San Diego Forward: The 2020 Federal Regional Transportation Plan - Proposed Draft Transportation Network

Overview

In February 2019, the Board of Directors unanimously approved an action plan to develop the 2021 Regional Plan. To preserve the region's eligibility for transportation funding and other compliance requirements, this action plan included two key components:

1. Pursuing state legislation to ensure the current 2015 Regional Plan remains valid for state funding eligibility and other consistency purposes until the new plan is adopted in 2021. (Assembly Bill 1730, [AB 1730] Gonzalez)
2. Submitting San Diego Forward: The 2020 Federal Regional Transportation Plan (2020 Federal RTP) to the federal government without significant modification of the projects in the 2015 Regional plan while the region continues to work on developing the 2021 Regional Plan.

Action: **Information**

This report provides an update on the proposed draft transportation network for the 2020 Federal Regional Transportation Plan, which will be available for public review through August 21, 2019.

Fiscal Impact:

SANDAG will enter a 12-month air quality conformity grace period in December 2019. Adoption of the 2020 Federal Regional Transportation Plan (2020 Federal RTP) within the grace period will help to preserve eligibility for local, state, and federal funding.

Schedule/Scope Impact:

It is anticipated that the final 2020 Federal RTP will be presented to the Board of Directors for adoption in spring 2020.

Once the 2021 Regional Plan is adopted by the Board of Directors, it would be submitted to both the state and federal governments. In the meantime, SANDAG will continue to take action to improve mobility and reduce emissions in the region; including through the development of a Regional Electric Vehicle Charging Infrastructure Program; implementation of the Environmental Mitigation Program; assistance to local jurisdictions for Climate Action Plan implementation; and delivery of major transit projects like the Mid-Coast Corridor Trolley extension and LOSSAN Double-Tracking.

Key Considerations

SANDAG will enter a 12-month air quality conformity grace period in December 2019. During this time, projects in the current Regional Transportation Improvement Program (RTIP) can proceed; however, SANDAG will be unable to process formal RTIP amendments. Adoption of the 2020 Federal RTP within the grace period will help to preserve eligibility for local, state, and federal funding up until the time the 2021 Regional Plan is adopted.

Consistent with the direction provided by the Board of Directors in February 2019, the proposed draft transportation network largely includes the same projects, programs, and policies included in the 2015 Regional Plan to ensure the 2020 Federal RTP remains consistent with the results of the 2015 Regional Plan Environmental Impact Report (EIR) and avoid the need to revisit that EIR. In addition, AB 1730 as currently proposed includes an exemption from the California Environmental Quality Act for the 2020 Federal RTP in reliance on the use of the 2015 Regional Plan network. The only modifications made

were to remove projects that have been completed since the 2015 Regional Plan was adopted; make minor schedule updates to align with the current RTIP; and update the cost estimates and financial assumptions as required by federal law. The list of transit, highway and Managed Lane projects, and active transportation projects is detailed in Attachment 1 and mapped in Attachment 2. Investments that support goods movement (shared rail and Managed Lane and highway improvements); transportation demand and system management; technologies; operations, maintenance, and rehabilitation; and local streets and roads also are components of the 2020 Federal RTP.

The proposed draft transportation network for the 2020 Federal RTP meets both federal Title VI and air quality conformity requirements. The 2020 Federal RTP uses the current travel demand model and growth forecast[1] as well as the performance measures from the 2015 Regional Plan. Staff modeled the performance of the proposed draft transportation network, the results of which are detailed in Attachment 3.

Next Steps

Public comments about the proposed draft transportation network for the 2020 Federal RTP will be gathered through August 21, 2019. Information about upcoming outreach efforts is posted on SDForward.com/2020FederalRTP. Members of the public can provide comments on the proposed draft network via letter, email, phone, and an online comment tool; at SANDAG working group meetings; and during an August 2019 Vision Lab open house. Input received will be considered in the development of the proposed preferred transportation network.

The Board will be asked to accept the preferred transportation network for use in development of the Draft 2020 Federal RTP in fall 2019. This Draft plan would be available for review and comment in late 2019. Staff anticipates that the 2020 Federal RTP will be provided to the Board for adoption in April 2020. This schedule would result in SANDAG being within the grace period for purposes of air quality conformity for an interval of approximately five to six months.

If the 2020 Federal RTP is not adopted during the 12-month grace period, SANDAG will enter a conformity lapse. During a conformity lapse, federal transportation funds can only be used on exempt projects, safety and certain transit projects; transportation control measures, including ridesharing, transit improvements, traffic flow improvements, and bicycle facilities and programs; and project phases previously authorized by the U.S. Federal Highway Administration and Federal Transit Administration.

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Attachments:
1. 2020 Federal RTP Proposed Draft Transportation Network
2. 2020 Federal RTP Proposed Draft Transportation Network Maps
3. 2020 Federal RTP Proposed Draft Transportation Network Performance Measure Results

[1] Activity Based Model version 2, and Series 14.17 Regional Growth Forecast

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Transit Facilities

Year Built By	Service	Route	Description	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2025	COASTER	398	Double tracking (20-minute peak frequencies and 120-minute off-peak frequencies)	$609	$693
2025	Trolley	510	Mid-Coast Trolley Extension	$1,273	$919
2025	Rapid	2	North Park to Downtown San Diego via 30th St, Golden Hill	$54	$62
2025	Rapid	10	La Mesa to Ocean Beach via Mid-City, Hillcrest, Old Town	$57	$65
2025	Rapid	120	Kearny Mesa to Downtown via Mission Valley	$127	$145
2025	Rapid	550	SDSU to Palomar Station via East San Diego, Southeast San Diego, National City	$112	$126
2025	Rapid	709	H St Trolley Station to Millennia via H St Corridor, Southwestern College	$89	$101
2025	Rapid	950 (formerly 905)	Extension of Iris Trolley Station to Otay Mesa Port of Entry (POE) route with new service to Otay Mesa East POE and Imperial Beach	$3	$3
2025	Rapid	SR 163 DARs (Transit Only)	Kearny Mesa to Downtown via SR 163. Stations at Sharp/Children's Hospital, University Ave, and Fashion Valley Transit Center	$204	$215
2025	Streetcar	554	Hillcrest/Balboa Park/Downtown San Diego Loop[3]	$39	$45
2025	Shuttle	448/449	San Marcos Shuttle[1]	$0	$0
2025	Airport Express	--	Airport Express Routes[2]	$71	$82
2025	ITC	--	San Diego International Airport ITC and I-5 Direct Connector Ramps	$231	$258
2025	Other	--	Other Improvements (Vehicles, transit system rehabilitation, maintenance facilities, ITS, regulatory compliance, Park and Ride, transit center expansions)	$721	$798
2025	--	--	Local Bus Routes - 15 minutes in key corridors	--	--
2035	COASTER	398	Double tracking (20-minute peak frequencies and 60-minute off-peak frequencies, grade separations at Leucadia Blvd, stations/platforms at Convention Center/Gaslamp Quarter and Del Mar Fairgrounds, and extension to Camp Pendleton)	$1,224	$1,488
2035	SPRINTER	399	SPRINTER efficiency improvements (20-minute frequencies by 2025); double tracking Oceanside to Escondido for 10-minute frequencies and six rail grade separations at El Camino Real, Melrose Dr, Vista Village Dr/Main St, North Dr, Civic Center, Auto Pkwy and Mission Ave	$1,287	$1,604
2035	Trolley	510	Phase I - Blue Line Frequency Enhancements and rail grade separations at 28th St, 32nd St, E St, H St, Palomar St, and Blue/Orange Track Connection at 12th/Imperial	$279	$339

Transit Facilities

Year Built By	Service	Route	Description	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2035	Trolley	520	Orange Line Frequency Enhancements and four rail grade separations at Euclid Ave, Broadway/Lemon Grove Ave, Allison Ave/University Ave, Severin Dr	$363	$464
2035	Trolley	561	UTC to COASTER Connection (extension of Route 510)	$467	$676
2035	Trolley	562	Phase I - San Ysidro to Kearny Mesa via Chula Vista via Highland Ave/4th Ave, National City, Southeast San Diego, Mid-City, and Mission Valley	$4,575	$6,613
2035	*Rapid*	11	Spring Valley to SDSU via Southeast San Diego, Downtown, Hillcrest, Mid-City	$154	$199
2035	*Rapid*	28	Point Loma to Kearny Mesa via Old Town, Linda Vista	$67	$86
2035	*Rapid*	30	Old Town to Sorrento Mesa via Pacific Beach, La Jolla, UTC	$143	$185
2035	*Rapid*	41	Fashion Valley to UTC/UC San Diego via Linda Vista and Clairemont	$75	$102
2035	*Rapid*	90	El Cajon Transit Center to San Diego International Airport ITC via SR 94, City College (peak only)	$27	$32
2035	*Rapid*	473	Phase I - Solana Beach to UTC/UC San Diego via Hwy 101 Coastal Communities, Carmel Valley	$58	$76
2035	*Rapid*	635	Eastlake to Palomar Trolley via Main St Corridor	$105	$139
2035	*Rapid*	638	Iris Trolley Station to Otay Mesa via Otay, Airway Dr, SR 905 Corridor	$52	$67
2035	*Rapid*	640A /640B	Route 640A: I-5 - San Ysidro to Old Town Transit Center via City College; 640B: I-5 Iris Trolley/Palomar to Kearny Mesa via Chula Vista, National City and City College	$208	$229
2035	*Rapid*	688/ 689/ 690	Route 688: San Ysidro to Sorrento Mesa via I-805/I-15/SR 52 Corridors (Peak Only); Route 689:Otay Mesa POE to UTC/Torrey Pines via Otay Ranch/Millennia, I-805 Corridor (Peak Only); Route 690: Mid-City to Sorrento Mesa via I-805 Corridor (Peak Only)	$623	$757
2035	*Rapid*	910	Coronado to Downtown via Coronado Bridge	$54	$70
2035	*Streetcar*	553	Downtown San Diego: Little Italy to East Village[3]	$15	$20
2035	*Streetcar*	555	30th St to Downtown San Diego via North Park/ Golden Hill[3]	$23	$29
2035	*ITC*	--	Phase I - San Ysidro ITC	$129	$165
2035	*Other*	--	Other Improvements (Vehicles, transit system rehabilitation, maintenance facilities, ITS, regulatory compliance, Park and Ride, transit center expansions)	$2,872	$3,843
2035	--	--	Local Bus Routes - 10 minutes in key corridors		
2050	COASTER	398	Double tracking (completes double tracking; includes Del Mar Tunnel) plus 2 grade separations	$3,921	$8,258
2050	SPRINTER	399	Branch Extension to Westfield North County	$239	$479
2050	SPRINTER	588	SPRINTER Express	$332	$545
2050	Trolley	510	Phase II - Blue Line rail grade separations at Taylor St and Ash St	$307	$505
2050	Trolley	520	Orange Line Frequency Enhancements	$0	$0
2050	Trolley	530	Green Line Frequency Enhancements	$0	$0

Transit Facilities

Year Built By	Service	Route	Description	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2050	Trolley	560	SDSU to Downtown via El Cajon Blvd/Mid-City (transition of Mid-City *Rapid* to Trolley)	$3,251	$6,192
2050	Trolley	562	Phase II - Kearny Mesa to Carmel Valley	$2,191	$4,071
2050	Trolley	563	Phase I: Pacific Beach to El Cajon Transit Center	$1,579	$2,860
2050	Rapid	103	Solana Beach to Sabre Springs *Rapid* station via Carmel Valley	$91	$152
2050	Rapid	440	Carlsbad to Escondido Transit Center via Palomar Airport Rd	$140	$234
2050	Rapid	471	Downtown Escondido to East Escondido	$46	$94
2050	Rapid	473	Phase II - Oceanside to Solana Beach via Hwy 101 Coastal Communities	$118	$197
2050	Rapid	474	Oceanside to Vista via Mission Ave/Santa Fe Rd Corridor	$99	$202
2050	Rapid	477	Camp Pendleton to Carlsbad Village via College Blvd, Plaza Camino Real	$109	$181
2050	Rapid	235	Temecula (peak only) Extension of Escondido to Downtown *Rapid* (formerly Route 610)	$133	$222
2050	Rapid	636	SDSU to Spring Valley via East San Diego, Lemon Grove, Skyline	$53	$88
2050	Rapid	637	North Park to 32nd St Trolley Station via Golden Hill	$60	$101
2050	Rapid	650	Chula Vista to Palomar Airport Rd Business Park via I-805/ I-5 (peak only)	$112	$186
2050	Rapid	653	Mid-City to Palomar Airport Rd via Kearny Mesa/I-805/I-5	$14	$23
2050	Rapid	870	El Cajon to UTC via Santee, SR 52, I-805	$100	$190
2050	Rapid	890	El Cajon to Sorrento Mesa via SR 52, Kearny Mesa	$16	$31
2050	Streetcar	565	Mission Beach to La Jolla via Pacific Beach[3]	$34	$57
2050	ITC	--	Phase II - San Ysidro ITC	$31	$51
2050	Other	--	Other Improvements (Vehicles, transit system rehabilitation, maintenance facilities, ITS, regulatory compliance, Park and Ride, transit center expansions)	$3,724	$6,839
			Subtotal	**$33,090**	**$52,453**

[1] Capital cost to be funded by the City of San Marcos.

[2] Implementation of these services is dependent upon funding from aviation and other private sources.

[3] Streetcar cost is representative of 10 percent of the total capital cost.

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Managed Lanes/Toll Lanes

RTP Phase Year	Freeway	From	To	Existing	With Improvements	Transit Route	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2025	I-5	Manchester Ave	SR 78	8F	8F+2ML	650, 653	$51	$51
2025	I-5	SR 78	Vandegrift Blvd	8F	8F+2ML		$116	$131
2025	I-15	I-8	SR 163	8F	8F+2ML	235, 610, 653, 690	$64	$72
2025	I-805	SR 94	SR 15	8F	8F+2ML	225, 650, 688, 689	$234	$264
2025	SR 11/ Otay Mesa East Port of Entry (POE)	SR 125	Mexico	--	4T+POE	905	$472	$472
2035	I-5	SR 905	SR 54	8F	8F+2ML	640	$542	$627
2035	I-5	SR 54	SR 15	8F	10F+2ML	640	$467	$540
2035	I-5	La Jolla Village Dr I-5/I-805 Merge	I-5/805 Merge SR 56	8F/14F 8F/14F+ 2ML	8F/14F+2ML 8F/14F+4ML	650, 653	$422	$513
2035	I-5	SR 56	SR 78	8F+2ML	8F+4ML	650, 653	$2,082	$3,020
2035	SR 15	SR 94	I-805	6F	6F+2ML	235, 610	$41	$59
2035	SR 78	I-5	I-15	6F	6F+2ML		$1,621	$2,127
2035	SR 94	I-5	I-805	8F	8F+2ML	90, 225, 235, 610,	$728	$955
2035	I-805	SR 905	Palomar St	8F	8F+2ML	688	$235	$316
2035	I-805	SR 54	SR 94	8F+2ML	8F+4ML	225, 650, 688, 689	$742	$998
2035	I-805	SR 163	SR 52	8F	8F+2ML	650, 688, 689, 690	$195	$269
2035	I-805	SR 52	Carroll Canyon Rd	8F+2ML	8F+4ML	30, 650, 653, 688, 689, 690, 870, 890	$778	$996
2050	I-5	I-8	La Jolla Village Dr	8F/10F	8F/10F+2ML		$978	$2,067
2050	I-5	SR 78	Vandegrift Blvd	8F+2ML	8F+4ML		$632	$1,336
2050	I-5	Vandegrift Blvd	Orange County	8F	8F+4T*		$3,165	$6,687
2050	SR 15	I-5	SR 94	6F	8F+2ML		$185	$391
2050	I-15	Viaduct	--	8F	8F+2ML	235, 610, 653, 690	$1,040	$2,197
2050	I-15	SR 78	Riverside County	8F	8F+4T*	610	$1,744	$3,684
2050	SR 52	I-805	I-15	6F	6F+2ML	653, 870, 890	$238	$503
2050	SR 52	I-15	SR 125	4F/6F	4F/6F+2ML(R)	870, 890	$405	$856
2050	SR 54	I-5	SR 125	6F	6F+2ML		$151	$319
2050	SR 94	I-805	SR 125	8F	8F+2ML	90	$501	$1,057
2050	SR 125	SR 54	I-8	6F/8F	6F/10F+2ML		$690	$1,457
2050	I-805	SR 94	SR 15	8F+2ML	8F+4ML	225, 650, 688, 690	$83	$175
2050	I-805	SR 15	SR 163	8F/10F	8F/10F+4ML	650, 688, 689, 690	$1,567	$3,310
2050	I-805	SR 163	SR 52	8F+2ML	8F+4ML	650, 688, 689, 690	$438	$925
					Subtotal		**$20,607**	**$36,374**

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Highway Projects

Year Built By	Freeway	From	To	Existing	With Improvements	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2025	SR 67	Mapleview St	Gold Bar Ln	2C	4C	$82	$92
2035	SR 52	Mast Blvd	SR 125	4F	6F	$103	$146
2050	I-8	2nd St	Los Coches	4F/6F	6F	$44	$94
2050	SR 52	I-5	I-805	4F	6F	$151	$319
2050	SR 56	I-5	I-15	4F	6F	$192	$405
2050	SR 67	Gold Bar Ln	Dye Rd	2C/4C	4C	$591	$1,248
2050	SR 94	SR 125	Avocado Blvd	4F	6F	$190	$401
2050	SR 94	Jamacha	Steele Canyon Rd	2C/4C	4C	$54	$115
2050	SR 94	Avocado Blvd	Jamacha	4C	6C	$124	$261
2050	SR 125	SR 905	San Miguel Rd	4T	8F	$439	$741
2050	SR 125	San Miguel Rd	SR 54	4F	8F	$241	$509
					Subtotal	**$2,211**	**$4,331**

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Operational Improvements

Year Built By	Freeway	From	To	Existing	With Improvements	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2050	I-5	I-15	I-8	8F	8F+Operational	$1,985	$4,194
2050	I-8	I-5	SR 125	8F/10F	8F/10F+Operational	$907	$1,917
2050	I-8	SR 125	2nd St	6F/8F	6F/8F+Operational	$227	$480
2050	SR 76	I-15	Couser Canyon	2C/4C	4C/6C+Operational	$178	$376
					Subtotal	**$3,297**	**$6,967**

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Managed Lane Connectors

Year Built By	Freeway	Intersecting Freeway	Movement	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2025	SR 15	I-805	North to North and South to South	$110	$124
2035	I-5	SR 78	South to East and West to North, North to East and West to South	$344	$451
2035	I-5	I-805	North to North and South to South	*	*
2035	I-15	SR 78	East to South and North to West	$144	$189
2035	SR 15	SR 94	South to West and East to North	$97	$127
2035	I-805	SR 94	North to West and East to South	$137	$180
2050	I-15	SR 52	West to North and South to East	$177	$374
2050	I-805	SR 52	West to North and South to East	*	*
			Subtotal	**$1,009**	**$1,445**

* Project cost included in associated Managed Lane project

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Freeway Connectors

Year Built By	Freeway	Intersecting Freeway	Movement	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2025	SR 94	SR 125	South to East	$94	$106
2035	I-5	SR 56	West to North and South to East	$371	$452
2035	I-5	SR 78	South to East and West to South	$371	$487
2035	SR 94	SR 125	West to North	$110	$134
2050	I-15	SR 56	North to West	$104	$219
			Subtotal	**$1,050**	**$1,398**

2020 Federal RTP Proposed Draft Phased Revenue Constrained Projects

Active Transportation Projects

Year Built By	Project	Jurisdiction(s)	Project Phase	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2025	Uptown - Fashion Valley to Downtown San Diego	San Diego	Const.	$13.0	$13.0
2025	Uptown - Old Town to Hillcrest	San Diego	Const.	$1.0	$1.0
2025	Uptown - Hillcrest to Balboa Park	San Diego	Const.	$2.0	$2.0
2025	North Park - Mid-City - City Heights	San Diego	Const.	$7.0	$7.0
2025	North Park - Mid-City - Hillcrest to City Heights (City Heights - Old Town Corridor)	San Diego	Const.	$5.0	$5.0
2025	North Park - Mid-City - City Heights to Rolando	San Diego	Const.	$3.0	$3.0
2025	Bayshore Bikeway - Main St to Palomar	Chula Vista/ Imperial Beach	Const.	$1.0	$1.0
2025	Pershing and El Prado - Cross-Park	San Diego	Const.	$1.0	$1.0
2025	Terrace Dr/Central Ave - Adams to Wightman	San Diego	Const.	$4.0	$4.0
2025	San Diego River Trail – I-805 to Fenton	San Diego	Const.	$3.0	$3.0
2025	San Diego River Trail - Short gap connections	San Diego	Const.	$2.0	$2.0
2025	Coastal Rail Trail Encinitas - Leucadia to G St	Encinitas	Const.	$7.0	$7.0
2025	San Ysidro to Imperial Beach - Bayshore Bikeway Connection	Imperial Beach/ San Diego	Const.	$8.0	$8.0
2035	Downtown to Southeast connections - East Village	San Diego	ROW	$1.1	$2.0
2035	Downtown to Southeast connections - Downtown San Diego to Encanto	San Diego	ROW	$4.1	$6.0
2035	Downtown to Southeast connections - Downtown San Diego to Golden Hill	San Diego	ROW	$3.6	$6.0
2035	Coastal Rail Trail San Diego - Pac Hwy (W Washington St to Laurel St)	San Diego	Const.	$7.0	$11.0
2035	Coastal Rail Trail San Diego - Pac Hwy (Laurel St to Santa Fe Depot)	San Diego	Const.	$13.9	$21.0
2035	Coastal Rail Trail San Diego - Encinitas Chesterfield to Solana Beach	Encinitas	Const.	$4.8	$7.0
2035	Coastal Rail Trail San Diego – Pac Hwy (Taylor St to W Washington St)	San Diego	Const.	$7.0	$11.0
2035	Coastal Rail Trail San Diego- Pac Hwy (Fiesta Island Rd to Taylor St)	San Diego	Const.	$12.2	$18.0
2035	San Diego River Trail - Father Junipero Serra Trail to Santee	Santee	Const.	$9.5	$14.0
2035	Coastal Rail Trail San Diego - UTC	San Diego	Const.	$0.8	$1.0
2035	City Heights /Encanto/Lemon Grove	Lemon Grove/ San Diego	Const.	$12.2	$18.0
2035	City Heights/Fairmount Corridor	San Diego	Const.	$20.9	$28.0
2035	Rolando to Grossmont/La Mesa	La Mesa/ El Cajon/ San Diego	Const.	$3.5	$5.0
2035	La Mesa/Lemon Grove/El Cajon connections	Lemon Grove/ La Mesa	Const.	$10.4	$16.0
2035	Coastal Rail Trail - Rose Canyon	San Diego	Const.	$8.7	$13.0
2035	San Diego River Trail - Qualcomm Stadium to Ward Rd	San Diego	Const.	$3.5	$5.0
2035	San Diego River Trail - Rancho Mission Rd to Camino Del Rio North	San Diego	Const.	$0.5	$1.0
2035	Coastal Rail Trail Carlsbad - Reach 4 Cannon to Palomar Airport Rd	Carlsbad	Const.	$8.7	$13.0
2035	Coastal Rail Trail Carlsbad - Reach 5 Palomar Airport Rd to Poinsettia Station	Carlsbad	Const.	$5.2	$8.0
2035	Coastal Rail Trail Encinitas - Carlsbad to Leucadia	Encinitas	Const.	$12.2	$18.0
2035	Coastal Rail Trail Del Mar	Del Mar	Const.	$0.7	$1.0

Active Transportation Projects

Year Built By	Project	Jurisdiction(s)	Project Phase	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2035	Coastal Rail Trail San Diego - Del Mar to Sorrento via Carmel Valley	Del Mar/ San Diego	Const.	$0.7	$1.0
2035	Coastal Rail Trail San Diego - Carmel Valley to Roselle via Sorrento	San Diego	Const.	$1.6	$2.0
2035	Coastal Rail Trail San Diego - Roselle Canyon	San Diego	Const.	$8.7	$13.0
2035	Chula Vista/National City connections	Chula Vista/ National City	Const.	$19.1	$25.0
2035	Pacific Beach to Mission Beach	San Diego	Const.	$17.4	$23.0
2035	Ocean Beach to Mission Bay	San Diego	Const.	$41.8	$51.0
2035	San Diego River Trail - Bridge connection (Sefton Field to Mission Valley YMCA)	San Diego	Const.	$12.2	$18.0
2035	San Diego River Trail - Mast Park to Lakeside baseball park	Santee	Const.	$17.4	$23.0
2035	I-8 Flyover - Camino del Rio S to Camino del Rio N	San Diego	Const.	$17.4	$23.0
2035	Coastal Rail Trail Oceanside - Broadway to Eaton	Oceanside	Const.	$0.7	$1.0
2035	El Cajon - Santee connections	El Cajon/ La Mesa/ Santee	Const.	$20.9	$28.0
2035	San Diego River Trail - Father Junipero Serra Trail to West Hills Pkwy	San Diego	Const.	$5.2	$8.0
2035	Inland Rail Trail Oceanside	Oceanside	Const.	$33.1	$44.0
2035	Coastal Rail Trail Carlsbad - Reach 3 Tamarack to Cannon	Carlsbad	Const.	$8.7	$13.0
2035	Clairemont Dr (Mission Bay to Burgener)	San Diego	Const.	$13.9	$21.0
2035	Harbor Dr (Downtown to Ocean Beach)	San Diego	Const.	$12.2	$18.0
2035	Mira Mesa Bike Blvd	San Diego	Const.	$7.0	$11.0
2035	Sweetwater River Bikeway Ramps	National City	Const.	$15.7	$24.0
2035	Coastal Rail Trail Oceanside - Alta Loma Marsh bridge	Oceanside	Const.	$8.7	$13.0
2035	Coastal Rail Trail San Diego - Mission Bay (Clairemont to Tecolote)	San Diego	Const.	$5.2	$8.0
2035	Bayshore Bikeway Coronado - Golf course adjacent	Coronado	Const.	$5.2	$8.0
2050	San Luis Rey River Trail	Oceanside, Unincorporated	Const.	$64.4	$122.0
2050	Encinitas-San Marcos Corridor – Double Peak Dr to San Marcos Blvd	San Marcos	Const.	$20.9	$48.0
2050	Escondido Creek Bikeway – Quince St to Broadway	Escondido	Const.	$3.5	$8.0
2050	Escondido Creek Bikeway – Escondido Creek to Washington Ave	Escondido	Const.	$1.7	$4.0
2050	Escondido Creek Bikeway – 9th Ave to Escondido Creek	Escondido	Const.	$1.7	$4.0
2050	Escondido Creek Bikeway – El Norte Pkwy to northern bikeway terminus	Escondido	Const.	$10.4	$24.0
2050	Encinitas to San Marcos Corridor – Leucadia Blvd to El Camino Real	Carlsbad, Encinitas	Const.	$3.5	$8.0
2050	I-15 Bikeway – Via Rancho Pkwy to Lost Oak Ln	Escondido	Const.	$7.0	$16.0
2050	I-15 Bikeway – Rancho Bernardo Community Park to Lake Hodges Bridge	San Diego	Const.	$5.2	$12.0
2050	I-15 Bikeway – Camino del Norte to Aguamiel Rd	San Diego	Const.	$22.6	$39.0
2050	I-15 Bikeway – Poway Rd interchange to Carmel Mountain Rd	San Diego	Const.	$29.6	$51.0
2050	SR 56 Bikeway – Azuaga St to Rancho Penasquitos Blvd	San Diego	Const.	$3.5	$8.0
2050	I-15 Bikeway – Murphy Canyon Rd to Affinity Ct	San Diego	Const.	$69.6	$115.0

Active Transportation Projects

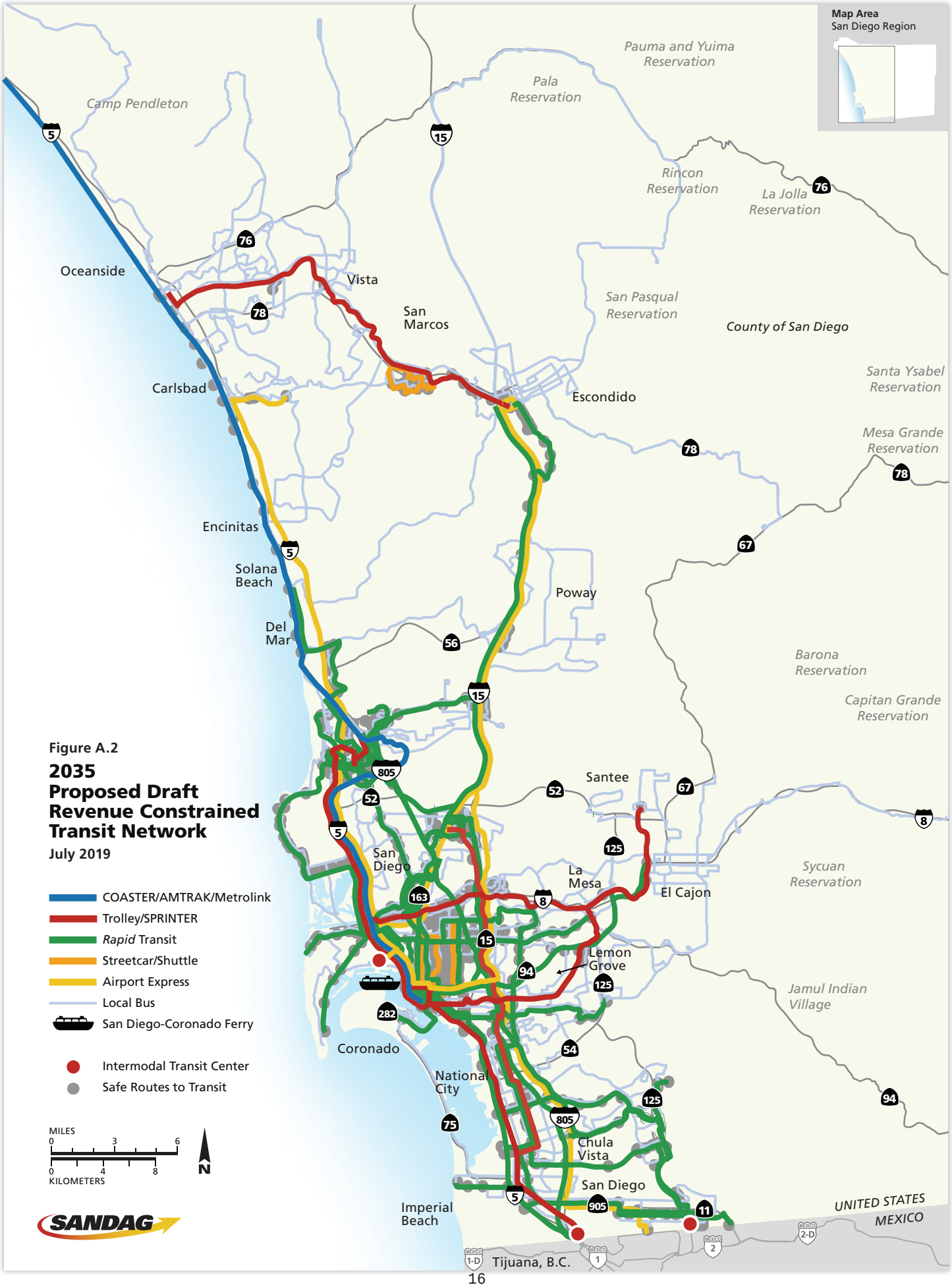
Year Built By	Project	Jurisdiction(s)	Project Phase	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2050	SR 56 Bikeway – El Camino Real to Caminito Pointe	San Diego	Const.	$3.5	$8.0
2050	SR 52 Bikeway – I-5 to Santo Rd	San Diego	Const.	$52.2	$104.0
2050	SR 52 Bikeway – SR 52/Mast Dr to San Diego River Trail	San Diego	Const.	$3.5	$8.0
2050	I-8 Corridor – San Diego River Trail to Riverside Dr	Unincorporated	Const.	$3.5	$8.0
2050	I-805 Connector – Bonita Rd to Floyd Ave	Chula Vista, Unincorporated	Const.	$10.5	$24.0
2050	SR 125 Connector – Bonita Rd to U.S.-Mexico Border	Chula Vista, San Diego	Const.	$67.9	$118.0
2050	SR 905 Connector – E Beyer Blvd to U.S.-Mexico Border	San Diego, Unincorporated	Const.	$59.2	$103.0
2050	El Camino Real Bike Lanes – Douglas Dr to Mesa Dr	Oceanside	Const.	$1.7	$4.0
2050	Vista Way Connector from Arcadia	Vista, Unincorporated	Const.	$3.7	$8.0
2050	I-15 Bikeway – W Country Club Ln to Nutmeg St	Escondido	Const.	$7.0	$16.0
2050	El Camino Real Bike Lanes – Marron Rd to SR 78 off ramp	Carlsbad	Const.	$0.5	$1.0
2050	Carlsbad to San Marcos Corridor – Paseo del Norte to Avenida Encinas	Carlsbad	Const.	$0.7	$2.0
2050	Encinitas to San Marcos Corridor – Kristen Ct to Ecke Ranch Rd	Encinitas	Const.	$0.7	$2.0
2050	Encinitas to San Marcos Corridor – Encinitas Blvd/ I-5 Interchange	Encinitas	Const.	$0.3	$1.0
2050	Mira Mesa Corridor – Reagan Rd to Parkdale Ave	San Diego	Const.	$0.7	$2.0
2050	Mira Mesa Corridor – Scranton Rd to I-805	San Diego	Const.	$0.7	$2.0
2050	Mira Mesa Corridor – Sorrento Valley Rd to Sorrento Valley Blvd	San Diego	Const.	$1.4	$3.0
2050	Mid-County Bikeway – I-5/Via de la Valle Interchange	San Diego	Const.	$0.5	$1.0
2050	Mid-County Bikeway – Rancho Santa Fe segment	San Diego, Unincorporated	Const.	$5.2	$12.0
2050	El Camino Real Bike Lanes – Manchester Ave to Tennis Club Dr	Encinitas	Const.	$0.9	$2.0
2050	Mid-County Bikeway – Manchester Ave/I-5 Interchange to San Elijo Ave	Encinitas	Const.	$1.4	$3.0
2050	Central Coast Corridor – Van Nuys St to San Rafael Pl	San Diego	Const.	$1.7	$4.0
2050	Clairemont – Centre-City Corridor – Coastal Rail Trail to Genesee Ave	San Diego	Const.	$3.5	$8.0
2050	SR 125 Corridor – Mission Gorge Rd to Glen Vista Way	Santee	Const.	$0.5	$1.0
2050	SR 125 Corridor – Prospect Ave to Weld Blvd	Santee, El Cajon	Const.	$1.4	$3.0
2050	I-8 Corridor – Lakeside Ave to SR 67	Unincorporated	Const.	$0.9	$2.0
2050	I-8 Corridor – Willows Rd to SR 79	Unincorporated	Const.	$8.7	$20.0
2050	E County Northern Loop – N Marshall Ave to El Cajon Blvd	El Cajon	Const.	$0.5	$1.0
2050	E County Northern Loop – Washington Ave to Dewitt Ct	El Cajon	Const.	$1.7	$4.0
2050	E County Northern Loop – SR 94 onramp to Del Rio Rd	Unincorporated	Const.	$0.3	$1.0
2050	E County Southern Loop – Pointe Pkwy to Omega St	Unincorporated	Const.	$1.4	$3.0
2050	SR 125 Corridor – SR 94 to S of Avocado St	Unincorporated	Const.	$1.9	$4.0

Active Transportation Projects

Year Built By	Project	Jurisdiction(s)	Project Phase	Capital Cost ($2019); millions	Capital Cost ($YOE); millions
2050	Centre City – La Mesa Corridor – Gateside Rd to Campo Rd	La Mesa, Unincorporated	Const.	$0.7	$2.0
2050	Bay to Ranch Bikeway – River Ash Dr to Paseo Ranchero	Chula Vista	Const.	$0.9	$2.0
2050	Mid-County Bikeway – San Elijo Ave to 101 Terminus	Encinitas	Const.	$1.7	$4.0
2050	Central Coast Corridor – Van Nuys St	San Diego	Const.	$0.3	$1.0
2050	E County Northern Loop – El Cajon Blvd to Washington Ave	El Cajon	Const.	$1.7	$4.0
2050	E County Northern Loop – Calavo Dr to Sweetwater Springs Blvd	Unincorporated	Const.	$1.2	$3.0
2050	Central Coast Corridor – Torrey Pines Rd to Nautilus St	San Diego	Const.	$10.4	$24.0
2050	Central Coast Corridor – Via Del Norte to Van Nuys St	San Diego	Const.	$8.7	$20.0
2050	Kearny Mesa to Beaches Corridor – Ingraham St from Garnet Ave to Pacific Beach Dr	San Diego	Const.	$3.5	$8.0
2050	Kearny Mesa to Beaches Corridor – Clairemont Dr to Genesee Ave	San Diego	Const.	$17.4	$30.0
2050	Kearny Mesa to Beaches Corridor – Genesee Ave to Linda Vista Dr	San Diego	Const.	$10.4	$24.0
2050	Bay to Ranch Bikeway – E J St from 2nd Ave to Paseo Del Rey	Chula Vista	Const.	$20.9	$36.0
2050	Chula Vista Greenbelt – Bay Blvd to Oleander Ave	Chula Vista	Const.	$29.6	$51.0
	Other Active Transportation Programs and Projects[1]				
	Safe Routes to School			$78	$123
	Safe Routes to Transit			$1,230	$1,943
	Regional Programs			$34	$54
	Local Bike Projects			$1,399	$2,211
	TDM/TSM			$1,989	$3,143
			Subtotal	**$5,810**	**$9,281**

[1]Includes Safe Routes to Transit projects at new transit station areas, local bike projects, local pedestrian/safety/traffic calming projects, regional bicycle and pedestrian programs and the Regional Safe Routes to School implementation


Map Area
San Diego Region
Pauma and Yuima Reservation
Pala Reservation
Camp Pendleton
Rincon Reservation
La Jolla Reservation
Oceanside
Vista
San Marcos
San Pasqual Reservation
County of San Diego
Carlsbad
Escondido
Santa Ysabel Reservation
Mesa Grande Reservation
Encinitas
Solana Beach
Del Mar
Poway
Barona Reservation
Capitan Grande Reservation
Santee
San Diego
La Mesa
El Cajon
Sycuan Reservation
Lemon Grove
Jamul Indian Village
Coronado
National City
Chula Vista
San Diego
Imperial Beach
UNITED STATES
MEXICO
Tijuana, B.C.
Figure A.1
2025
Proposed Draft
Revenue Constrained
Transit Network
July 2019
COASTER/AMTRAK/Metrolink
Trolley/SPRINTER
Rapid Transit
Shuttle/Streetcar
Airport Express
Local Bus
San Diego-Coronado Ferry
Intermodal Transit Center
Safe Routes to Transit
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG


Map Area
San Diego Region
Pauma and Yuima Reservation
Pala Reservation
Camp Pendleton
Rincon Reservation
La Jolla Reservation
Oceanside
Vista
San Marcos
San Pasqual Reservation
County of San Diego
Carlsbad
Escondido
Santa Ysabel Reservation
Mesa Grande Reservation
Encinitas
Solana Beach
Del Mar
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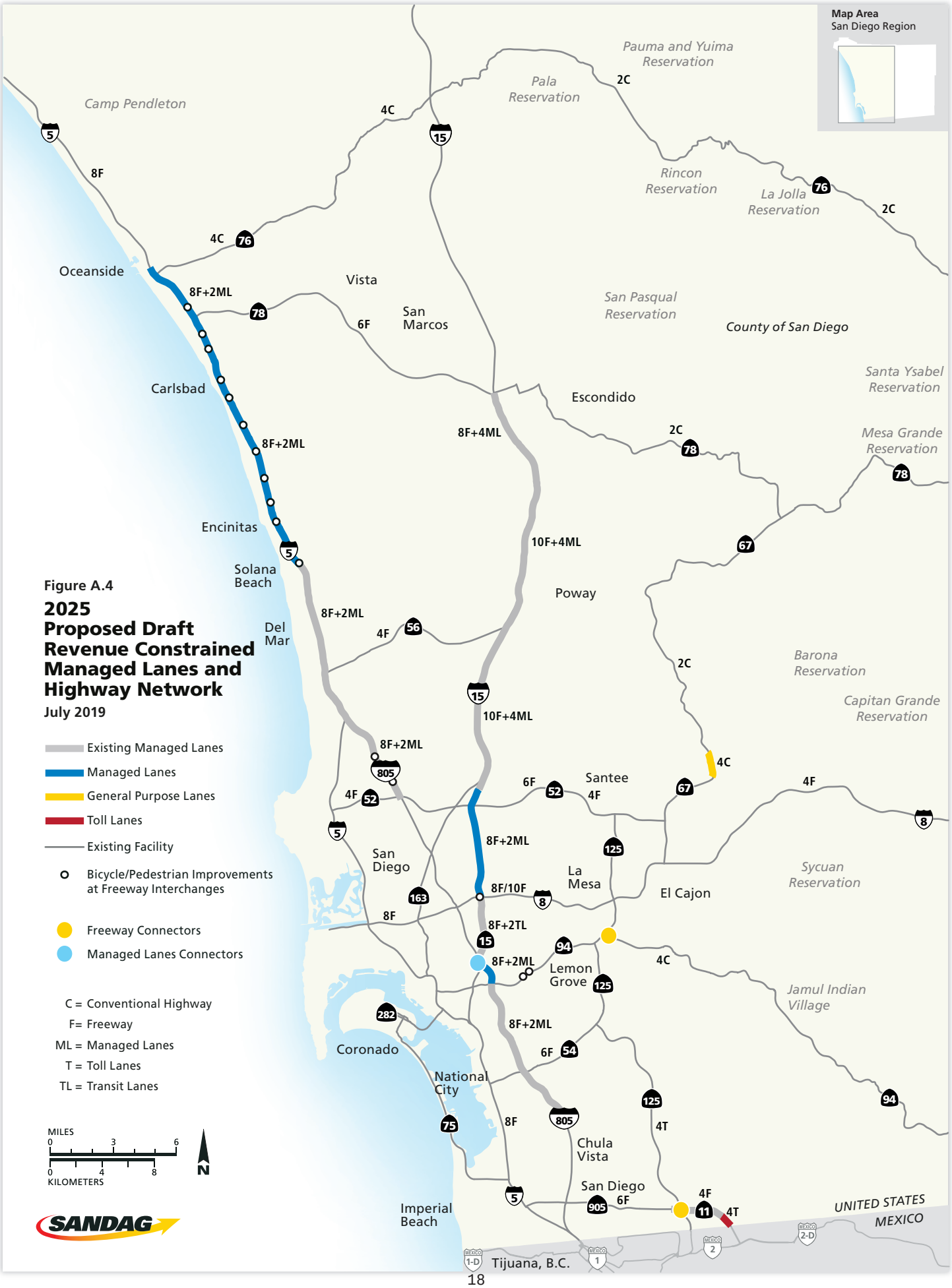
Barona Reservation
Capitan Grande Reservation
Santee
Sycuan Reservation
San Diego
La Mesa
El Cajon
Lemon Grove
Jamul Indian Village
Coronado
National City
Chula Vista
Imperial Beach
UNITED STATES
MEXICO
Tijuana, B.C.
Figure A.2
2035
Proposed Draft
Revenue Constrained
Transit Network
July 2019
COASTER/AMTRAK/Metrolink
Trolley/SPRINTER
Rapid Transit
Streetcar/Shuttle
Airport Express
Local Bus
San Diego-Coronado Ferry
Intermodal Transit Center
Safe Routes to Transit
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG


Map Area
San Diego Region
Pauma and Yuima Reservation
Pala Reservation
Camp Pendleton
Rincon Reservation
La Jolla Reservation
Oceanside
Vista
San Marcos
San Pasqual Reservation
County of San Diego
Carlsbad
Escondido
Santa Ysabel Reservation
Mesa Grande Reservation
Encinitas
Solana Beach
Del Mar
Poway
Barona Reservation
Capitan Grande Reservation
Santee
San Diego
La Mesa
El Cajon
Sycuan Reservation
Lemon Grove
Jamul Indian Village
Coronado
National City
Chula Vista
San Diego
Imperial Beach
Tijuana, B.C.
UNITED STATES
MEXICO
Figure A.3
2050 Proposed Draft Revenue Constrained Transit Network
July 2019
High Speed Rail
COASTER/AMTRAK/Metrolink
Trolley/SPRINTER
SPRINTER Express
Rapid Transit
Shuttle/Streetcar
Airport Express
Local Bus
San Diego-Coronado Ferry
Intermodal Transit Center
Safe Routes to Transit
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG


Map Area
San Diego Region
Camp Pendleton
Pauma and Yuima Reservation
Pala Reservation
Rincon Reservation
La Jolla Reservation
Oceanside
Vista
San Marcos
San Pasqual Reservation
County of San Diego
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El Cajon
Sycuan Reservation
Lemon Grove
Jamul Indian Village
Coronado
National City
Chula Vista
Imperial Beach
San Diego
UNITED STATES
MEXICO
Tijuana, B.C.
8F
4C
8F+2ML
6F
8F+4ML
2C
10F+4ML
4F
8F+2ML
8F/10F
8F
8F+2TL
8F+2ML
6F
8F
4T
4F
6F
8F+2ML
4C
4F
2C
4C
Figure A.4
2025 Proposed Draft Revenue Constrained Managed Lanes and Highway Network
July 2019
Existing Managed Lanes
Managed Lanes
General Purpose Lanes
Toll Lanes
Existing Facility
Bicycle/Pedestrian Improvements at Freeway Interchanges
Freeway Connectors
Managed Lanes Connectors
C = Conventional Highway
F= Freeway
ML = Managed Lanes
T = Toll Lanes
TL = Transit Lanes
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG


Figure A.5
2035
Proposed Draft
Revenue Constrained
Managed Lanes and
Highway Network
July 2019
Existing Managed Lanes
Managed Lanes
General Purpose Lanes
Toll Lanes
Existing Facility
Bicycle/Pedestrian Improvements at Freeway Interchanges
Freeway Connectors
Managed Lanes Connectors
Freeway & Managed Lanes Connectors
C = Conventional Highway
F = Freeway
ML = Managed Lanes
T = Toll Road
TL = Transit Lanes
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG
Map Area
San Diego Region
Camp Pendleton
Oceanside
Vista
San Marcos
Carlsbad
Encinitas
Solana Beach
Del Mar
Escondido
Pala Reservation
Pauma and Yuima Reservation
Rincon Reservation
La Jolla Reservation
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Poway
Santee
El Cajon
La Mesa
Lemon Grove
National City
Chula Vista
Coronado
Imperial Beach
San Diego
Tijuana, B.C.
UNITED STATES
MEXICO
8F
8F+2ML
6F+2ML
8F+4ML
10F+4ML
8F/14F+4ML
8F/14F+2ML
4F
2C
4C
6F
8F/10F
8F+2TL
6F+2ML
8F+2ML
8F+4ML
10F+2ML
8F+2ML
4T
5068 IRTP


Figure A.6
2050 Proposed Draft Revenue Constrained Managed Lanes and Highway Network
July 2019
Existing Managed Lanes
Managed Lanes
General Purpose Lanes
Toll Lanes
Operational Improvements
Existing Facility
Freeway Connectors
ML Connectors
Freeway & ML Connectors
Bicycle/Pedestrian Improvements at Freeway Interchanges
C = Conventional Highway
F = Freeway
ML = Managed Lanes
T = Toll Road
R = Reversible Lanes
OPS = Operational Improvements
TL = Transit Lanes
MILES
KILOMETERS
N
SANDAG
Map Area
San Diego Region
Camp Pendleton
Oceanside
Carlsbad
Encinitas
Solana Beach
Del Mar
Vista
San Marcos
Escondido
Poway
San Diego
Coronado
National City
Imperial Beach
Chula Vista
La Mesa
El Cajon
Santee
Lemon Grove
Pauma and Yuima Reservation
Pala Reservation
Rincon Reservation
La Jolla Reservation
San Pasqual Reservation
County of San Diego
Santa Ysabel Reservation
Mesa Grande Reservation
Barona Reservation
Capitan Grande Reservation
Sycuan Reservation
Jamul Indian Village
UNITED STATES
MEXICO
Tijuana, B.C.
8F+4T
4C
4C/6C+OPS
2C
8F+4ML
6F+2ML
10F+4ML
6F
8F/14F +4ML
8F+2ML
6F+2ML(R)
6F+2ML
8F/10F+2ML
8F/10F +OPS
8F+2TL
10F+2ML
8F+OPS
6F/8F +OPS
8F+ 4ML
8F+ 2ML
6F+ 2ML
8F/10F +2ML
6F
6C
4F
4T

Figure A.7

2025 Proposed Draft Revenue Constrained Regional Bike Network

July 2019


Map Area
San Diego Region
Camp Pendleton
Pauma and Yuima Reservation
Pala Reservation
Rincon Reservation
La Jolla Reservation
Oceanside
Vista
San Marcos
San Pasqual Reservation
County of San Diego
Carlsbad
Escondido
Santa Ysabel Reservation
Mesa Grande Reservation
Encinitas
Solana Beach
Del Mar
Poway
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Capitan Grande Reservation
Santee
San Diego
La Mesa
El Cajon
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Lemon Grove
Jamul Indian Village
Coronado
National City
Chula Vista
San Diego
Imperial Beach
UNITED STATES
MEXICO
Tijuana, B.C.
Figure A.8
2035 Proposed Draft Revenue Constrained Regional Bike Network
July 2019
Class I - Bike Path
Cycle Track
Bike Boulevard
Enhanced Class II - Bike Lane
Enhanced Class III - Bike Route
Freeways and Highways
Regional Arterials
MILES
0 3 6
0 4 8
KILOMETERS
N
SANDAG

Figure 2.14

2050 Proposed Draft Revenue Constrained Regional Bike Network

July 2019

2020 Federal RTP: Proposed Draft Transportation Network Performance Measures Evaluation and Results

The proposed draft transportation network was evaluated using the performance measures from the 2015 Regional Plan, which were approved by the Board of Directors on March 28, 2014. The performance evaluation was conducted for the network phase years of the plan: 2025, 2035, and 2050. Performance was compared to current conditions (2016)[1]. The Activity Based Model 2 and Series 14.17 Regional Growth Forecast were used for the analysis of the proposed draft transportation network.

Summary of Overall Findings

- The proposed draft transportation network would perform better than 2016 in most areas.
- Work trips by carpool, transit, and bike and walk would increase from 18.7 percent in 2016 to 24.6 percent in 2050, with the transit mode share more than doubling from 3.6 percent in 2016 to 7.5 percent in 2050.
- More modest increases are seen in the combined carpool, transit, and bike and walk mode share for all trips. Walk and bike mode share is projected to increase from 8.1 percent in 2016 to 10.6 percent in 2035 and 11.6 percent in 2050. Transit mode share for all trips is anticipated to increase from 1.5 percent in 2016 to 2.9 percent in 2050.
- With the opening of the South Bay Rapid, Mid-Coast Trolley, and several Rapid routes serving the South Bay and central San Diego, the percentage of the population within a half-mile of high-frequency transit is anticipated to increase over the life of the plan from 32 percent in 2016 to 46 percent in 2025, 52 percent in 2035, and 55 percent in 2050. Similar increases are seen for the percentage of employment located near to high-frequency transit, with 43 percent of jobs being located near high-frequency transit in 2016 and 69 percent in 2050.
- Vehicle delay per capita would stay relatively flat though the horizon of the plan with 10 minutes daily in 2016 and 2025 and 11 minutes daily in 2035 and 2050.
- Average daily physical activity per capita would increase from 6 minutes in 2016 to 10 minutes in 2050.
- The region's air quality is projected to improve. Smog-forming pollutants per capita would be reduced below 2016 levels.
- Similar to non-disadvantaged communities, low-income, minority, and senior populations would experience an increase in physical activity and improved access to high frequency transit stops. Low-income population and minorities also see reduction in travel time to work by transit.
- The Title VI analysis demonstrates that there are no disparate impacts or disproportionate effects for minority or low-income individuals respectively.

[1] The base year of the current Activity Based Model is 2016

Revenue Constrained Network Performance Measures

Number	Performance Measure	2016	2025 No Build	2035 No Build	2050 No Build	2025 Proposed Draft Network	2035 Proposed Draft Network	2050 Proposed Draft Network
1	*Are travel times reduced?*							
1A	Average peak-period travel time to work (minutes)	27	27	27	28	27	28	28
	drive alone	25	25	26	26	25	26	26
	carpool 2	23	23	23	24	23	25	24
	carpool 3+	23	23	24	24	23	23	23
	transit	63	62	61	62	61	56	55
	bike	22	22	22	22	22	23	24
	walk	23	22	22	22	22	22	22
1B	Daily vehicle delay per capita (minutes)	10	10	11	12	10	11	11
2	*Are more people walking, biking, using transit and sharing rides?*							
2A	Walk, bike, transit, and carpool mode share (all trips)	54.3%	55.0%	53.9%	54.3%	55.1%	54.5%	55.1%
	carpool	44.7%	43.9%	41.4%	41.0%	43.7%	41.2%	40.6%
	transit	1.5%	1.8%	2.0%	1.9%	2.1%	2.7%	2.9%
	bike & walk	8.1%	9.3%	10.5%	11.4%	9.3%	10.6%	11.6%
2B	Walk, bike, transit, and carpool mode share (work trips)	18.7%	20.2%	20.7%	20.8%	20.7%	23.3%	24.6%
	carpool	12.4%	12.2%	11.6%	11.5%	12.1%	12.6%	12.8%
	transit	3.6%	4.5%	5.0%	5.0%	5.1%	6.6%	7.5%
	bike & walk	2.7%	3.5%	4.1%	4.3%	3.5%	4.1%	4.3%
3	*Is the transportation system safer?*							
3A	Annual projected number of vehicle injury/fatal collisions per thousand vehicle miles traveled (VMT)	0.1262	0.1270	0.1267	0.1260	0.1269	0.1268	0.1258
3B	Annual projected number of bike/pedestrian injury/fatal collisions per thousand bike/pedestrian miles traveled (BPMT)	1.3634	1.2299	1.1722	1.1161	1.2144	1.1259	1.0517
4	*Do the transportation investments help to improve the regional economy?*							
4A	Benefit/cost ratio of transportation investments	0.68 (preliminary, using 4% discount rate)						
4B	Average truck/commercial vehicle travel times to and around regional gateways and distribution hubs (minutes)	19	19	20	21	19	20	20
5	*Are the relative costs of transportation changing similarly for all communities?*							
5A	Change in the percent of income consumed by out-of-pocket transportation costs	N/A	1.1%	0.2%	-0.2%	1.2%	0.3%	-0.2%
6	*Are connections to neighboring counties, Mexico, tribal lands, and military bases/installations improved?*							
6A	Average travel times to/from tribal lands (minutes)	29	29	30	30	29	29	29
6B	Average travel times to/from Mexico (minutes)							
	San Ysidro	22	23	25	26	24	24	25
	Otay Mesa	25	25	23	21	26	25	24
	Otay Mesa East	N/A	22	22	22	19	20	21
	Tecate	54	54	55	55	53	54	53
6C	Average travel times to/from neighboring counties (Imperial, Orange, Riverside) (minutes)	53	53	54	56	53	54	54
6D	Average travel times to/from military bases/installations (minutes)	19	20	20	21	20	20	20
7	*Does the transportation network support smart growth?*							

Revenue Constrained Network Performance Measures

Number	Performance Measure	2016	2025 No Build	2035 No Build	2050 No Build	2025 Proposed Draft Network	2035 Proposed Draft Network	2050 Proposed Draft Network
7A-1	Percentage of population within 0.5 mile of a high frequency (<=15 min peak and midday) transit stop (communities of concern and non-communities of concern)	32%	36%	38%	39%	46%	52%	55%
7A-2	Percentage of employment within 0.5 mile of a high frequency (<=15 min peak and midday) transit stop	43%	46%	46%	44%	63%	66%	69%
7B-1	Percentage of population within 0.5 mile of a transit stop	67%	66%	67%	67%	68%	69%	70%
7B-2	Percentage of employment within 0.5 mile of a transit stop	82%	81%	81%	79%	85%	86%	85%
7C-1	Percentage of population within 0.25 mile of a bike facility (class I and II, cycletrack, and bike boulevard)	63%	64%	63%	63%	66%	68%	69%
7C-2	Percentage of employment within 0.25 mile of a bike facility (class I and II, cycletrack, and bike boulevard)	76%	77%	77%	77%	78%	79%	81%
7D	Average travel distance to work (drive alone, carpool, transit, bike, and walk) (miles)	11.4	11.1	11.1	11.2	11.2	11.2	11.3
	drive alone	11.8	11.6	11.7	11.8	11.6	11.7	11.8
	carpool	11.0	10.9	10.9	10.9	10.9	11.7	11.9
	transit	11.8	12.4	12.0	12.0	12.5	12.1	12.2
	bike	4.1	4.2	4.2	4.2	4.2	4.4	4.6
	walk	1.2	1.1	1.1	1.1	1.1	1.1	1.1
7E	Total time engaged in transportation-related physical activity per capita (minutes)	6	7	8	9	8	9	10
7F	Percent of population engaging in more than 20 minutes of daily transportation related physical activity	10.9%	12.3%	13.5%	14.3%	12.6%	14.4%	15.6%
8	*Is access to jobs and key destinations improving for all communities?*							
8A.	Percent of population within 30 minutes of jobs and higher education							
	Auto	100%	100%	100%	100%	100%	100%	100%
	Transit	81.5%	81.3%	81.3%	81.2%	83.6%	83.7%	84.1%
8B-1	Percent of population within 15 minutes of retail							
	Drive alone	99.6%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%
	Transit	57.5%	57.8%	58.6%	58.7%	58.8%	60.2%	61.1%
8B-2	Percent of population within 15 minutes of health care							
	Drive alone	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
	Transit	58.5%	58.7%	59.6%	59.8%	59.7%	61.1%	61.7%
8B-3	Percent of population within 15 minutes of parks							
	Drive alone	99.1%	99.1%	98.9%	98.8%	99.1%	98.9%	98.8%
	Transit	34.3%	34.9%	35.6%	36.2%	35.4%	37.1%	38.8%
8B-4	Percent of population within 15 minutes of beaches							
	Drive alone	39.2%	39.2%	36.3%	35.1%	39.6%	38.7%	35.6%
	Transit	3.8%	3.8%	3.9%	4.0%	3.9%	4.0%	4.2%
9	*Is the region's air quality improving?*							
9A	On-road smog-forming pollutants (pounds/day) per capita *	0.045	0.019	0.014	0.012	0.019	0.014	0.012
10	*Are GHG emissions reduced?*							
10A-1	Total on-road CO_2 emissions (tons/day)	43,623	34,440	31,410	32,877	34,351	31,192	32,711

Revenue Constrained Network Performance Measures

Number	Performance Measure	2016	2025 No Build	2035 No Build	2050 No Build	2025 Proposed Draft Network	2035 Proposed Draft Network	2050 Proposed Draft Network
10A-2	Total on-road CO_2 emissions (pounds/day) per capita	26.31	19.43	16.74	16.39	19.38	16.62	16.31

Social Equity Performance Measures: Revenue Constrained Network

	Performance Measure	2016	2025 No Build	2035 No Build	2050 No Build	2025 Proposed Draft Network	2035 Proposed Draft Network	2050 Proposed Draft Network
SE-1	*Average Peak Period Travel to Work*							
	All Modes Combined (minutes)							
	Low Income	24	25	25	25	25	26	26
	Non-Low Income	27	28	28	29	28	28	29
	Minority	27	27	28	28	27	28	28
	Non-Minority	26	26	27	28	26	27	28
	Auto, Drive Alone (minutes)							
	Low Income	22	21	21	22	21	21	21
	Non-Low Income	26	26	27	27	26	27	27
	Minority	25	25	26	26	25	26	25
	Non-Minority	25	25	26	27	25	26	26
	Auto, Carpool 2 (minutes)							
	Low Income	21	21	22	22	21	23	23
	Non-Low Income	24	24	24	25	24	25	25
	Minority	23	23	23	24	23	25	24
	Non-Minority	23	23	23	24	23	25	25
	Auto, Carpool 3 (minutes)							
	Low Income	22	21	22	22	21	21	21
	Non-Low Income	24	24	24	25	24	24	23
	Minority	23	23	24	24	23	23	23
	Non-Minority	23	24	24	24	23	23	23
	Transit (minutes)							
	Low Income	61	62	61	61	61	56	54
	Non-Low Income	64	63	61	62	62	56	55
	Minority	62	62	61	62	61	56	55
	Non-Minority	65	63	61	62	62	57	54
	Bike (minutes)							
	Low Income	18	19	19	19	19	19	20
	Non-Low Income	25	25	24	25	25	26	27
	Minority	21	23	23	23	23	24	25
	Non-Minority	22	21	20	22	21	22	24
	Walk (minutes)							
	Low Income	22	22	22	22	22	21	21
	Non-Low Income	25	23	22	22	22	22	22
	Minority	24	23	23	22	23	23	22
	Non-Minority	22	21	21	20	20	20	20
SE-2	*Change in percent of income consumed by out-of-pocket transportation costs*							
	Low Income		2.9%	1.8%	1.6%	3.0%	1.9%	1.7%
	Non-Low Income		0.6%	0.1%	0.0%	0.6%	0.1%	0.0%
	Minority		1.1%	0.0%	-0.6%	1.2%	0.0%	-0.6%
	Non-Minority		1.0%	0.3%	0.1%	1.0%	0.3%	0.0%
	Senior		0.7%	0.0%	-0.2%	0.7%	0.0%	-0.2%
	Non-Senior		1.3%	0.5%	0.1%	1.3%	0.5%	0.1%
SE-3	*Percentage of population within 0.5 mile of high frequency transit stops*							
	Low Income	41%	46%	48%	49%	57%	62%	64%
	Non-Low Income	27%	32%	34%	36%	42%	48%	51%
	Minority	39%	42%	43%	44%	53%	58%	60%
	Non-Minority	24%	29%	31%	33%	38%	44%	46%
	Senior	29%	32%	35%	38%	42%	48%	53%
	Non-Senior	32%	37%	38%	40%	47%	53%	55%
SE-4	*Percentage of population within 0.5 mile of transit stops*							
	Low Income	77%	77%	77%	77%	77%	78%	78%
	Non-Low Income	62%	62%	63%	64%	64%	65%	67%
	Minority	72%	71%	71%	71%	72%	73%	74%

Social Equity Performance Measures: Revenue Constrained Network

	Performance Measure	2016	2025 No Build	2035 No Build	2050 No Build	2025 Proposed Draft Network	2035 Proposed Draft Network	2050 Proposed Draft Network
	Non-Minority	61%	61%	61%	62%	62%	63%	64%
	Senior	64%	63%	64%	66%	64%	66%	68%
	Non-Senior	67%	67%	67%	67%	68%	69%	70%
SE-5	*Percentage of population within 0.25 mile of a bike facility*							
	Low Income	60%	62%	62%	62%	65%	68%	69%
	Non-Low Income	64%	65%	64%	63%	66%	68%	69%
	Minority	63%	64%	63%	63%	67%	68%	70%
	Non-Minority	63%	64%	63%	63%	65%	66%	68%
	Senior	62%	64%	64%	64%	65%	68%	70%
	Non-Senior	63%	64%	63%	63%	66%	68%	69%
SE-6	*Percentage of population within 30 minutes of jobs/higher education (auto/transit)*							
	Auto							
	Low Income	100%	100%	100%	100%	100%	100%	100%
	Non-Low Income	100%	100%	100%	100%	100%	100%	100%
	Minority	100%	100%	100%	100%	100%	100%	100%
	Non-Minority	100%	100%	100%	100%	100%	100%	100%
	Senior	100%	100%	100%	100%	100%	100%	100%
	Non-Senior	100%	100%	100%	100%	100%	100%	100%
	Transit							
	Low Income	87.5%	87.6%	87.4%	87.2%	88.4%	88.3%	88.4%
	Non-Low Income	78.9%	78.7%	79.1%	79.2%	81.6%	82.0%	82.6%
	Minority	85.7%	84.8%	84.5%	84.1%	86.9%	86.8%	87.1%
	Non-Minority	77.4%	77.3%	77.3%	77.2%	79.8%	79.7%	79.7%
	Senior	79.9%	78.8%	79.2%	80.3%	81.0%	81.7%	83.3%
	Non-Senior	81.6%	81.6%	81.7%	81.5%	83.9%	84.1%	84.2%
SE-7	*Percentage of population within 15 minutes of retail (auto/transit)*							
	Auto							
	Low Income	99.5%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%
	Non-Low Income	99.7%	99.8%	99.7%	99.7%	99.8%	99.7%	99.7%
	Minority	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
	Non-Minority	99.5%	99.7%	99.6%	99.6%	99.7%	99.6%	99.6%
	Senior	99.5%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%
	Non-Senior	99.6%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%
	Transit							
	Low Income	67.7%	68.0%	68.7%	68.9%	68.5%	69.3%	70.1%
	Non-Low Income	52.7%	53.2%	54.5%	55.0%	54.4%	56.5%	57.8%
	Minority	63.5%	62.8%	63.0%	62.5%	63.7%	64.9%	65.2%
	Non-Minority	50.5%	51.4%	52.6%	53.2%	52.5%	53.8%	54.9%
	Senior	54.3%	53.9%	55.6%	57.5%	55.0%	57.2%	59.8%
	Non-Senior	57.7%	58.1%	59.0%	58.9%	59.1%	60.6%	61.3%
SE-8	*Percentage of population within 15 minutes of healthcare (auto/transit)*							
	Auto							
	Low Income	99.7%	99.7%	99.8%	99.8%	99.7%	99.8%	99.8%
	Non-Low Income	99.8%	99.9%	99.8%	99.8%	99.9%	99.8%	99.9%
	Minority	99.8%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
	Non-Minority	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
	Senior	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
	Non-Senior	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
	Transit							
	Low Income	68.4%	69.0%	69.7%	69.9%	69.4%	70.2%	70.8%
	Non-Low Income	53.9%	54.2%	55.5%	56.0%	55.3%	57.4%	58.3%
	Minority	64.9%	64.1%	64.2%	63.7%	64.9%	66.0%	65.9%
	Non-Minority	51.1%	51.9%	53.4%	53.9%	53.0%	54.6%	55.4%
	Senior	55.5%	54.7%	56.5%	58.5%	55.7%	58.1%	60.5%

Social Equity Performance Measures: Revenue Constrained Network

	Performance Measure	2016	2025 No Build	2035 No Build	2050 No Build	2025 Proposed Draft Network	2035 Proposed Draft Network	2050 Proposed Draft Network
	Non-Senior	58.7%	59.1%	60.0%	60.0%	60.0%	61.5%	61.9%
SE-9	*Percentage of population within 15 minutes of active park (auto/transit)*							
	Auto							
	Low Income	98.9%	98.9%	98.7%	98.6%	98.9%	98.7%	98.6%
	Non-Low Income	99.2%	99.2%	98.9%	98.9%	99.2%	98.9%	98.9%
	Minority	99.3%	99.3%	99.1%	99.0%	99.3%	99.1%	99.0%
	Non-Minority	98.8%	98.8%	98.5%	98.5%	98.8%	98.5%	98.5%
	Senior	98.9%	98.9%	98.7%	98.8%	98.9%	98.7%	98.8%
	Non-Senior	99.1%	99.1%	98.9%	98.8%	99.1%	98.9%	98.8%
	Transit							
	Low Income	40.5%	41.5%	42.2%	43.1%	41.7%	43.3%	45.8%
	Non-Low Income	31.3%	31.9%	32.9%	33.7%	32.5%	34.6%	36.2%
	Minority	39.4%	39.4%	39.5%	39.6%	39.7%	40.9%	42.1%
	Non-Minority	28.3%	29.1%	30.4%	31.2%	29.9%	31.9%	33.8%
	Senior	31.9%	32.4%	33.9%	36.0%	32.9%	35.4%	38.1%
	Non-Senior	34.4%	35.1%	35.8%	36.3%	35.6%	37.3%	38.9%
SE-10	*Percentage of population within 15 minutes of active beach (auto/transit)*							
	Auto							
	Low Income	42.4%	42.6%	39.5%	38.0%	43.0%	42.6%	38.7%
	Non-Low Income	37.7%	37.7%	35.0%	34.0%	38.0%	37.2%	34.5%
	Minority	36.9%	36.5%	33.4%	32.1%	37.1%	36.3%	32.8%
	Non-Minority	41.9%	42.5%	40.3%	39.5%	42.7%	42.0%	39.8%
	Senior	39.1%	38.9%	37.3%	36.1%	39.2%	39.4%	36.6%
	Non-Senior	39.2%	39.2%	36.2%	34.9%	39.6%	38.6%	35.4%
	Transit							
	Low Income	3.0%	3.1%	3.2%	3.2%	3.2%	3.2%	3.3%
	Non-Low Income	4.1%	4.1%	4.2%	4.4%	4.2%	4.3%	4.6%
	Minority	2.3%	2.5%	2.7%	2.9%	2.6%	2.7%	3.0%
	Non-Minority	5.5%	5.4%	5.6%	5.8%	5.6%	5.7%	6.1%
	Senior	4.2%	4.4%	4.6%	4.6%	4.5%	4.7%	4.8%
	Non-Senior	3.7%	3.8%	3.9%	4.0%	3.9%	3.9%	4.1%
SE-11	*Average Particulate Matter (PM) Exposure*							
	PM_{10}							
	Low Income	12.91	12.88	14.44	15.81	12.85	14.30	15.56
	Non-Low Income	11.79	11.63	12.98	14.21	11.60	12.82	13.93
	Minority	12.97	12.70	14.09	15.37	12.67	13.93	15.08
	Non-Minority	11.19	11.14	12.46	13.57	11.12	12.33	13.32
	Senior	11.62	11.50	13.12	14.66	11.47	12.97	14.37
	Non-Senior	12.18	12.06	13.44	14.64	12.03	13.28	14.37
	$PM_{2.5}$							
	Low Income	6.04	5.45	5.94	6.44	5.43	5.88	6.34
	Non-Low Income	5.52	4.91	5.34	5.79	4.90	5.27	5.67
	Minority	6.06	5.37	5.80	6.26	5.35	5.73	6.14
	Non-Minority	5.25	4.71	5.13	5.53	4.70	5.07	5.43
	Senior	5.44	4.86	5.40	5.97	4.85	5.34	5.86
	Non-Senior	5.70	5.10	5.53	5.96	5.08	5.47	5.85

Summary of Findings from Social Equity Analysis
(Check indicates no disparity found)

Social Equity Performance Measures	Low-Income	Minority	Seniors
Average Peak Period Travel to Work – all modes	✓	✓	N/A
Change in percent of income consumed by out-of-pocket transportation costs	✓	✓	✓
Percentage of population within 0.5 mile of high frequency transit stops	✓	✓	✓
Percentage of population within 0.5 mile of transit stops	✓	✓	✓
Percentage of population within 0.25 mile of a bike facility	✓	✓	✓
Percentage of population within 30 minutes of jobs/higher education (auto/transit)	✓	✓	✓
Percentage of population within 15 minutes of goods/services (auto/transit):			
Access to Retail	✓	✓	✓
Access to Healthcare	✓	✓	✓
Access to Active Parks	✓	✓	✓
Access to Beaches	✓	✓	✓
Exposure to PM_{10}	✓	✓	✓
Additional Performance Measure with Social Equity Analysis	**Low-Income**	**Minority**	**Seniors**
Exposure to $PM_{2.5}$	✓	✓	✓

✓ = No Disparate Impact or Disproportionate Effect