



Link US and LOSSAN North LA County Projects

LOSSAN TAC Meeting

September 3, 2020

Link US Project Video



1. The video is meant to inspire a creative vision for a world class transit station at Union Station
2. Proposed buildings shown are NOT part of the Link US project. Future development shown will be in later phases.
3. Visual representation of the passenger concourse and other elements are conceptual renderings that are not funded and subject to change through future design and preliminary engineering.

Union Station - The Link to Southern California

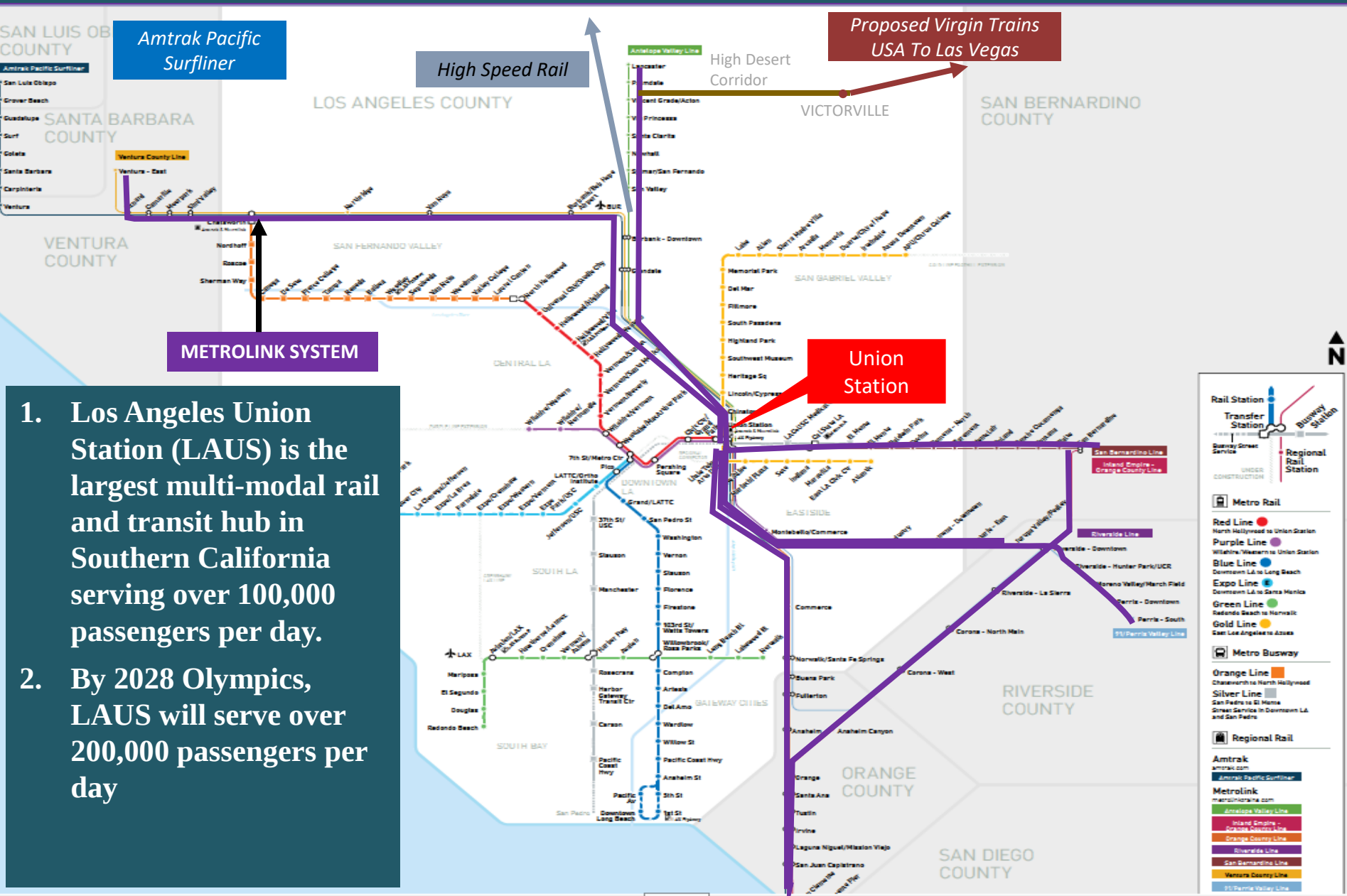




Los Angeles Union Station Today

Built in 1939 | Largest model hub in Southern California

Regional Rail Network Integration

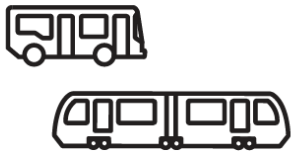


1. Los Angeles Union Station (LAUS) is the largest multi-modal rail and transit hub in Southern California serving over 100,000 passengers per day.
2. By 2028 Olympics, LAUS will serve over 200,000 passengers per day

Link US Project Anticipated Benefits

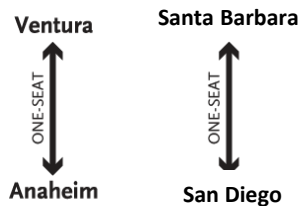
What will Link US Provide?

IMPROVE INTRASTATE, INTERCITY & LOCAL TRANSIT CONNECTIVITY



High-speed rail; Metrolink, Amtrak, Metro Rail; Metro and municipal bus systems; ridesharing

IMPROVE REGIONAL CONNECTIVITY



One-seat rides to key destinations in Southern California

INCREASE RAIL SERVICE CAPACITY



Accommodate future demand

REDUCE TRAIN IDLING TIMES



Shorter wait times; fuel savings and emissions reductions per train

FUTURE DEVELOPMENT



Opportunity for transit-oriented development

GENERATE NEW JOBS



Estimated 4,500 temporary jobs per year over five-year period; 200+ permanent jobs

IMPROVE PEDESTRIAN ACCESS



Enhanced mobility options and safety features

ENHANCE PASSENGER EXPERIENCE



New concourse, retail and other amenities, and new expanded platforms

IMPROVE US-101 & LOCAL ROADWAYS



Updated design and enhanced safety

Link US Project Overview

Regional Rail at Los Angeles Union Station

Carrier	Service	# of Weekday Passengers (2020)	# of Weekday Trains (2020)	Estimated Number of Weekday Trains (2040**)
Metrolink	Riverside	2,600	12	22
	91 / Perris Valley Line	2,288	11	23
	Antelope Valley	4,589	30	48
	Orange County	7,038	23	41
	San Bernardino	7,543	38	48
	Ventura	3,143	33	51
LOSSAN	Pacific Surfliner	5,116	26	38
Amtrak	Southwest Chief; Coast Starlight; Sunset Limited; [2040 includes future Coast Daylight, Coachella Valley]	540	5	9

40% increase

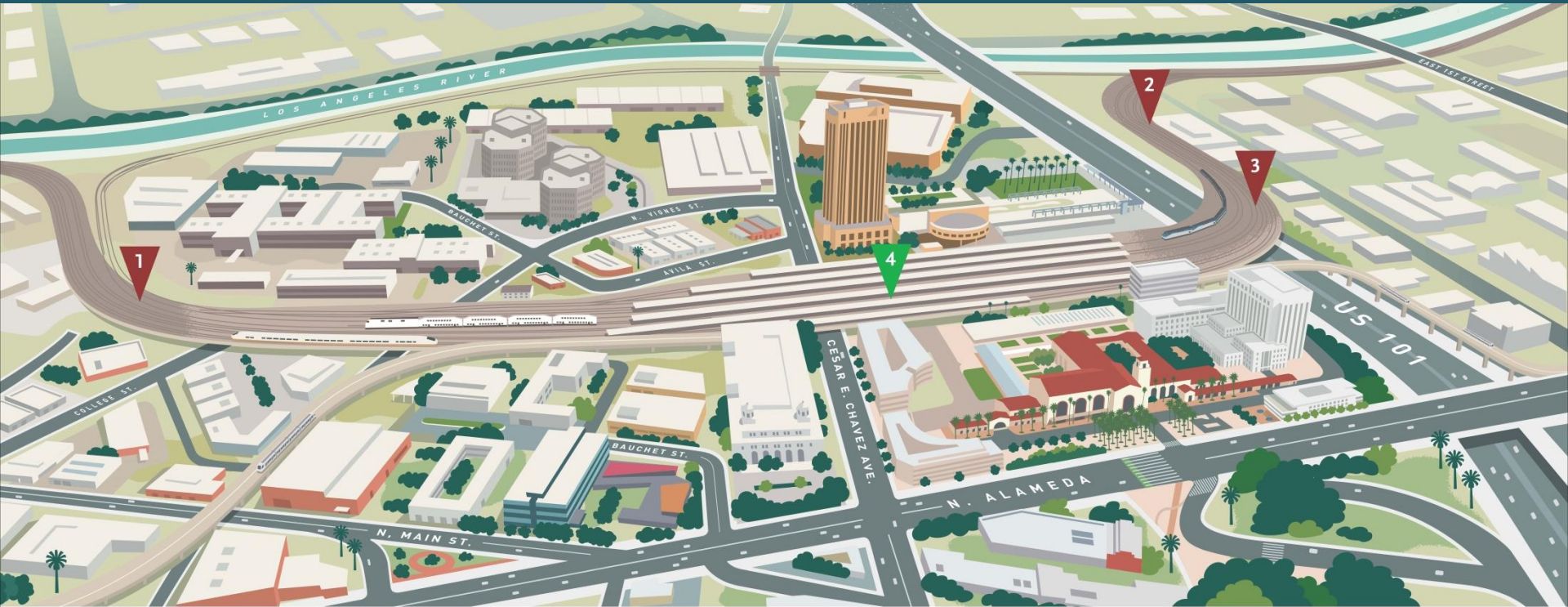
Link US Project Overview

One Seat Ride Benefits to LOSSAN

1. Reduce dwell times from 20 minutes (on average) to 10 minutes or less
2. Increased service capacity by 40%
3. Reduce running time with a new entry from the south into Union Station
4. Improved on-time performance, schedule reliability and recovery from delay



Link US Project Overview (Phases A & B)



Phase A - Funded

SEGMENT 1 – THROAT AREA

1. Rail signal, communications and track work
2. Utility relocation

SEGMENT 2 – COMMERCIAL & CENTER ST

1. Property acquisition
2. Utility relocation
3. Street and ATP improvements

SEGMENT 3 – VIADUCT & RUN-THROUGH

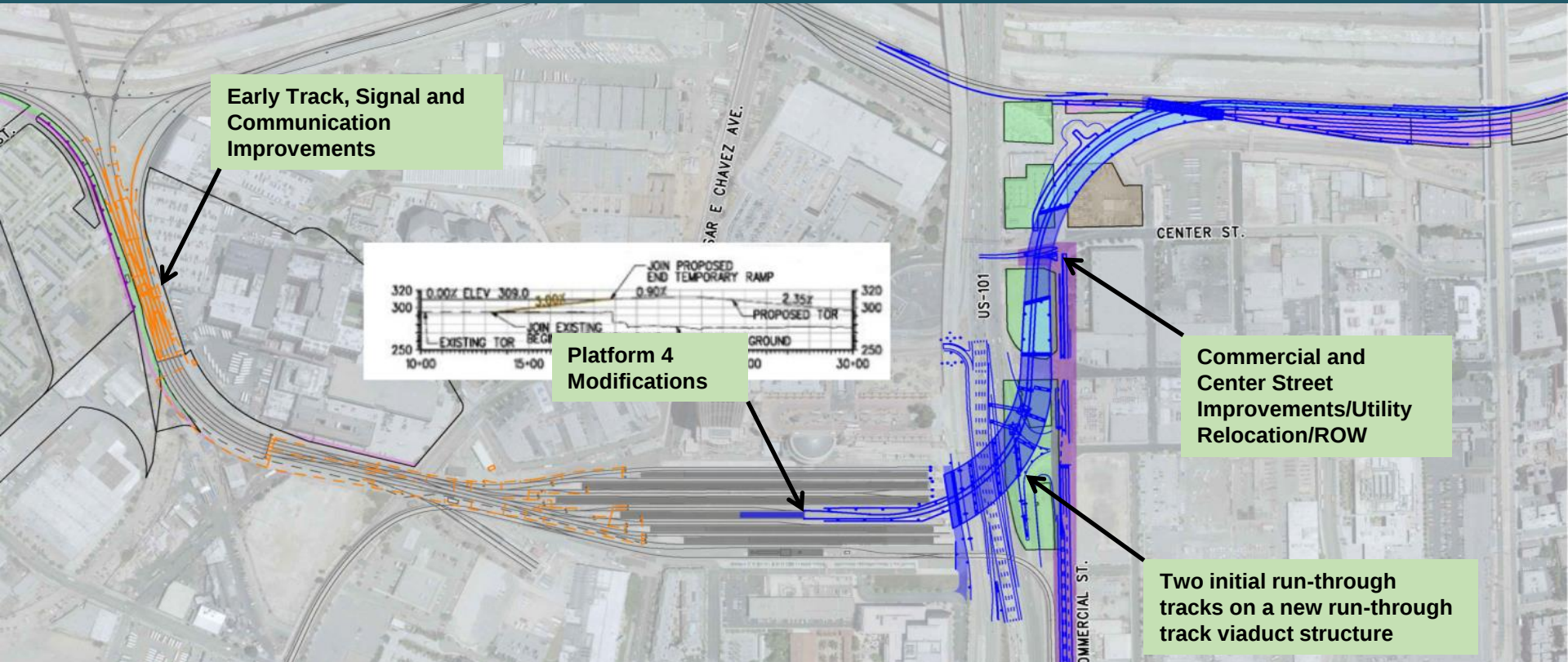
1. Viaduct structure over US-101 (full width) and south of US-101 to 1st Street.
2. Two run-through tracks from Union Station Platform 4 to mainline tracks
3. Signal and communication

Phase B - Not Funded

SEGMENT 4 – RAIL YARD/CONCOURSE AREA

1. Raising of the rail yard, including new platforms and tracks, new stairs, escalators and elevators, and new bridges over Cesar Chavez Avenue and Vignes Street.
2. Proposed modified expanded passageway, including including East and West Plazas
3. Add remaining run-through tracks and new lead track in the throat

Link US Phase A (Funded)



Key Project Components

1. New rail communication, signals and early tracks to be performed by Metrolink
2. Utility relocation and street improvements
3. Platform #4 and Viaduct structure over the US 101 freeway

Link US Phase B (Not Funded)

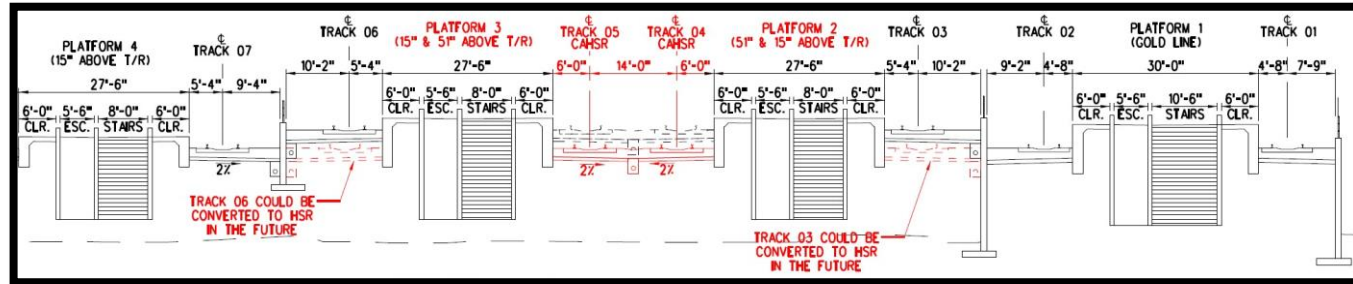
1. Raising of entire rail yard from the Vignes St Bridge by up to 15 feet
2. New platforms and expanded passageway with retail and passenger amenities including escalators and elevators to all platforms
3. Optimization of the throat with a new lead track
4. Completion of the remaining run-through tracks over US-101 freeway



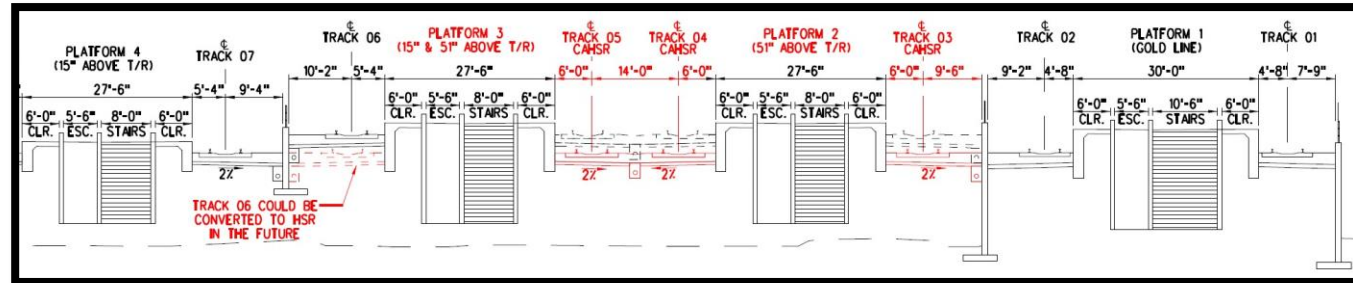
Phase B - HSR Accommodation

Concept of future HSR operations at Los Angeles Union Station

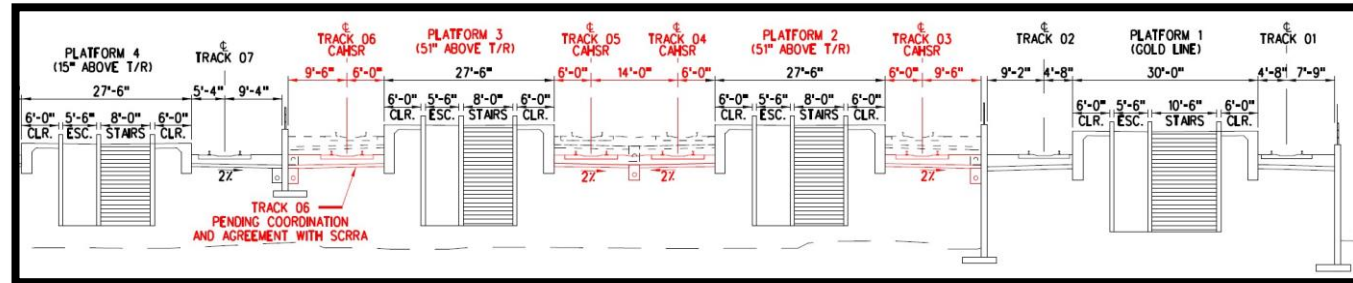
Stage 1 – HSR trains operate on 2 tracks (Tracks 4 and 5), and share Platforms 2 and 3 with Metrolink and Surfliner trains.



Stage 2 – HSR trains operate on 3 tracks (Tracks 3 to 5), use Platform 2 exclusively, and share Platform 3 with Metrolink and Surfliner trains.



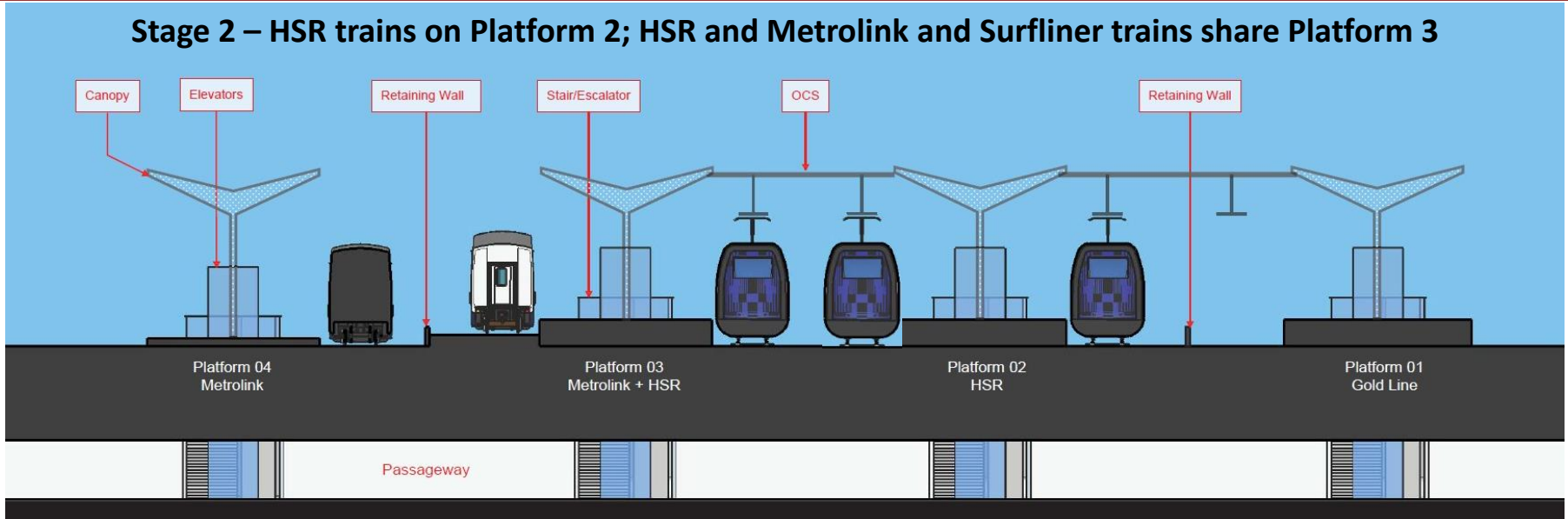
Stage 3 – HSR trains operate on 4 tracks (Tracks 3 to 6), use Platforms 2 and 3 exclusively (pending SCRRRA coordination and approval).



Concept Drawings – Subject to Change

Phase B - HSR Accommodation

Concept of future HSR operations at Los Angeles Union Station



Concept Renderings – Subject to Change

1. Due to different floor heights between Metrolink and HSR Trains (15" vs 51" floor to top of rail), Platforms 2 and 3 will be constructed at the ultimate height for HSR trains (51" floor height).
2. Additional retaining walls will be constructed to allow for future lowering of tracks to be used by HSR without impacting adjacent tracks.
3. No modifications to elevators, escalators or stairs are needed in the future to accommodate HSR.

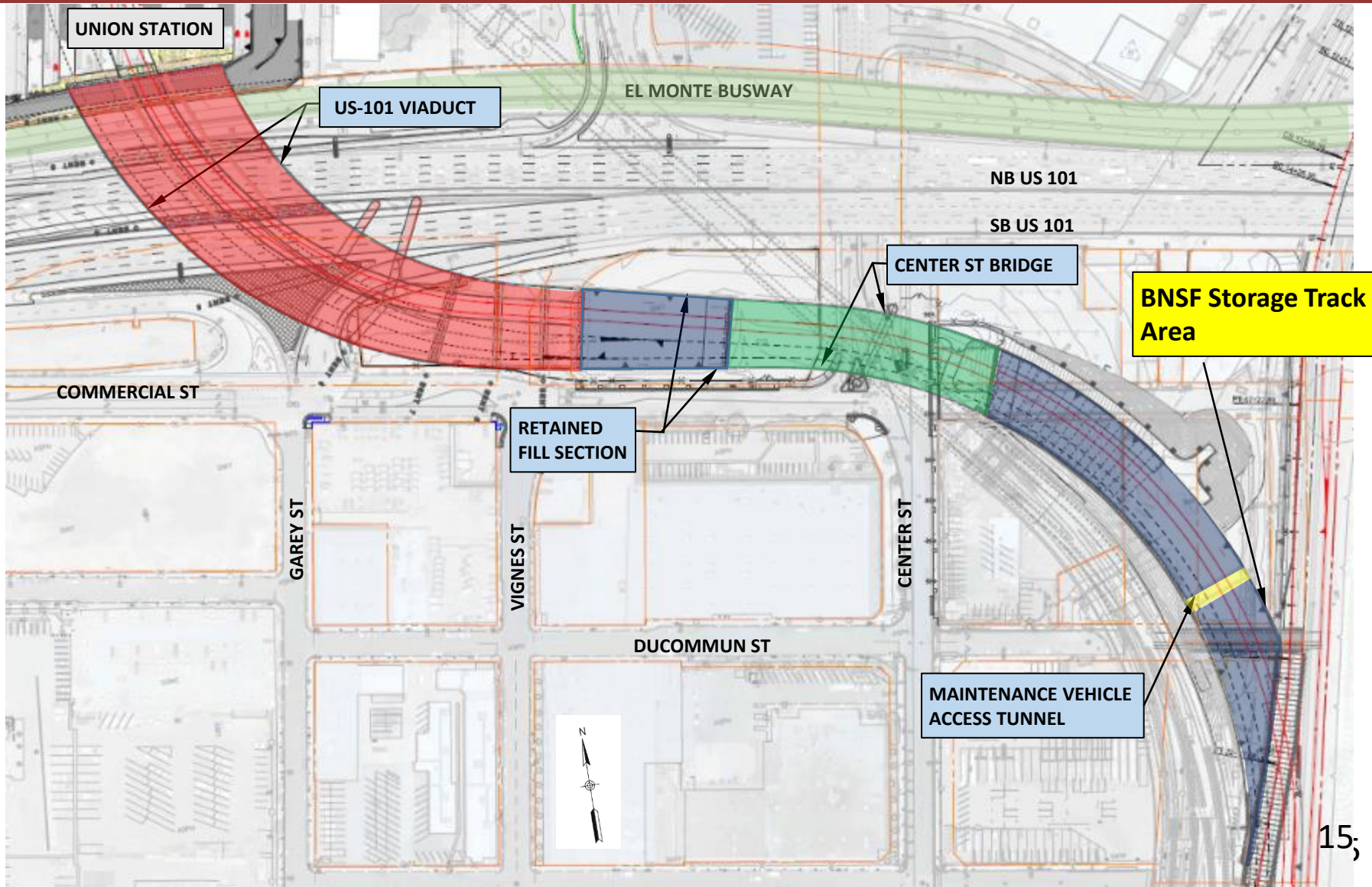
Link US Funding Plan (Phase A)

Funding Source	Amount (\$ in millions)
State Proposition 1A/High Speed Rail Bonds	\$423.335
State Transit Intercity Rail Capital Program (TIRCP)	\$337.571
State Transportation Improvement Program (STIP)	\$60.820
Measure R	\$51.672
SCRRRA JPA Contribution (Non-Metro)	\$40.000
Other HSR Funds	\$18.726
Measure M	\$13.274
LOSSAN/Amtrak	\$5.000
Total	\$950.398

Metro's funding partners includes CHSRA, CalSTA and SCRRRA

LINK US PHASE A PROJECT

Area 3 – Run-through Track Structure South of Union Station



LINK US PHASE A PROJECT

Area 4 - BNSF Yard – Project Elements

CMGC Collaboration Opportunities:

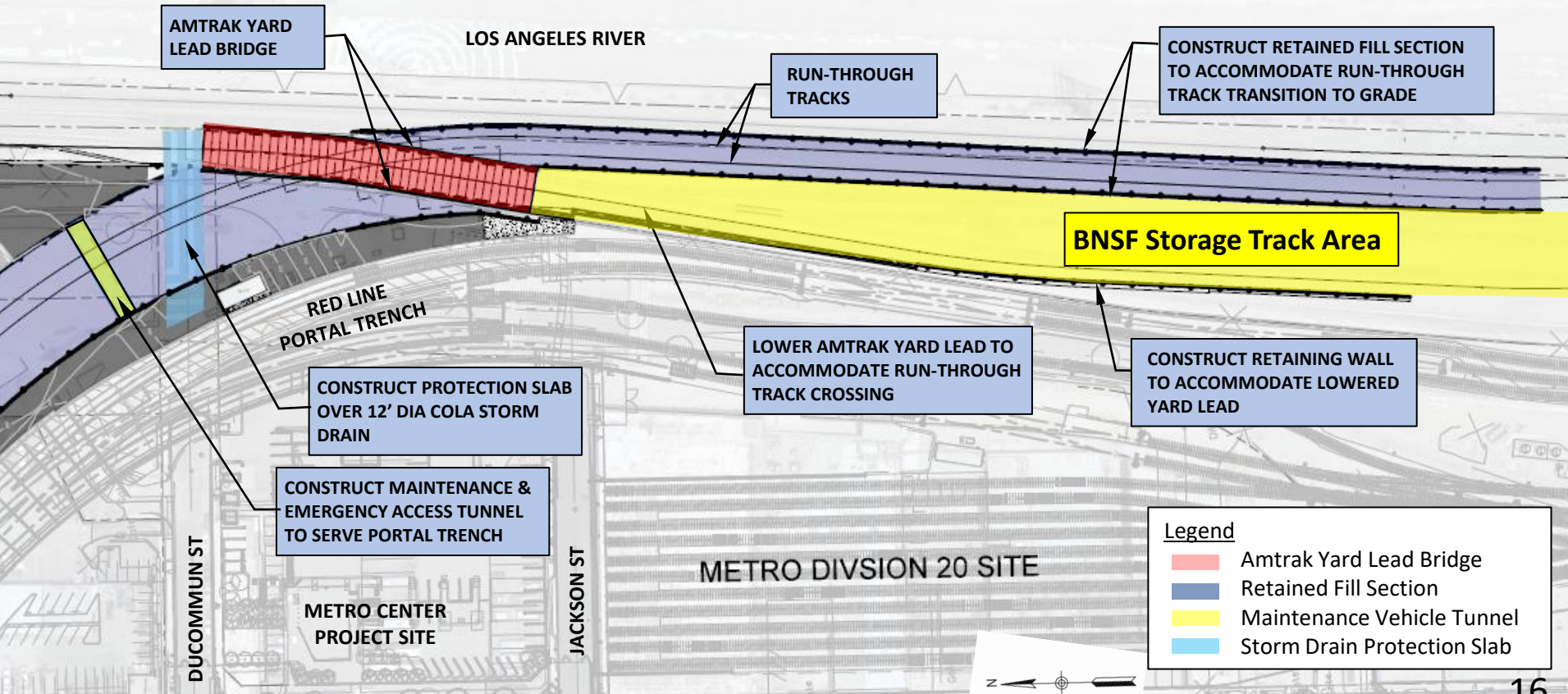
- a. Construction methods and abutment design to maintain track operation
- b. Optimize lightweight fill retaining walls and slab bridge protection structure

Key Features:

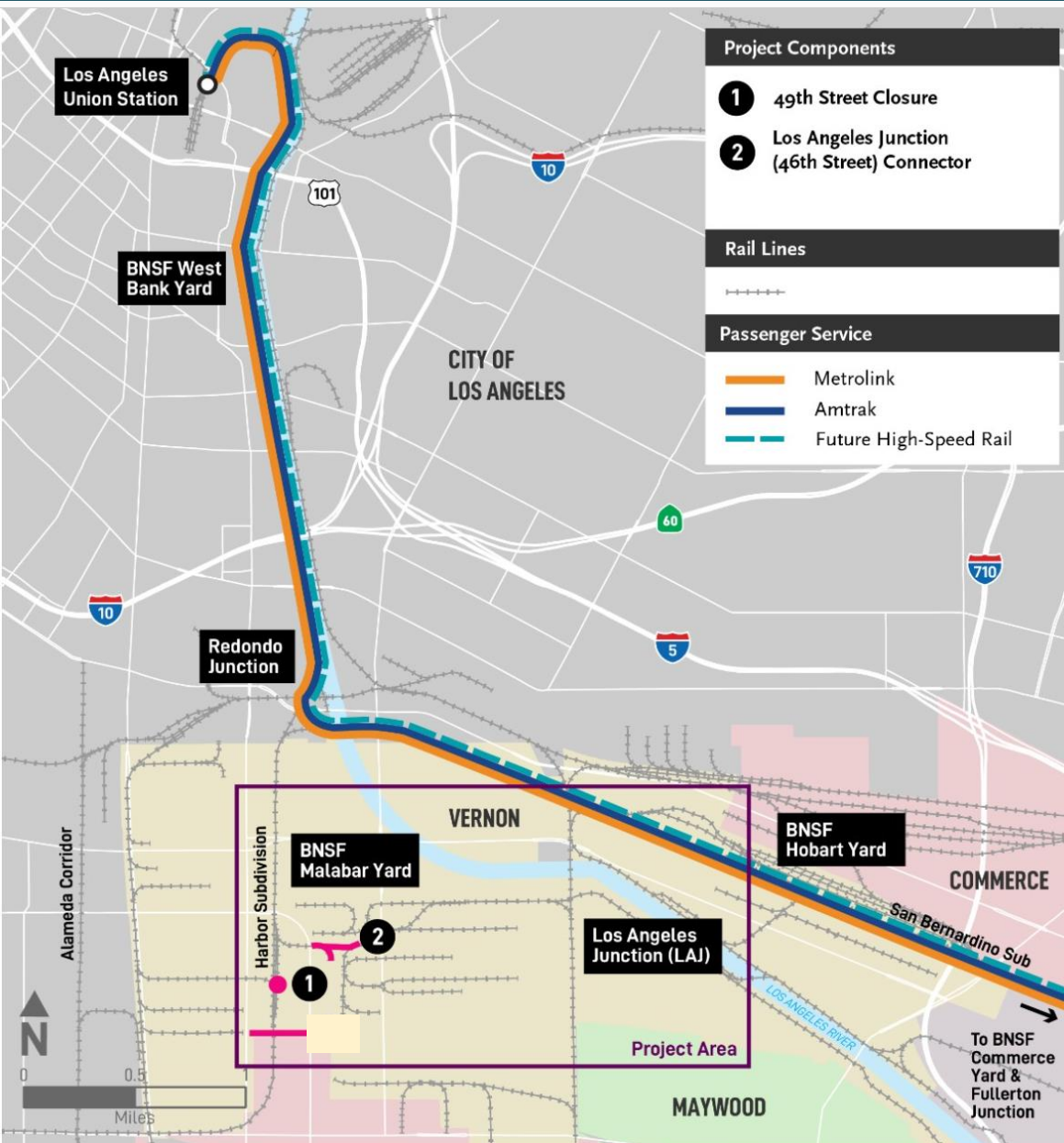
- a. Lightweight fill retaining walls
- b. Box fire/maintenance access tunnel
- c. Protection slab over storm drain
- d. Lowered Amtrak yard lead

Key Constraints:

- a. Red Line portal trench
- b. 12' dia COLA storm drain
- c. Need to maintain Amtrak yard lead
- d. Track clearance under First St Bridge

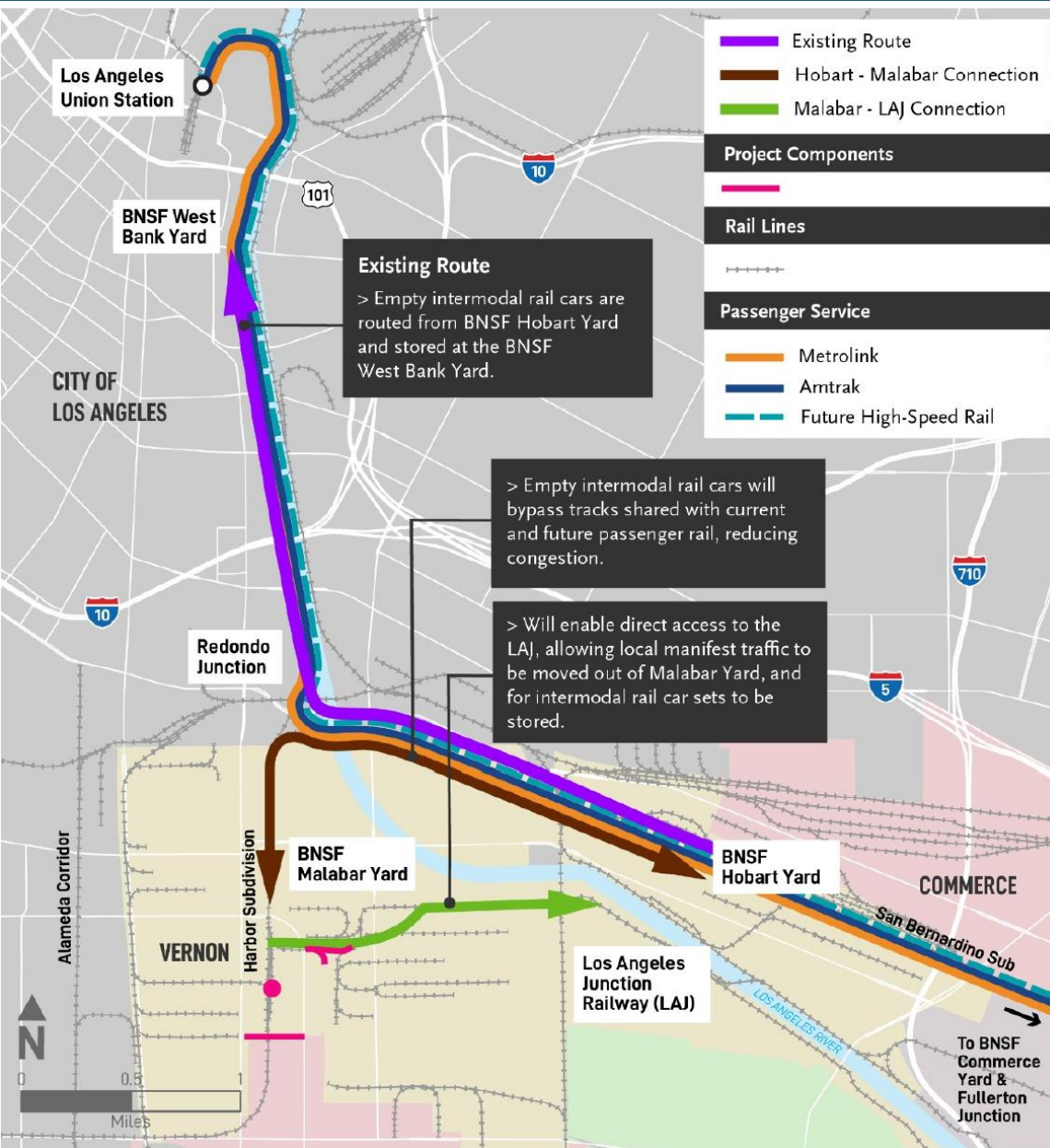


Link US Project and BNSF Malabar Yard



1. The proposed Link US run-through tracks at **Los Angeles Union Station** will require removal and displacement of a portion of the storage tracks in the **BNSF West Bank Yard** located south of Los Angeles Union Station.
2. The proposed project at the **BNSF Malabar Yard** is to replace and offset the loss of storage capacity at the BNSF West Bank Yard, including:
 - A. 49th Street Closure
 - B. **Los Angeles Junction** (46th Street) Connector

BNSF Malabar Yard – Goods Movement



1. The proposed Malabar Yard improvements support the preservation and long-term growth potential of both regional and local goods movement and related economic activity.
2. Closure of 49th street allows Malabar Yard to serve as an uninterrupted storage yard for intermodal train cars to be relocated from the existing West Bank Yard. Absent this storage capacity, intermodal cars would have to be moved daily to Barstow, reducing overall capacity of the shared passenger/freight rail network and creating increased economic and environmental costs.
3. Construction of the 46th street connector maintains current levels of service and creates new capacity to local customers by providing direct access to LA Junction which will handle local box and tanker train car operations to be relocated from Malabar Yard.

Link US CMGC Procurement Timeline

Dates Subject to Change

August 3, 2020
INDUSTRY OUTREACH

August 10, 2020
RELEASE RFQ

October 26, 2020
RELEASE RFP

March 25, 2021
Metro Board Award of CMGC

December 10, 2020
CMGC RFP Due Date

Rail Multiple Unit (RMU) Pilot Program



*Metrolink's Locomotive Haul Coach trains is better suited for AM/PM peak services, with 840 passengers per train using a blended approach with RMU trains (at 450 passengers) for the mid-day services.

SCENARIO

RMU Option *
Blended Metrolink + RMU service to Via Princessa

AVERAGE FREQUENCIES
ANTELOPE VALLEY LINE



15-minute bi-directional AVL

WEEKDAY ROUND TRIPS



37 Antelope Valley Line



16 Ventura County Line



9 Amtrak



35 RMU

ADDITIONAL IMPROVEMENTS

1. Station mods at existing stations for RMUs
2. New RMU stations
3. Additional trains
4. North AVL Improvements
5. New RMU maintenance facility
6. Optional third track and station modifications to Glendale and Burbank-Downtown

CAPITAL COSTS ¹

\$849M

ANNUAL O&M COSTS ¹

\$30M

AVERAGE WEEKDAY BOARDINGS ²
2028 / 2042



Metrolink and RMU

34,900 / 52,400



¹ Costs reported in 2018 \$

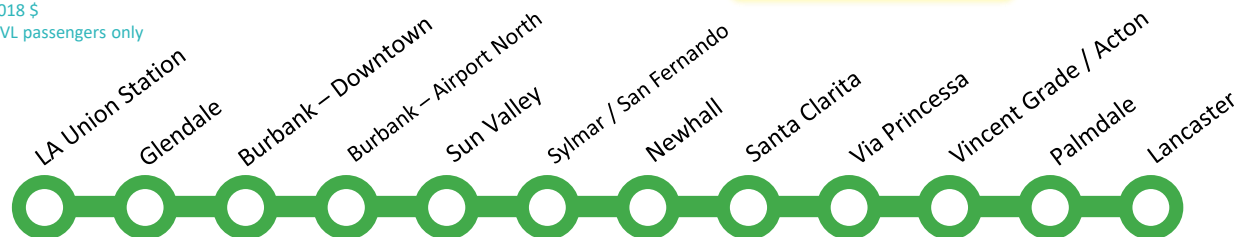
² Ridership reflects AVL passengers only

Metrolink AVL 30 Minute Service Vision

SCENARIO	Existing Conditions	M Option 1 Add 1 Evening Train Friday, Saturday	M Option 60 60-min Bi-directional	M Option 30 30-min Bi-directional	M Option 15 15-min Bi-directional
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	 Peak Direction 25-55 minutes Off Peak Direction 60-90 minutes	 Peak Direction 25-55 minutes Off Peak Direction 60-90 minutes	 60-minute bi-directional AVL	 30-minute bi-directional AVL	 15-minute bi-directional AVL
WEEKDAY ROUND TRIPS	 15 Antelope Valley Line  16 Ventura County Line  6 Amtrak	 16 Antelope Valley Line  16 Ventura County Line  6 Amtrak	 18 Antelope Valley Line  16 Ventura County Line  9 Amtrak	 36 Antelope Valley Line  16 Ventura County Line  9 Amtrak	 74 Antelope Valley Line  16 Ventura County Line  9 Amtrak
ADDITIONAL IMPROVEMENTS	None	None	1. Double Track near Balboa Tunnel	1. Additional trains 2. North AVL Improvements	1. Additional train 2. North AVL Improvements 3. Optional third track and station modifications to Glendale and Burbank-Downtown
CAPITAL COSTS ¹	None	None	\$42M	\$175.2M	\$760 M
ANNUAL O&M COSTS ¹	\$34.5M	\$35.4M	\$38.5M	\$45.5M	\$68.8M
AVERAGE WEEKDAY BOARDINGS ² 2028 / 2042	 Metrolink 16,500 / 36,000	 Metrolink 16,500 / 36,400	 Metrolink 15,600 / 38,100	 Metrolink 22,800 / 41,600	 Metrolink 38,000 / 59,200

¹ Costs reported in 2018 \$

² Ridership reflects AVL passengers only



SCORE

Southern
California
Optimized
Rail
Expansion



SCORE - LOSSAN North Corridor Improvements – September 2020

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PHASE I

SCORE: Funded Projects

Corridor - Based Projects

- 1 Simi Valley Double Track & Station Improvements
- 2 Chatsworth Station Improvements
- 3 Burbank Junction Improvements
- 4 Burbank to LA Signal Improvements
- 5 Marengo Siding Extension
- 6 El Monte Station Improvements
- 7 Rancho Cucamonga Siding Extension

Systemwide Projects

- 15 Link Union Station Initial Phase
- 16 Orange County Maintenance Facility

- 8 Hobart to Commerce Capacity Improvements
- 9 Fullerton Junction Improvements
- 10 North OC Signal Improvements
- 11 Irvine Station Improvements
- 12 South OC Signal Improvements
- 13 South OC Capacity Improvements (Serra or SONGS)
- 14 Riverside - Downtown Station Improvements



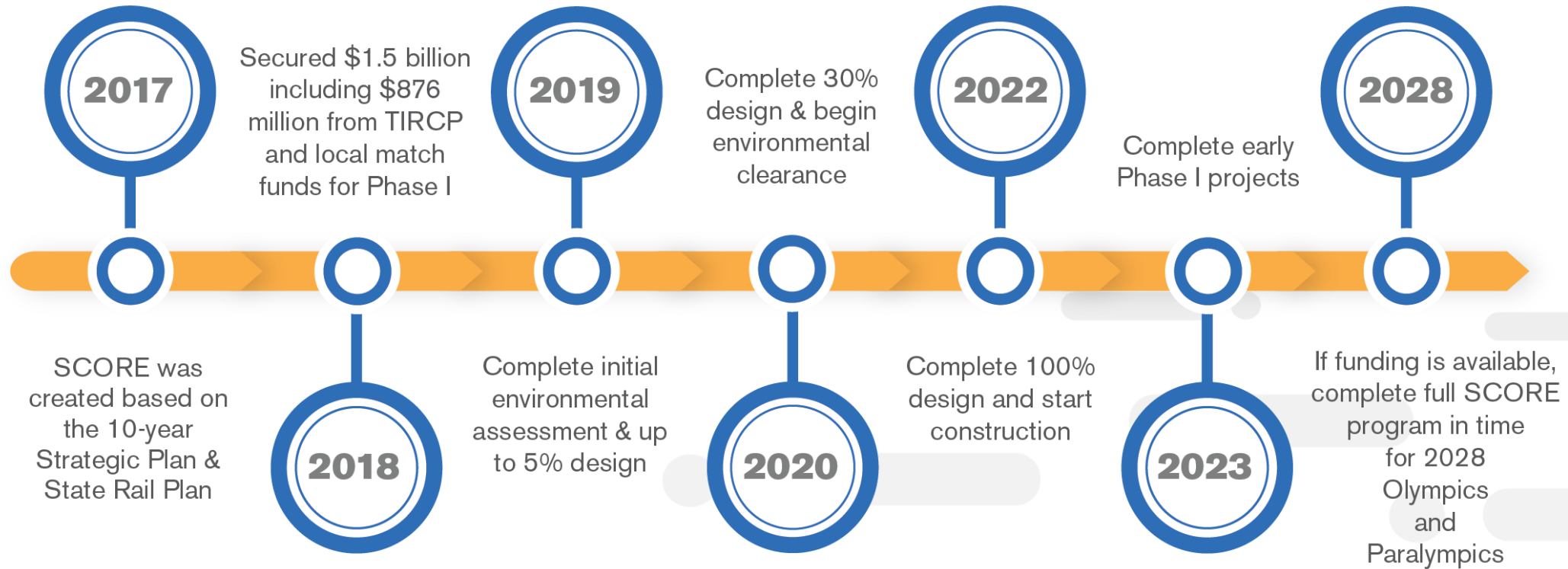
Capital Improvement Program to improve the regional rail system in time for the 2028 Olympic and Paralympic Games and beyond.

Benefits:

- More safety improvements at stations and grade crossings
- More rail service -- enables trains to operate at least every 30 minutes in either direction
- More upgraded crossings = Quiet Zone-ready corridors
- More seamless connections to other rail providers

SCORE Timeline

SCORE Southern
California
Optimized
Rail
Expansion



- Individual projects will start and complete the environmental process and construction at different times

Link US and RYRM Project



- Link US Project Segments
- Segment 1: Throat
- Segment 2: Concourse
- Segment 3: Run-Through

- LAUS Rail Yard Rehabilitation and Modernization (RYRM) Project is located within segment 1 (Throat Segment) of Link US Project
- Modernization to CP Mission, CP Terminal, and Lead tracks within the Throat Segment.
- The design phase is complete and the project is in construction procurement. Targeting Construction completion Q3 2022.
- RYRM project is being led by Metrolink.

Burbank to LA Signal Improvements



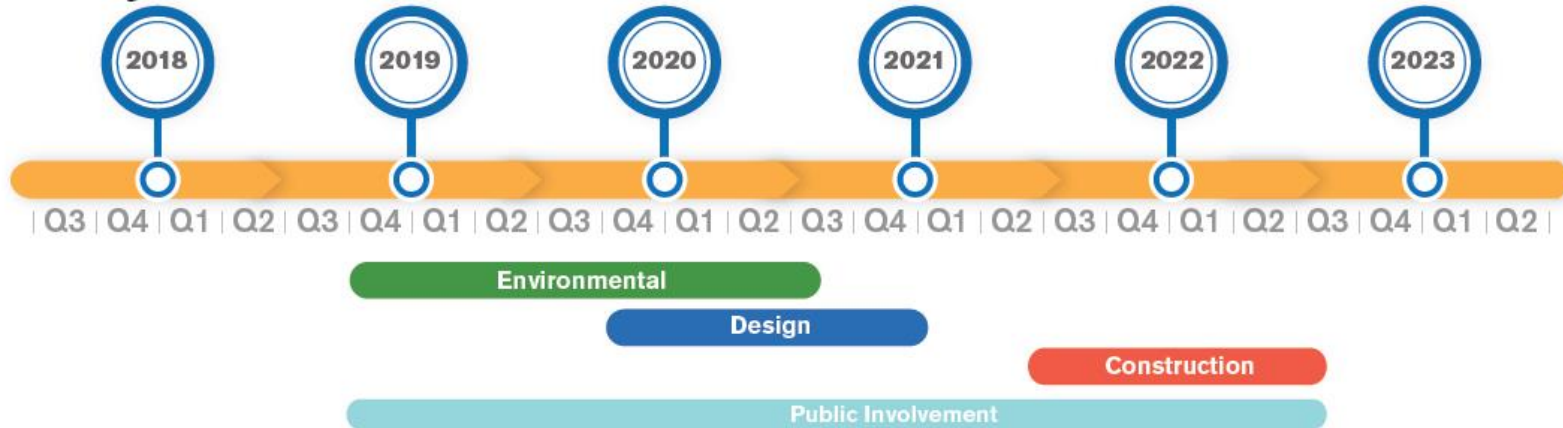
- Burbank to LA Signal improvement projects makes application program changes to allow for additional capacity between Burbank to Los Angeles, and will increase speeds of all trains creating more fluid operations along this critical corridor
- The project is in the final design phase. Target implementation of the application program changes by end of 2021.
- Project is being led by Metrolink.

Burbank Junction Speed Improvements



- Burbank Junction Speed Improvement project will increase speeds of all trains and create more fluid operations at this critical junction
- More reliable service and reduced commute times for passengers.
- Projects are being led by Metrolink.

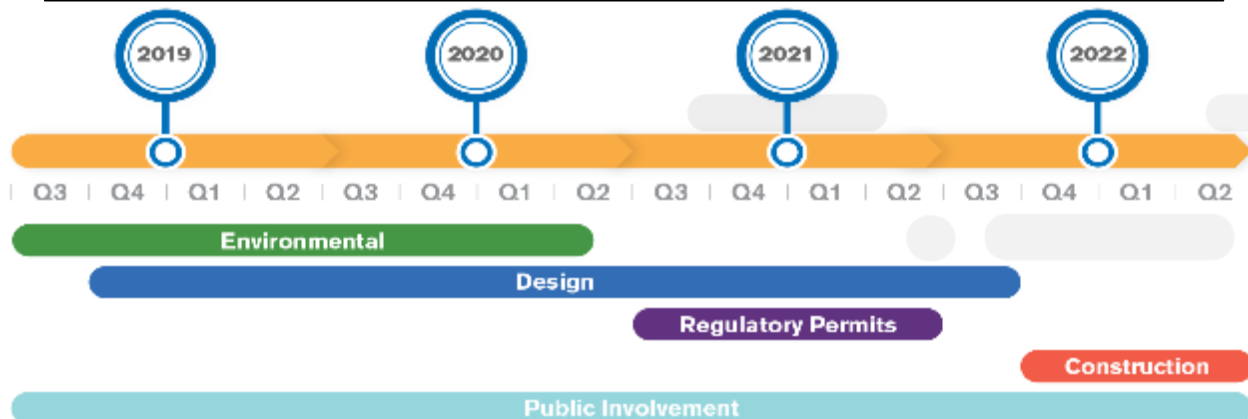
PROJECT TIMELINE



Chatsworth Station Improvements



- Improvements to the pedestrian crossing that provide an operational benefit and eliminate the 'Hold-out' rule, and allow passengers to make quicker and safer transfers, which can reduce train idling and commute times
- Project is being led by Metrolink.



Simi Valley Second Track and Platform



- Added track and new platform will increase capacity and enable increased train service at least every 30 minutes in either direction
 - Protected pedestrian crossing will provide for safer rail crossings at the station
 - Safety upgrades to at-grade crossings that will create Quiet Zone ready corridors and will minimize train horn blowing
 - Track upgrades will improve safety and reliability of Metrolink service
-
- Project is being led by Metrolink.

PROJECT TIMELINE



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THANK YOU

GET MORE WITH SCORE

UNION PACIFIC-LOSSAN UPDATE



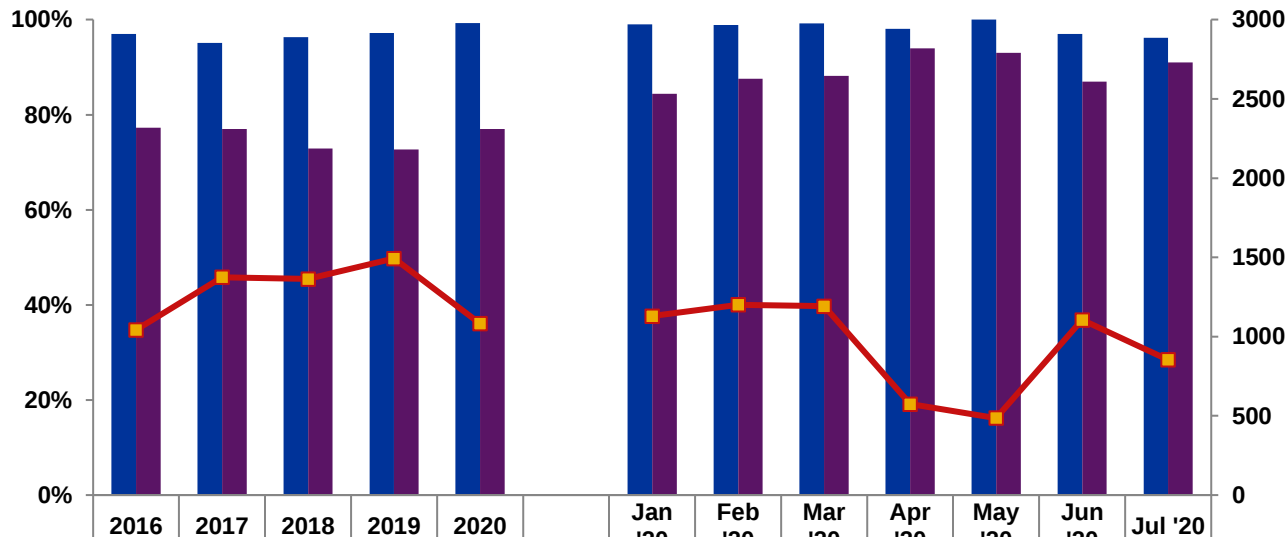
UP Santa Barbara Sub Review

September 3, 2020



Amtrak Train Performance Summary

Pacific Surfliner On-Time Performance (OTP)



	2016	2017	2018	2019	2020		Jan '20	Feb '20	Mar '20	Apr '20	May '20	Jun '20	Jul '20
UP-OTP	97%	95%	96%	97%	99%		99%	99%	99%	98%	100%	97%	96%
COTP	77%	77%	73%	73%	77%		84%	88%	88%	94%	93%	87%	91%
UP Host Delay mins /10k tm	1042	1375	1364	1493	1082		1129	1201	1192	574	486	1105	854
UP Slow order mins /10k tm	92	132	149	155	116		97	200	121	0	9	92	192

UP-OTP is contractual on-time performance and COTP is customer on-time performance

Solid Performance:

- UP-OTP remains strong YOY

Improvements:

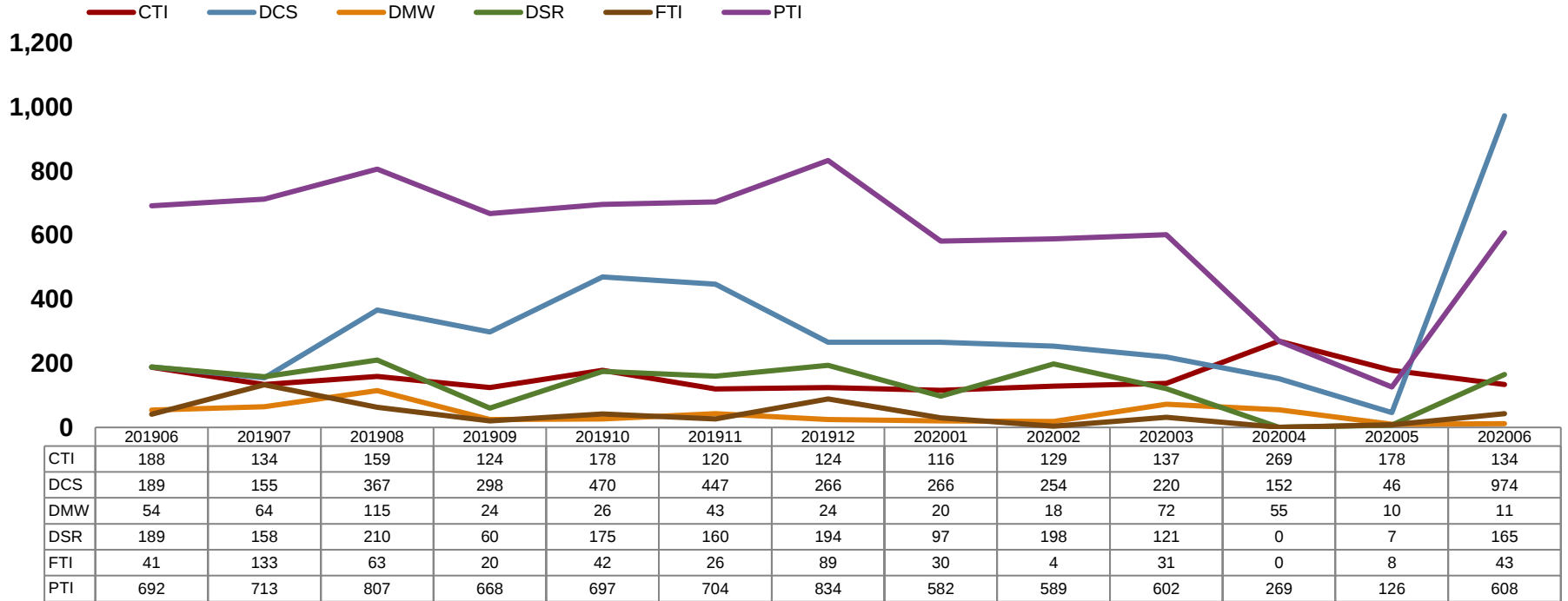
- UP host delay minutes decreased

Opportunities:

- PTI meets on the Santa Barbara subdivision
- UP slow order minutes increased

Pacific Surfliner

Delay per 10K – UPRR Only by Category



*Data based on June 2019 through June 2020

LOSSAN-UP 2020 agreement

Add 2 roundtrips on existing route



- LOSSAN has requested to add two new round trips between Moorpark and Santa Barbara (Goleta), one continuing to San Luis Obispo
- UP-LOSSAN cooperative partnership to:
 - Strengthen infrastructure on the Santa Barbara Sub
 - Invest in capacity to accommodate additional roundtrips, protect on-time performance
- Key advantage: Project agility
 - Where costs go up/down & resources are shared, can adjust scope/timing
- Capacity Enhancements
 - Complete CTC on remaining route Goleta-San Luis Obispo including powering up sidings for meets (except Gaviota, all sidings north of Goleta are manual meet points)
 - Construct capacity project in Santa Barbara-Moorpark bottleneck
 - UP investments: Enhancements for freights: power derail, lengthened siding, full-size doublestack/transformer clearance



Santa Barbara Sub – Projects Overview

3-pronged approach: Strengthen, targeted new capacity, O&M maintainability



1. Infrastructure Renewal/Hardening

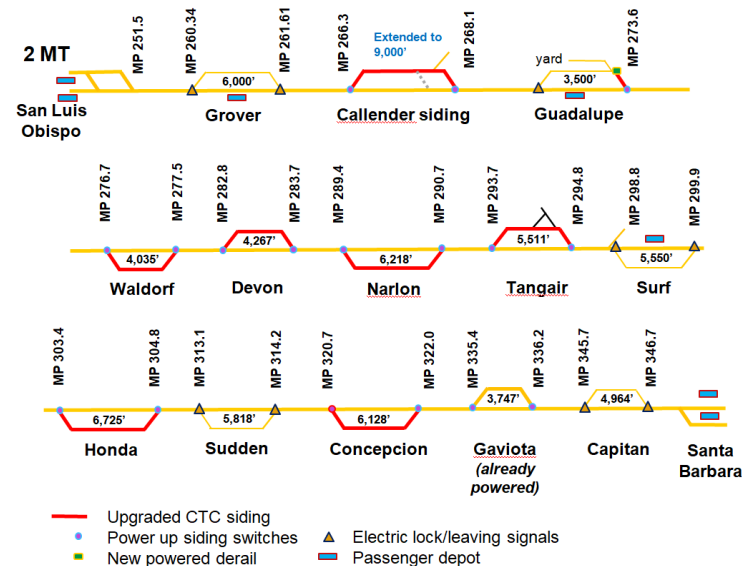
- Replace 2 Bridges
- Replace pre-1949 Rail
- New Ties
- Ongoing Surfacing, Other M/W – new tamper, section gang & welder
- Corridor Hardening
 - Slope stabilization
 - Communications towers
 - Fencing/safety and Establish Safety Fund

2. Corridor Improvements

- CTC 105 Miles and Power/upgrade sidings: Guadalupe south in 1st half of 2021; Goleta north in remainder of 2021, finish remaining portions 2022
- Capacity Project Moorpark-Santa Barbara for 2nd roundtrip
- Expand Pacific Surfliner layover facilities

3. Operating & Maintenance

- Engineering gang, equipment and dispatching



ENGINEERING PROJECTS



Bridge Upgrades

New structures to increase speed from current operations



- **Replacement of large bridges**
 - Current speeds = 25 MPH, future speed = 40-60 MPH
- **Pacific Surfliner trains have been majority user over the past 5-10 years**
- **Narlon bridge (Los Alamos Creek): MP 291.3**
 - Construction 2020-early 2021
- **Honda bridge (Canada Honda Creek): MP 304.9**
 - In design for 2020; construction 2022
- **Next phase – Cementerio Creek, MP 336.5**
 - Commitment by LOSSAN to fund as part of next agreement



Narlon Bridge Location

Remote location on Vandenberg AFB

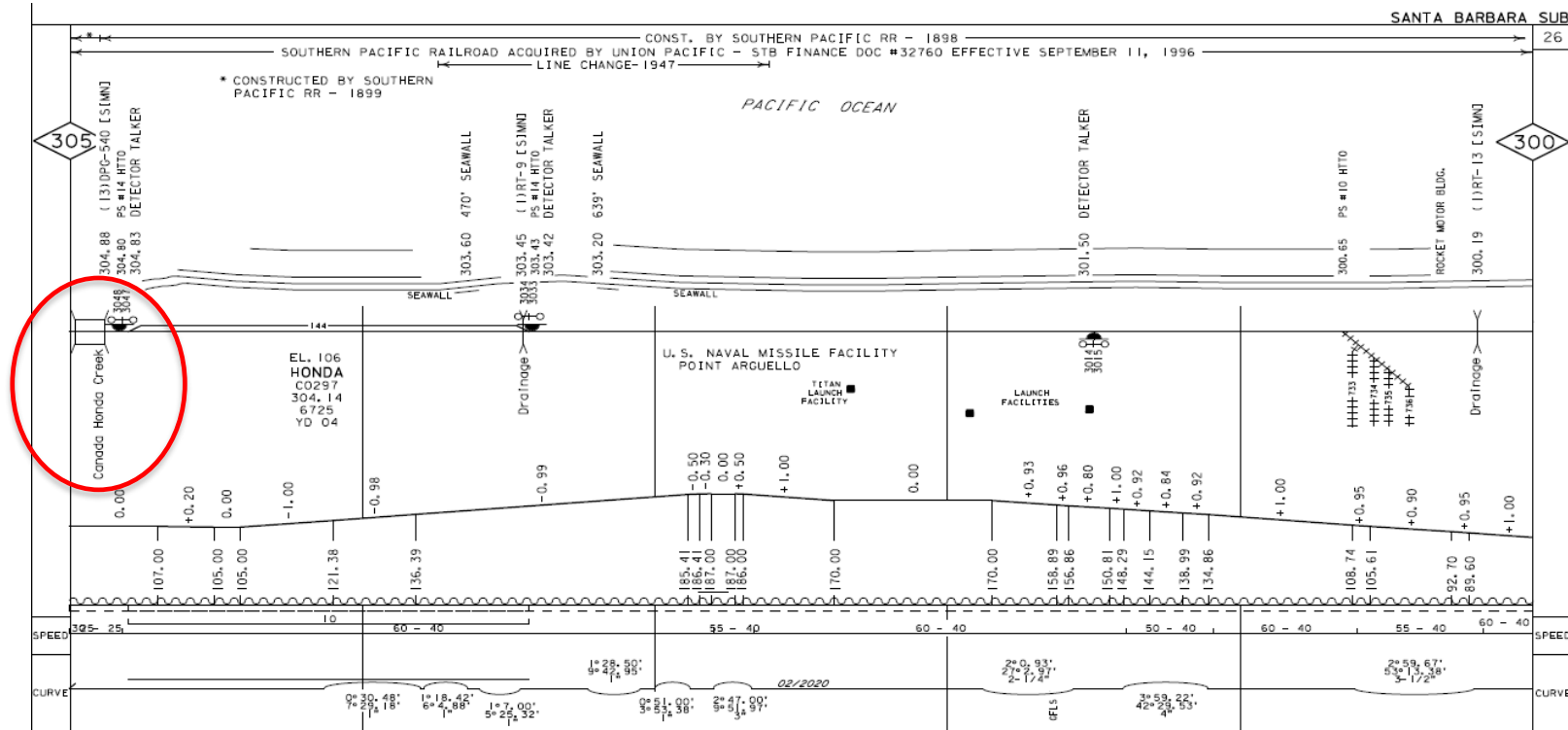


- Permitting: up to 3 years depending on site
(Completed)
- Design phase: 6-8 months
(Completed)
- Review & pre-construction: 3-4 months (Completed)
- Bid: 1-2 months
(Completed)
- Construction: 4-12 months
(in progress)

Narlon will have a temporary low-level bridge during construction

Honda Bridge Location

Also located on military property



Rail & Ties Renewal

5-yr overall program: \$24M capital + \$5M maintenance



- Replace pre-1949 rail: \$15.1M
 - 33 miles of new rail; \$454K per mile
 - Identified as key priority for engineering
 - Relay rail to sidings/other tracks as needed
- Tie replacements (130K): \$9M
 - Multiyear program
- Surfacing, Tamper lease, Dedicated maintenance gang: \$5M
 - Tamper to set down track & reduce settling slow orders
- Flexibility for program work
 - Schedule work windows in “shadow” of other curfews (i.e. bridge replacement)



Safety Improvements

Fencing, Slope stabilization, telecomm



- Fencing: Add high-security fencing to frequent trespass areas
 - MP 273, 379, 396: New/higher strength fencing same/similar to that used by Northeast commuter roads, Illinois DOT
 - Work with cities to establish pedestrian routes, close off shortcuts across tracks
- Slope stabilization: Concepcion, MP 320-325
- Telecomm towers
- Fiber optic lines
 - Various locations

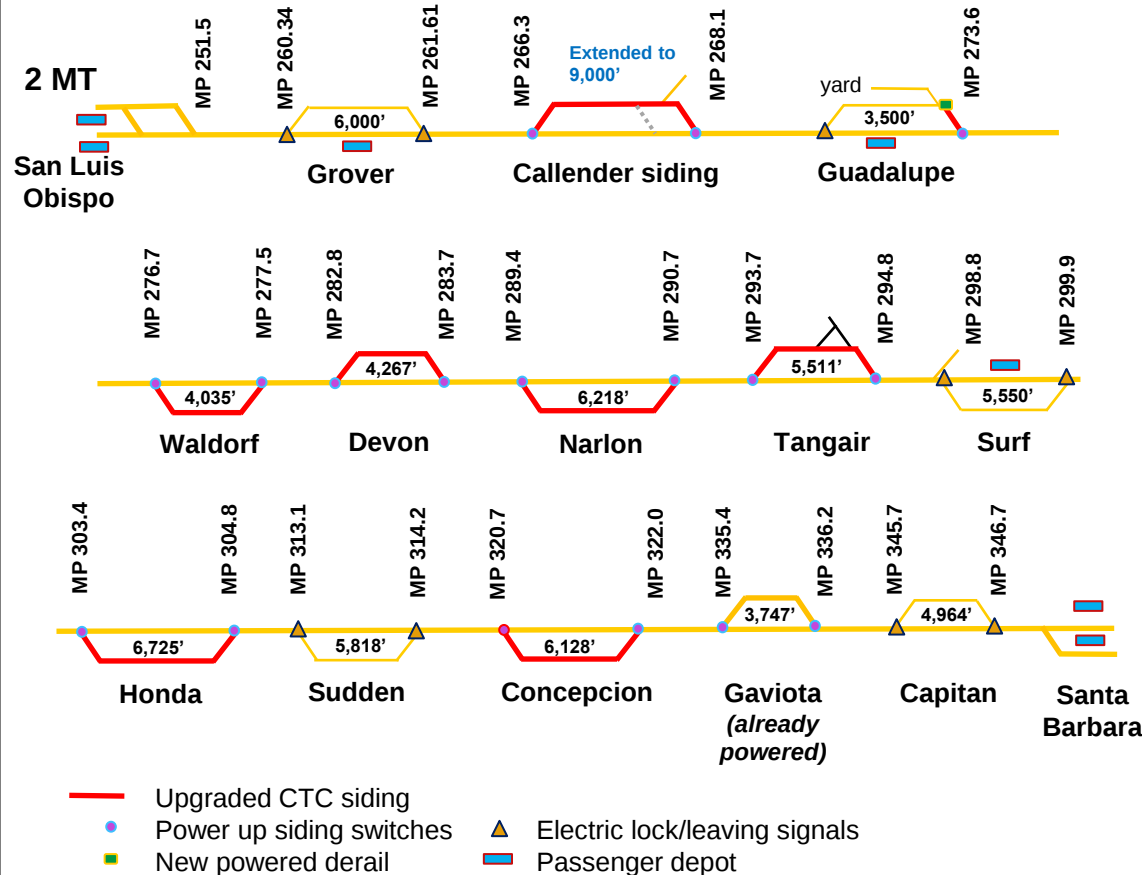


Capacity & Infrastructure Projects



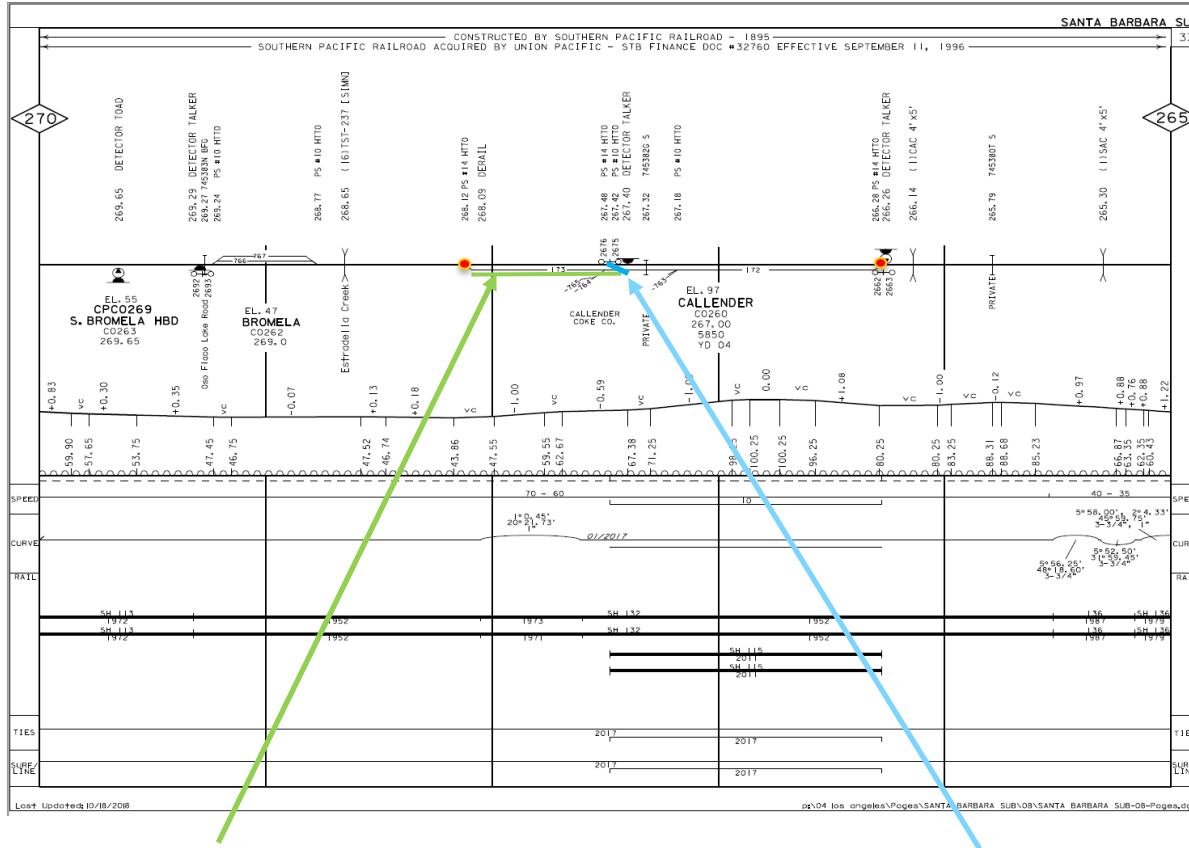
Santa Barbara Sub north – CTC key sidings

Retain other sidings for future use



- Power up 7 of 12 sidings
 - Key Passenger train meet locations (Waldorf, Devon, Tangair)
 - Longer sidings for freight train meets (Honda, Narlon, Concepcion)
 - 1 additional siding (Callender) to break up long 25-mile stretch between San Luis Obispo & first CTC siding. Power up far south switch on lead and siding becomes 9,000'
- Power up switch & add power derailed at south end of Guadalupe yard – clear main track faster
- Install electric locks/leaving signals on remaining sidings to preserve for future use

Callender siding extension and power-up



- Create ~9,000' clear siding by renewing south end (currently a lead track) and incorporating into siding
- Allows for long train meets (>8,000') where none exist now. Approximate midpoint between San Luis Obispo terminal and next siding >6,000'
- Retire crossover which currently serves as end of siding

Convert lead into extended siding

Retire "mid-siding" crossover

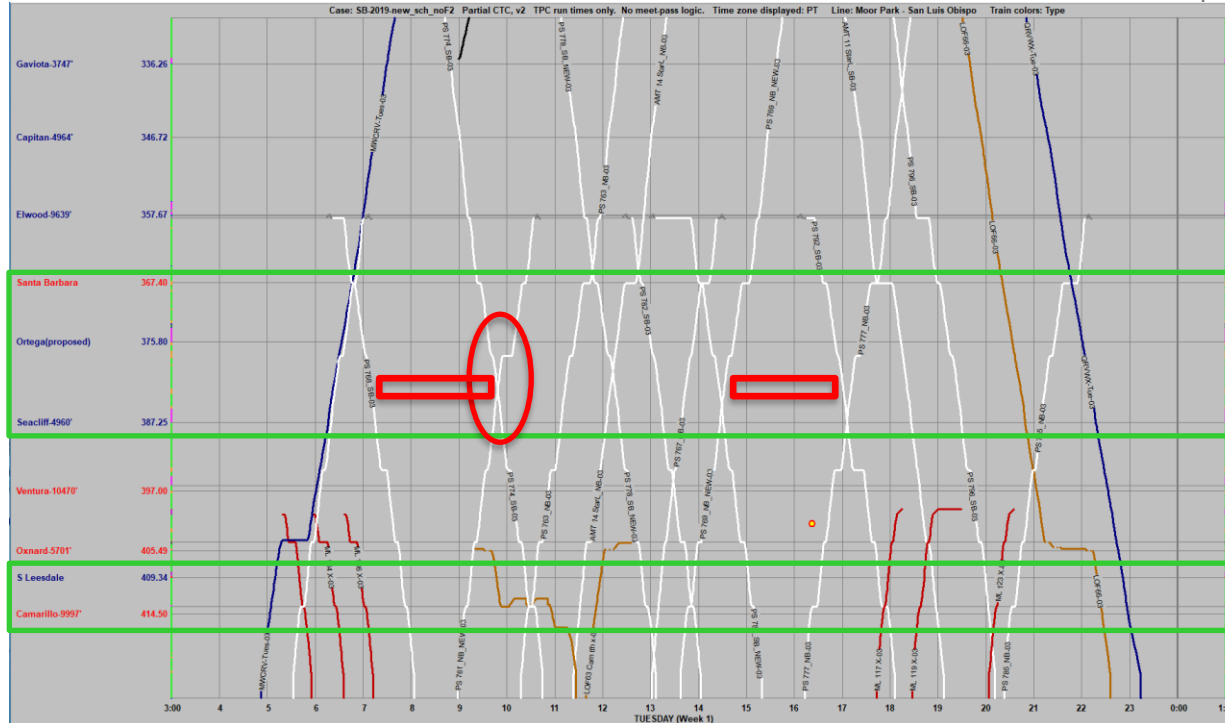
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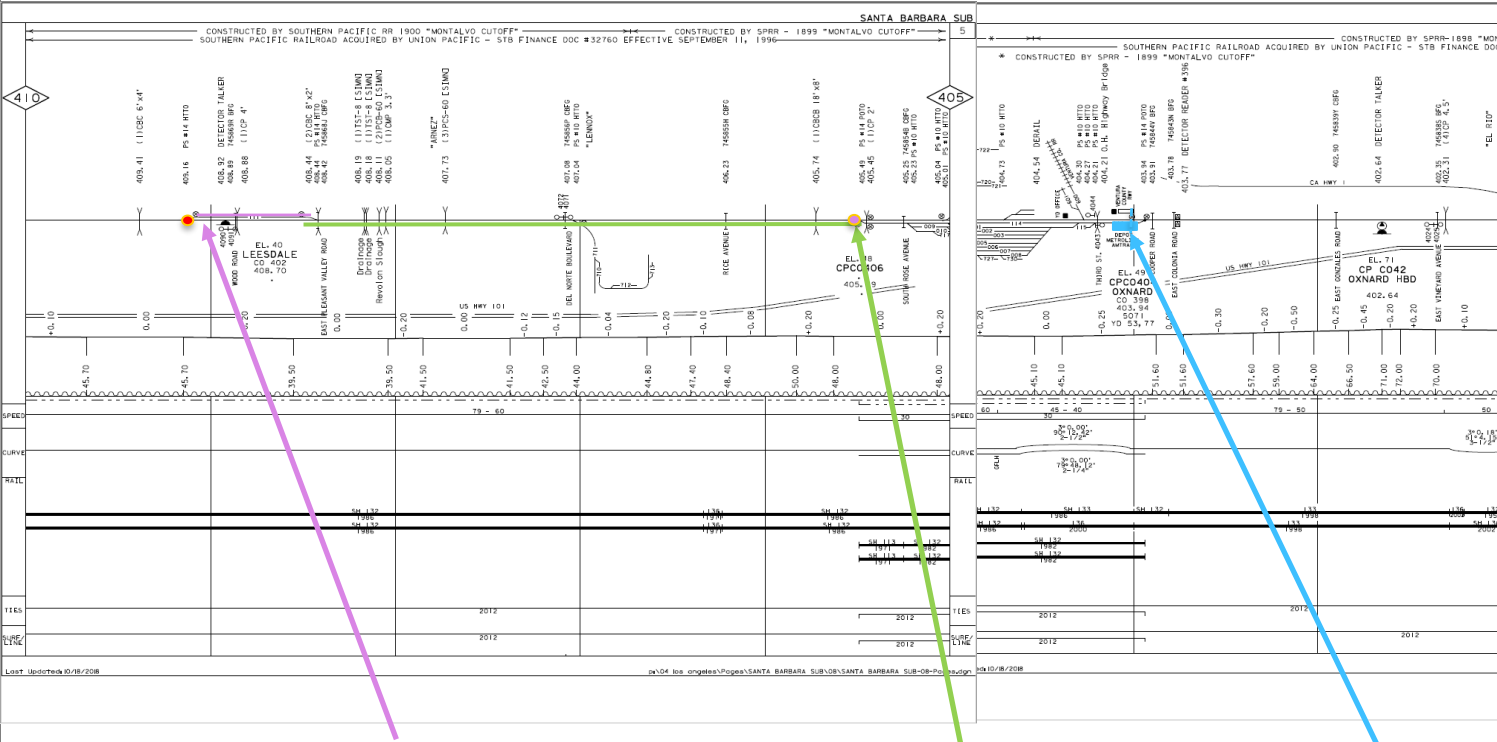
Bottleneck analysis

2 areas to resolve: Ventura-Santa Barbara, Moorpark-Oxnard



- **Ventura north:**
Longest stretch of single track which constrains the schedule
 - Maintenance windows and local operations
- **Oxnard south:** Most congested part of the line; hampers schedule flexibility and ability to add more trains

Oxnard-Leesdale 2MT and 2nd platform



Upgrade Leesdale siding to main track standards. Power up south switch; future site for universal crossover

Construct 2nd main and add LH crossover to make into universal

Construct 2nd platform & grade-separated access at Oxnard station

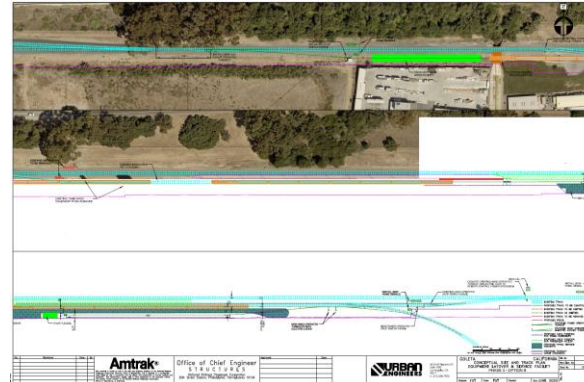
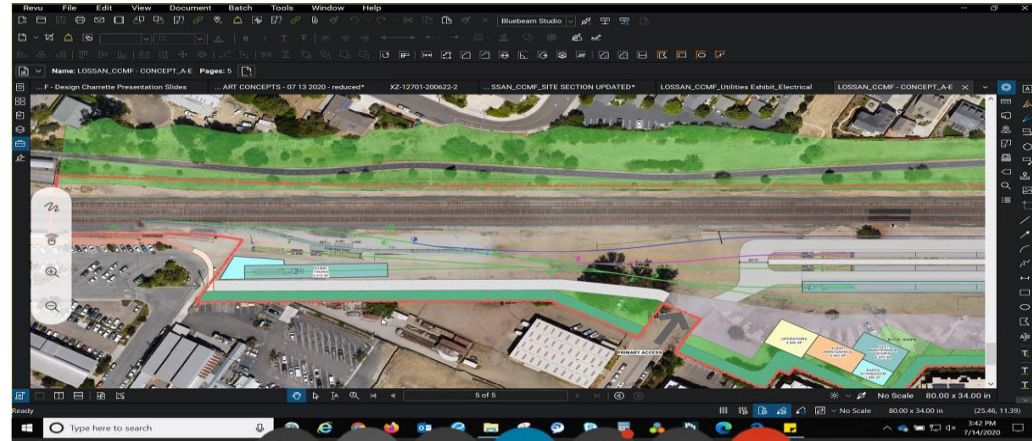
- Construct ~3 mi of 2MT south of Oxnard-Leesdale
- Rehab existing Leesdale siding and realign into main track
- Turn existing South Oxnard (CP CO406) into universal crossover
- Add second platform at Oxnard & realign siding as 2nd main; possible replacement of north drill, if needed

Surfliner Layover Facilities

New/expanded facilities to accommodate growth



- Expand San Luis Obispo temporary facility: 6-8 months' timeline
 - Accommodate 2nd trainset until permanent facility is constructed
- Permanent maintenance facility at San Luis Obispo
 - Likely on former roundhouse property on west side
 - Build for future expansion
- Goleta facility: Expansion to accommodate 3 trainsets
 - Undergoing track design review



Questions?



A photograph of three Union Pacific employees standing together. On the left is a man wearing an orange hard hat, safety glasses, and an orange safety vest over a grey shirt. In the center is a woman with her arms crossed, wearing a red top and grey pants. On the right is a man wearing a white hard hat, safety glasses, and a black t-shirt. A small Union Pacific logo is in the top right corner of the image.

OUR MISSION
The men and women of Union Pacific are dedicated to serve.

OUR VALUES
Focus on performance
Ensure high ethical standards
Work as a team



Thanks for your time today!