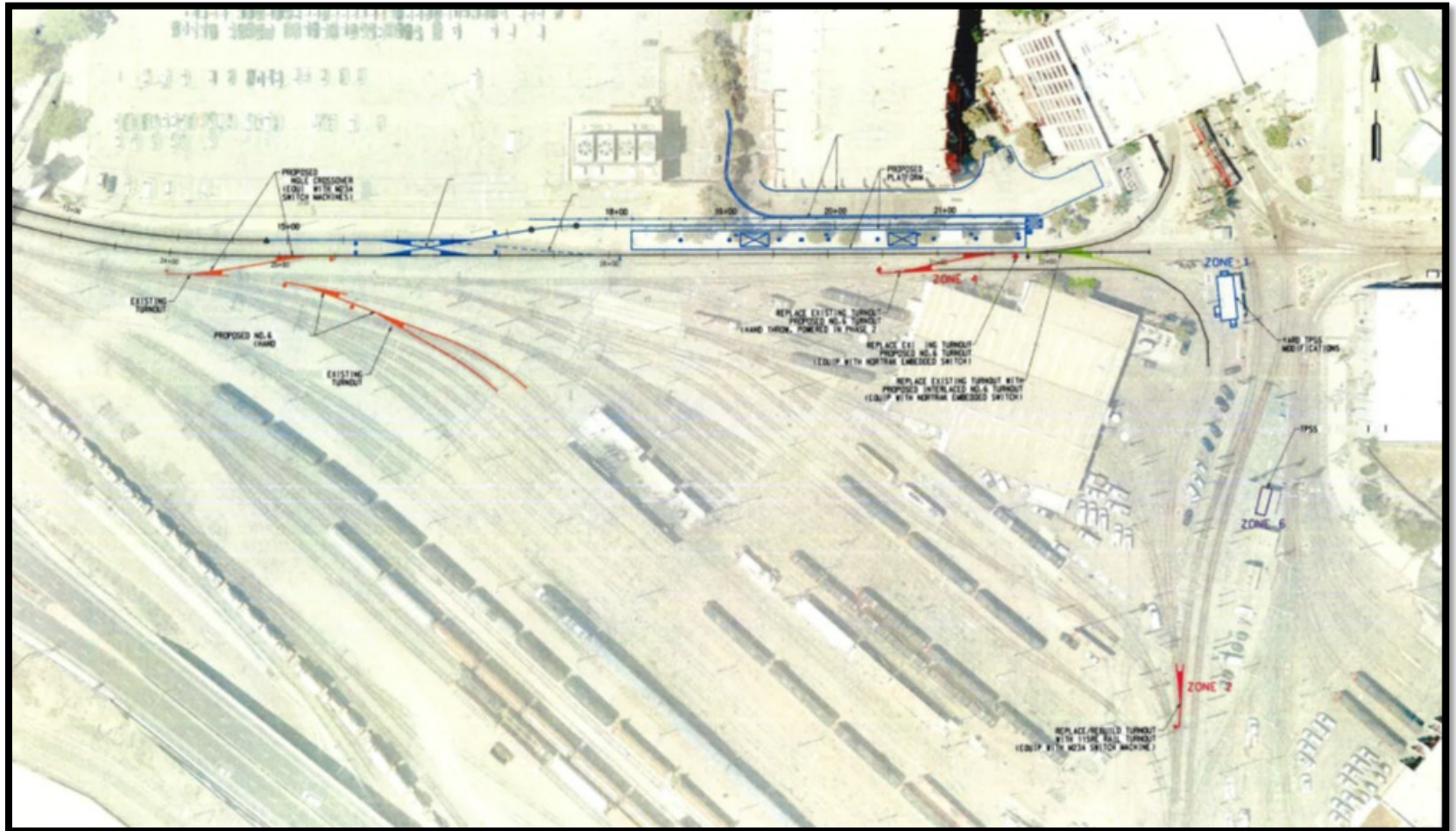




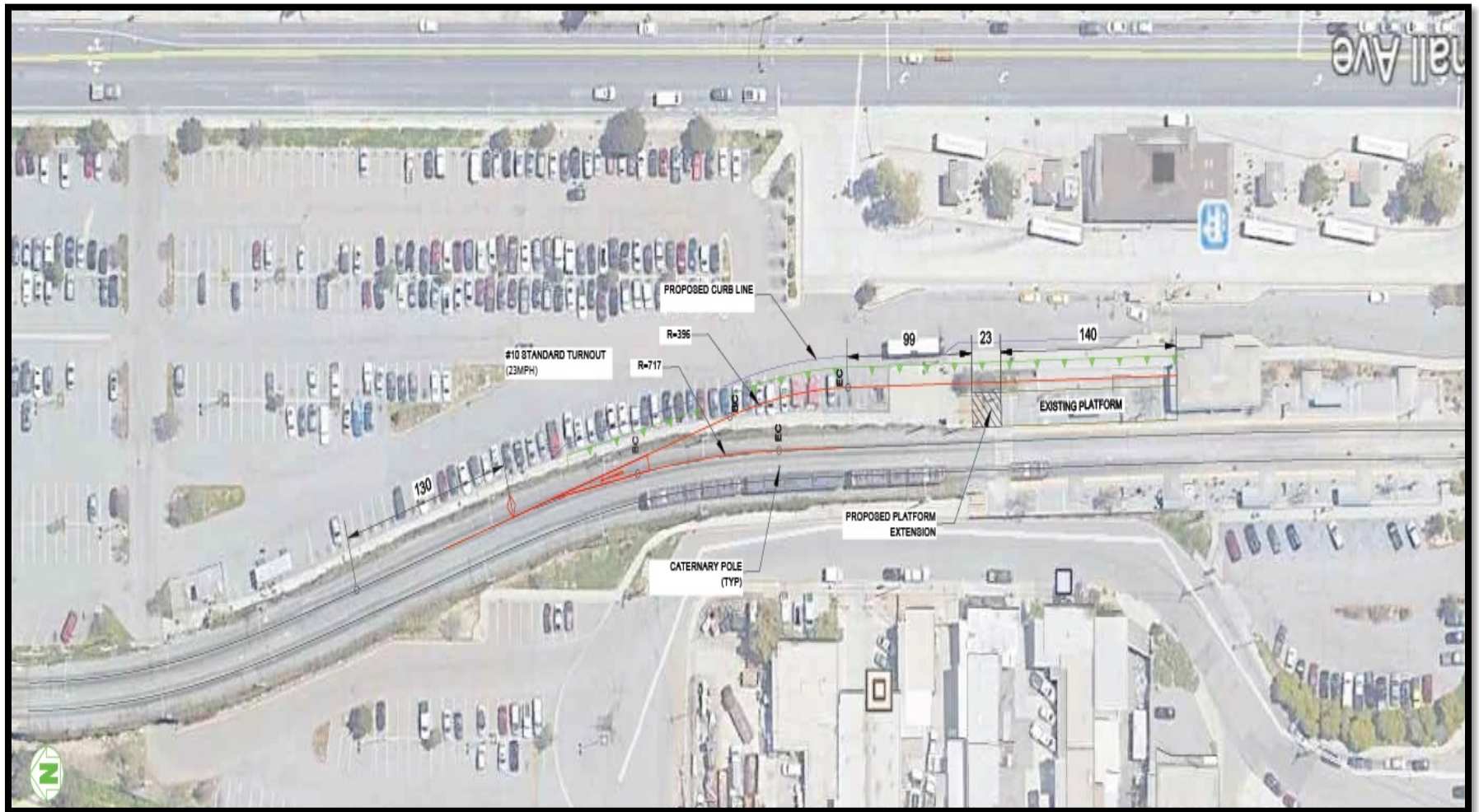
In 2019 MTS completed full restoration of U2 LRV 1001 and returned it to revenue service as part of the MTS Silver Line fleet.



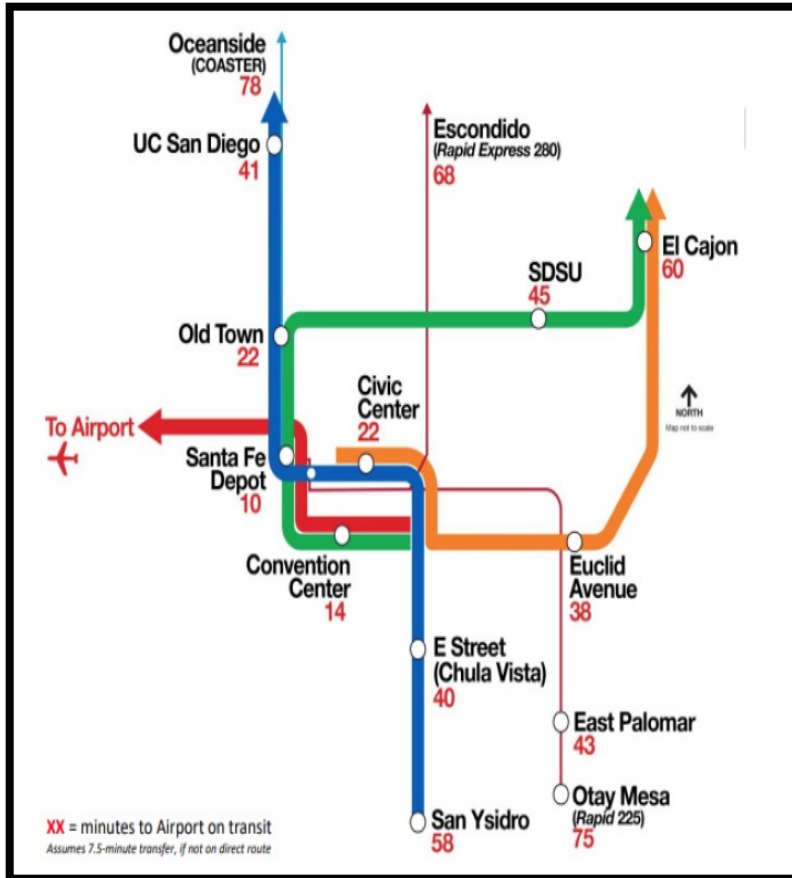
IMPERIAL TERMINAL DOUBLE TRACK BLUE TO GREEN LINE CONNECTION

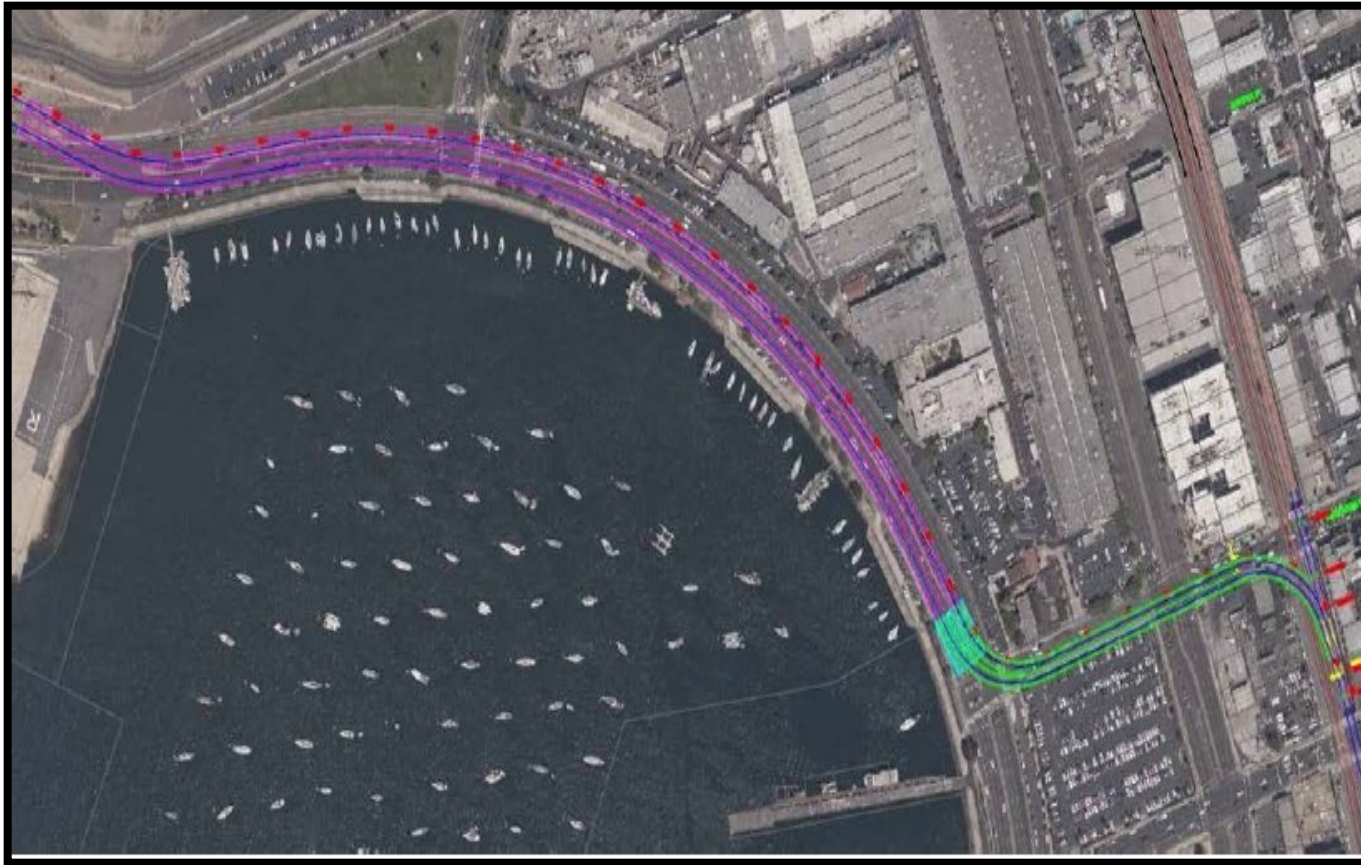


EL CAJON TRANSIT CENTER - 3rd TRACK/SANTEEE SHUTTLE



Airport Connection: Underground Trolley Alignment, Between Laurel and Grape Streets, looking North





**Preliminary cut-and-cover alignment
along Hawthorn St and bored tunnel
along Harbor Drive**