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 www.sandag.org

November 15, 2013

File Number 1500000

Mr. Andre Boutros
 Executive Director
 California Transportation Commission
 1120 N Street, Mail Stop 52
 Sacramento, CA 95814

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- Chula Vista
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- San Diego County Water Authority
- Southern California Tribal Chairmen's Association
- Mexico

Dear Mr. Boutros:

SUBJECT: San Diego Association of Governments 2014 State Transportation Improvement Program Submittal

On behalf of the San Diego Association of Governments (SANDAG), I am pleased to submit the 2014 State Transportation Improvement Program (STIP) programming proposal to the California Transportation Commission (CTC). As in previous STIP proposals, the region continues to focus on finishing existing *TransNet* Early Action Program Projects. At its November 2013, meeting, the SANDAG Board of Directors approved to submit the set of projects included in this package. A summary of the proposed projects and programs is included in Attachment 1.

The proposed STIP includes continuation of currently programmed STIP projects, including the three elements of the Interstate 5 North Corridor Project (PPNO 0615A), which includes construction of High Occupancy Vehicle lanes, bridge replacements, and soundwalls from Manchester Avenue to State Route 78. This project continues to be a very high priority project for regional and interregional travel. The proposed programming of approximately \$212.1 million in STIP funds would leverage approximately \$249.7 million in regional federal formula and *TransNet* sales tax funds. It should be noted that the project is proposed to be implemented using the Construction Manager/General Contractor (CM/GC) method. As you know, this may require more comprehensive coordination with the CTC, potentially including program amendments to reflect the CM/GC-proposed phasing of various elements in the corridor, which are proposed to be programmed as part of this submittal. SANDAG looks forward to working closely with the CTC to manage the funding and programming.

Additionally, SANDAG proposes to fund a Regional Bike Project, the Inland Rail Trail from the previous Transportation Enhancement funding now converted to regular STIP. The SANDAG Board of Directors took a major action toward reducing emissions and increasing mode choice for the region by approving the *TransNet* Bike Early Action Program, which would fund projects to develop a regional bike network. The Inland Rail Trail is one of the largest bike projects in the region.

The proposed 2014 STIP totals \$236 million, which assumes some advance of STIP shares beyond the horizon of the current STIP. The SANDAG Board of Directors continues to aggressively move forward with regionally significant projects that would relieve congestion, maintain job growth, and improve overall mobility. The STIP is an integral part of ensuring the implementation of important projects. We appreciate the CTC's partnership in helping the region achieve its mobility goals.

Attached to this letter are the project programming requests for the proposed STIP projects. Also attached are the performance indicators and measures information, in compliance with Appendix B of the August 6, 2013, approved guidelines, together with other supporting regional performance measure information.

We look forward to working with the CTC as it evaluates this, and other proposals to develop the statewide STIP. You may contact me at (619) 699-1990, or Sookyung Kim of my staff at (619) 699-6909 or sookyoung.kim@sandag.org, if you need additional information.

Sincerely,


GARY L. GALLEGOS
Executive Director

GGA/SKI/bga

- Attachments:
1. SANDAG 2014 STIP Summary
 2. Project Programming Requests
 3. Table A Performance Measures
 4. SANDAG 2050 Regional Transportation Plan (RTP): Chapter 2 – 2030 RTP Vision
 5. SANDAG 2050 RTP: Table TA 4.1 – 2050 RTP Performance Measures
 6. SANDAG 2050 RTP: Technical Appendix 7 – Transportation Evaluation Criteria and Rankings

ec: Laurie Berman, Caltrans District 11 – 1 copy
Rachel Falsetti, Caltrans HQ Programming

SANDAG 2014 STIP Proposal (in \$000s)

PPNO	Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
615A	I-5 HOV		69,000				69,000
615B	I-5 Soundwalls		36,000				36,000
615C	I-5 San Elijo Bridge		107,112				107,112
7402	Planning and Program Monitoring	854	854	1,105	1,105	1,105	5,023
7421	Inland Rail Trail	18,437					18,437
	Total	19,291	212,966	1,105	1,105	1,105	235,572

Current 2012 STIP (from Orange Book) as amended

PPNO	Project	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
615A	I-5 HOV			107,112			107,112
615B	I-5 Soundwalls					15,000	15,000
615C	I-5 San Elijo Bridge					30,000	30,000
7402	Planning and Program Monitoring	854	854	854	854	1,294	4,710
7421x	Sweetwater Bikeway - Plaza Bonita Segment	1,224					1,224
7421	TE Reserve			8,454	9,983		18,437
	Total	2,078	854	116,420	10,837	46,294	176,483

Attachment 2

San Diego Association of Governments
2014 State Transportation Improvement Program
Project Programming Request Forms

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

General Instructions

<input type="checkbox"/> New Project		<input checked="" type="checkbox"/> Amendment (Existing Project)			Date:	07/26/13
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
11	2T171	1100000758	0615A	CAL09		
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SD	5	40.2	51.2	Caltrans		
				MPO	Element	
				SANDAG	CO	
Project Mgr/Contact		Phone		E-mail Address		
Arturo Jacobo		(619)688-6816		arturo.jacobo@dot.ca.gov		
Project Title						
Route 5 HOV Extension						
Location, Project Limits, Description, Scope of Work, Legislative Description						
Construction on State Highway in San Diego County in Solana Beach, Encinitas from 0.6 m south of Manchester Ave undercrossing to SR-78 overcrossing. Construct HOV lanes, Replace batiquitos lagoon bridge, replace Mackinnon Ave OC. Construction of NC Bike Trail.						
Component	Implementing Agency				Reimbursements	
PA&ED	Caltrans					
PS&E	Caltrans					
Right of Way	Caltrans					
Construction	Caltrans					
Legislative Districts						
Assembly:	73, 74, 75		Senate:	38, 39		
Congressional:	49, 50					
Purpose and Need						
Freeway is operating at capacity, including weekends, and is breaking down during peak periods. The ADT has increased by 500% since 1970. Traffic forecasting indicates that the ADT will increase by an additional 40% by 2030. Reduce current and future traffic congestion on I-5 in the northern San Diego area. Provide HOV lanes to enhance mobility for carpoolers and buses. Minimize environmental impacts. The environmental schedule reflected in this PPR is for several projects in the corridor. The Design and Construction Schedule in the PPR is for stage 2 of the I-5 North Coast Corridor Phase 1 (HOV extension).						
Project Benefits						
11 miles of HOV lanes added. Segment of NC Bike Trail constructed.						
Project Milestone					Existing	Proposed
Project Study Report Approved						
Begin Environmental (PA&ED) Phase					03/01/11	03/01/01
Circulate Draft Environmental Document			Document Type	06/28/10	06/28/10	
Draft Project Report					02/23/09	02/23/09
End Environmental Phase (PA&ED Milestone)					12/26/12	08/30/14
Begin Design (PS&E) Phase					02/21/10	12/01/09
End Design Phase (Ready to List for Advertisement Milestone)					09/22/13	09/22/15
Begin Right of Way Phase					01/01/13	08/30/14
End Right of Way Phase (Right of Way Certification Milestone)					08/01/13	07/30/15
Begin Construction Phase (Contract Award Milestone)					05/01/14	03/30/16
End Construction Phase (Construction Contract Acceptance Milestone)					05/01/16	09/30/20
Begin Closeout Phase					05/15/16	03/30/20
End Closeout Phase (Closeout Report)					07/15/16	07/30/21

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD	5	2T171	1100000758	0615A	
Project Title: Route 5 HOV Extension						

Existing Total Project Cost									Implementing Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									Caltrans
PS&E	18,825							18,825	Caltrans
R/W SUP (CT)	502							502	
CON SUP (CT)	31,150							31,150	
R/W	502							502	Caltrans
CON	89,871	107,112						196,983	Caltrans
TOTAL	140,850	107,112						247,962	
Proposed Total Project Cost									
E&P (PA&ED)									
PS&E	27,000							27,000	
R/W SUP (CT)		7,000						7,000	
CON SUP (CT)			31,000					31,000	
R/W		10,000						10,000	
CON			136,000					136,000	
TOTAL	27,000	17,000	167,000					211,000	

Fund No. 1:	RIP - National Hwy System (NH)								Program Code
Existing Funding									20.XX.075.600
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									San Diego Association of Governm
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		107,112						107,112	
TOTAL		107,112						107,112	
Proposed Funding									
E&P (PA&ED)									0615A part of pilot CMGC project.
PS&E									
R/W SUP (CT)									
CON SUP (CT)			16,000					16,000	
R/W									
CON			53,000					53,000	
TOTAL			69,000					69,000	

Fund No. 2:	RSTP - STP Local (STPL)								Program Code
Existing Funding									20.30.010.810
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									SANDAG
PS&E	878							878	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	878							878	
Proposed Funding									
E&P (PA&ED)									SANDAG
PS&E									
R/W SUP (CT)									
CON SUP (CT)			6,000					6,000	
R/W									
CON			30,000					30,000	
TOTAL			36,000					36,000	

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD	5	2T171	1100000758	0615A	
Project Title: Route 5 HOV Extension						

Fund No. 3: Local Funds - TRANSNET (XSD)									Program Code
Existing Funding									20.10.400.100
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E	17,947							17,947	
R/W SUP (CT)	502							502	
CON SUP (CT)	31,150							31,150	
R/W	502							502	
CON	89,871							89,871	
TOTAL	139,972							139,972	
Proposed Funding									Notes
E&P (PA&ED)									SANDAG
PS&E	23,000							23,000	
R/W SUP (CT)		6,700						6,700	
CON SUP (CT)									
R/W		10,000						10,000	
CON			28,000					28,000	
TOTAL	23,000	16,700	28,000					67,700	

Fund No. 4: CMAQ									Program Code
Existing Funding									20.10.400.210
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									SANDAG
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding									Notes
E&P (PA&ED)									TOLL CREDIT MATCH
PS&E									
R/W SUP (CT)									
CON SUP (CT)			5,000					5,000	
R/W									
CON			25,000					25,000	
TOTAL			30,000					30,000	

Fund No. 5: Local Funds - TRANSNET (XSD)									Program Code
Existing Funding									20.10.400.100
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									SANDAG
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding									Notes
E&P (PA&ED)									TRANSNET Support to be spent by SANDAG
PS&E	4,000							4,000	
R/W SUP (CT)		300						300	
CON SUP (CT)			4,000					4,000	
R/W									
CON									
TOTAL	4,000	300	4,000					8,300	

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Complete this page for amendments only

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP
11	SD	5	2T171	1100000758	0615A	

SECTION 1 - All Projects**Project Background**

Currently programmed in the 2012 STIP

Programming Change Requested

Carry-over and programming update.

Reason for Proposed Change

2014 STIP cycle update of project delivery costs and schedule. 0615x projects are part of the I-5 North Coast Corridor Phase 1 CMGC pilot project. Project will likely be split into multiple construction projects and updates will be provided in future STIP amendments. Updated splits will be provided in future amendments after CMGC contractor is on board. The region desires to maximize STIP funding on Con Cap and Con Sup. Local dollars will be used to fill gaps in available funding if necessary.

If proposed change will delay one or more components, clearly explain 1) reason the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

The proposed change in schedule is "swapping" construction dates with 0615C. Over-all program for 0615x is not being delayed.

Other Significant Information**SECTION 2 - For TCRP Projects Only**

- Alternative Project Request (Please follow Instructions at <http://www.dot.ca.gov/tcrp/LETTERguidelines>)
 Letter of No Prejudice (LONP) (Please follow Guidelines at <http://www.dot.ca.gov/tcrp/docs/042706.pdf>)

SECTION 3 - All Projects**Approvals**

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.*

Name (Print or Type)	Signature	Title	Date

Attachments

- 1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
- 2) Project Location Map

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

General Instructions

<input type="checkbox"/> New Project		<input checked="" type="checkbox"/> Amendment (Existing Project)			Date:	07/26/13
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
11	2T170	1100000757	0615B	CAL09		
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SD	5	R34.1	R51.2	Caltrans		
				MPO	Element	
				SANDAG	CO	
Project Mgr/Contact		Phone		E-mail Address		
Arturo Jacobo		(619)688-6816		arturo_jacobo@dot.ca.gov		
Project Title						
Soundwalls, Manchester Avenue to Route 78						
Location, Project Limits, Description, Scope of Work, Legislative Description						
In the Cities of Solana Beach, Encinitas, Carlsbad and Oceanside, from Manchester Avenue overcrossing to north of SR-78 interchange. Construct soundwalls.						
Component	Implementing Agency				Reimbursements	
PA&ED	Caltrans					
PS&E	Caltrans					
Right of Way	Caltrans					
Construction	Caltrans					
Legislative Districts						
Assembly:	73, 74, 75		Senate:	38, 39		
Congressional:	49, 50					
Purpose and Need						
Parent EA 11-23580 (PPNO 0615) purpose and need is to maintain or improve the existing and future traffic operations in the I-5 north coast corridor and to provide for the safe and efficient regional movement of people and goods for the design year of 2030. This project proposed to build a portion of the soundwalls recommended as mitigation for the parent project. The PA&ED schedule is for several projects in the corridor under PPNO 0615 and the funding is listed separately under PPNO 0615.						
Project Benefits						
Project Milestone				Existing	Proposed	
Project Study Report Approved						
Begin Environmental (PA&ED) Phase				//	03/01/01	
Circulate Draft Environmental Document			Document Type	//	06/28/10	
Draft Project Report				//	02/23/09	
End Environmental Phase (PA&ED Milestone)				//	08/30/14	
Begin Design (PS&E) Phase				//	01/03/11	
End Design Phase (Ready to List for Advertisement Milestone)				//	09/22/15	
Begin Right of Way Phase				//	08/30/14	
End Right of Way Phase (Right of Way Certification Milestone)				//	07/30/15	
Begin Construction Phase (Contract Award Milestone)				//	03/30/16	
End Construction Phase (Construction Contract Acceptance Milestone)				//	09/30/20	
Begin Closeout Phase				//	03/30/20	
End Closeout Phase (Closeout Report)				//	07/30/21	

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PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD	5	2T170	1100000757	0615B	
Project Title: Soundwalls, Manchester Avenue to Route 78						

Existing Total Project Cost									Implementing Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									Caltrans
PS&E	12,911							12,911	Caltrans
R/W SUP (CT)	2,005							2,005	
CON SUP (CT)				4,500				4,500	
R/W	5,025							5,025	Caltrans
CON				30,000				30,000	Caltrans
TOTAL	19,941			34,500				54,441	
Proposed Total Project Cost									
E&P (PA&ED)									
PS&E	10,690							10,690	
R/W SUP (CT)		2,000						2,000	
CON SUP (CT)			7,800					7,800	
R/W		5,025						5,025	
CON			33,200					33,200	
TOTAL	10,690	7,025	41,000					58,715	

Fund No. 1:	RIP - National Hwy System (NH)								Program Code
Existing Funding									20.XX.075.600
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									San Diego Association of Governm
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON				15,000				15,000	
TOTAL				15,000				15,000	
Proposed Funding									
E&P (PA&ED)									0615B part of pilot CMGC project.
PS&E									
R/W SUP (CT)									
CON SUP (CT)			5,800					5,800	
R/W									
CON			30,200					30,200	
TOTAL			36,000					36,000	

Fund No. 2:	RSTP - STP Local (STPL)								Program Code
Existing Funding									20.30.010.810
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									SANDAG
PS&E	1,193							1,193	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	1,193							1,193	
Proposed Funding									Notes
E&P (PA&ED)									SANDAG
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD	5	2T170	1100000757	0615B	
Project Title: Soundwalls, Manchester Avenue to Route 78						

Fund No. 3: Local Funds - Local Transportation Funds (LTF)									Program Code
Existing Funding									20.10.400.100
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E	11,718							11,718	
R/W SUP (CT)	2,005							2,005	
CON SUP (CT)				4,500				4,500	
R/W	5,025							5,025	
CON				15,000				15,000	
TOTAL	18,748			19,500				38,248	
Proposed Funding									Notes
E&P (PA&ED)									SANDAG TNET ON CON CAP RESERVED FOR NON- PARTICIPATING ITEMS
PS&E	4,093							4,093	
R/W SUP (CT)		1,800						1,800	
CON SUP (CT)									
R/W		5,025						5,025	
CON				3,000				3,000	
TOTAL	4,093	6,825	3,000					13,918	

Fund No. 4: CMAQ									Program Code
Existing Funding									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 5: Local Funds - Local Transportation Funds (LTF)									Program Code
Existing Funding									20.10.400.100
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									SANDAG
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding									Notes
E&P (PA&ED)									TRANSNET Support to be spent by SANDAG
PS&E	6,597							6,597	
R/W SUP (CT)		200						200	
CON SUP (CT)			2,000					2,000	
R/W									
CON									
TOTAL	6,597	200	2,000					8,797	

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Complete this page for amendments only

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP
11	SD	5	2T170	1100000757	0615B	

SECTION 1 - All Projects**Project Background**

Currently programmed in 2012 STIP

Programming Change Requested

Carry-over and programming update.

Reason for Proposed Change

2014 STIP cycle update of project delivery costs and schedule. 0615x projects are part of the I-5 North Coast Corridor Phase 1 CMGC pilot project. Project will likely be split into multiple construction projects and updates will be provided in future STIP amendments. Updated splits will be provided in future amendments after CMGC contractor is on board. The region desires to maximize STIP funding on Con Cap and Con Sup. Local dollars will be used to fill gaps in available funding if necessary.

If proposed change will delay one or more components, clearly explain 1) reason the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

0615B part of pilot CMGC project. Updates will be provided in future STIP amendments. The region desires to maximize STIP funding on Con Cap and Con Sup. Local dollars will be used to fill gaps in available funding if necessary.

SECTION 2 - For TCRP Projects Only

- Alternative Project Request (Please follow Instructions at <http://www.dot.ca.gov/tcrp/LETTERguidelines>)
- Letter of No Prejudice (LONP) (Please follow Guidelines at <http://www.dot.ca.gov/tcrp/docs/042706.pdf>)

SECTION 3 - All Projects**Approvals**

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.*

Name (Print or Type)	Signature	Title	Date

Attachments

- 1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
- 2) Project Location Map

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

General Instructions

<input type="checkbox"/> New Project		<input checked="" type="checkbox"/> Amendment (Existing Project)			Date:	07/26/13
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
11	2T172	1100020362	0615C	CAL09		
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SD	5	R37.4	R40.6	Caltrans		
				MPO	Element	
				SANDAG	CO	
Project Mgr/Contact		Phone		E-mail Address		
Arturo Jacobo		(619)688-6816		arturo_jacobo@dot.ca.ov		
Project Title						
Route 5 HOV Extension - Stage 1, San Elijo Lagoon Bridge Replacement						
Location, Project Limits, Description, Scope of Work, Legislative Description						
In the Cities of Solana Beach and Encinitas from Lomas Santa Fe Dr. to Santa Fe Dr. Replace San Elijo Lagoon Bridge, including retaining walls; construct DAR and park 'n ride; reconstruction of interchange and HOV extension. Construction of NC Bike Trail.						
Component	Implementing Agency				Reimbursements	
PA&ED	Caltrans					
PS&E	Caltrans					
Right of Way	Caltrans					
Construction	Caltrans					
Legislative Districts						
Assembly:	74		Senate:	38		
Congressional:	50					
Purpose and Need						
Parent EA 11-23580 (PPNO 0615) purpose and need is to maintain or improve the existing and future traffic operations in the I-5 north coast corridor and to provide for the safe and efficient regional movement of people and goods for the design year of 2030. This project proposed to replace San Elijo Bridge as part of the work required under parent. The PA&ED schedule is for several projects in the corridor under PPNO 0615 and the funding is listed separately under PPNO 0615. The Design and Construction schedule and funding in this PPR is for the construction San Elijo Bridge including retaining walls and reconstruction of the interchange.						
Project Benefits						
3.2 miles of HOV lanes added. DAR and park 'n ride added. Segment of NC Bike Trail constructed.						
Project Milestone				Existing	Proposed	
Project Study Report Approved						
Begin Environmental (PA&ED) Phase				//	03/01/01	
Circulate Draft Environmental Document			Document Type	//	06/28/10	
Draft Project Report				//	02/23/09	
End Environmental Phase (PA&ED Milestone)				//	08/30/14	
Begin Design (PS&E) Phase				//	12/01/09	
End Design Phase (Ready to List for Advertisement Milestone)				//	05/01/15	
Begin Right of Way Phase				//	08/30/13	
End Right of Way Phase (Right of Way Certification Milestone)				//	01/01/15	
Begin Construction Phase (Contract Award Milestone)				//	11/01/15	
End Construction Phase (Construction Contract Acceptance Milestone)				//	10/01/19	
Begin Closeout Phase				//	04/01/20	
End Closeout Phase (Closeout Report)				//	10/01/20	

ADA Notice

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PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD	5	2T172	1100020362	0615C	
Project Title: Route 5 HOV Extension - Stage 1, San Elijo Lagoon Bridge Replacement						

Existing Total Project Cost									Implementing Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									Caltrans
PS&E	15,016							15,016	Caltrans
R/W SUP (CT)	506							506	
CON SUP (CT)				21,850				21,850	
R/W	3,045							3,045	Caltrans
CON				139,000				139,000	Caltrans
TOTAL	18,567			160,850				179,417	
Proposed Total Project Cost									
E&P (PA&ED)									
PS&E	15,600							15,600	
R/W SUP (CT)	6,500							6,500	
CON SUP (CT)			30,000					30,000	
R/W	10,000							10,000	
CON			130,112					130,112	
TOTAL	32,100		160,112					192,212	

Fund No. 1:	RIP - National Hwy System (NH)								Program Code
Existing Funding									20.XX.075.600
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									San Diego Association of Governm
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON				30,000				30,000	
TOTAL				30,000				30,000	
Proposed Funding									
E&P (PA&ED)									0615C part of pilot CMGC project.
PS&E									
R/W SUP (CT)									
CON SUP (CT)			18,000					18,000	
R/W									
CON			89,112					89,112	
TOTAL			107,112					107,112	

Fund No. 2:	RSTP - STP Local (STPL)								Program Code
Existing Funding									20.30.010.810
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E	1,947							1,947	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	1,947							1,947	
Proposed Funding									
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD	5	2T172	1100020362	0615C	
Project Title: Route 5 HOV Extension - Stage 1, San Elijo Lagoon Bridge Replacement						

Fund No. 3:		Local Funds - Local Transportation Funds (LTF)							Program Code	
Existing Funding									20.10.400.100	
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency	
E&P (PA&ED)										
PS&E	13,069							13,069		
R/W SUP (CT)	506							506		
CON SUP (CT)				21,850				21,850		
R/W	3,045							3,045		
CON				109,000				109,000		
TOTAL	16,620			130,850				147,470		
Proposed Funding									Notes	
E&P (PA&ED)									\$13M in Con Cap reserved for non-participating items	
PS&E	12,100							12,100		
R/W SUP (CT)	6,000							6,000		
CON SUP (CT)										
R/W	10,000							10,000		
CON				13,000				13,000		
TOTAL	28,100			13,000				41,100		

Fund No. 4:		CMAQ							Program Code	
Existing Funding									20.20.400.210	
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency	
E&P (PA&ED)										
PS&E										
R/W SUP (CT)										
CON SUP (CT)										
R/W										
CON										
TOTAL										
Proposed Funding									Notes	
E&P (PA&ED)									\$18M to be AC with local TNET TO BE MATCHED WITH TOLL CREDITS	
PS&E										
R/W SUP (CT)										
CON SUP (CT)				8,000				8,000		
R/W										
CON				28,000				28,000		
TOTAL				36,000				36,000		

Fund No. 5:		Local Funds - Local Transportation Funds (LTF)							Program Code	
Existing Funding									20.10.400.100	
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency	
E&P (PA&ED)									SANDAG	
PS&E										
R/W SUP (CT)										
CON SUP (CT)										
R/W										
CON										
TOTAL										
Proposed Funding									Notes	
E&P (PA&ED)									TRANSNET Support to be spent by SANDAG	
PS&E	3,500							3,500		
R/W SUP (CT)	500							500		
CON SUP (CT)				4,000				4,000		
R/W										
CON										
TOTAL	4,000			4,000				8,000		

PROJECT PROGRAMMING REQUEST

DTP-0001 (REV. 6/11)

Complete this page for amendments only

Date: 07/26/13

District	County	Route	EA	Project ID	PPNO	TCRP
11	SD	5	2T172	1100020362	0615C	

SECTION 1 - All Projects**Project Background**

Currently programmed in 2012 STIP

Programming Change Requested

Carry-over and programming update

Reason for Proposed Change

2014 STIP cycle update of project delivery costs and schedule

If proposed change will delay one or more components, clearly explain 1) reason the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

0615C part of pilot CMGC project. Project will likely be split into multiple construction projects. Updates will be provided in future STIP amendments. The region desires to maximize STIP funding on Con Cap and Con Sup. Local dollars will be used to fill gaps in available funding if necessary.

SECTION 2 - For TCRP Projects Only

- Alternative Project Request (Please follow Instructions at <http://www.dot.ca.gov/tcrp/LETTERguidelines>)
- Letter of No Prejudice (LONP) (Please follow Guidelines at <http://www.dot.ca.gov/tcrp/docs/042706.pdf>)

SECTION 3 - All Projects**Approvals**

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.*

Name (Print or Type)	Signature	Title	Date

Attachments

- 1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
- 2) Project Location Map



PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised September 2013)

General Instructions

<input checked="" type="checkbox"/> Amendment (Existing Project)					Date:	10/25/13
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
11		1100020479	7421W	SAN153		
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SD				San Diego Association of Governments (SANDAG)		
				MPO	Element	
				SANDAG	LA	
Project Manager/Contact		Phone		E-mail Address		
Emilio Rodriguez		(619)699-6984		erod@sandag.org		
Project Title						
Inland Rail Trail Phases - IIA, IIB, IIIA, IIIB						
Location, Project Limits, Description, Scope of Work						
In the City of Vista, County of San Diego and City of San Marcos along the Sprinter Rail alignment from Melrose Drive to N. Pacific Street. Construct Class 1 Bike Path.						
<input checked="" type="checkbox"/> Includes ADA Improvements <input checked="" type="checkbox"/> Includes Bike/Ped Improvements						
Component	Implementing Agency					
PA&ED	San Diego Association of Governments (SANDAG)					
PS&E	San Diego Association of Governments (SANDAG)					
Right of Way	San Diego Association of Governments (SANDAG)					
Construction	San Diego Association of Governments (SANDAG)					
Purpose and Need						
Inland Rail Trail Phases IIA, IIB, IIIA, and IIIB is a planned Class 1 bike path and will provide a safe and scenic route in north San Diego County with connections to other inner-city bike routes, Regional Class 1 Bike Paths, transit stations for extension of commute trips, a variety of businesses, residential communities, schools and recreational destinations within the proposed alignment. The use of this proposed project will attract both experienced and less experienced cyclists.						
Project Benefits						
The Project benefits provide more users the opportunity for exercise, recreation, and the ability to enjoy the views of north SD County providing access to recreational, residential, and business destinations on a safe facility separated from vehicular traffic; the Project has potential for attracting commuting cyclists and increase the number of people who ride to work or school and reduce overall greenhouse gas emissions.						
<input type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals <input checked="" type="checkbox"/> Reduces Greenhouse Gas Emissions						
Project Milestone					Existing	Proposed
Project Study Report Approved						
Begin Environmental (PA&ED) Phase					06/01/11	
Circulate Draft Environmental Document			Document Type	03/01/12	05/28/13	
Draft Project Report						
End Environmental Phase (PA&ED Milestone)					04/15/12	08/05/13
Begin Design (PS&E) Phase					04/15/12	08/06/13
End Design Phase (Ready to List for Advertisement Milestone)					10/31/12	10/31/13
Begin Right of Way Phase					04/15/12	08/06/13
End Right of Way Phase (Right of Way Certification Milestone)					10/31/12	06/30/14
Begin Construction Phase (Contract Award Milestone)					04/01/13	01/30/15
End Construction Phase (Construction Contract Acceptance Milestone)					12/31/13	12/30/17
Begin Closeout Phase					12/31/13	12/30/17
End Closeout Phase (Closeout Report)					06/30/13	06/30/18

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PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised September 2013)

Date: 10/25/13

Additional Information

A portion of Segment IIA (beginning at North Pacific Street in San Marcos and ending 1200 feet east of North Pacific Street) will be constructed between March 2014 to June 2014. This work will be completed to abide by the NEPA/CEQA action to completely avoid the Federal threatened endangered species (Thread Leave Brodiaea). The construction of the 1200 foot section will be financed with local funds. The remainder of the 6.5+ miles of the Inland Rail Trail will begin construction in 2015.

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PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised September 2013)

Date: 10/25/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD , ,	, ,		1100020479	7421W	
Project Title: Inland Rail Trail Phases - IIA, IIB, IIIA, IIIB						

Existing Total Project Cost (\$1,000s)									Implementing Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)	1,597							1,597	San Diego Association of
PS&E									San Diego Association of
R/W SUP (CT)									San Diego Association of
CON SUP (CT)									San Diego Association of
R/W									San Diego Association of
CON									San Diego Association of
TOTAL	1,597							1,597	
Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)	1,597							1,597	
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		29,660		3,000				32,660	
TOTAL	1,597	29,660		3,000				34,257	

Fund No. 1:	RIP - STP Enhancements (STPE)								Program Code
Existing Funding (\$1,000s)									20.XX.075.600
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)	1,597							1,597	San Diego Association of Governm \$1597 PAED voted 06/23/11
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	1,597							1,597	
Proposed Funding (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)	1,597							1,597	
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	1,597							1,597	

Fund No. 2:	STIP-RIP								Program Code
Existing Funding (\$1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		18,437						18,437	
TOTAL		18,437						18,437	

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised September 2013)

Complete this page for amendments only

Date: 10/25/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD			1100020479	7421W	

SECTION 1 - All Projects**Project Background**

--

Programming Change Requested

--

Reason for Proposed Change

Add 2014 STIP funding in FY 15. Together with STIP, project is fully funded.

--

If proposed change will delay one or more components, clearly explain 1) reason the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

--

Other Significant Information

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SECTION 2 - For TCRP Projects Only

- Alternative Project Request (Please follow Instructions at <http://www.dot.ca.gov/tcrp/LETTERguidelines>)
- Letter of No Prejudice (LONP) (Please follow Guidelines at <http://www.dot.ca.gov/tcrp/docs/042706.pdf>)

SECTION 3 - All Projects**Approvals**

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.*

Name (Print or Type)	Signature	Title	Date

Attachments

- 1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
- 2) Project Location Map

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised September 2013)

General Instructions

<input checked="" type="checkbox"/> Amendment (Existing Project)					Date:	11/15/13	
District	EA	Project ID		PPNO	MPO ID		TCRP No.
11		1100020528		7402	SAN07		
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency			
SD				San Diego Association of Governments (SANDAG)			
				MPO		Element	
				SANDAG		LA	
Project Manager/Contact		Phone		E-mail Address			
Sookyung Kim		(619)699-6909		sookyung.kim@sandag.org			
Project Title							
Planning, Programming and Monitoring							
Location, Project Limits, Description, Scope of Work							
Planning, Programming and Monitoring							
<input type="checkbox"/> Includes ADA Improvements <input type="checkbox"/> Includes Bike/Ped Improvements							
Component	Implementing Agency						
PA&ED							
PS&E							
Right of Way							
Construction	San Diego Association of Governments (SANDAG)						
Purpose and Need							
Ongoing planning and programming oversight as the regional transportation planning agency.							
Project Benefits							
<input type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals <input type="checkbox"/> Reduces Greenhouse Gas Emissions							
Project Milestone					Existing	Proposed	
Project Study Report Approved							
Begin Environmental (PA&ED) Phase							
Circulate Draft Environmental Document				Document Type			
Draft Project Report							
End Environmental Phase (PA&ED Milestone)							
Begin Design (PS&E) Phase							
End Design Phase (Ready to List for Advertisement Milestone)							
Begin Right of Way Phase							
End Right of Way Phase (Right of Way Certification Milestone)							
Begin Construction Phase (Contract Award Milestone)							
End Construction Phase (Construction Contract Acceptance Milestone)							
Begin Closeout Phase							
End Closeout Phase (Closeout Report)							

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised September 2013)

Complete this page for amendments only

Date: 11/15/13

District	County	Route	EA	Project ID	PPNO	TCRP No.
11	SD			1100020528	7402	

SECTION 1 - All Projects**Project Background**

--

Programming Change Requested

--

Reason for Proposed Change

Update funding based on 2014 fund estimate

--

If proposed change will delay one or more components, clearly explain 1) reason the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

--

Other Significant Information

--

SECTION 2 - For TCRP Projects Only

- Alternative Project Request (Please follow Instructions at <http://www.dot.ca.gov/tcrp/LETTERguidelines>)
 Letter of No Prejudice (LONP) (Please follow Guidelines at <http://www.dot.ca.gov/tcrp/docs/042706.pdf>)

SECTION 3 - All Projects**Approvals**

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Name (Print or Type)	Signature	Title	Date

Attachments

- 1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
- 2) Project Location Map

Part A - San Diego Association of Governments

Performance Indicators and Measures							
Indicator	Relation to STIP Section B Performance Criteria	Performance Measures			Current System Performance (Baseline)	Projected Impact of I-5 (2035 no Build)	Projected Impact of I-5 (2035 Build)
		Mode	Level*	Measures			
Safety	2	Roadway	Region	Fatalities/Vehicle Miles Traveled (VMT)	0.003		
	2			Fatal Collisions/VMT	0.003		
	2			Injury Collisions/ VMT	0.215		
	2	Transit	Mode	Fatalities/Passenger Miles	n/a		
Mobility	1	Roadway	Region	Passenger Hours of Delay/Year	278.17 M	406.79 M	392.85 M
	1			Average Peak Period Travel Time	36.27 min	44.82 min	28.15 min
	1			Average Non-Peak Period Travel Time	27.52 min	33.15 min	25.24 min
Accessibility	4 (also 1,3,6,7)	Transit	Region	Percentage of population within 1/2 mile of a rail station or bus route	77%	83%	83%
Reliability	1	Roadway	Corridor	Travel Time Variability	9.52 min	18.07 min	1.40 min
	5	Transit	Mode	Percentage of vehicles that arrive at their scheduled destination no more than 5 minutes late.	81%		
Productivity (Throughput)	7	Roadway - Vehicles	Corridor	Average Peak Period Vehicle Trips	25,882	26,559	30,818
	7			Average Daily Vehicle Miles (ADI)	126,871	141,654	162,374
	7	Roadway - People	Corridor	Average Peak Period Vehicle Trips Multiplied by the Occupancy Rate	35,122	36,014	49,125
	7			Average Daily Vehicle Miles Multiplied by the Occupancy Rate	172,164	192,083	259,849
	7	Trucks	Corridor	Percentage of Average Daily Vehicle Trips that are (5+ axle) Trucks	2.00%	3.80%	3.50%
	7			Average Daily Vehicle Trips that are (5+ axle) Trucks	2,167	5,446	5,742
	7	Transit	Mode	Passengers per Vehicle Revenue Hour	54.4	43.72	42.92
	7			Passengers per Vehicle Revenue Mile	2.64	1.94	1.89
7	Passenger Mile per Train Mile (Intercity Rail)			126.7			
System Preservation	3	Roadway	Region	Total Number of Distressed Lane Miles	478.39		
	3			Percentage of Distressed Lane Miles	17%		
	3			Percentage of Roadway at Given IRI Levels	118.6		
Return on Investment/ Lifecycle Cost	1-7	All	Corridor	Percentage of return	n/a		

2050 Regional Transportation Plan

The 2050 RTP is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so it meets the diverse mobility needs of our changing region through 2050.

The 2050 Regional Transportation Plan (RTP or the Plan) is the blueprint for keeping pace with the mobility and sustainability challenges in our growing region. Meeting our region's transportation needs requires a comprehensive plan that coordinates how we use land and how we get around. In short, the Plan develops an integrated, multimodal transportation system. This long-range Plan is built on a set of integrated public policies, strategies, and investments to maintain, manage, and improve the transportation system so it meets the diverse mobility needs of our changing region through 2050. The Plan's vision for transportation supports our region's comprehensive strategy to promote smarter, more sustainable growth.

A New Mandate and New Opportunities for a Better Future: How We'll Get to Work and School, Shop, and Play

The 2050 RTP contains a robust transportation network, with a diversity of projects that will provide residents and visitors with a variety of travel choices. The regional transportation network, in conjunction with

how local jurisdictions develop land, will provide additional opportunities for walking, biking, getting to work, going to school, shopping, and playing. This Plan, more than previous ones, improves our region's public transit network. It provides more transit choices for today's and tomorrow's riders by improving the existing system and by introducing new access to more areas.

Assembly Bill 32, Senate Bill 375, and the State's Goals for Reducing Greenhouse Gas Emissions

In 2006, the California Legislature passed and former Governor Arnold Schwarzenegger signed into law Assembly Bill 32 (AB 32), which requires California to lower statewide greenhouse gas emissions to 1990 levels by 2020. The bill directed the California Air Resources Board (CARB) to develop specific early actions to reduce greenhouse gas emissions, and to establish a scoping plan that identifies the best ways to reach the 2020 mandate. In 2008, Senate Bill 375 (SB 375) was signed into law. It supports the implementation of AB 32 by encouraging planning practices that create sustainable communities. SB 375 also charged CARB with setting regional targets for reducing greenhouse gas emissions by the years 2020 and 2035. Each of the California Metropolitan Planning Organizations (MPOs) also must prepare a Sustainable Communities Strategy (SCS) that demonstrates how their regions will meet their goals for reducing greenhouse gas emissions from automobiles and light trucks. Central to our region's SCS are explanations for how our region will grow while improving the quality of life.



A Vision for Mid-Century: The 2050 RTP Vision

The Board of Directors for the San Diego Association of Governments (SANDAG) began developing the 2050 RTP by adopting a vision statement, goals, and policy objectives.

The vision describes a transportation system that:

- Supports a prosperous economy
- Promotes a healthy and safe environment, which includes climate change protection
- Provides a higher quality of life for all San Diego County residents

The transportation system should better link jobs, homes, and major activity centers by enabling more people to use transit, walk, and bike. The system also should efficiently transport goods. Overall, it should provide fast, convenient, and effective transportation choices for all people.

The 2050 RTP goals are structured into two overarching themes: Quality of Travel & Livability, and Sustainability. Quality of Travel & Livability relates to how the transportation system functions from the customers' perspective. Sustainability relates to making progress simultaneously in each of the Three "Es" (Social Equity, Healthy Environment, and Prosperous Economy) from a regional perspective. The SANDAG Board of Directors discussed these goals during the development of the 2050 RTP, and it considered them all related and equally important.

Quality of Travel & Livability

Mobility: The transportation system should provide the general public and those who move goods with convenient travel options. The system also should operate in a way that maximizes productivity. It should reduce the

time it takes to travel and the costs associated with travel.

Reliability: The transportation system should be reliable. Travelers should expect relatively consistent travel times, from day to day, for the same trip and mode of transportation.

System Preservation & Safety: The transportation system should be well maintained to protect the public's investments in transportation. It also is critical to ensure a safe regional transportation system.

Sustainability

Sustainability is defined in the Regional Comprehensive Plan as "simultaneously meeting our current economic, environmental, and community needs, while also ensuring that we aren't jeopardizing the ability of future generations to meet their needs." Social equity, a healthy environment, and a prosperous economy are described as the "Three Es" of sustainability.

Social Equity: The transportation system should be designed to provide an equitable level of transportation services to all segments of the population.

Healthy Environment: The transportation system should promote environmental sustainability and foster efficient development patterns that optimize travel, housing, and employment choices. The system should encourage growth away from rural areas and closer to existing and planned development.

Prosperous Economy: The transportation system should play a significant role in raising the region's standard of living.

Policy objectives that will help the region achieve the Plan's goals are shown in Table 2.1.

The vision describes a transportation system that:

Supports a prosperous economy

Promotes a healthy and safe environment, which includes climate change protection

Provides a higher quality of life for all San Diego County residents

Measuring the Plan's Success

A number of performance measures are used to allow us to gauge our progress toward meeting the Plan's policy goals and objectives. Technical Appendix 3 includes the methodology for estimating these performance indicators. The performance of the Revenue Constrained Network is compared with 2008 conditions (which is the base year for the 2050 RTP and reflects the start of the 42-year period covered by the growth forecast), and with a future scenario that assumes projected increases in population and employment in 2050 but no additional expansion of the regional transportation network (a No Build alternative), as shown in Table 2.2. Due to differences in requirements, there are different base years for the RTP and the Environmental Impact Report (EIR). The 2005 base year for analysis of meeting the greenhouse gas reduction targets was set by CARB. The 2010 baseline year for the EIR is pursuant to California Environmental Quality

Act (CEQA) Guidelines, which state that the EIR must include a description of the environmental conditions at the time the notice of preparation (NOP) was published. The NOP was published in April 2010.

The Plan vs. No Build

Compared with the 2050 No Build alternative, the Plan would result in a transportation network that improves travel conditions and air quality, while also promoting an equitable distribution of benefits.

With the implementation of the Plan, trips to work and to colleges and universities will be quicker and more efficient. A higher percentage of these trips will last no more than 30 minutes, even during peak periods of demand when most people are commuting. Seven out of ten trips are expected to take 30 minutes or less, whether driving alone or carpooling. About 14 percent of public transit trips to work and higher education will last 30 minutes or less, compared with only 8 percent under the No Build alternative.



The 2050 RTP includes a network that integrates many modes of transportation, with a mix of projects and a wide variety of transportation choices distributed across the region. This is expected to promote a substantial increase in carpooling, demands for public transit, and bicycling and walking for work trips both during peak hours and at other times.

Carpooling, expressed as a percentage of all modes of transportation used to get to work, would increase by 48 percent. The percentage of work trips made by walking, bicycling, and taking public transit would slightly more than double. Nearly one out of three commutes would be made using modes of transportation other than driving alone. By contrast, fewer than one out of five trips in the No Build alternative would turn away from driving alone. Vehicle miles per capita also would be reduced by 5 percent, while daily travel by transit would double.

The Plan's transportation investments will create an estimated 35,600 jobs each year over the course of the Plan, compared with 17,100 annual jobs under the No Build alternative. These jobs are projected to generate an additional gross regional product of \$4.4 billion annually, and increase payroll regionwide by \$1.8 billion annually. The Plan's transportation infrastructure also will help reduce congestion for autos, trucks, and public transit. The percentage of peak period auto travel occurring during congested periods is projected to drop from 27.7 percent under the No Build alternative to 17.2 percent under the Plan. Similarly, congested conditions for peak period transit travel are projected to drop by nearly half, from 9.1 percent in the No Build alternative to 5.1 percent under the Plan. The number of hours of delay per day for trucks also would cut in half, from 32,300 hours under the No

Build alternative to 16,000 hours with the implementation of the 2050 RTP.

Regional air quality also is expected to improve in the future. Cleaner fuels and new vehicle technologies will help reduce the majority of smog-forming pollutants.

The 2050 RTP contains the largest investment in bicycle and pedestrian infrastructure of any San Diego RTP to date. These investments would result in significant increases in bicycle and walking trips (a 120 percent increase, compared with the No Build scenario).

Table 2.1 – 2050 RTP Goals and Policy Objectives

Goal	Policy Objectives
<p>Mobility</p> <p>The transportation system should provide the general public and those who move goods with convenient travel options. The system also should operate in a way that maximizes productivity. It should reduce the time it takes to travel and the costs associated with travel.</p>	<p>Tailor transportation improvements to better connect people with jobs and other activities</p> <p>Provide convenient travel choices including transit, intercity and high speed trains, driving, ridesharing, walking, and biking</p> <p>Preserve and expand options for regional freight movement</p> <p>Increase the use of transit, ridesharing, walking and biking in major corridors and communities</p> <p>Provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations</p>
<p>Reliability</p> <p>The transportation system should be reliable. Travelers should expect relatively consistent travel times, from day to day, for the same trip and mode of transportation.</p>	<p>Employ new technologies to make travel more reliable and convenient</p> <p>Manage the efficiency of the transportation system to improve traffic flow</p>
<p>System Preservation and Safety</p> <p>The transportation system should be well maintained to protect the public’s investments in transportation. It also is critical to ensure a safe regional transportation system.</p>	<p>Keep the region’s transportation system in a good state of repair</p> <p>Reduce bottlenecks and increase safety by improving operations</p> <p>Improve emergency preparedness within the regional transportation system</p>
<p>Social Equity</p> <p>The transportation system should be designed to provide an equitable level of transportation services to all segments of the population.</p>	<p>Create equitable transportation opportunities for all populations regardless of age, ability, race, ethnicity, or income</p> <p>Ensure access to jobs, services, and recreation for populations with fewer transportation choices</p>
<p>Healthy Environment</p> <p>The transportation system should promote environmental sustainability and foster efficient development patterns that optimize travel, housing, and employment choices. The system should encourage growth away from rural areas and closer to existing and planned development.</p>	<p>Develop transportation improvements that respect and enhance the environment</p> <p>Reduce greenhouse gas emission from vehicles and continue to improve air quality in the region</p> <p>Make transportation investments that result in healthy and sustainable communities</p>
<p>Prosperous Economy</p> <p>The transportation system should play a significant role in raising the region’s standard of living.</p>	<p>Maximize the economic benefits of transportation investments</p> <p>Enhance the goods movement system to support economic prosperity</p>

Table 2.2 – 2050 RTP Comparison of Regional Performance Measures

Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2050)
System Preservation and Safety				
1.	Percentage of transportation investments toward maintenance and rehabilitation	N/A	N/A	29%
2.	Percentage of transportation investments toward operational improvements			
Mobility				
3.	Average work trip travel time (in minutes)	26	28	28
4.	Average work trip travel speed by mode (In m.p.h.)			
	Drive alone	34	28	31
	Carpool	35	30	32
	Transit	10	10	13
5.	Percentage of work and higher education trips accessible within 30 minutes in peak periods, by mode			
	Drive alone	73%	68%	70%
	Carpool	74%	69%	72%
	Transit	7%	8%	14%
6.	Percentage of non work-related trips accessible within 15 minutes, by mode			
	Drive alone	71%	67%	67%
	Carpool	72%	68%	68%
	Transit	4%	4%	8%
7.	Out-of-pocket user costs per trip	\$2.06	\$2.24	\$2.28
Prosperous Economy				
8.	Benefit/Cost Ratio*	N/A	N/A	2.1
9.	Economic impacts*			
	Job impacts (average number per year)	N/A	17,100	35,600
	Output impacts (gross regional product in millions - average amount per year)	N/A	\$2,000	\$4,400
	Payroll impacts (in millions - average amount per year)	N/A	\$900	\$1,800

Table 2.2 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2050)
Reliability				
10.	Congested Vehicle Miles of Travel (VMT)			
	Percentage of total auto travel in congested conditions (peak periods)	13.4%	27.7%	17.2%
	Percentage of total auto travel in congested conditions (all day)	6.3%	17.9%	10.8%
	Percentage of total transit travel in congested conditions (peak periods)	5.2%	9.1%	5.1%
	Percentage of total transit travel in congested conditions (all day)	4.8%	8.2%	4.8%
11.	Daily vehicle delay per capita (minutes)	3	9	5
12.	Daily truck hours of delay	5,900	32,300	16,000
Healthy Environment				
13.	Smog-forming pollutants for all vehicle types (daily pounds per capita)*	0.08	0.02	0.02
14.	Systemwide VMT (all day) for all vehicle types per capita	25.64	26.69	25.23
15.	Transit passenger miles (all day) per capita	0.48	0.39	0.83
16.	Percent of peak period trips within 1/2 mile of a transit stop	75%	71%	76%
17.	Percent of daily trips within 1/2 mile of a transit stop	78%	73%	78%
18.	Work trip mode share (peak periods)			
	Drive alone	80.8%	82.5%	68.9%
	Carpool	11.0%	10.3%	15.3%
	Transit	5.8%	4.9%	11.0%
	Bike/Walk	2.4%	2.3%	4.8%
Healthy Environment				
19.	Total bike and walk trips	510,000	610,000	1,340,000
20.	CO ₂ emissions for all vehicle types (daily pounds per capita)	28.0	19.9	18.8

Table 2.2 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2050)
Social Equity				
21.	Percentage of work trips accessible within 30 minutes during peak periods by mode			
	Low income Community of Concern			
	Drive alone	79%	71%	74%
	Carpool	80%	72%	75%
	Transit	15%	15%	23%
	Non-low income population			
	Drive alone	72%	67%	69%
	Carpool	73%	69%	71%
	Transit	5%	5%	11%
	Minority Community of Concern			
	Drive alone	75%	70%	72%
	Carpool	76%	71%	74%
	Transit	9%	10%	17%
	Non-minority population			
	Drive alone	72%	66%	68%
	Carpool	73%	68%	70%
	Transit	5%	6%	11%
22.	Percentage of homes within 1/2 mile of a transit stop			
	Low income Community of Concern	93%	90%	91%
	Non-low income population	59%	56%	60%
	Minority Community of Concern	81%	78%	80%
	Non-minority population	55%	54%	57%
23.	Distribution of RTP expenditures per capita			
	Low income Community of Concern	N/A	\$6,100	\$18,500
	Non-low income population	N/A	\$6,100	\$14,700
	Minority Community of Concern	N/A	\$6,100	\$16,300
	Non-minority population	N/A	\$6,000	\$15,100

* Notes:

8: The No Build Alternative is the base case against which the Revenue Constrained Scenario is compared.

9: Economic impacts for entire RTP investments (2010-2050). For economic impacts by phasing periods, see Table TA 3.1 in Technical Appendix 3.

13: Values based on 2050 SANDAG Transportation Model outputs using 2040 Emission Factors from 2007 EMFAC. No emission factors are available for 2050. Smog-forming pollutants include ROG and NOx.

Social Equity

The 2050 RTP strives to improve mobility and transportation choices for everyone in the region. The Plan's performance measures contain a number of metrics to assess how well improvements are distributed in low income and minority communities (also known as LIM communities), and in communities with limited mobility and little civic or community engagement by residents. The Plan projected the extent to which it would shorten travel times and improve access to transit stops, schools, healthcare, the San Diego International Airport (SDIA), and parks or beaches. A detailed analysis in Chapter 4 describes how the Plan promotes equity and environmental justice throughout our region.

SANDAG analyzed the 2050 RTP to determine whether it conforms with requirements of Title VI of the Civil Rights Act or other applicable social equity laws. These laws require that the benefits and burdens of projects detailed in the Plan be distributed equitably between the LIM and non-LIM populations. SANDAG studied specifically whether the Plan (compared with the No Build alternative) would offer LIM and non-LIM populations the same level of benefits.



SANDAG concluded that there would be no difference in average travel times between the two populations. However, LIM populations would receive slightly greater improvements in their commute to and from work, compared with non-LIM populations. SANDAG measures these improvements according to the percentage of work trips that take 30 minutes or less during periods of peak congestion. The Plan also would result in a higher percentage of households situated within a half-mile of a transit stop for both LIM and non-LIM populations.

SANDAG also examined how well the 2050 RTP would distribute proposed expenditures. The Plan would result in larger investments per capita for low income populations, compared with non-low income populations. However, the rate of increase in per capita expenditures is projected to be higher for non-minority populations (104 percent) than for minority populations (101 percent). Overall, the Plan would result in a higher rate of growth in investments per capita for LIM populations, compared to non-LIM populations.

The data for all social equity performance measures show that the Plan will not create a statistically significant disparity between LIM and non-LIM populations. Although the analyses show slightly more improvement for non-LIM populations in some areas, they also show more improvement for LIM populations in other areas. Overall, the Plan distributes its benefits equitably. The Plan is designed to allocate investments and distribute projects widely, to ensure that both benefits and burdens are equitably distributed among all populations in the region.

SB 375: Regional Targets for Reducing Greenhouse Gas Emissions

To comply with SB 375, the 2050 RTP must include a Sustainable Communities Strategy. This strategy guides the San Diego region toward meeting the state’s regional targets for reducing greenhouse gas emissions from cars and light trucks. The state’s targets for the San Diego region are a 7 percent reduction, per capita, in greenhouse gas emissions from automobiles and light trucks by 2020 (compared with a 2005 baseline); and a 13 percent reduction by 2035. These targets were set by the CARB on September 23, 2010. The 2050 RTP for the San Diego region would result in greenhouse gas emission reductions that exceed the state’s targets for 2020 and meet them for 2035. It would result in a 14 percent reduction in emissions by 2020, and a 13 percent reduction by 2035. This achievement is at the core of the Plan’s bold vision for a more sustainable region.

Current Conditions vs. The Plan

The Plan is expected to significantly improve the quality of life in the region, compared with the No Build alternative and compared with current conditions. Air quality will improve, and on a per capita basis greenhouse gas emissions will fall and less transportation fuel will be consumed. More than half the region will be maintained as open space and there will be more housing and transportation choices for current and future residents.

Implementing the Plan also will result in dramatic shifts in how we get to work, and how long it will take. By 2050, the percentage of commutes in which people drive alone during peak periods will fall from 81 percent to 69 percent. Also by that year, 15 percent of commuters will carpool, compared with 11 percent in 2008. The percentage of commuters who use public transit will nearly double, from 6 percent in 2008 to 11 percent in 2050. Meanwhile, the percentage of

Implementing the Plan also will result in dramatic shifts in how we get to work, and how long it will take.



commuters who bicycle or walk to work will double, from 2.4 percent to 4.8 percent. These shifts in how we will get to work during peak periods may seem small, but they can significantly reduce congestion and make travel faster.

Monitoring Performance

The success of the 2050 RTP will be measured through a system that tracks how well our transportation system is functioning. Also, it will identify opportunities for near-term improvements, and provide the ability to better identify and prioritize transportation projects by tracking and evaluating their impact on travel over time. By tracking these impacts, the system will help the region refine how individual transportation projects are selected and funded. By continually

monitoring how well the Plan is progressing, SANDAG can ensure that investments support regional policies. The California Department of Transportation (Caltrans), the North County Transit District, the Metropolitan Transit System, cities around the region, the county, and other agencies already collect significant amounts of data related to how well transportation systems are performing. Caltrans and local jurisdictions, for example, regularly collect data on the volume of traffic on roadways. Meanwhile, data on average daily traffic regionwide and on transit ridership (which includes individual route reports, on-time performance, and other information) are available online through the SANDAG Web site.



The biggest challenge of monitoring the performance of a transportation system is to evaluate a wide range of data and regularly report how the system is performing — in a way that is easy to understand for decision-makers and the general public.

Automating Our Systems

In cooperation with U.C. Berkeley, Caltrans has developed a Performance Measurement System (PeMS) that uses urban freeway data. This program provides ongoing data on freeway volumes and speeds that can be displayed graphically and exported to other monitoring applications. For several years, SANDAG has worked with Caltrans and U.C. Berkeley to extend the capabilities of PeMS. Efforts have included the addition of historical San Diego data and the development of a ramp metering interface. The interface provides the ability to analyze, monitor, and report ramp metering volumes.

Planned improvements to PeMS were recently initiated by SANDAG in coordination with Caltrans, regional transit agencies, and local jurisdictions. These enhancements will allow PeMS to measure the performance of multiple modes of transportation throughout the San Diego region. An improved PeMS will supplement the SANDAG Performance Monitoring Program by gathering, tracking, and analyzing real-time transit and arterial

data. It also will support ongoing efforts by SANDAG to help transportation operators manage the transportation network using real-time data.

A Plan for Improved Mobility

The 2050 RTP is developed around five primary components: a Sustainable Communities Strategy, Social Equity and Environmental Justice, Systems Development, Systems Management, and Demand Management. Each component has a unique yet interdependent role in creating a sustainable transportation system that improves mobility, reduces greenhouse gases, and increases travel choices for everyone in the San Diego region through 2050. The following chapters highlight the projects, programs, and strategies included in the Plan that address each component.



2050 RTP Comparison of Regional Performance Measures

This technical appendix shows the performance of the Revenue Constrained network compared to the 2050 RTP goals for 2020, 2035, and 2050. The performance of the Revenue Constrained network also is compared to other network scenarios, such as existing (as of 2008) and 2050 No Build.

On September 11, 2009, the SANDAG Board of Directors discussed transportation and land use policy issues relating to the 2050 RTP. The Policy Board meeting was designed to solicit comments and direction from Board members. Interactive electronic technology was used to collect and analyze the Board's opinion regarding transportation and land use policies. The results from the interactive exercise directed staff to utilize six goals for the 2050 RTP; which are structured into two overarching themes: Quality of Travel and Livability, and Sustainability. Quality of Travel and Livability relates to how the transportation system functions from the customer's perspective and includes the goals of mobility, reliability, and system preservation and safety. The theme of sustainability relates to making progress simultaneously in each of the Three "Es" (Healthy Environment, Prosperous Economy, and Social Equity) from a regional perspective.

The goals for the 2050 RTP build upon the core values from previous RTPs and incorporate them into broader categories to reflect emerging issues such as climate change, an aging population, and the economy. In addition to emerging issues, more traditional concepts, such as providing convenient travel options, optimizing the transportation systems' productivity for people and goods, tailoring transportation improvement to serve compatible land uses,

and promoting alternative travel modes are also critical to the development of the 2050 RTP and are reflected in the selected goals. The Board of Directors confirmed the selection of the 2050 RTP goals and their equal importance at its December 4, 2009, meeting.

On July 23, 2010, the Board of Directors approved the performance measures to be used to analyze the Revenue Constrained RTP network scenarios. The 2050 RTP performance measures build upon the measures used in the 2030 RTP and include additional metrics to evaluate goods movement, transportation investment, social equity, environmental and the relationship between land use and transportation. The performance of the 2050 Revenue Constrained Network compared to existing conditions (2008), 2020, 2035, and 2050 No Build is shown in Table TA 3.1. In addition, Technical Appendix 3 includes the methodology to estimate the performance measures and detailed methodology for the economic performance measures (Economic Impact Analysis and Benefit-Cost Analysis). Average travel time in peak periods by mode for 11 major corridors is included in Table TA 3.2. Mode share in peak periods for selected screenlines is included in Table TA 3.3. Figure TA 3.1 displays the screenline locations.

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures

Goals and Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
System Preservation And Safety						
1	Annual projected number of vehicle injury/fatal collisions per 1,000 persons	4.07	4.22	3.83	4.03	4.20
2	Annual projected number of bicycle/pedestrian injury/fatal collisions per 1,000 persons	0.63	0.56	1.07	1.72	2.63
3	Percent of transportation investments toward maintenance and rehabilitation	N/A	N/A	30%	30%	29%
4	Percent of transportation investments toward operational improvements					
Mobility						
5	Average work trip travel time (in minutes)	26	28	26	27	28
6	Average work trip travel speed by mode (in m.p.h.)					
	Drive alone	34	28	34	31	31
	Carpool	35	30	37	33	32
	Transit	10	10	12	13	13
7	Percent of work and higher education trips accessible in 30 minutes in peak periods by mode					
	Drive alone	73%	68%	74%	71%	70%
	Carpool	74%	69%	78%	73%	72%
	Transit	7%	8%	10%	13%	14%
8	Percent of non work-related trips accessible in 15 minutes by mode					
	Drive alone	71%	67%	70%	68%	67%
	Carpool	72%	68%	72%	69%	68%
	Transit	4%	4%	6%	8%	8%
9	Out-of-pocket user costs per trip	\$2.06	\$2.24	\$2.14	\$2.20	\$2.28
10	Number of interregional transit routes by service type	9	16	23	29	36
11	Network enhancements by freight mode					
	Freight capacity acreage	470	470	580	580	580
	Freight capacity mileage	3,300	3,500	3,700	3,800	4,300

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Prosperous Economy						
12	Benefit/Cost Ratio*	-	-	-	-	2.1
13	Economic impacts*					
	Job Impacts (average number per year)	N/A	18,200	29,200	31,900	43,700
	Output Impacts (gross regional product in millions - average amount per year)	N/A	\$2,200	\$3,600	\$3,900	\$5,400
	Payroll Impacts (in millions — average amount per year)	N/A	\$900	\$1,500	\$1,600	\$2,200
Reliability						
14	Congested vehicle miles of travel (VMT)					
	Percent of total auto travel in congested conditions (peak periods)	13.4%	27.7%	9.6%	13.9%	17.2%
	Percent of total auto travel in congested conditions (all day)	6.3%	17.9%	4.7%	7.6%	10.8%
	Percent of total transit travel in congested conditions (peak periods)	5.2%	9.1%	4.4%	5.1%	5.1%
	Percent of total transit travel in congested conditions (all day)	4.8%	8.2%	4.0%	4.7%	4.8%
15	Daily vehicle delay per capita (minutes)	3	9	2	3	5
16	Daily truck hours of delay	5,900	32,300	5,700	10,200	16,000
17	Percent of freeway VMT by travel speed by mode					
	Drive alone					
	Percent of VMT traveling from 0 to 35 mph	4.7%	19.6%	2.6%	5.6%	8.2%
	Percent of VMT traveling from 35 to 55 mph	7.1%	15.6%	6.8%	9.4%	12.3%
	Percent of VMT traveling greater than 55 mph	88.2%	64.8%	90.6%	85.0%	79.5%
	Carpool					
	Percent of VMT traveling from 0 to 35 mph	3.3%	17.2%	1.8%	4.9%	7.6%
	Percent of VMT traveling from 35 to 55 mph	5.8%	15.2%	4.8%	8.4%	11.3%
	Percent of VMT traveling greater than 55 mph	90.9%	67.6%	93.4%	86.7%	81.1%
	Truck					
	Percent of VMT traveling from 0 to 35 mph	3.2%	14.8%	1.6%	3.0%	4.9%
	Percent of VMT traveling from 35 to 55 mph	5.4%	15.8%	5.0%	6.9%	9.7%
	Percent of VMT traveling greater than 55 mph	91.4%	69.4%	93.4%	90.1%	85.4%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Healthy Environment						
18	Gross acres of constrained lands consumed for transit and highway infrastructure	N/A	117	126	164	316
19	On-road fuel consumption (all day) in gallons per capita	1.45	1.01	1.00	1.05	1.18
20	Smog-forming pollutants for all vehicle types (daily pounds per capita)*	0.08	0.02	0.04	0.02	0.02
21	Systemwide VMT (all day) for all vehicle types per capita	25.64	26.69	23.60	24.31	25.23
22	Transit passenger miles (all day) per capita	0.48	0.39	0.69	0.76	0.83
23	Percent of peak-period trips within 1/2 mile of a transit stop	75%	71%	75%	76%	76%
24	Percent of daily trips within 1/2 mile of transit stop	78%	73%	78%	78%	78%
25	Work trip mode share (peak periods)					
	Drive alone	80.8%	82.5%	75.8%	71.3%	68.9%
	Carpool	11.0%	10.3%	12.9%	14.3%	15.3%
	Transit	5.8%	4.9%	8.3%	10.7%	11.0%
	Bike/Walk	2.4%	2.3%	3.1%	3.8%	4.8%
26	Work trip mode share (all day)					
	Drive alone	80.9%	82.7%	75.9%	71.7%	69.4%
	Carpool	11.0%	10.2%	13.0%	14.0%	15.0%
	Transit	5.5%	4.5%	7.8%	10.1%	10.4%
	Bike/Walk	2.7%	2.5%	3.4%	4.2%	5.2%
27	Non work trip mode share (peak periods)					
	Drive alone	45.7%	46.4%	44.7%	44.2%	43.0%
	Carpool	50.1%	50.0%	49.9%	49.5%	49.3%
	Transit	0.7%	0.6%	0.8%	0.9%	0.9%
	Bike/Walk	3.5%	3.1%	4.5%	5.5%	6.8%
28	Non work trip mode share (all day)					
	Drive alone	49.4%	50.2%	48.6%	48.1%	47.1%
	Carpool	46.9%	46.6%	46.7%	46.4%	46.2%
	Transit	0.8%	0.6%	0.8%	0.9%	0.9%
	Bike/Walk	3.0%	2.6%	3.8%	4.7%	5.8%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures		Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Social Equity						
29	Total bike and walk trips	510,000	610,000	690,000	960,000	1,340,000
30	CO2 emissions for all vehicle types (daily pounds) per capita*	28.0	19.9	19.7	18.3	18.8
31	Average travel time per person trip (in minutes)					
	Low Income Community of Concern	15	17	15	16	17
	Non-Low Income population	16	17	16	16	17
	Minority Community of Concern	15	17	15	16	16
	Non-Minority population	16	17	16	16	17
	Low Mobility Community of Concern	16	18	16	17	17
	Non-Low Mobility population	16	17	15	16	17
	Low Community Engagement Community of Concern	15	17	15	16	17
	Non-Low Community Engagement population	16	17	16	16	17
32	Percent of work trips accessible in 30 minutes in peak periods by mode					
	Low Income Community of Concern	70%	64%	70%	66%	65%
	Drive alone	79%	71%	80%	76%	74%
	Carpool	80%	72%	83%	78%	75%
	Transit	15%	15%	18%	22%	23%
	Non-Low Income population	68%	64%	69%	65%	65%
	Drive alone	72%	67%	72%	69%	69%
	Carpool	73%	69%	77%	71%	71%
	Transit	5%	5%	7%	10%	11%
	Minority Community of Concern	69%	65%	70%	66%	65%
	Drive alone	75%	70%	77%	73%	72%
	Carpool	76%	71%	81%	75%	74%
	Transit	9%	10%	12%	16%	17%
	Non-Minority population	69%	64%	69%	65%	64%
	Drive alone	72%	66%	72%	69%	68%
	Carpool	73%	68%	76%	71%	70%
	Transit	5%	6%	8%	11%	11%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Social Equity (Continued)					
Low Mobility Community of Concern					
Drive alone	78%	71%	79%	75%	73%
Carpool	79%	72%	83%	77%	75%
Transit	12%	13%	15%	19%	20%
Non-Low Mobility population					
Drive alone	72%	67%	72%	69%	69%
Carpool	73%	69%	77%	71%	71%
Transit	6%	6%	8%	11%	12%
Low Community Engagement Community of Concern					
Drive alone	77%	70%	78%	74%	73%
Carpool	78%	71%	82%	76%	74%
Transit	12%	13%	15%	19%	21%
Non-Low Community Engagement population					
Drive alone	72%	67%	72%	69%	69%
Carpool	73%	69%	77%	71%	71%
Transit	5%	5%	8%	11%	11%
33	Percent of homes within 1/2 mile of a transit stop				
	Low Income Community of Concern				
	93%	90%	90%	90%	91%
	Non-Low Income population				
	59%	56%	58%	59%	60%
	Minority Community of Concern				
	81%	78%	79%	79%	80%
	Non-Minority population				
	55%	54%	55%	56%	57%
	Low Mobility Community of Concern				
	72%	72%	71%	73%	74%
	Non-Low Mobility population				
	65%	62%	64%	64%	66%
	Low Community Engagement Community of Concern				
	90%	86%	87%	86%	87%
	Non-Low Community Engagement population				
	57%	55%	57%	58%	59%
34	Percent of population within 30 minutes of schools				
	Low Income Community of Concern				
	Drive Alone				
	99%	99%	99%	99%	99%
	Transit				
	87%	87%	87%	87%	90%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Social Equity (Continued)					
Non-Low Income population					
Drive Alone	99%	99%	99%	99%	99%
Transit	69%	68%	70%	71%	72%
Minority Community of Concern					
Drive Alone	99%	99%	99%	99%	99%
Transit	85%	83%	85%	86%	87%
Non-Minority population					
Drive Alone	99%	99%	99%	99%	99%
Transit	62%	63%	65%	65%	66%
Low Mobility Community of Concern					
Drive Alone	98%	97%	97%	97%	97%
Transit	76%	77%	76%	77%	79%
Non-Low Mobility population					
Drive Alone	100%	99%	100%	100%	99%
Transit	72%	72%	74%	75%	76%
Low Community Engagement Community of Concern					
Drive Alone	99%	99%	99%	99%	99%
Transit	85%	85%	85%	85%	88%
Non-Low Community Engagement population					
Drive Alone	99%	99%	99%	99%	99%
Transit	68%	67%	70%	70%	72%
35 Percent of population within 30 minutes of the San Diego International Airport					
Low Income Community of Concern					
Drive Alone	75%	75%	76%	76%	75%
Transit	4%	6%	6%	7%	10%
Non-Low Income population					
Drive Alone	71%	64%	72%	69%	67%
Transit	5%	7%	7%	7%	8%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Social Equity (Continued)					
Minority Community of Concern					
Drive Alone	75%	74%	76%	75%	76%
Transit	3%	5%	4%	4%	7%
Non-Minority population					
Drive Alone	70%	61%	70%	67%	62%
Transit	7%	9%	9%	9%	11%
Low Mobility Community of Concern					
Drive Alone	71%	66%	71%	70%	67%
Transit	5%	8%	8%	9%	12%
Non-Low Mobility population					
Drive Alone	73%	68%	73%	72%	70%
Transit	5%	6%	6%	6%	7%
Low Community Engagement Community of Concern					
Drive Alone	70%	69%	70%	70%	69%
Transit	3%	4%	4%	5%	8%
Non-Low Community Engagement population					
Drive Alone	74%	67%	74%	72%	69%
Transit	6%	8%	7%	8%	9%
36	Percent of population within 15 minutes of healthcare				
Low Income Community of Concern					
Drive Alone	99%	99%	100%	99%	99%
Transit	72%	71%	71%	72%	73%
Non-Low Income population					
Drive Alone	97%	96%	97%	97%	96%
Transit	24%	23%	23%	25%	27%
Minority Community of Concern					
Drive Alone	99%	99%	99%	99%	99%
Transit	53%	50%	51%	52%	54%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Social Equity (Continued)					
Non-Minority population					
Drive Alone	96%	95%	96%	96%	95%
Transit	21%	22%	21%	23%	25%
Low Mobility Community of Concern					
Drive Alone	97%	96%	97%	97%	96%
Transit	50%	51%	49%	52%	56%
Non-Low Mobility population					
Drive Alone	98%	97%	98%	98%	98%
Transit	32%	31%	31%	33%	34%
Low Community Engagement Community of Concern					
Drive Alone	99%	99%	99%	99%	99%
Transit	65%	62%	64%	64%	66%
Non-Low Community Engagement population					
Drive Alone	97%	96%	97%	97%	96%
Transit	23%	23%	23%	25%	27%
37 Percent of population within 15 minutes of parks or beaches					
Low Income Community of Concern					
Drive Alone	100%	100%	100%	100%	100%
Transit	67%	66%	67%	67%	68%
Non-Low Income population					
Drive Alone	99%	99%	99%	99%	99%
Transit	54%	53%	55%	56%	58%
Minority Community of Concern					
Drive Alone	100%	100%	100%	100%	100%
Transit	60%	58%	60%	61%	64%
Non-Minority population					
Drive Alone	99%	99%	99%	99%	99%
Transit	56%	55%	56%	56%	57%

Table TA 3.1 – 2050 RTP Comparison of Regional Performance Measures (Continued)

Goals and Performance Measures	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Social Equity (Continued)					
Low Mobility Community of Concern					
Drive Alone	100%	100%	100%	100%	100%
Transit	60%	60%	61%	61%	63%
Non-Low Mobility population					
Drive Alone	99%	99%	99%	99%	99%
Transit	57%	55%	57%	58%	60%
Low Community Engagement Community of Concern					
Drive Alone	100%	100%	100%	100%	100%
Transit	61%	59%	61%	60%	62%
Non-Low Community Engagement population					
Drive Alone	99%	99%	99%	99%	99%
Transit	56%	55%	57%	58%	60%
38	Distribution of RTP expenditures per capita				
	Low Income Community of Concern				
	N/A	\$6,100	N/A	N/A	\$18,500
	Non-Low Income population				
	N/A	\$6,100	N/A	N/A	\$14,700
	Minority Community of Concern				
	N/A	\$6,100	N/A	N/A	\$16,300
	Non-Minority population				
	N/A	\$6,000	N/A	N/A	\$15,100
	Low Mobility Community of Concern				
	N/A	\$6,100	N/A	N/A	\$17,400
	Non-Low Mobility population				
	N/A	\$6,100	N/A	N/A	\$15,100
	Low Community Engagement Community of Concern				
	N/A	\$6,000	N/A	N/A	\$17,100
	Non-Low Community Engagement population				
	N/A	\$6,100	N/A	N/A	\$15,100

* Notes:

12: The No Build Alternative is the base case against which Scenarios are compared.

13: For economic impacts for entire RTP investments (2010-2050), see Table 2.2 in Chapter 2.

20 and 30: Values based on 2050 SANDAG Transportation Model Outputs using 2040 Emission Factors from 2007 EMFAC.

No emission factors are available for 2050 (smog-forming pollutants include reactive organic gases [ROG] and oxides of nitrogen [NOx]).

31 - 38: Low Mobility (zero-car households, disabled, and 75+) and Low Community engagement (linguistic isolation and low educational attainment)

Table TA 3.2 – 2050 RTP Peak Period Average Travel Times by Corridor

Performance Measure	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
Average travel time (peak periods) by mode for selected corridors (in minutes door to door)					
1 Oceanside - Downtown San Diego					
By auto	57	65	55	59	61
By transit (walk access)	108	110	102	98	97
By transit (park and ride access)	97	97	89	89	88
By carpool	56	64	49	57	59
2 Escondido - Downtown San Diego					
By auto	47	51	47	50	52
By transit (walk access)	74	82	61	64	64
By transit (park and ride access)	75	74	54	60	60
By carpool	45	48	44	49	51
3 El Cajon - Kearny Mesa					
By auto	29	32	25	30	30
By transit (walk access)	76	90	63	48	48
By transit (park and ride access)	54	75	48	38	38
By carpool	29	32	24	29	30
4 Mid City - UTC					
By auto	25	38	26	27	31
By transit (walk access)	62	77	39	43	34
By transit (park and ride access)	55	66	41	45	36
By carpool	24	38	23	25	29
5 Western Chula Vista - Mission Valley					
By auto	28	36	29	32	31
By transit (walk access)	71	62	57	56	51
By transit (park and ride access)	68	59	54	53	48
By carpool	28	36	28	31	30
6 Carlsbad - Sorrento Mesa					
By auto	38	38	35	36	35
By transit (walk access)	88	115	77	82	78
By transit (park and ride access)	63	63	55	58	56
By carpool	35	32	28	33	33

Table TA 3.2 – 2050 RTP Peak Period Average Travel Times by Corridor (Continued)

Performance Measure	Existing (2008)	No Build (2050)	Revenue Constrained (2020)	Revenue Constrained (2035)	Revenue Constrained (2050)
7 Oceanside - Escondido					
By auto	32	39	33	33	35
By transit (walk access)	81	78	77	62	63
By transit (park and ride access)	77	74	73	43	43
By carpool	32	39	29	32	34
8 San Ysidro - Downtown San Diego					
By auto	28	32	28	31	31
By transit (walk access)	44	44	44	44	40
By transit (park and ride access)	46	46	46	46	42
By carpool	28	32	26	30	30
9 Otay Ranch - UTC					
By auto	47	66	46	51	49
By transit (walk access)	133	129	55	54	52
By transit (park and ride access)	126	127	53	52	50
By carpool	47	66	40	50	48
10 Pala/Pauma - Oceanside Transit Center					
By auto	52	54	50	52	53
By transit (walk access)	180	134	132	88	88
By transit (park and ride access)	112	73	114	85	85
By carpool	52	54	50	52	53
11 SR 67 (Ramona) - Downtown San Diego					
By auto	60	67	60	62	63
By transit (walk access)	155	145	124	115	115
By transit (park and ride access)	114	96	73	101	73
By carpool	58	64	59	62	63

Note: Travel time (by mode) in key travel corridors = work trip person-hours of travel divided by work trips (peak period by mode: auto, transit, and carpool) as applied to corridors/communities

Table TA 3.3 – 2050 Regional Transportation Plan Mode Share in Peak Periods for Selected Screenlines

	Current (2008)		No Build (2050)		Revenue Constrained (2020)		Revenue Constrained (2035)		Revenue Constrained (2050)	
	Number	%	Number	%	Number	%	Number	%	Number	%
1 I-5 Palomar Airport										
Drive Alone	62,515	76%	71,806	72%	62,102	71%	73,649	71%	76,904	69%
Carpool	12,674	15%	17,059	17%	15,755	18%	16,731	16%	18,993	17%
Truck	4,153	5%	9,182	9%	5,500	6%	8,224	8%	9,810	9%
Transit	2,644	3%	1,931	2%	4,706	5%	5,031	5%	5,726	5%
Total	81,986	100%	99,978	100%	88,063	100%	103,635	100%	111,433	100%
2 SR 78 Vista										
Drive Alone	55,793	77%	70,298	75%	58,535	73%	65,055	73%	70,185	73%
Carpool	12,592	18%	15,460	17%	15,087	19%	15,487	17%	16,945	17%
Truck	2,151	3%	3,944	4%	2,666	3%	3,410	4%	3,754	4%
Transit	1,755	2%	3,325	4%	3,536	5%	5,571	6%	5,975	6%
Total	72,291	100%	93,027	100%	79,824	100%	89,523	100%	96,859	100%
3 I-15 Rancho Bernardo										
Drive Alone	91,141	78%	111,642	75%	91,976	74%	99,277	73%	104,458	73%
Carpool	18,541	16%	27,053	18%	19,744	16%	21,315	16%	23,387	16%
Truck	5,311	5%	9,108	6%	6,313	5%	7,613	6%	8,347	6%
Transit	1,086	1%	3,973	3%	6,005	5%	6,979	5%	7,360	5%
Total	116,079	100%	151,776	100%	124,038	100%	135,184	100%	143,552	100%
4 I-5 North of I-805 merge										
Drive Alone	108,179	78%	119,800	75%	103,380	74%	114,028	75%	120,236	73%
Carpool	21,020	15%	26,422	17%	23,632	16%	24,429	16%	27,385	16%
Truck	5,249	4%	10,195	6%	6,404	5%	8,843	6%	10,356	6%
Transit	3,748	3%	2,587	2%	6,417	5%	7,011	5%	8,290	5%
Total	138,196	100%	159,004	100%	139,833	100%	154,311	100%	166,267	100%
5 I-15 Mira Mesa										
Drive Alone	111,582	77%	143,193	74%	110,069	73%	127,812	74%	138,954	74%
Carpool	24,587	17%	35,225	18%	25,639	17%	26,965	16%	30,584	16%
Truck	6,377	4%	10,287	5%	7,372	5%	8,641	5%	9,416	5%
Transit	2,309	2%	5,858	3%	8,083	5%	8,756	5%	9,841	5%
Total	144,855	100%	194,563	100%	151,163	100%	172,174	100%	188,795	100%

Table TA 3.3 – 2050 Regional Transportation Plan Mode Share in Peak Periods for Selected Screenlines (Continued)

	Current (2008)		No Build (2050)		Revenue Constrained (2020)		Revenue Constrained (2035)		Revenue Constrained (2050)	
	Number	%	Number	%	Number	%	Number	%	Number	%
6 I-5 Mission Bay										
Drive Alone	78,323	75%	93,804	75%	75,225	71%	80,451	69%	87,950	68%
Carpool	16,089	15%	20,147	16%	16,108	15%	17,898	15%	21,569	17%
Truck	2,900	3%	4,769	4%	3,639	3%	4,243	4%	4,738	4%
Transit	7,546	7%	6,488	5%	11,946	11%	13,758	12%	14,385	11%
Total	104,858	100%	125,208	100%	106,918	100%	116,350	100%	128,642	100%
7 I-8/SR 94 west of SDSU										
Drive Alone	169,979	75%	203,660	74%	163,460	73%	182,303	71%	196,629	70%
Carpool	38,736	17%	48,381	18%	38,190	17%	43,967	17%	49,216	18%
Truck	5,124	2%	6,488	2%	5,049	2%	5,717	2%	6,199	2%
Transit	13,418	6%	16,633	6%	16,349	8%	23,642	10%	27,115	10%
Total	227,257	100%	275,162	100%	223,048	100%	255,629	100%	279,159	100%
8 I-805 Chula Vista										
Drive Alone	65,975	79%	79,560	76%	70,502	74%	80,917	74%	83,507	74%
Carpool	14,358	17%	17,988	17%	18,664	20%	19,645	18%	20,289	18%
Truck	2,937	4%	6,402	7%	3,326	3%	5,399	5%	6,232	5%
Transit	24	0%	332	0%	2,863	3%	3,767	3%	3,502	3%
Total	83,294	100%	104,282	100%	95,355	100%	109,728	100%	113,530	100%
9 I-5 National City										
Drive Alone	75,280	69%	97,227	68%	74,068	68%	83,993	67%	98,508	64%
Carpool	15,970	15%	21,492	15%	14,581	13%	18,414	15%	22,464	15%
Truck	3,062	3%	6,416	5%	4,247	4%	5,490	4%	6,326	4%
Transit	14,624	13%	17,078	12%	15,510	15%	17,020	14%	25,557	17%
Total	108,936	100%	142,213	100%	108,406	100%	124,917	100%	152,855	100%
10 I-5/I-805 South Bay										
Drive Alone	125,738	73%	158,484	72%	136,882	70%	155,076	70%	157,194	69%
Carpool	31,620	18%	38,782	18%	36,022	19%	39,592	18%	39,924	17%
Truck	5,113	3%	11,605	5%	6,992	4%	10,149	5%	10,747	5%
Transit	10,398	6%	12,688	5%	14,369	7%	16,283	7%	21,324	9%
Total	172,869	100%	221,559	100%	194,265	100%	221,100	100%	229,189	100%

Table TA 3.3 – 2050 Regional Transportation Plan Mode Share in Peak Periods for Selected Screenlines (Continued)

	Current (2008)		No Build (2050)		Revenue Constrained (2020)		Revenue Constrained (2035)		Revenue Constrained (2050)	
	Number	%	Number	%	Number	%	Number	%	Number	%
11 SR 52 Kearny Mesa										
Drive Alone	52,936	79%	63,574	78%	55,738	77%	60,754	75%	66,895	70%
Carpool	11,064	17%	13,350	16%	11,843	16%	12,628	16%	14,361	15%
Truck	2,001	3%	4,081	5%	2,745	4%	3,579	4%	4,408	5%
Transit	883	1%	914	1%	2,397	3%	3,795	5%	10,007	10%
Total	66,884	100%	81,919	100%	72,723	100%	80,756	100%	95,671	100%

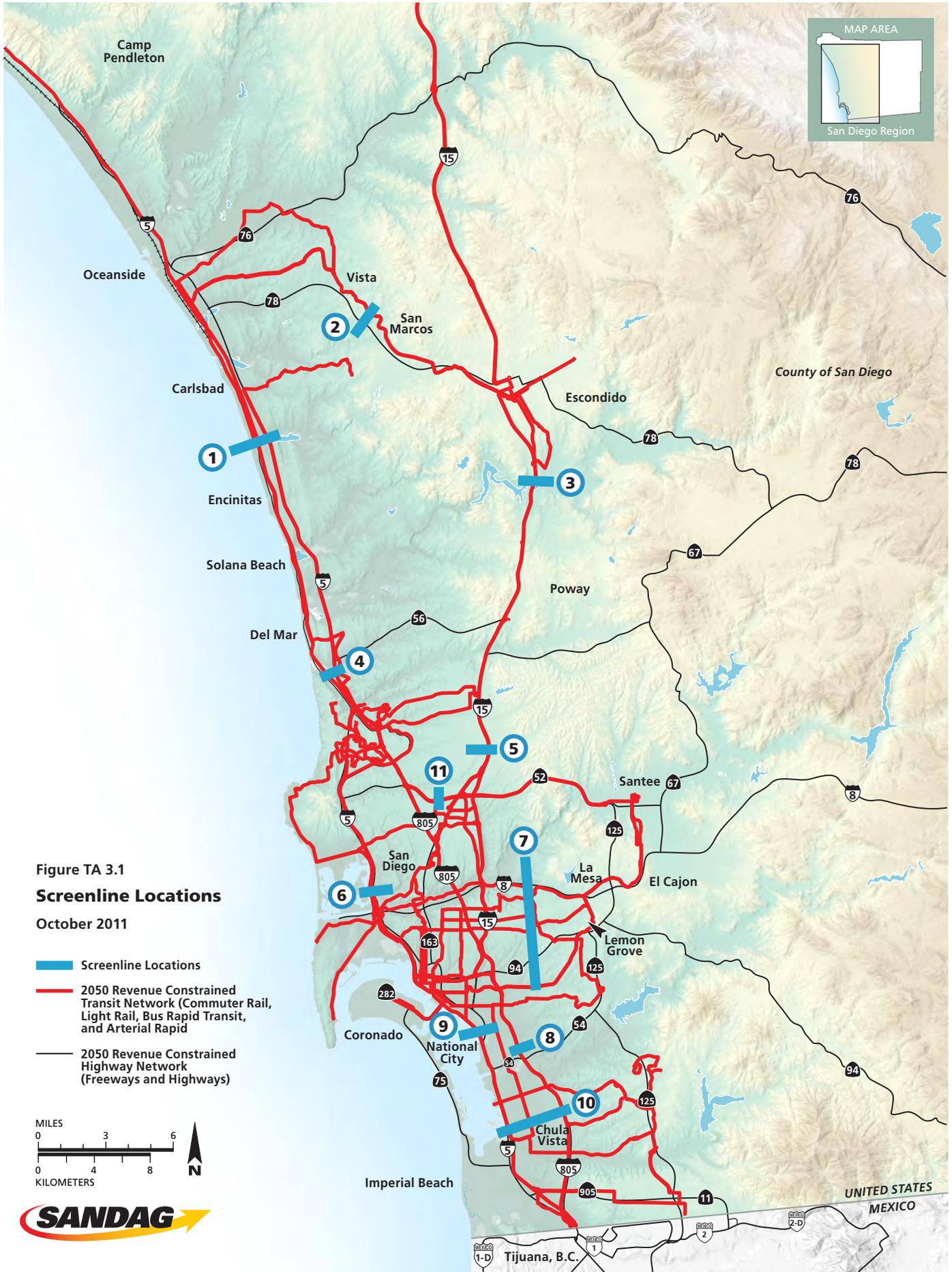
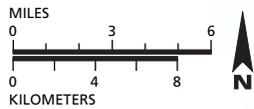


Figure TA 3.1
Screenline Locations
 October 2011

- Screenline Locations
- 2050 Revenue Constrained Transit Network (Commuter Rail, Light Rail, Bus Rapid Transit, and Arterial Rapid)
- 2050 Revenue Constrained Highway Network (Freeways and Highways)



Methodology to Estimate Performance Measures

System Preservation and Safety

1. Annual projected number of vehicle injury/fatal collisions per 1,000 persons = VMT by facility type (freeway, prime arterial, other) multiplied by basic average collision rate by facility type multiplied by 1,000 divided by total population
2. Annual projected number of bicycle/pedestrian injury/fatal collisions per 1,000 persons = bicycle/pedestrian trips multiplied by basic average collision rate multiplied by 1,000 divided by total population
3. Percent of transportation investments toward maintenance and rehabilitation = sum of maintenance and rehabilitation transportation investments divided by all transportation investments
4. Percent of transportation investments toward operational improvements = sum of operational improvement transportation investments divided by all transportation investments
8. Percent of non work-related trips accessible in 15 minutes by mode = non-work-related trips within 15 minutes divided by total non work trips (all day) (by mode: auto, transit, and carpool)
9. Out-of-pocket user costs per trip = total auto and transit costs divided by total auto and transit person trips respectively
10. Number of interregional transit routes by service type = total number of interregional transit routes multiplied by weighting factor (Rail/BRT = 5, arterial rapid = 3, high frequency local = 2)
11. Network enhancements by freight mode = Part A: total sum of freight capacity acreage (for rail yards, port terminals, and ports of entry) and Part B: total sum of freight capacity mileage (for rail mainline, highway connectors to terminals, and highway truck routes)

Mobility

5. Average work trip travel time (all day) in minutes = work trip person-hours of travel divided by work trips (all day by mode: auto, transit, and carpool)
6. Average work trip travel speed by mode (in m.p.h.) = work trip VMT divided by work trip person-hours of travel (peak period by mode: auto, transit, and carpool)
7. Percent of work and higher education trips accessible in 30 minutes in peak periods by mode = work and college trips within 30 minutes divided by total work and college trips (by mode: auto, transit, and carpool)
14. Percent of total auto travel in congested conditions (peak periods) = VMT at level of service (LOS) E and LOS F (volume/capacity > 0.85) divided by total VMT (peak periods)

Percent of total auto travel in congested conditions (all day) = VMT at LOS E and LOS F (volume/capacity > 0.85) divided by total VMT (all day)

Prosperous Economy

12. Benefit-Cost Ratio = total benefits divided by total costs
13. Economic impacts (average number of jobs per year, average amount of gross regional product in millions per year, and average amount of payroll per year in millions) = data from the economic input/output model

Reliability

14. Percent of total auto travel in congested conditions (peak periods) = VMT at level of service (LOS) E and LOS F (volume/capacity > 0.85) divided by total VMT (peak periods)

Percent of total auto travel in congested conditions (all day) = VMT at LOS E and LOS F (volume/capacity > 0.85) divided by total VMT (all day)

Percent of total transit travel in congested conditions (peak periods) = transit VMT on facilities at LOS E and LOS F (volume/capacity > 0.85) divided by total transit VMT (peak periods)

Percent of total transit travel in congested conditions (all day) = transit VMT on facilities at LOS E and LOS F (volume/capacity > 0.85) divided by total transit VMT (all day)

15. Daily vehicle delay per capita (in minutes) = congested vehicle hours traveled (VHT) at LOS E and LOS F minus free flow VHT (Volume/Capacity > 0.85) divided by population

16. Daily truck hours of delay = modeled roadway delay time multiplied by modeled truck volume (all day)

17. Percent of freeway VMT by travel speed (by mode) = speed ranges by mode: auto, carpool, truck) divided by total VMT (by mode: auto, carpool, truck)

Healthy Environment

18. Gross acres of constrained lands consumed for transit and highway infrastructure = Gross acres of constrained lands consumed for revenue constrained transit and highway network infrastructure subtracted by gross acres of constrained lands consumed for baseline transit and highway network infrastructure.

19. On-road fuel consumption (all day) in gallons per capita = VMT divided by on-road fleet fuel economy divided by total population

20. Smog-forming pollutants for all vehicle types (daily pounds) per capita = daily pounds of reactive organic gases plus daily pounds of nitrogen oxides divided by total population

21. Systemwide VMT (all day) for all vehicle types per capita = total sum of vehicles on roadway segment (all day) multiplied by length of roadway segment divided by total population

22. Transit passenger miles (all day) per capita = total sum of transit passengers on transit segment (all day) multiplied by length of transit segment divided by total population

23. Percent of peak-period trips within 1/2 mile of a transit stop = number of peak-period trip origins and destinations within 1/2 mile of a transit stop divided by total peak-period trips

24. Percent of daily trips within 1/2 mile of a transit stop = number of daily trip origins and destinations within 1/2 mile of a transit stop divided by total daily trips

25. Work trip mode share (peak periods including bike/walk) = percent of work trips by mode (peak periods)

26. Work trip mode share (all day including bike/walk) = percent of work trips by mode (all day)

27. Non work trip mode share (peak periods including bike/walk) = percent of non work trips by mode (peak periods)

28. Non work trip mode share (all day including bike/walk) = percent of non work trips by mode (all day)

29. Total bike and walk trips = total number of bike and walk trips

30. CO2 emissions for all vehicle types per capita = daily pounds of CO2 divided by total population

Social Equity

Comparison of outcomes for EJ or Communities of Concern and non-EJ communities or other populations:

The measures below were estimated for the following community types: “low-income and minority” (low-income households, minority population, severe overcrowding, and population living at or below 100 percent of the poverty level), “low mobility” (zero-car households, disabled, and 75+), and “low community engagement” (linguistic isolation and low educational attainment).

31. Average travel time per person trip (in minutes, EJ and non-EJ) = person hours of travel divided by person trips (by mode: auto, transit, and carpool)
32. Percent of work trips (EJ and non-EJ) accessible in 30 minutes in peak periods by mode = work trips within 30 minutes divided by total work trips (by mode: auto, transit, carpool)
33. Percent of homes within 1/2 mile of a transit stop (EJ and non-EJ) = number of homes within 1/2 mile of a transit stop divided by total homes in the community
34. Percent of population (EJ and non-EJ) that can access schools (higher education including vocational) within 30 minutes = EJ population within 30 minutes of schools divided by total EJ population (three community types); non-EJ population within 30 minutes of schools divided by non-EJ community population (by mode: auto, transit)
35. Percent of population (EJ and non-EJ) that can access San Diego International Airport within 30 minutes = EJ population within 30 minutes of the airport divided by total EJ population (three community types); non-EJ population within 30 minutes of the airport divided by non-EJ community population (by mode: auto, transit)
36. Percent of population (EJ and non-EJ) that can access healthcare (hospitals, community clinics) within 15 minutes = EJ population within 15 minutes of healthcare divided by total EJ population (three community types); non-EJ population within 15 minutes of healthcare divided by non-EJ community population (by mode: auto, transit)
37. Percent of population (EJ and non-EJ) that can access parks or beaches within 15 minutes = EJ population within 15 minutes of parks or beaches divided by total EJ population (three community types); non-EJ population within 15 minutes of parks or beaches divided by non-EJ community population (by mode: auto, transit)
38. Distribution of RTP expenditures (EJ and non-EJ) per capita = dollar value of RTP expenditures serving EJ communities divided by population in EJ communities; dollar value of RTP expenditures serving non-EJ communities divided by population in non-EJ communities. Serving the community is defined as a one-mile buffer for local bus routes, a three-mile buffer for major transit projects (rail, BRT, streetcar – anything other than local bus), highway and other roadway projects, and a half-mile buffer for Safe Routes to Schools. Note: this indicator provides a snapshot of RTP expenditures by geographic area (EJ and non-EJ communities). Other factors such as proximity impacts of transportation projects and services are not reflected in this indicator.

2050 RTP Economic Impact Analysis and Benefit-Cost Analysis

Overview

The Economic Impact model for the 2050 Regional Transportation Plan (RTP) is based on best practices, such as those documented by the University of Kansas, Center for Applied Economics (2008) and Cambridge Systematics economic impact assessment for the Maryland Department of Transportation (2006).

This economic impact model is intended to complement the Benefit Cost Analysis prepared by HDR Decisions Economics by estimating the direct, indirect, and induced jobs, payroll, and output generated by projects, services, and programs (referred to as projects) included in the 2050 RTP. This model is intended to quantify the impact from design, construction, operations, and maintenance. It is not intended to quantify user benefits (such as travel time savings or safety improvements), air emissions, or noise levels. For those and other measures, see the Benefit Cost Analysis.

Key Terms:

Direct Impact: activity generated directly by project

Indirect Impact: activity generated by buyer/supplier linkages

Induced Impact: activity generated by payroll (of direct jobs)

Data Sources

The model is based on two key inputs: project cost estimates from the 2050 RTP, and the 2007 IMPLAN input-output model for the San Diego Region from the Minnesota IMPLAN Group.

Project costs included in the analysis are listed in Table TA 3.4. Three major cost categories, right of way acquisition, cash subsidies, and vehicle purchases, were excluded from the analysis. Right of way acquisition has no net economic impact, as it is simply a transfer of land from one entity to another. Similarly, cash subsidies are treated as having no net impact because it is a transfer of money from one entity to another, with no net economic impact. Vehicles, such as busses and trolley cars, are manufactured outside the San Diego Region. As such, the economic impact of their purchase accrues to the area where they are manufactured, rather than to San Diego.

Method

The project categories listed above were grouped by industry type into the major IMPLAN sectors shown in Table TA 3.5.

The 2007 IMPLAN model for San Diego generates direct, indirect, and induced economic impacts for jobs, payroll, and output per \$10,000,000 for each of these sectors. (See Table TA 3.6.) The spreadsheet model used to estimate the economic impact of the 2050 RTP converts the impacts per \$10,000,000 to ratios per dollar spent, which were then applied to the estimated project cost by each category of expenditure listed in Table TA 3.4.

The economic impact model reports results as average impact per year for the entire plan period (2010-2050) and during each of three phases (2010-2020, 2021-2035, and 2036-2050).

The sum of direct, indirect, and induced effects, as estimated by the cost projections and IMPLAN ratios, were summed for each RTP phase, and rounded to the nearest 100 jobs or nearest \$100 million as shown in Table TA 3.7.

Peer Review and Final Results

Staff presented the preliminary model and results to the Regional Transportation Plan Economic Analyses Working Group on October 27, 2010. The group provided feedback on the model. General consensus was that the model was consistent with industry standards for economic impact assessments. Staff made adjustments to the model, including updating the model with project cost information consistent with the 2050 RTP and incorporating data about the

year of expenditure. Final results included in the Draft 2050 RTP were presented to the working group on April 13, 2011.

In August 2011 staff re-ran the model for the Final 2050 RTP, and final results are reported in Chapter 2 – A Vision for Mid-Century and this Technical Appendix.

Table TA 3.4 – Project Cost Details

Type	Projects in No Build (NB) Scenario	Projects in 2050 RTP
Highway, connector, and goods movement projects		
Environmental Review	YES*	YES
Design	YES*	YES
Construction Oversight	YES*	YES
Capital Construction	YES*	YES
Right of Way	NO	NO
Highway operations & maintenance	YES*	YES
Transit projects		
Environmental Review	YES*	YES
Design	YES*	YES
Construction Oversight	YES*	YES
Capital Construction	YES*	YES
Right of Way	NO	NO
Transit operations and maintenance	YES*	YES
Local streets and roads	YES	YES
Bicycle Master Plan implementation	YES	YES
Transportation Demand Management	NO	YES
Transportation System Management	NO	YES
Additional Rail Grade Separations	NO	YES
Smart Growth Incentive Program	NO	YES
Safe Routes to Transit	NO	YES

* Note: in NB scenario, costs are only included for projects on the “No Build” project list.

Table TA 3.5 – IMPLAN Sectoring Scheme for Impact Analysis

Type	IMPLAN Sector	Sector Description
Highway, connector, and goods movement projects		
Environmental Review	375	Environmental and other technical consulting services
Design	369	Architecture and engineering
Construction Oversight	430	Local government, transportation
Capital Construction	36	Other non-residential construction
Right of Way	N/A	N/A
Highway operations & maintenance	430	Local government, transportation
Transit projects		
Environmental Review	375	Environmental and other technical consulting services
Design	369	Architecture and engineering
Construction Oversight	430	Local government, transportation
Capital Construction	36	Other non-residential construction
Right of Way	N/A	N/A
Transit operations and maintenance	338	Support activities for transportation
Local streets and roads	36,430	Weighted average
Bicycle Master Plan implementation	430	Local government, transportation
Transportation Demand Management	430	Local government, transportation
Transportation System Management	430	Local government, transportation
Additional Rail Grade Separations	36	Other non-residential construction
Smart Growth Incentive Program	375,430	Environmental and other technical consulting services Local government, transportation (depending on type funds)
Safe Routes to Transit	430	Local government, transportation

Table TA 3.6 – Sample Impact Result per \$10,000,000 of Highway, Connector, or Goods Movement Construction

	Direct	Indirect	Induced
project cost	\$10,000,000		
jobs generated	71.8	19.9	34.8
employment compensation	\$3,516,284	\$1,016,964	\$1,310,699
total output	\$10,000,000	\$2,867,134	\$4,493,198

Table TA 3.7 – Results by Phase

	No Build (2010- 2050)	No Build (2010- 2020)	No Build (2021- 2035)	No Build (2036- 2050)	Revenue Constrained (2010-2050)	Revenue Constrained (2010-2020)	Revenue Constrained (2021-2035)	Revenue Constrained (2036-2050)
Jobs generated, avg. per year	17,100	16,900	16,100	18,200	35,600	29,200	31,900	43,700
Output in millions of \$, avg. per year	\$2,000	\$2,000	\$1,900	\$2,200	\$4,400	\$3,600	\$3,900	\$5,400
Payroll in millions of \$, avg. per year	\$900	\$900	\$800	\$900	\$1,800	\$1,500	\$1,600	\$2,200

Revisions to the Benefit-Cost Analysis

This section documents the revisions to the benefit-cost analysis that occurred between publication of the Draft 2050 RTP, released by the SANDAG Board of Directors in April 2011, and the Final 2050 RTP. These changes are described below and corresponding figures are shown in Tables TA 3.8-3.10. The Benefit-Cost Analysis in support of the Final 2050 RTP report documents the methodology used to conduct the benefit-cost analysis and it is included in this Technical Appendix.

Changes after Publication of the Draft RTP

The benefit-cost analysis performed in April 2011 resulted in a benefit-cost ratio of 1.6, which was reported in Table 2.2, “2050 RTP Comparison of Regional Performance Measures” (Draft 2050 RTP page 2-7). Further review of the analysis revealed that the data used in the BCA model for vehicle miles traveled (VMT) was not adjusted for off-model calculations. CO2 emissions were calculated

using the EMFAC 2007 model with the unadjusted VMT as input. (Off-model calculations are used to adjust for programs such as Safe Routes to School, regional vanpool programs, and pedestrian and bicycle network improvements. Please see page 3-65 of the Draft 2050 RTP and Technical Appendix 15 for more information.)

The BCA was re-run with the lower, adjusted VMT and CO2 emissions data and, consequently, emission cost savings, noise cost savings, and safety benefits increased to bring total benefits to \$59.44 billion, as compared to the \$40.85 billion reported in the Draft 2050 RTP. Costs remained unchanged, so the benefit-cost ratio (benefits divided by costs) increased to 2.27. This ratio is presented in the Benefit-Cost Analysis in support of the Final 2050 RTP report, dated June 30, 2011, included in this Technical Appendix.

Network Changes between the Draft and Final RTP

Some revisions to the Revenue Constrained network included in the Draft 2050 RTP were made for the Final 2050 RTP, at the direction of the SANDAG Board of Directors. (Please see Chapter 6 and Appendix A of the Final 2050 RTP for details). The BCA model was re-run with the revised RTP network costs and travel demand model outputs in August, and the resultant benefit-cost ratio of 2.1 is included with the performance measures for the Final 2050 RTP.

Table TA 3.8 – Discounted Benefits for Hybrid Scenario (\$2010 billion)

Benefit Category	Draft 2050 RTP (April 2011)	BCA Report (June 2011)	Final 2050 RTP (October 2011)
User Benefits	\$51.18	\$51.18	\$45.98
Emission Cost Savings	-\$12.52	\$2.25	\$2.26
Noise Cost Savings	-\$0.002	\$0.35	\$0.48
Safety Benefits	-\$0.02	\$3.46	\$4.79
Community Livability Benefits	\$2.21	\$2.21	\$2.21
Total Benefits	\$40.85	\$59.45	\$55.72

Table TA 3.9 – Discounted Costs (\$2010 billion)

Cost Category	Draft 2050 RTP (April 2011)	BCA Report (June 2011)	Final 2050 RTP (October 2011)
Capital Costs	\$21.98	\$21.98	\$23.09
O&M Costs	\$4.20	\$4.20	\$4.03
Total Costs	\$26.18	\$26.18	\$27.12

Table TA 3.10 – Benefit-Cost Analysis Summary Indicators

BCA Metric	Draft 2050 RTP (April 2011)	BCA Report (June 2011)	Final 2050 RTP (October 2011)
Net Present Value (\$2010 billion)	\$14.67	\$33.26	\$28.61
Benefit/Cost Ratio	1.6	2.27	2.1
Internal Rate of Return (%)	8.1%	18.3%	14.5%

Sources for Economic Analysis

The University of Kansas, Center for Applied Economics "Evaluating Roads as Investments: A Primer on Benefit-Cost and Economic-Impact Analysis." April 2008. http://www.business.ku.edu/research/applied_economics/publications/

Cambridge Systematics analysis for Maryland DOT "Economic Impact from Maryland's Surface Transportation Spending 1997-2006." September 2006.

http://www.mdot.maryland.gov/Planning/Plans_Programs_Reports/Documents/State_Highway_Administration/SHA_Surface_Spending.pdf

HDR Decision Economics for the San Diego Association of Governments, *Benefit-Cost Analysis in Support of the 2050 Regional Transportation Plan*, June 2011.



Introduction

This technical appendix describes the process for developing evaluation criteria for prioritizing highway, high occupancy vehicle (HOV) connectors, freeway connectors, transit, and goods movement projects included in the Unconstrained Transportation Network of the 2050 Regional Transportation Plan (RTP). This appendix also includes information on the creation of criteria to prioritize regional rail grade separations, and screening criteria for the regional arterial system.

Informed by the 2050 RTP goals set by the Board of Directors, the project evaluation criteria are one element of a multistep process used to develop the revenue constrained multimodal transportation network for the RTP. Project rankings; along with other factors such as funding availability, project readiness, and overall network connectivity; were considered when developing the proposed 2050 RTP network alternatives.

The Board of Directors approved the transportation project evaluation criteria for highway corridors, freeway and HOV connectors, transit services, and freight projects on June 11, 2010.

Transportation Project Evaluation Criteria

SANDAG utilized criteria for evaluating and ranking highway, transit, freeway connector and HOV connectors in the previous 2030 RTP: Pathways for the Future (2030 RTP). As part of the development of the 2050 RTP, the Executive Director and the Chair of the Board of Directors established the Transportation Project Evaluation Criteria Ad Hoc Working Group (TPEC) to review and update the transportation project evaluation criteria. A comprehensive update of the regional arterial

screening criteria was done for the 2030 RTP and was not modified for the 2050 RTP.

The TPEC was composed of representatives from a number of standing SANDAG working groups, including the Bicycle-Pedestrian Working Group (BPWG), Cities/County Transportation Advisory Committee (CTAC), Regional Planning Stakeholders Working Group (SWG), Regional Planning Technical Working Group (TWG), Tribal Transportation Technical Working Group, as well as staff from Caltrans, MTS, NCTD, the San Diego County Regional Airport Authority, and Port of San Diego. The TPEC met on a monthly basis beginning in September 2009 and created and updated evaluation criteria to analyze regional transit service, highway, freeway connector, and HOV connector projects.

The revisions to the RTP criteria were intended to support the vision of the Regional Comprehensive Plan (RCP) and address the updated goals of the 2050 RTP. Where appropriate, efforts also were taken to simplify and standardize the criteria across different modal categories. New criteria were also added to address emerging issues such as greenhouse gas (GHG) and to enhance social equity analysis. The criteria are structured with a standard 100-point scoring system.

The TPEC organized the updated criteria into three major categories: Serves Travel Needs, Develops Network Integration, and Addresses Sustainability. The Serves Travel Needs category contains criteria that focus on the movement of people and goods and awards points for projects that serve peak-period trips, goods movement, or congested corridors. The Network Integration criteria give credit for projects that provide connectivity between surrounding land uses and the transportation network. Criteria in this category include measures such as serving

RCP Smart Growth Areas, incorporation of transit and/or Managed or HOV lanes, and linking high frequency transit. The Addresses Sustainability category focuses on criteria that fall within the “3 Es” of healthy environment, economic prosperity and social equity. These criteria provide for a comprehensive assessment of the annual capital, operation, and maintenance costs of the project in relation to the number of people moved or person hours saved.

The same three criteria categories are used for transit services, highway, freeway connector, and HOV connector criteria, with variations in the individual criteria. Within each of the three categories, weighting for each of the individual criteria also was determined. The individual criteria descriptions, weighting, and score details are listed in Tables TA 4.1 to TA 4.16.

Highway Corridors

SANDAG has used criteria for evaluating and ranking highway corridor projects since 1997. Using the 2030 RTP criteria as a starting point, the TPEC created a set of revised highway corridor evaluation criteria which reflect SANDAG Board-adopted principles on smart growth, social equity, GHG reductions, and the Urban Area Transit Study.

The fifteen highway evaluation criteria presented in Tables TA 4.1 and TA 4.2 quantify project traffic usage, evacuation route access, travel time savings, cost, critical linkages, safety, goods movement, access to employment, smart growth, carpool lane integration, transit integration, greenhouse gas emissions, social equity, habitat preservation, and residential impacts. SANDAG staff has worked with Caltrans, MTS, NCTD, the TPEC members and their respective working groups to revise and update the criteria. Table TA 4.3 describes the highway evaluation criteria weighting.

The highway network corridor evaluation was used to develop the Revenue Constrained Network alternatives and project phasing included in the 2050 RTP. The 46 unconstrained highway corridors originally evaluated for the 2050 RTP are listed in priority order in Table TA 4.4.

The prioritized list of highway projects was used as a tool in assembling logical transportation networks of highway projects that complement transit and arterial projects. Priority order is not necessarily strictly followed. Rather, emphasis is placed upon developing meaningful networks in accordance with the 2050 RTP goals and objectives.

High Occupancy Vehicle Connectors

HOV connectors will facilitate direct HOV to HOV access and allow for continuous movement on the HOV or Managed Lanes network from freeway to freeway. The HOV connector criteria and weighting are shown in Tables TA 4.5 through 4.7. The HOV Connectors are ranked by pair and shown in Table TA 4.8. Nine HOV connectors are included in the Revenue Constrained Scenario.

Freeway-to-Freeway Connectors

The TPEC also updated the Freeway-to-Freeway Connector criteria. The TPEC provided input that resulted in the use a number of the same criteria that were used to evaluate highway projects. The nine criteria shown in Tables TA 4.9 through 4.11 quantify project area accident rates, goods movement, mobility, congestion relief, transit integration, and cost effectiveness. The ranked projects are shown in Table TA 4.12.

Transit Services

The TPEC, with key input from MTS and NCTD staff, updated the Transit Services Evaluation criteria in order to prioritize new transit services. Building on the criteria developed for use in the 2030 RTP, the TPEC recommended a number of modifications which integrate the Regional Comprehensive Plan and transit connectivity. The evaluation of the 53 regional transit services was used to develop the Revenue Constrained Network alternatives and project phasing included in the 2050 RTP.

Tables TA 4.13 and 4.14 describe the transit services evaluation criteria and detailed scoring. Table TA 4.15 describes the transit services criteria weighting. All transit routes evaluated for the 2050 RTP are listed in priority order in Table TA 4.16.

Goods Movement

The 2050 Goods Movement Strategy (GMS) considers the growing importance of freight and goods movement to the region's economic prosperity and seeks to balance regional and national freight priorities. The unconstrained goods movement network consists primarily of road and truckway projects (accommodating more than 90 percent of freight by volume) that comprise the backbone of the freight distribution network. The unconstrained network outlined in the 2050 GMS also includes several maritime, rail, border, air cargo, intermodal, and pipeline related projects. Projects included in the GMS were evaluated using evaluation criteria approved by the Board of Directors on June 11, 2010, and a prioritized GMS list of projects was developed.

An Ad Hoc Freight Stakeholders Group was formed to provide input on the development of the 2050 GMS to include feedback on

evaluation criteria, and related goods movement planning activities. The Ad Hoc Freight Stakeholders Group was comprised of members representing the Port of San Diego and Port users; San Diego County Regional Airport Authority, and shippers and carriers using the airport; San Diego and Arizona Eastern Railway; BNSF Railway; regional truckers; warehouse operators; San Diego Regional and Otay Mesa Chambers of Commerce; San Diego World Trade Center; Caltrans; and others interested in efficient goods movement in the San Diego region. Additionally, two members from the Cities/County Transportation Advisory Committee (CTAC), representing the Public Works Directors in the San Diego region, were appointed to participate on the Ad Hoc Freight Stakeholders Group.

The evaluation criteria for the 2050 GMS follow the policy goals established by the Board of Directors for the 2050 RTP. The evaluation criteria also consider the two overarching themes for the 2050 RTP: Quality of Travel & Livability, and Sustainability. The goods movement project evaluation criteria are grouped into three focus areas, as follows:

- Serves Freight System Needs
- Develops Freight Network Integration
- Addresses Sustainability

The "Serves Freight System Needs" and "Develops Network Integration" focus areas generally correspond to the Quality of Travel & Livability theme while "Addresses Sustainability" is linked to the Three "Es" (Social Equity, Healthy Environment, and Prosperous Economy).

Staff worked with the Ad Hoc Freight Stakeholder Group to develop scores and weights for the individual criteria included under each of the three focus areas.

Tables TA 4.17 through 4.21 provide a list of the evaluation criteria focus areas and descriptions for each criterion.

Changes to the evaluation criteria weightings from the 2030 Goods Movement Action Plan (GMAP) were driven by the addition of the Sustainability focus area. Additionally the evaluation criteria weightings were adapted for each individual mode to account for significant differences in scale among modes. The final project list ranked by mode is included in Table 4.22.

Evaluation criteria developed for goods movement projects were used to rank freight projects by mode, including Maritime (seaport related), Rail and Intermodal Facilities, Truck/Roadway, and Airport projects that facilitate goods movement and integrate the region's freight network. The ranked projects were used to develop the prioritized lists of goods movement projects by mode to be incorporated into the 2050 RTP. In addition to the ranked projects, pipeline projects and goods movements projects located on the Mexican side of the border were listed as "projects of interest" but not evaluated nor ranked for funding.

Rail Grade Separation Criteria

The Cities/County Transportation Advisory Committee (CTAC) developed regional rail grade separation prioritization criteria that stress congestion relief, safety, and funding needs as the primary elements with additional consideration of other factors, including effects on pedestrian traffic, bus transit operations, emergency services, truck freight operations, and noise.

In preparation for the development of the criteria, staff conducted a literature search of other rail grade separation prioritization criteria. These included the California Public Utilities Commission criteria, other states'

criteria, the federal government, as well as articles published in research journals. The findings formed the basis for the initial discussions within CTAC.

The intent of the implementation of a regional rail grade separation program is to provide funding for construction of significant traffic congestion relief projects through the implementation of rail grade separations where other more economical alternatives are demonstrably not feasible or practical. Elimination of crossings is considered a potentially practical alternative. Program allocations will need to be considered in conjunction with other regional transportation funding priorities and needs, and will be dependent on the availability of funding from federal, state, and local sources.

The rail grade separation prioritization criteria were accepted by the SANDAG Board of Directors for inclusion in the 2030 RTP on October 13, 2006. For the 2050 RTP minor revisions were made to the criteria after a review was conducted by a working group formed by the San Diego Regional Traffic Engineers Council.

Projects were prioritized based on two criteria categories: project-specific criteria and Regional Housing Needs Assessment (RHNA) housing production. The project-specific criteria are worth 75 percent, and the RHNA housing production criteria comprises 25 percent of the total project score. The criteria are shown in Table TA 4.23. The final rankings are included in Table TA 4.24.

Regional Arterial System

The Regional Arterial System constitutes that part of the local street and road network which, in conjunction with the system of highways and transit services, provides for a significant amount of mobility throughout the region. The Regional Arterial System defines

roads eligible for SANDAG fund allocation and was updated through an extensive process as part of the 2030 RTP. A Regional Arterial System has been included as part of the Regional Transportation Plan (RTP) since 1989. Given the comprehensive nature of the 2030 RTP update, no additional modifications have been made to the RAS for the 2050 RTP.

The Regional Arterial System includes 1,038 miles of roads.

Regional Arterial System Screening Criteria

Regional arterials are longer continuous routes that provide accessibility between communities within the region and which also may allow subregional trips to avoid freeway travel. In order to qualify for the updated RAS, arterials must meet at least one of four approved criteria shown below. The first criterion is that the arterial is already included in the existing RAS. Any additions to the network must meet one of the remaining three criteria:

- Provides parallel capacity in high-volume corridors to supplement freeways, state highways, and/or other regional arterials (Corridor)
- Provides capacity and a direct connection between freeways or other regional arterials, ensuring continuity of the freeway, state highways, and arterial network throughout the region without duplicating other regional facilities (Cross-corridor)
- Provides all or part of the route for existing or planned regional and/or corridor transit service that provides headways of 15 minutes or less during the peak-period

There are certain design characteristics that can help facilitate regional trip movements on the Regional Arterial System. These characteristics can help to facilitate trip movement and include:

- Interconnection and systems management of traffic signals
- Raised or striped medians
- Limitation and separation of left-turn movements
- Limited driveway access and other access controls
- Grade separations at rail crossings
- Shoulders and bikeways to accommodate bicycle movement
- Pedestrian treatments at intersections
- Priority traffic signal systems for transit service
- Bypass or “queue-jumper” lanes for transit service at critical intersections
- Enhanced transit stops
- Pedestrian facilities designed according to the Regional Pedestrian Design Guidelines
- Modern roundabouts and alternate intersection design where appropriate
- Freeway interchange modifications in accordance with Caltrans standards

A complete listing of the Regional Arterial System is provided in Table TA 4.25 and shown in Figure TA 4.1. All freeway interchanges are considered part of the Regional Arterial System.

Table TA 4.1 – Summary of Highway Corridor Evaluation Criteria

Goal	Criteria	Description
Serves Travel Needs	Located in a High Crash Rate Area	Is the project located in an area with a high vehicular crash rate?
	Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?
	Serves Goods Movement	Does the project provide for goods movement?
	Serves Daily Trips	What is the number daily person trips (origins and destinations) located within one mile of the highway corridor?
	Provides Mobility and Congestion Relief	What is the increase in person capacity resulting from the project?
	Provides Congestion Relief	What is the number of daily person-hours saved?
Develops Network Integration	Serves RCP Smart Growth Areas	Does the project serve RCP Smart Growth Areas?
	Facilitates Carpool and Transit Mobility	Does the project contain carpool/Managed Lane facilities and/or regional or corridor transit service?
	Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?
	Critical Linkage	Is the project located in a high volume freeway corridor and/or lacking a continuous parallel arterial to provide congestion relief?
Addresses-Sustainability	Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating/maintenance project cost per project mile divided by person hours saved?
	GHG Emissions	What is the change in regional CO2 emissions from implementing the project?
	Provides Accessibility to Low-Income/Minority/Senior (75+) Areas Including Federally Recognized Indian Reservations	Does the highway corridor serve low-income/minority/senior (75+) areas including federally recognized Indian reservations within one mile of the project?
	Provides Accessibility to Federally Recognized Indian Reservations	Does the highway corridor serve federally recognized Indian reservations within one mile of the project?
	Access to Jobs	What is the total number of projected 2050 jobs served within one mile of the project?

Table TA 4.2 – Highway Corridor Evaluation Criteria

Criteria	Description																								
1. Located in a High Crash Rate Area	<p>Is the project located in an area with a high vehicular crash rate?</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>5-4</td> <td>Regional percentage of crash rates that exceed the statewide average</td> </tr> <tr> <td>3-1</td> <td>Regional percentage of crash rates below the statewide average</td> </tr> </tbody> </table> <p>Project scores are based on Caltrans District 11 TASAS Table B report data.</p>	Score	Description	5-4	Regional percentage of crash rates that exceed the statewide average	3-1	Regional percentage of crash rates below the statewide average																		
Score	Description																								
5-4	Regional percentage of crash rates that exceed the statewide average																								
3-1	Regional percentage of crash rates below the statewide average																								
2. Provides Access to Evacuation Routes	<p>Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>5-0</td> <td>Range of average hazard index scores</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project.</p> <p>The project score is determined by the average scores within the hazard index. The hazard index was generated utilizing spatial data from the County of San Diego Final Draft Hazard Mitigation Plan, February 2010. Hazards include: Dam failure, earthquake, flood, landslide, liquefaction, wildfire, and tsunami.</p>	Score	Description	5-0	Range of average hazard index scores																				
Score	Description																								
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Table TA 4.2 – Highway Corridor Evaluation Criteria (Continued)

Criteria	Description
4. Serves Daily Person Trips	<p>What is the number of daily person trips (origins and destinations) located within one mile of the highway corridor?</p> <p>Score Description</p> <hr/> <p>5-0 Number of daily trips per mile</p> <p>Note: These scores will be ranked relative to the highest performing project. This criterion reflects each project’s daily trip catchment utilizing a buffer analysis.</p>
5. Provides Mobility and Congestion Relief	<p>What is the increase in person capacity resulting from the project?</p> <p>Score Description</p> <hr/> <p>10-0 Change in persons per lane mile</p> <p>Note: These scores will be ranked relative to the highest performing project. Calculated as change in person miles traveled divided by project length (miles).</p>
6. Provides Congestion Relief	<p>What is the number of daily person-hours saved?</p> <p>Score Description</p> <hr/> <p>5-0 Number of person-hours saved</p> <p>Note: These scores will be ranked relative to the highest performing project.</p> <p>This criterion accounts for both current (2008) and 2050 congestion relief. Total daily travel time is computed for a baseline condition that includes all current 2008 fully funded and/or environmentally cleared projects. Travel time is again computed by adding each project, one by one, to the baseline condition. The resulting travel time is then compared to the baseline travel time. The difference is the travel time savings that can be attributed to each project. Higher ranking projects have the largest number of person-hours saved.</p> <p>To incorporate existing congestion, the level of service (LOS) on the existing network was analyzed. The LOS were grouped into categories of F, E-D, and C-A. The 2050 hours were then divided by a factor assigned to these three groups. F = 1, E-D = 1.5 and C-A = 2.</p>

Table TA 4.2 – Highway Corridor Evaluation Criteria (Continued)

Criteria	Description	
7. Serves RCP Smart Growth Centers	Does the project serve RCP Smart Growth areas?	
	A) Highway corridors shall receive points for each place type they serve.	
	Score Description	
	5	Serves existing/planned Metropolitan Center, Urban Center, or Special Use Center
	3	Serves potential Urban Center or Special Use Center
	B) Highway corridors shall receive points for exceeding residential/employment requirements of each place type they serve.	
	Score Description	
	5	Exceeds minimum residential/employment requirements by 100% or more
	3	Exceeds minimum residential/employment requirements by 50-99%
	1	Exceeds minimum residential/employment requirements by 25-49%
	Score Description	
	5-0 Scores are based on the combined total number of parts A and B and are normalized to a maximum of 5 points	
	Note: These scores will be ranked relative to the highest performing project. Based on the densities included in the 2050 Regional Growth Forecast.	
8. Facilitates Carpool and Transit Mobility	Does the project contain carpool/Managed Lane facilities and/or regional or corridor transit service within a congested corridor?	
	Score Description	
	5	Includes carpool/Managed Lane facility and Regional or Corridor transit services identified in the RTP and located on a congested corridor.
	4	Includes carpool/Managed Lane facility and Regional or Corridor transit services identified in the RTP and not located on a congested corridor
	3	Includes carpool facility/Managed Lane or Regional or Corridor transit services identified in the RTP and located on a congested corridor.
	2	Includes carpool facility/Managed Lane or Regional or Corridor transit services identified in the RTP and not located on a congested corridor
	Note: Congested corridors are measured by majority of corridor with 2050 peak-period level of service (LOS) E or F.	

Table TA 4.2 – Highway Corridor Evaluation Criteria (Continued)

Criteria	Description								
9. Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?								
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Avoids preserve areas as defined by habitat conservation plans or other state or federal lands designated for habitat conservation</td> </tr> <tr> <td>1</td> <td>Avoids native habitats</td> </tr> <tr> <td>2</td> <td>Avoids existing residential development (defined as existing housing stock within 500-feet of the highway right of way and is more than two dwelling-units per acre. This does not imply a taking and is used only as a measure of proximity).</td> </tr> </tbody> </table>	Score	Description	2	Avoids preserve areas as defined by habitat conservation plans or other state or federal lands designated for habitat conservation	1	Avoids native habitats	2	Avoids existing residential development (defined as existing housing stock within 500-feet of the highway right of way and is more than two dwelling-units per acre. This does not imply a taking and is used only as a measure of proximity).
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10. Critical Linkage	Is the project located in a high volume freeway corridor and/or lacking a continuous parallel arterial to provide congestion relief?								
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Table TA 4.2 – Highway Corridor Evaluation Criteria (Continued)

Criteria	Description
11. Cost-Effectiveness of Congestion Relief	<p>What is the annual public capital and operating project cost per project mile divided by person-hours saved?</p> <p>Score Description</p> <hr/> <p>20-0 Cost per person-hour saved (congestion relief) per lane mile</p> <p>Note: These scores will be ranked relative to the highest performing project.</p> <p>Calculated as: $\frac{((\text{Total annual operating \& maintenance cost}) + (\text{capital project cost} / \text{Project life}))}{\text{annual weekday person hours saved.}}$ </p> <p>Higher ranking projects have a lower cost per person-hour saved.</p>
12. GHG Emissions	<p>What is the change in regional CO₂ emissions from implementing the project?</p> <p>Score Description</p> <hr/> <p>10-0 Change in CO₂ with and without project</p> <p>Note: These scores will be ranked relative to the highest performing project.</p> <p>The calculation is based on the California Air Resources Board (CARB) EMFAC emissions model.</p>
13. Provides Accessibility to Low-Income/Minority/Senior (75+) Areas Including Federally Recognized Indian Reservations	<p>Does the highway corridor serve low-income/minority/senior (75+) areas including federally recognized Indian reservations within one mile of the project?</p> <p>Score Description</p> <hr/> <p>4-0 Range of proportion of low-income/minority/senior (75+) population served including federally recognized Indian reservations relative to the total population within one mile of the project</p> <p>Note: These scores will be ranked relative to the highest performing project.</p>

Table TA 4.2 – Highway Corridor Evaluation Criteria (Continued)

Criteria	Description					
14. Provides Accessibility to Federally Recognized Indian Reservations	Does the highway corridor serve federally recognized Indian reservations?					
	<table border="0"> <thead> <tr> <th data-bbox="500 394 570 422">Score</th> <th data-bbox="618 394 748 422">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="618 453 639 480">1</td> <td data-bbox="667 453 704 480">Yes</td> </tr> <tr> <td data-bbox="618 491 639 518">0</td> <td data-bbox="667 491 704 518">No</td> </tr> </tbody> </table>	Score	Description	1	Yes	0
Score	Description					
1	Yes					
0	No					
15. Access to Jobs	What is the total number of projected 2050 jobs served within one mile of the project?					
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5-0	Range of total number of jobs served per mile					

Table TA 4.3 – Highway Corridor Project Evaluation Criteria Weighting

Focus Areas	2050 RTP Goals	Criteria	Description	Max. Score	Total Percent
Serves Travel Needs	System Preservation & Safety Reliability	Located in a High Accident Rate Area	Is the project located in an area with a high vehicular crash rate?	5	40
	System Preservation & Safety	Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?	5	
	Mobility, Prosperous Economy	Serves Goods Movement	Does the project accommodate goods movement and provide for congestion relief?	10	
	Mobility	Serves Daily Person Trips	What is the number of potential daily person trips located within one mile of the highway corridor?	5	
	Mobility	Provides Mobility and Congestion Relief	What is the increase in person capacity resulting from the project?	10	
	Mobility, Healthy Environment	Provides Congestion Relief	What is the number of daily person-hours saved?	5	
Develops Network Integration	Mobility, Healthy Environment	Serves RCP Smart Growth Areas	Does the project serve RCP Smart Growth Areas?	5	20
	Mobility	Facilitates Carpool and Transit Mobility	Does the project contain carpool/Managed Lane facilities and/or regional or corridor transit service within a congested corridor?	5	
	Healthy Environment	Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?	5	
	Mobility, Reliability	Critical Linkage	Is the project located in a high volume freeway corridor and/or lacking a continuous parallel arterial listed in the Regional Arterial System to provide congestion relief?	5	

Table TA 4.3 Highway Corridor Project Evaluation Criteria Weighting (Continued)

Focus Areas	2050 RTP Goals	Criteria	Description	Max. Score	Total Percent
Addresses Sustainability	Prosperous Economy	Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating project cost divided by person-hours saved?	20	40
	Healthy Environment	GHG Emissions	What is the change in regional CO ₂ emissions from implementing the project?	10	
	Social Equity, Mobility	Provides Accessibility to Low-Income/Minority/Senior (75+) Areas Including Federally Recognized Indian Reservations	Does the highway corridor serve low-income/minority/senior (75+) areas including federally recognized Indian reservations within one mile of the project?	4	
	Social Equity, Mobility	Provides Accessibility to Federally Recognized Indian Reservations	Does the highway corridor serve federally recognized Indian reservations within one mile of the project?	1	
	Prosperous Economy, Social Equity, Mobility	Access to Jobs	What is the number of projected 2050 jobs served within one mile of the project?	5	

Table TA 4.4 – Highway Corridor Evaluation Ranking

TransNet, EAP	Freeway	From	To	Existing	Improvements	Capital Cost (mil)	Serves Travel Needs						Develops Network Integration				Addresses Sustainability					2050 RTP Project Rank	
							[1] Crash Rate [5]	[2] Evacuation Routes [5]	[3] Goods Movement [10]	[4] Person Trips [5]	[5] Provides Mobility [10]	[6] Congestion Relief [5]	[7] Smart Growth [5]	[8] Carpool Transit [5]	[9] Habitat Res Impacts [5]	[10] Critical Linkage [5]	[11] Cost- Effectiveness [20]	[12] GHG Emissions [10]	[13] LIM Access [4]	[14] Indian Res Access [1]	[15] Job Access [5]		Total Score
EAP (Transit)	I-805	I-8	Carroll Canyon Road	8F/10F	8F/10F+4ML	\$594	2	3.27	9.52	4.53	9.58	2.67	2.20	5	0	5	12.17	10.00	2.57	0	4.46	72.97	1
	SR 125	SR 94	I-8	8F	10F+2HOV	\$285	3	2.55	5.45	4.54	9.65	3.04	1.00	4	2	0	15.87	5.81	2.43	0	4.21	63.55	2
EAP (Transit)	I-15	I-8	SR 163	8F	8F+2HOV	\$130	1	2.86	6.56	4.37	9.43	2.73	0.00	4	0	0	20.00	5.58	2.13	0	4.35	63.01	3
EAP (Env)	I-5	SR 56	Palomar Airport Rd	8F/8F+2HOV	10F+4ML	\$2,195	1	3.75	8.06	4.27	9.40	2.49	0.60	5	0	5	9.48	8.37	1.66	0	3.92	63.01	4
TransNet	SR 78	I-5	I-15	6F	6F+2HOV	\$570	3	3.62	4.19	4.43	10.00	1.85	2.20	5	0	1	12.59	6.28	2.83	0	4.15	61.14	5
TransNet	I-5	I-8	La Jolla Village Dr	8F/10F	8F/10F+2HOV	\$530	1	3.83	3.66	4.44	9.84	2.75	2.80	5	0	5	8.74	6.51	2.43	0	4.29	60.29	6
EAP (Env)	I-805	Carroll Canyon Road	I-5 (north)	8F	8F+4ML	\$90	2	3.47	8.90	4.52	7.49	0.42	1.20	4	2	5	7.45	4.88	2.24	0	4.68	58.25	7
TransNet	SR 67	Mapleview St	Dye Rd	2C/4C	4C	\$570	2	3.80	2.83	3.66	9.68	5.00	0.00	2	0	0	14.90	8.60	1.69	0	2.94	57.12	8
EAP (Transit)	I-805	SR 54	I-8	8F	8F+4ML	\$1,800	1	3.06	7.55	4.54	9.41	2.03	0.00	4	0	5	5.64	6.05	3.83	0	4.15	56.25	9
EAP (Transit)	I-805	Mission Valley Viaduct		8F	8F+4ML	\$610	3	2.81	8.65	5.00	7.71	2.61	1.00	4	0	1	4.10	5.12	3.10	0	5.00	53.10	10
	SR 52	I-15	SR 125	4F	6F+3ML/MB	\$440	1	3.75	7.06	4.07	8.86	0.68	0.00	5	0	3	7.93	6.28	1.67	0	3.70	53.00	11
	I-805	SR 905	Telegraph Canyon Rd.	8F	8F+4ML	\$440	1	3.16	8.03	4.38	9.10	0.68	0.00	4	0	5	6.38	3.49	3.41	0	3.84	52.47	12
	I-8	SR 125	2nd Street	6F/8F	6F/8F+Operational	\$125	3	3.55	7.03	4.60	7.47	2.60	1.00	0	3	1	6.85	4.65	2.88	0	4.30	51.92	13
TransNet	I-5	SR 54	I-15	8F	10F+2HOV	\$240	3	3.85	4.59	4.57	9.06	2.19	0.00	2	0	0	8.30	5.58	3.81	0	4.49	51.44	14
TransNet	I-5	SR 905	SR 54	8F	8F+2HOV	\$200	2	3.65	4.67	4.44	9.24	0.76	1.00	2	0	1	8.90	5.35	3.71	0	4.10	50.83	15
TransNet	SR 125	SR 54	SR 94	6F	8F+2HOV	\$140	3	3.55	5.64	4.37	8.45	0.52	0.00	4	0	0	9.13	5.12	3.24	0	3.71	50.73	16
TransNet	I-5	I-15	I-8	8F	8F+Operational	\$1,130	3	3.19	3.42	4.72	5.50	1.42	3.00	3	3	1	5.96	5.12	3.31	0	4.70	50.32	17
EAP (Env)	I-805	Telegraph Canyon Rd.	SR 54	8F	8F+4ML	\$370	1	4.06	5.29	4.41	8.10	0.96	0.00	4	0	5	5.33	4.42	3.14	0	3.84	49.55	18
EAP (Transit)	I-15	SR 94	I-8	8F	8F+2HOV	\$120	2	2.88	3.81	4.54	9.45	0.81	0.00	4	0	0	9.18	4.65	4.00	0	4.18	49.50	19
	SR 76	Melrose Drive	Mission Rd	4C	6C	\$190	3	4.59	1.23	3.85	9.05	1.66	0.00	3	0	3	8.54	6.05	2.29	0	3.08	49.34	20
	SR 905	I-805	Mexico	6F	8F	\$205	-	2.45	8.93	4.32	8.44	0.74	1.20	2	0	0	8.34	5.12	3.34	0	4.20	49.07	21
EAP (Transit)	SR 94	I-5	I-805	8F	8F+2HOV	\$480	4	2.88	3.18	4.79	8.60	1.62	2.00	5	2	1	4.68	4.88	3.68	0	4.67	48.99	22
	I-15	I-5	SR 94	6F	8F+2HOV	\$90	3	3.27	6.35	4.56	7.75	0.60	0.00	2	0	0	7.85	5.12	3.89	0	4.55	48.93	23

Table TA 4.4 – Highway Corridor Evaluation Ranking (Continued)

							Serves Travel Needs					Develops Network Integration					Addresses Sustainability						
<i>TransNet</i> , EAP	Freeway	From	To	Existing	Improvements	Capital Cost (mil)	[1] Crash Rate [5]	[2] Evacuation Routes [5]	[3] Goods Movement [10]	[4] Person Trips [5]	[5] Provides Mobility [10]	[6] Congestion Relief [5]	[7] Smart Growth [5]	[8] Carpool Transit [5]	[9] Habitat Res Impacts [5]	[10] Critical Linkage [5]	[11] Cost- Effectiveness [20]	[12] GHG Emissions [10]	[13] LIM Access [4]	[14] Indian Res Access [1]	[15] Job Access [5]	Total Score	2050 RTP Project Rank
<i>TransNet</i>	SR 94	Jamacha Rd	Melody Rd	2C	4C	\$110	2	3.62	4.55	3.92	9.02	0.93	0.00	0	0	1	11.59	5.35	2.18	1	3.17	48.33	24
EAP (Env)	I-5	Palomar Airport Rd	Vandegrift Boulevard	8F	10F+4ML	\$1,398	2	3.72	7.27	4.41	8.39	1.22	0.00	4	0	0	6.55	3.95	2.55	0	4.00	48.05	25
	SR 76	I-15	Couser Canyon	2C	4C/6C	\$130	5	5.00	3.70	3.74	7.62	0.60	0.00	2	4	1	8.25	4.88	2.73	1	3.03	47.55	26
<i>TransNet</i>	SR 94	I-805	College Ave	8F	10F+2HOV	\$300	3	2.70	4.86	4.47	8.93	1.53	0.00	2	0	0	7.37	4.88	3.80	0	4.00	47.55	27
<i>TransNet</i>	I-5	La Jolla Village Dr	I-5/I-805 Merge	8F/14F+2HOV	8F/14F+4ML	\$303	2	2.81	5.84	4.58	5.09	0.71	1.80	4	2	0	6.29	4.88	2.52	0	4.86	47.38	28
	SR 67	I-8	Mapleview St	4F/6F	6F/8F	\$180	4	4.29	6.58	4.48	8.99	0.67	0.00	2	0	0	7.89	4.88	2.47	0	4.22	46.47	29
	SR 52	I-805	I-15	6F	6F+2HOV	\$190	1	3.72	4.91	4.39	8.73	0.69	0.00	4	0	0	7.16	4.42	2.47	0	4.45	45.94	30
	SR 52	I-5	I-805	4F	6F	\$110	1	3.32	2.88	4.29	9.50	2.05	0.00	0	0	1	10.14	5.35	2.30	0	3.85	45.67	31
EAP (Env)	I-5	I-5/I-805 Merge	SR 56	8F/14F	8F/14F+4ML	\$427	2	3.70	8.71	4.36	6.60	0.56	0.00	4	0	0	4.49	4.65	1.84	0	4.46	45.37	32
	I-8	I-5	I-15	8F	8F+Operational	\$440	4	4.57	3.09	4.67	7.91	2.20	5.00	0	0	1	4.33	5.35	2.53	0	4.61	45.26	33
<i>TransNet</i>	SR 94	SR 125	Avocado Blvd	4F	6F	\$90	4	2.96	4.86	4.33	8.71	0.77	0.00	0	2	1	9.18	4.88	2.72	0	3.63	45.04	34
	SR 163	I-805	I-15	8F	8F+2HOV	\$320	1	3.29	5.00	4.40	9.06	0.84	0.00	2	2	0	5.84	4.42	2.66	0	4.48	44.99	35
	SR 52	SR 125	SR 67	4F	6F	\$120	-	4.26	6.88	4.52	9.10	0.84	0.00	0	0	0	7.81	5.12	1.67	0	4.30	44.50	36
<i>TransNet</i>	SR 54	I-5	SR 125	6F	6F/8F+2HOV	\$140	4	3.65	6.09	4.38	8.50	0.34	0.00	2	0	0	7.45	4.65	3.49	0	3.91	44.46	37
	SR 125	I-8	SR 52	6F	6F+2HOV	\$440	2	2.91	5.53	4.44	8.45	0.39	1.60	4	0	0	4.29	4.65	1.96	0	3.99	44.21	38
	SR 76	I-5	Melrose Drive	4E	6E	\$225	3	4.57	2.73	4.31	8.99	0.56	0.00	0	0	1	6.99	5.58	2.76	0	3.69	44.18	39
	I-8	I-15	SR 125	8F/10F	8F/10F+Operational	\$125	2	3.37	3.45	4.52	7.41	1.30	2.20	0	0	1	7.05	4.88	2.42	0	4.30	43.90	40
<i>TransNet</i>	I-8	2nd Street	Dunbar Rd.	4F/6F	6F	\$335	1	3.47	7.20	4.23	7.91	0.86	0.00	0	0	1	7.98	3.95	2.40	0	3.41	43.41	41
EAP (Transit)	I-15	Viaduct		8F	8F+2HOV	\$720	1	3.93	4.12	4.74	6.55	0.88	0.00	4	0	0	2.82	4.88	3.15	0	4.68	40.76	42
	SR 905	I-5	I-805	4F	8F	\$150	-	2.81	5.63	4.41	7.18	0.28	0.00	2	0	0	5.73	4.88	3.70	0	3.83	40.46	43
<i>TransNet</i>	SR 94	College Ave	SR 125	8F	8F+2HOV	\$230	4	2.81	4.50	4.55	8.16	0.47	0.00	2	0	0	4.55	4.88	3.19	0	4.12	39.23	44
<i>TransNet</i>	SR 94	Avocado Blvd	Jamacha Rd	4C/6C	6C	\$30	5	2.81	5.29	4.43	6.81	0.12	0.00	2	0	1	4.29	4.88	2.62	0	3.81	38.07	45
<i>TransNet</i>	SR 56	I-5	I-15	4F	6F+2HOV	\$290	1	2.88	3.12	4.19	8.20	0.16	0.00	2	0	0	4.71	5.12	2.09	0	3.69	37.17	46

Table TA 4.5 – HOV Connector Project Evaluation Criteria Summary

Goal	Criteria	Description
Serves Travel Needs	Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?
	Provides Mobility and Congestion Relief	What is the 2050 Person Average Daily Traffic (PADT) on the HOV connectors?
	Serves Congested Corridors	What is the 2050 aggregate peak period interchange demand to capacity ratio?
Develops Network Integration	Serves Regional and/or Corridor Transit Routes	What is the 2050 daily transit passenger ridership?
	Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?
Addresses Sustainability	Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating/maintenance project cost divided by Person Average Daily Traffic (PADT) (by pair)?
	GHG Emissions	What is the change in regional CO2 emissions from implementing the project?

Table TA 4.6 – HOV Connector Project Evaluation Criteria

Criteria	Description															
1. Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?															
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Range of average hazard index scores</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. The project score is determined by the hazard index. The hazard index was generated utilizing spatial data from the County of San Diego Final Draft Hazard Mitigation Plan, February 2010. Hazards include: Dam failure, earthquake, flood, landslide, liquefaction, wildfire, and tsunami.</p>	Score	Description	10-0	Range of average hazard index scores											
Score	Description															
10-0	Range of average hazard index scores															
2. Provides Mobility and Congestion Relief	What is the 2050 Person Average Daily Traffic (PADT) on the HOV connectors?															
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>More than 45,000 PADT (pair)</td> </tr> <tr> <td>12</td> <td>30,000 to 45,000 PADT (pair)</td> </tr> <tr> <td>9</td> <td>20,000 to 29,999 PADT (pair)</td> </tr> <tr> <td>6</td> <td>10,000 to 19,999 PADT (pair)</td> </tr> <tr> <td>3</td> <td>Less than 10,000 PADT (pair)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>15-0</td> <td>Range of PADT on HOV connectors</td> </tr> </tbody> </table>	Score	Description	15	More than 45,000 PADT (pair)	12	30,000 to 45,000 PADT (pair)	9	20,000 to 29,999 PADT (pair)	6	10,000 to 19,999 PADT (pair)	3	Less than 10,000 PADT (pair)	Score	Description	15-0
Score	Description															
15	More than 45,000 PADT (pair)															
12	30,000 to 45,000 PADT (pair)															
9	20,000 to 29,999 PADT (pair)															
6	10,000 to 19,999 PADT (pair)															
3	Less than 10,000 PADT (pair)															
Score	Description															
15-0	Range of PADT on HOV connectors															
3. Serves Congested Corridors	What is the 2050 aggregate peak period interchange demand to capacity ratio?															
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>15-0</td> <td>Range of demand to capacity ratios</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. The demand to capacity ratio project score is determined utilizing screenlines for each project interchange.</p>	Score	Description	15-0	Range of demand to capacity ratios											
Score	Description															
15-0	Range of demand to capacity ratios															

Table TA 4.6 – HOV Connector Project Evaluation Criteria (Continued)

Criteria	Description
4. Serves Regional and/or Corridor Transit Routes	What is the 2050 daily transit passenger ridership?
	Score Description
	10-0 Range of transit ridership using the connector
	Note: These scores will be ranked relative to the highest performing project. Transit ridership project scores are determined utilizing 2050 data and will be represented by ridership solely using the connector.
5. Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?
	Score Description
	4 Avoids preserve areas as defined by habitat conservation plans or other state or federal lands designated for habitat conservation
	2 Avoids native habitats
	4 Avoids existing residential development (defined as existing housing stock within 500-feet of the highway right of way and is more than two dwelling-units per acre. This does not imply a taking and is used only as a measure of proximity).
	Score Description
10-0 Scores are based on the total number of these points	
	Projects receive points for each of the descriptions they satisfy. Note: Preserve areas are defined as habitat preserve planning areas for approved Natural Community Conservation Planning (NCCP) Subregional Plans. Approved NCCP Subregional Plans include: the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Native habitats include all non habitat conservation plan areas within the region.

Table TA 4.6 – HOV Connector Project Evaluation Criteria (Continued)

Criteria	Description				
6. Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating project cost divided by Person Average Daily Traffic (PADT) (by pair)?				
	<table border="1"> <thead> <tr> <th data-bbox="500 422 565 449">Score</th> <th data-bbox="613 422 748 449">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="500 464 553 491">30-0</td> <td data-bbox="613 464 867 491">Cost per PADT (by pair)</td> </tr> </tbody> </table>	Score	Description	30-0	Cost per PADT (by pair)
Score	Description				
30-0	Cost per PADT (by pair)				
	<p>Note: These scores will be ranked relative to the highest performing project.</p> <p>Calculated as:</p> $\frac{((\text{Total annual operating \& maintenance costs}) + (\text{capital project cost} / \text{Project life}))}{\text{Annual Weekday Person Average Daily Traffic}}$				
	Higher ranking projects have a lower cost per Annual Person Average Daily Traffic.				
7. GHG Emissions	What is the change in regional CO ₂ emissions from implementing the project?				
	<table border="1"> <thead> <tr> <th data-bbox="500 886 565 913">Score</th> <th data-bbox="613 886 748 913">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="500 928 553 955">10-0</td> <td data-bbox="613 928 1052 955">Change in CO₂ with and without project</td> </tr> </tbody> </table>	Score	Description	10-0	Change in CO ₂ with and without project
Score	Description				
10-0	Change in CO ₂ with and without project				
	<p>Note: These scores will be ranked relative to the highest performing project.</p> <p>The calculation is based on the California Air Resources Board (CARB) EMFAC emissions model.</p>				

Table TA 4.7 – HOV Connector Project Evaluation Criteria Weighting

Focus Areas	2050 RTP Goals	Criteria	Description	Max. Score	Total Percent
Serves Travel Needs	System Preservation & Safety	Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?	10	40
	Mobility, Reliability	Provides Mobility and Congestion Relief	What is the 2050 Person Average Daily Traffic on the HOV connectors?	15	
	Mobility	Serves Congested Corridors	What is the 2050 aggregate peak-period interchange demand to capacity ration?	15	
Develops Network Integration	Mobility, Healthy Environment	Serves Regional and/or Corridor Transit Routes	What is the 2050 daily transit passenger ridership?	10	20
	Healthy Environment	Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?	10	
Addresses Sustainability	Prosperous Economy	Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating project cost divided by Person Average Daily Traffic?	30	40
	Healthy Environment	GHG Emissions	What is the change in regional CO ₂ emissions from implementing the project?	10	

Table TA 4.8 – HOV Connector Evaluation Rankings

					Serves Travel Needs			Develops Network Integration		Addresses Sustainability			
<i>TransNet, EAP</i>	Free-way	Inter-secting Free-way	Movement	Capital Cost (mil)	[1] Evac-uation Access [10]	[2] Provides Mobility [15]	[3] Congested Corridors [15]	[4] Transit Routes [10]	[5] Habitat Res Impacts [10]	[6] Cost-Effective-ness [30]	[7] GHG Emissions [10]	Total Score	2050 RTP Project Rank
<i>TransNet</i>	I-15	SR 78	East to South and North to West	\$105	6.67	15	11.33	0.00	10	30.00	9.6	82.60	1
	I-805	SR 52	West to North and South to East	\$90	4.44	12	15.00	7.15	0	28.22	9.2	76.01	2
<i>TransNet</i>	I-5	I-805	North to North and South to South	\$170	5.19	15	11.38	9.77	4	22.91	7.6	75.84	3
	I-15	I-805	North to North and South to South	\$90	4.69	12	14.45	0.00	0	23.39	10	64.52	4
	I-5	SR 56	North to East and West to South	\$80	8.89	9	11.97	0.00	4	21.03	9.2	64.08	5
	I-805	SR 94	East to South and North to West	\$160	4.44	9	13.12	10.00	4	7.10	8	55.66	6
	I-5	SR 78	North to East and West to South	\$120	8.89	9	12.45	0.00	0	14.74	9.2	54.27	7
	I-5	SR 78	South to East and West to North	\$120	5.93	9	12.16	7.56	0	11.15	8.4	54.20	8
	I-15	SR 163	North to North and South to South	\$160	4.44	9	13.73	0.00	8	8.43	9.2	52.81	9
	I-15	SR 52	West to North and South to East	\$140	5.93	9	11.61	0.00	8	9.58	7.6	51.71	10
	I-5	SR 15	North to North and South to South	\$183	5.93	9	11.56	0.00	6	9.47	9.6	51.55	11
	SR 94	SR 125	East to North and South to West	\$140	5.93	9	12.39	0.00	6	8.01	8.4	49.73	12
	I-15	SR 56	East to North and South to West	\$180	4.44	9	11.98	0.00	6	9.80	8.4	49.62	13
	I-805	SR 94	East to North and South to East	\$160	4.44	9	14.26	0.00	0	9.28	10	46.98	14

Table TA 4.8 – HOV Connector Evaluation Rankings (Continued)

TransNet, EAP	Free- way	Inter- secting Free- way	Movement	Capital Cost (mil)	Serves Travel Needs			Develops Network Integration		Addresses Sustainability			2050 RTP Project Rank
					[1] Evac- uation Access [10]	[2] Provides Mobility [15]	[3] Congested Corridors [15]	[4] Transit Routes [10]	[5] Habitat Res Impacts [10]	[6] Cost- Effective- ness [30]	[7] GHG Emissions [10]	Total Score	
	I-805	SR 54	South to East and West to North	\$140	8.89	6	13.18	0.00	4	5.38	8	45.45	15
	SR 52	SR 125	North to West and East to South	\$100	4.44	9	11.24	0.00	0	12.75	7.6	45.03	16
	I-805	SR 163	North to North and South to South	\$150	4.94	6	13.18	0.00	6	5.81	7.6	43.53	17
	I-5	SR 56	South to East and West to North	\$170	6.67	6	12.46	0.00	0	6.11	8	39.24	18
TransNet	I-15	SR 94	East to North and South to West	\$80	4.44	6	14.26	0.00	0	5.16	9.2	39.07	19
	I-805	SR 94	West to South and North to East	\$160	4.44	6	13.38	0.00	4	2.58	8.4	38.80	20
	I-5	SR 54	West to South and North to East	\$120	8.89	6	11.30	0.00	0	3.34	9.2	38.72	21
	I-5	SR 54	South to East and West to North	\$120	10.00	3	10.31	0.00	4	2.18	8.8	38.29	22
	I-15	SR 52	West to South and North to East	\$140	4.44	3	12.12	0.00	8	0.52	8.4	36.48	23

Table TA 4.9 – Freeway Connector Project Evaluation Criteria Summary

Goal	Criteria	Description
Serves Travel Needs	Located in a High Crash Rate Area	Is the project located in an area with a high vehicular crash rate?
	Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?
	Serves Goods Movement	Does the project accommodate goods movement and provide for congestion relief?
	Provides Mobility and Congestion Relief	What is the 2050 Person Average Daily Traffic (PADT) on the freeway connector?
	Provides Congestion Relief	What is the number of daily person-hours saved?
Develops Network Integration	Serves Regional and/or Corridor Transit Routes	What is the 2050 daily transit passenger ridership?
	Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?
Addresses Sustainability	Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating/maintenance project cost divided by person-hours saved?
	GHG Emissions	What is the change in regional CO2 emissions from implementing the project?

Table TA 4.10 – Freeway Connector Project Evaluation Criteria

Criteria	Description
1. Located in a High Crash Rate Area	Is the project located in an area with a high vehicular crash rate?
	Score Description
	5-4 Regional percentage of crash rates that exceed the statewide average
	3-1 Regional percentage of crash rates below the statewide average
	Project scores are based on Caltrans District 11 TASAS Table B report data.
2. Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?
	Score Description
	5-0 Range of average hazard index scores
	Note: These scores will be ranked relative to the highest performing project. The project score is determined by the hazard index. The hazard index was generated utilizing spatial data from the County of San Diego Final Draft Hazard Mitigation Plan, February 2010. Hazards include: Dam failure, earthquake, flood, landslide, liquefaction, wildfire, and tsunamis.
3. Serves Goods Movement	Does the project accommodate goods movement and provide for congestion relief?
	Score Description
	A)
	Is the freeway connector a major freight corridor as measured by truck AADT%
	4 >7%
	2 4%-7%
	1 less than 4%
	B)
	Is the freeway connector part of a designated trade corridor as defined in the Regional Truck Network- as part of the Goods Movement Strategy and is the highway corridor congested?
	3 Yes – majority of highway corridor with 2050 peak-period level of service (LOS) E or F
2 Yes – majority of highway corridor with 2050 peak-period LOS D or better	
C)	
Does the freeway connector serve freight land uses (within one mile of the corridor) such as a Seaport, International Airport, Land Port of Entry, Rail Intermodal/Transload Facility or Industrial Cluster/Distribution Center as measured by freight acres?	
3-0 Range of freight acres (Note: These scores will be ranked relative to the highest performing project).	
Score Description	
10-0 Scores are based on the combined total number of parts A, B, and C	

Table TA 4.10 – Freeway Connector Project Evaluation Criteria (Continued)

Criteria	Description															
4. Provides Mobility and Congestion Relief	What is 2050 Person Average Daily Traffic (PADT) on the freeway connector?															
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Over 45,000 PADT</td> </tr> <tr> <td>8</td> <td>30,000 to 45,000 PADT</td> </tr> <tr> <td>6</td> <td>25,000 to 29,999 PADT</td> </tr> <tr> <td>4</td> <td>20,000 to 24,999 PADT</td> </tr> <tr> <td>2</td> <td>Less than 20,000 PADT</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Range of PADT on freeway connectors</td> </tr> </tbody> </table>	Score	Description	10	Over 45,000 PADT	8	30,000 to 45,000 PADT	6	25,000 to 29,999 PADT	4	20,000 to 24,999 PADT	2	Less than 20,000 PADT	Score	Description	10-0
Score	Description															
10	Over 45,000 PADT															
8	30,000 to 45,000 PADT															
6	25,000 to 29,999 PADT															
4	20,000 to 24,999 PADT															
2	Less than 20,000 PADT															
Score	Description															
10-0	Range of PADT on freeway connectors															
5. Provides Congestion Relief	What is the number of daily person-hours saved?															
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Over 1400 person-hours saved</td> </tr> <tr> <td>8</td> <td>1000 to 1400 person-hours saved</td> </tr> <tr> <td>6</td> <td>800 to 999 person-hours saved</td> </tr> <tr> <td>4</td> <td>500 to 799 person-hours saved</td> </tr> <tr> <td>2</td> <td>Under 500 person-hours saved</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Range of daily person-hours saved</td> </tr> </tbody> </table> <p>Staff calculated the existing travel time using local roadways that provide the same movement that the proposed freeway connector would provide. The travel time savings have been equated to the existing travel time along the local roadways minus the travel time with the connector, which was then multiplied by the number of person trips.</p>	Score	Description	10	Over 1400 person-hours saved	8	1000 to 1400 person-hours saved	6	800 to 999 person-hours saved	4	500 to 799 person-hours saved	2	Under 500 person-hours saved	Score	Description	10-0
Score	Description															
10	Over 1400 person-hours saved															
8	1000 to 1400 person-hours saved															
6	800 to 999 person-hours saved															
4	500 to 799 person-hours saved															
2	Under 500 person-hours saved															
Score	Description															
10-0	Range of daily person-hours saved															
6. Serves Regional and/or Corridor Transit Routes	What is the 2050 daily transit passenger ridership?															
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Range of transit ridership using the connector</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. Transit ridership project scores are determined utilizing 2050 data and will be represented by ridership solely using the connector.</p>	Score	Description	10-0	Range of transit ridership using the connector											
Score	Description															
10-0	Range of transit ridership using the connector															

Table TA 4.10 – Freeway Connector Project Evaluation Criteria (Continued)

Criteria	Description								
7. Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?								
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Avoids preserve areas as defined by habitat conservation plans or other state or federal lands designated for habitat conservation</td> </tr> <tr> <td>2</td> <td>Avoids native habitats</td> </tr> <tr> <td>4</td> <td>Avoids existing residential development (defined as existing housing stock within 500 feet of the highway right of way is more than two dwelling-units per acre. This does not imply a taking and is used only as a measure of proximity)</td> </tr> </tbody> </table>	Score	Description	4	Avoids preserve areas as defined by habitat conservation plans or other state or federal lands designated for habitat conservation	2	Avoids native habitats	4	Avoids existing residential development (defined as existing housing stock within 500 feet of the highway right of way is more than two dwelling-units per acre. This does not imply a taking and is used only as a measure of proximity)
	Score	Description							
	4	Avoids preserve areas as defined by habitat conservation plans or other state or federal lands designated for habitat conservation							
2	Avoids native habitats								
4	Avoids existing residential development (defined as existing housing stock within 500 feet of the highway right of way is more than two dwelling-units per acre. This does not imply a taking and is used only as a measure of proximity)								
<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Scores are based on the total number of these points</td> </tr> </tbody> </table>	Score	Description	10-0	Scores are based on the total number of these points					
Score	Description								
10-0	Scores are based on the total number of these points								
<p>Projects receive points for each of the descriptions they satisfy. Note: Preserve areas are defined as habitat preserve planning areas for approved Natural Community Conservation Planning (NCCP) Subregional Plans. Approved NCCP Subregional Plans include: the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Native habitats include all non habitat conservation plan areas within the region.</p>									
8. Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating/maintenance project cost divided by person-hours saved?								
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>30-0</td> <td>Cost per person-hour saved (congestion relief)</td> </tr> </tbody> </table>	Score	Description	30-0	Cost per person-hour saved (congestion relief)				
Score	Description								
30-0	Cost per person-hour saved (congestion relief)								
<p>Note: These scores will be ranked relative to the highest performing project. Calculated as: $\frac{((\text{Total annual operating \& maintenance costs}) + (\text{capital project cost} / \text{Project life}))}{\text{Annual Weekday Person-Hours Saved}}$ Higher ranking projects have a lower cost per person-hour saved.</p>									
9. GHG Emissions	What is the change in regional CO ₂ emissions from implementing the project?								
	<table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Change in CO₂ with and without project</td> </tr> </tbody> </table>	Score	Description	10-0	Change in CO ₂ with and without project				
Score	Description								
10-0	Change in CO ₂ with and without project								
<p>Note: These scores will be ranked relative to the highest performing project. The calculation is based on the California Air Resources Board (CARB) EMFAC emissions model.</p>									

Table TA 4.11 – Freeway Connector Project Evaluation Criteria Weighting

Focus Areas	2050 RTP Goals	Criteria	Description	Max. Score	Total Percent
Serves Travel Needs	System Preservation & Safety, Reliability	Located in a High Crash Rate Area	Is the project located in an area with a high vehicular crash rate?	5	40
	System Preservation & Safety	Provides Access to Evacuation Routes	Does the project provide evacuation access for regional hazard areas including federally recognized Indian reservations?	5	
	Mobility	Serves Goods Movement	Does the project accommodate goods movement and provide for congestion relief?	10	
	Mobility	Provides Mobility and Congestion Relief	What is the 2050 Person Average Daily Traffic on the freeway connector?	10	
	Mobility, Reliability	Provides Congestion Relief	What is the number of daily person-hours saved?	10	
Develops Network Integration	Mobility, Healthy Environment	Serves Regional and/or Corridor Transit Routes	What is the 2050 daily transit passenger ridership?	10	20
	Healthy Environment	Minimizes Habitat and Residential Impacts	Does the project minimize negative habitat and residential impacts?	10	
Addresses Sustainability	Prosperous Economy	Cost-Effectiveness of Congestion Relief	What is the annual public capital and operating project cost divided by person-hours saved?	30	40
	Healthy Environment	GHG Emissions	What is the change in regional CO ₂ emissions from implementing the project?	10	

Table TA 4.12 – Freeway Connectors Project Rankings

TransNet EAP	Free- way	Inter- secting Freeway	Move- ment	Capital Cost (mil)	Serves Travel Needs					Develops Network Integration		Addresses Sustainability		Total Score	2050 RTP Project Rank
					[1] Crash Rate [5]	[2] Evac- uation Access [5]	[3] Goods Move- ment [10]	[4] Provides Mobility [10]	[5] Conges- tion Relief [10]	[6] Transit Routes [10]	[7] Habitat Res Impacts [10]	[8] Cost- Effective- ness [30]	[9] GHG Emiss- ions [10]		
TransNet	SR 94	SR 125	West to North	\$180	4	1.43	3.59	10	8	0	6	30	8.8	71.82	1
TransNet	I-5	SR 78	South to East	\$60	5	2.86	4.50	10	8	0	0	12.84	8	51.20	2
	I-5	I-8	South to West	\$100	1	4.52	2.00	2	8	0	4	18.34	10	49.87	3
TransNet	I-5	SR 78	West to South	\$46	2	5.00	6.22	8	8	0	0	12.99	7.6	49.81	4
TransNet	SR 94	SR 125	South to East	\$139	3	2.14	4.56	10	6	0	6	9.12	7.6	48.42	5
	I-5	I-8	East to North	\$220	5	4.52	2.19	4	10	0	4	8.7	9.2	47.61	6
	I-15	SR 56	North to West	\$100	1	2.14	4.49	6	8	0	6	11.31	8.4	47.34	7
	I-5	SR 94	North to East	\$120	3	2.14	4.00	8	6	0	6	4.91	8.4	42.45	8
TransNet	I-5	SR 56	West to North	\$33	3	3.33	6.34	2	4	0	0	14.06	8.4	41.13	9
TransNet	I-5	SR 56	South to East	\$98	1	3.75	7.48	2	2	0	0	2.43	9.2	27.86	10

Table TA 4.13 – Transit Services Evaluation Criteria Summary

Goal	Criteria	Description
Serves Travel Needs	Serves Congested Areas	Does the route serve the more congested highway corridors or arterials in the region?
	Serves Peak-Period Trips	What is the number of potential peak period transit trips within the capture areas of the transit stations and park and ride facilities?
	Provides Time Competitive/Reliable Transit Service	What is the percentage of the route located in priority treatment?
	Peak-Transit Ridership	What is the morning and afternoon peak-period transit utilization?
Develops Network Integration	Links High-Frequency Transit Services	How many other high frequency (timed transfer service or 15-minute or higher frequency) transit routes does the route connect to?
	Serves RCP Smart Growth Areas	Does the route serve RCP Smart Growth areas?
Addresses Sustainability	Cost-Effectiveness	What is the annual public capital and operating/maintenance cost divided by passenger miles?
	GHG Emissions	What is the change in regional CO2 emissions from implementing the project?
	Provides Accessibility to Low-Income/Minority/Senior (75+) Areas Including Federally Recognized Indian Reservations	Does the transit service serve low-income/minority areas including federally recognized Indian reservations within ½ mile and senior (75+) areas including federally recognized Indian reservations within ¼ mile of the transit route's stations/stops?
	Provides Accessibility to Federally Recognized Indian Reservations	Does the transit service serve federally recognized Indian reservations?
	Access to Jobs	What is the total number of projected 2050 jobs served within half a mile of the transit routes station/stops?

Table TA 4.14 – Transit Services Project Evaluation Criteria

Criteria	Description											
1. Serves Congested Areas	Does the route serve the more congested highway corridors or arterials in the region?											
	<table border="1"> <thead> <tr> <th style="text-decoration: underline;">Score</th> <th style="text-decoration: underline;">Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Percentage of highway corridor or arterial with Level of Service E or F in 2050.</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. The arterial network is the Regional Arterial System (RAS) in the 2050 RTP.</p>	Score	Description	10-0	Percentage of highway corridor or arterial with Level of Service E or F in 2050.							
Score	Description											
10-0	Percentage of highway corridor or arterial with Level of Service E or F in 2050.											
2. Serves Peak Period Trips	What is the number of potential peak period transit trips within the capture areas of the transit station/stop and park-and-ride facilities?											
	<table border="1"> <thead> <tr> <th style="text-decoration: underline;">Score</th> <th style="text-decoration: underline;">Description</th> </tr> </thead> <tbody> <tr> <td>5-0</td> <td>Total potential trips per station/stop</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. Calculated as: Transit peak trips = $a + 1/10b + \#c$ a = All trips within 1/2 mile of the transit stations/stops (captures walkable trips) b = All trips located between 1/2 to 1 mile of the transit stations/stops (captures trips served by shuttle/bicycles) c = All park-and-ride trips based on park-and-ride facility capacity (captures park-and ride-origin trips) multiplied by the number of park-and-ride facilities located on the route</p>	Score	Description	5-0	Total potential trips per station/stop							
Score	Description											
5-0	Total potential trips per station/stop											
3. Provides Time Competitive/Reliable Transit Service	What is the percentage of the route located in priority treatment?											
	<table border="1"> <thead> <tr> <th style="text-decoration: underline;">Score</th> <th style="text-decoration: underline;">Treatment</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Dedicated Transit Guideway (uninterrupted/preemptive service)</td> </tr> <tr> <td>3</td> <td>Dedicated Arterial Lane or Interrupted Rail or Managed Lane</td> </tr> <tr> <td>1</td> <td>HOV Lane or Arterial Spot Treatments(e.g., signal priority, queue jumpers)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th style="text-decoration: underline;">Score</th> <th style="text-decoration: underline;">Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Percentage of route located in priority treatment</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. To calculate the score of a project the percentage of the route on dedicated treatment is multiplied by the value of the treatment to determine the total of points received. The point total is then associated with a project score. Example Route A is located in 25% Dedicated Transit Guideway, 25% Dedicated Arterial Lane and 50% on an arterial with spot treatments. $(25 \times 5) + (25 \times 3) + (50 \times 1) = 250$</p>	Score	Treatment	5	Dedicated Transit Guideway (uninterrupted/preemptive service)	3	Dedicated Arterial Lane or Interrupted Rail or Managed Lane	1	HOV Lane or Arterial Spot Treatments(e.g., signal priority, queue jumpers)	Score	Description	10-0
Score	Treatment											
5	Dedicated Transit Guideway (uninterrupted/preemptive service)											
3	Dedicated Arterial Lane or Interrupted Rail or Managed Lane											
1	HOV Lane or Arterial Spot Treatments(e.g., signal priority, queue jumpers)											
Score	Description											
10-0	Percentage of route located in priority treatment											

Table TA 4.14 – Transit Services Project Evaluation Criteria (Continued)

Criteria	Description
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4. Peak Transit Ridership What is the morning and afternoon peak-period transit utilization?

Route Type	Seats Assumed
Heavy Rail	130/car (5 car trains)
Trolley	64/car (3 car trains)
SPRINTER	136/car (2 car trains)
Circulator	29/vehicle
Bus	37/vehicle
Bus Rapid Transit	53/vehicle

Score	Description
10-0	Percentage of average transit utilization of route during peak period

Note: These scores will be ranked relative to the highest performing project.
 Transit utilization is calculated as passenger miles divided by seat miles.

The bus route type will include the following potential transit services, subject to the selection of the preferred network in the Urban Area Transit Strategy: local service, arterial rapid, and street car.

5. Links High-Frequency Transit Services How many other high-frequency (timed transfer service or at least 15 minute service) transit routes does the route connect to?

Score	Description
5	Connects with heavy rail (High Speed Rail, Intercity Rail, and Commuter Rail), light rail, or bus rapid transit
3	Connects with arterial rapid transit
1	Connects with high frequency local transit

Score	Description
15-0	Total number of route connections with high frequency transit routes

Note: These scores will be ranked relative to the highest performing project.
 Transit routes shall receive points for each type of service they connect with. This will be determined by stations/stops. Scores are based on the total number of connections at stations/stops.

Table TA 4.14 – Transit Services Project Evaluation Criteria (Continued)

Criteria	Description																								
6. Serves RCP Smart Growth Centers	<p>Does the transit route serve RCP Smart Growth areas? A) Transit Routes shall receive points for each place type they serve.</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Serves existing/planned Metropolitan Center or Urban Center</td> </tr> <tr> <td>4</td> <td>Serves existing/planned Town Center or Special Use Center</td> </tr> <tr> <td>3</td> <td>Serves existing/planned Transit Corridor or Community Center</td> </tr> <tr> <td>2</td> <td>Serves existing/planned Rural Center</td> </tr> <tr> <td>1</td> <td>Serves potential RCP Smart Growth Area</td> </tr> </tbody> </table> <p>B) Transit Routes shall receive points for exceeding residential/employment requirements of each place type they serve.</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Exceeds minimum residential/employment requirements by 100% or more</td> </tr> <tr> <td>3</td> <td>Exceeds minimum residential/employment requirements by 50-99%</td> </tr> <tr> <td>1</td> <td>Exceeds minimum residential/employment requirements by 25-49%</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10-0</td> <td>Scores are based on the combined total number of parts A and B and are normalized to a maximum of 10 points</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. Based on the densities included in the 2050 Regional Growth Forecast.</p>	Score	Description	5	Serves existing/planned Metropolitan Center or Urban Center	4	Serves existing/planned Town Center or Special Use Center	3	Serves existing/planned Transit Corridor or Community Center	2	Serves existing/planned Rural Center	1	Serves potential RCP Smart Growth Area	Score	Description	5	Exceeds minimum residential/employment requirements by 100% or more	3	Exceeds minimum residential/employment requirements by 50-99%	1	Exceeds minimum residential/employment requirements by 25-49%	Score	Description	10-0	Scores are based on the combined total number of parts A and B and are normalized to a maximum of 10 points
Score	Description																								
5	Serves existing/planned Metropolitan Center or Urban Center																								
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Score	Description																								
10-0	Scores are based on the combined total number of parts A and B and are normalized to a maximum of 10 points																								
7. Cost-Effectiveness	<p>What is the annual public capital and operating project cost divided by passenger miles?</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>20-0</td> <td>Cost per passenger mile traveled</td> </tr> </tbody> </table> <p>Note: These scores will be ranked relative to the highest performing project. Calculated as: $\frac{((\text{Total annual operating \& maintenance subsidy}) + (\text{capital project cost} / \text{Project life}))}{\text{Passenger miles traveled}}$ Higher ranking projects have a lower cost per passenger-mile traveled.</p>	Score	Description	20-0	Cost per passenger mile traveled																				
Score	Description																								
20-0	Cost per passenger mile traveled																								

Table TA 4.14 – Detailed Scoring for Transit Services Project Evaluation Criteria (Continued)

Criteria	Description
8. GHG Emissions	<p>What is the change in regional CO₂ emissions from implementing the project?</p> <p>Score Description</p> <hr/> <p>10-0 Change in CO₂ emissions with and without project</p> <p>Note: These scores will be ranked relative to the highest performing project. The calculation is based on the California Air Resources Board (CARB) EMFAC emissions model.</p>
9. Provides Accessibility to Low-Income/Minority/ Senior (75+) Areas Including Federally Recognized Indian Reservations	<p>Does the transit service serve low-income/minority areas including federally recognized Indian reservations within ½ mile and senior (75+) areas including federally recognized Indian reservations within ¼ mile of the transit route’s stations/stops?</p> <p>Score Description</p> <hr/> <p>4-0 Range of proportion of low-income/minority/senior (75+) population including federally recognized Indian reservations served relative to the total population.</p> <p>Note: These scores will be ranked relative to the highest performing project.</p>
10. Provides Accessibility to Federally Recognized Indian Reservations	<p>Does the transit service serve federally recognized Indian reservations?</p> <p>Score Description</p> <hr/> <p>Does the transit service serve federally recognized Indian reservations within ½ mile of the transit route’s stations/stops?</p> <p>1 Yes</p> <p>0 No</p>
11. Access to Jobs	<p>What is the total number of projected 2050 jobs served within ½ mile of the transit route’s station/stops?</p> <p>Score Description</p> <hr/> <p>5-0 Range of total number of jobs served per mile</p> <p>Note: These scores will be ranked relative to the highest performing project.</p>

Table TA 4.15 – Transit Services Project Evaluation Criteria Weighting

Focus Areas	2050 RTP Goals	Criteria	Description	Max. Score	Total Percent	
Serves Travel Needs	Reliability, Healthy Environment	Serves Congested Areas	Does the route serve the more congested highway corridors or arterials in the region?	10	35	
		Mobility	Serves Peak Period Trips	What are the number of potential transit trips within the capture areas of the transit stations/stops and park-and-ride facilities?		5
		Mobility, Reliability	Provides Time Competitive/Reliable Transit	What is the percentage of the route located in priority treatment?		10
		Mobility	Peak Transit Ridership	What is the morning and afternoon peak-period transit utilization?		10
		Mobility	Off-Peak Transit Ridership	What is the midday off-peak transit utilization?		N/A
Develops Network Integration	Mobility, Reliability, Healthy Environment	Links High-Frequency Transit Services	How many other high-frequency (timed transfer service or at least 15 minute service) transit routes does the route connect to?	15	25	
		Healthy Environment	Serves RCP Smart Growth Areas	Does the route serve existing/planned/pending and/or potential RCP Smart Growth areas?		10

Table TA 4.15 – Transit Services Project Evaluation Criteria Weighting (Continued)

Focus Areas	2050 RTP Goals	Criteria	Description	Max. Score	Total Percent
Addresses Sustainability	Prosperous Economy	Cost Effectiveness	What is the annual public project capital and operating cost divided by passenger miles?	20	40
	Healthy Environment	GHG Emissions	What is the change in regional CO ₂ emissions from implementing the project?	10	
	Social Equity, Mobility	Provides Accessibility to Low-Income/Minority/Senior (75+) Areas Including Federally Recognized Indian Reservations	Does the transit service serve low-income/minority areas including federally recognized Indian reservations within ½ mile and senior (75+) areas including federally recognized Indian reservations within ¼ mile of the transit route’s stations/stops?	4	
	Social Equity, Mobility	Provides Accessibility to Federally Recognized Indian Reservations	Does the transit service serve federally recognized Indian reservations within ½ mile of the transit route’s stations/stops	1	
	Prosperous Economy, Social Equity, Mobility	Access to Jobs	What is the total number of projected 2050 jobs served within ½ mile of the transit route’s stations/ tops?	5	

Table TA 4.16 – Transit Services Evaluation Rankings

TransNet	Route	Mode	Description	Serves Travel Needs			Develops Network Integration			Addresses Sustainability					Total Score	2050 RTP Project Rank			
				Capital Cost (mil)	Operating Subsidy (mil)	Total Costs (mil)	[1] Congested Areas [10]	[2] Peak Period Trips [5]	[3] Time Comp/Rel Transit [10]	[4] Transit Ridership [10]	[5] High Frequency Transit [15]	[6] Smart Growth [10]	[7] Cost-Effectiveness [20]	[8] GHG Emissions [10]			[9] LIM Access [4]	[10] Indian Access [1]	[11] Job Access [5]
	510	LRT	Blue Line UTC to San Ysidro via Downtown San Diego	\$540	\$424	\$964	9.97	2.61	10.00	3.55	15.00	8.03	15.08	3.75	3.42	0	0.96	72.37	1
	530	LRT	Green Line Santee to 12th/Imperial	\$0	\$367	\$367	8.65	2.28	10.00	3.95	12.36	10.00	13.03	6.25	2.97	0	0.90	70.39	2
	610	Peak BRT	Temecula/Escondido to Downtown via I-15, Kearny Mesa Guideway	\$920	\$310	\$1,230	5.61	2.33	6.23	10.00	13.21	5.83	18.06	3.75	3.23	0	0.40	68.64	3
	540	Express LRT	Blue Line UTC to San Ysidro via Downtown San Diego	\$316	\$229	\$546	10.00	3.72	10.00	4.33	13.47	4.77	7.79	3.75	3.45	0	0.63	61.90	4
	566	Express LRT	Otay (EUC) to UTC via Mid-City, Kearny Mesa	\$227	\$219	\$446	4.52	2.14	10.00	3.96	12.61	4.09	12.80	2.5	3.59	0	0.19	56.40	5
	522	Express LRT	Orange Line El Cajon to Downtown San Diego via Euclid	\$160	\$145	\$305	8.23	5.00	10.00	3.24	10.40	4.70	4.02	2.5	3.49	0	0.87	52.45	6
	870	Peak BRT	El Cajon to UTC via Santee, SR 52, Kearny Mesa	\$7	\$17	\$24	5.54	1.58	3.16	8.34	9.38	1.36	20.00	0	2.63	0	0.37	52.36	7
	598	CR	High Speed Rail - Commuter Rail Service from Riverside to Int'l Border	\$3,753	\$912	\$4,665	6.59	1.94	10.00	1.11	12.95	4.85	1.50	10	3.16	0	0.12	52.22	8
	563	LRT	Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, SDSU	\$1,051	\$272	\$1,323	6.90	1.48	10.00	3.66	10.65	7.50	3.71	3.75	2.81	0	0.62	51.09	9
TransNet	398	CR	COASTER with Del Mar and University Town Center (UTC) Tunnels, Permanent Station at Del Mar Fairgrounds, and New Station at Convention Center in Downtown San Diego	\$4,630	\$825	\$5,455	6.95	2.89	10.00	2.03	11.08	4.02	3.66	6.25	2.89	0	0.26	50.02	10
	520	LRT	Orange Line with Extension to Airport and Downtown Tunnel	\$540	\$330	\$869	7.63	3.08	10.00	1.53	11.68	6.82	2.56	1.25	3.52	0	0.96	49.02	11
	120	Rapid	Kearny Mesa to Downtown via Sharp Hospital, Mission Valley, Hillcrest	\$917	\$57	\$974	5.91	2.60	9.61	8.25	9.80	4.62	1.30	0	3.09	0	2.45	47.64	12
	560	LRT	SDSU to Downtown via El Cajon Blvd/ Mid-City	\$1,025	\$171	\$1,196	2.56	3.75	10.00	4.22	9.89	6.67	2.61	2.5	3.52	0	1.70	47.42	13
	562	LRT	UTC to Chula Vista via Kearny Mesa, Mission Valley, Mid-City, National City	\$1,612	\$269	\$1,881	5.51	1.37	10.00	3.16	13.13	3.56	2.65	2.5	3.57	0	0.47	45.92	14
	10	Rapid	La Mesa to Ocean Beach via Mid-City, Hillcrest, Old Town	\$71	\$124	\$196	3.81	1.64	2.00	7.33	9.29	9.85	7.54	0	3.18	0	0.65	45.29	15
	652	BRT	Downtown to UTC via Hillcrest, Mission Valley, via Kearny Mesa Guideway	\$950	\$74	\$1,024	7.10	3.75	7.25	4.77	11.08	4.77	1.31	0	3.21	0	1.32	44.56	16
	430	BRT	Oceanside to Escondido via SR 78 HOV Lanes	\$196	\$57	\$252	8.80	2.07	2.00	6.59	5.45	2.12	13.22	0	2.97	0	0.18	43.40	17
	910	Rapid	Coronado to Downtown via Coronado Bridge	\$21	\$55	\$76	5.38	4.08	1.37	8.09	6.65	2.80	6.03	2.5	3.42	0	2.96	43.28	18

Table TA 4.16 – Transit Services Evaluation Rankings (Continued)

TransNet	Route	Mode	Description	Capital Cost (mil)	Operating Subsidy (mil)	Total Costs (mil)	Serves Travel Needs			Develops Network Integration			Addresses Sustainability					2050 RTP Project Rank	
							[1] Congested Areas [10]	[2] Peak Period Trips [5]	[3] Time Comp/Rel Transit [10]	[4] Transit Ridership [10]	[5] High Frequency Transit [15]	[6] Smart Growth [10]	[7] Cost-Effectiveness [20]	[8] GHG Emissions [10]	[9] LIM Access [4]	[10] Indian Access [1]	[11] Job Access [5]		Total Score
	473	Rapid	Oceanside to UTC via Hwy 101 Coastal Communities, Carmel Valley	\$106	\$165	\$270	1.27	1.13	2.00	7.21	8.86	3.71	14.88	0	2.31	0	0.47	41.85	19
	550	LRT	SDSU to San Ysidro via East San Diego, SE San Diego, National City	\$1,388	\$286	\$1,674	2.28	1.61	10.00	2.06	9.80	5.98	1.77	2.5	3.76	0	0.42	40.19	20
TransNet	399	LRT	SPRINTER Oceanside to Escondido (with Branch Extensions to North County Fair and East Escondido)	\$609	\$341	\$950	7.66	1.50	10.00	0.48	5.97	4.09	2.90	3.75	3.18	0	0.30	39.82	21
	692	BRT	El Cajon to Otay Mesa via Spring Valley, SR 125, Millenia	\$6	\$82	\$88	3.57	2.21	2.88	3.15	7.41	2.73	10.99	0	2.98	0	0.16	36.07	22
	588	Express LRT	SPRINTER - Stops at Oceanside, Vista, Escondido Transit Centers	\$197	\$118	\$315	8.98	2.35	10.00	0.84	4.94	2.65	2.02	0	3.21	0	0.08	35.08	23
	30	Rapid	Old Town to Sorrento Mesa via Pacific Beach, La Jolla, UTC	\$81	\$161	\$242	4.69	0.93	2.05	5.14	9.29	3.86	5.53	0	2.63	0	0.74	34.88	24
	650	Peak BRT	Otay Ranch/Chula Vista to Palomar Airport Road Business Park via I-805/ I-5	\$67	\$28	\$96	5.08	0.47	5.31	5.54	4.60	0.23	9.61	0	3.73	0	0.10	34.68	25
	11	Rapid	Spring Valley to SDSU via SE San Diego, Downtown, Hillcrest, Mid-City	\$92	\$150	\$242	1.87	1.91	2.00	3.01	10.74	6.82	3.97	0	3.34	0	0.91	34.56	26
	28	Rapid	Point Loma to Kearny Mesa via Old Town, Linda Vista	\$40	\$76	\$117	2.64	1.26	4.38	4.66	7.16	2.80	6.17	1.25	2.70	0	0.86	33.89	27
	561	LRT	UTC to Mira Mesa via Sorrento Mesa	\$1,173	\$131	\$1,304	1.77	1.35	10.00	2.07	6.90	2.12	1.08	3.75	2.90	0	1.22	33.17	28
	555	Streetcar	30th St. to downtown San Diego via North Park/Golden Hill	\$207	\$164	\$371	0.27	1.59	6.00	6.60	6.31	3.48	1.21	1.25	3.44	0	2.46	32.61	29
	553	Streetcar	San Diego Downtown - Little Italy to East Village	\$113	\$81	\$194	0.54	1.97	6.00	4.50	6.48	1.21	0.89	1.25	3.53	0	5.00	31.37	30
	554	Streetcar	Hillcrest/Balboa Park/Downtown San Diego Loop	\$231	\$160	\$391	1.57	1.43	6.00	4.47	5.54	3.86	0.87	1.25	3.19	0	2.55	30.74	31
	564	LRT	Otay Mesa to Chula Vista via Otay Ranch/Millenia	\$668	\$186	\$854	1.82	0.69	10.00	2.43	4.94	2.05	3.16	1.25	3.24	0	0.16	29.73	32
	653	Peak BRT	SE San Diego/Mid-City to Palomar Airport Road Business Park via I-805/I-5	\$10	\$30	\$40	5.92	0.72	4.96	1.91	4.77	2.27	4.86	0	4.00	0	0.21	29.63	33
	41	Rapid	Old Town to UTC via Linda Vista, Clairemont	\$45	\$64	\$109	2.89	1.17	1.77	2.28	7.84	3.33	3.79	1.25	2.85	0	0.54	27.71	34
	2	Rapid	30th Ave to Downtown San Diego via North Park	\$32	\$68	\$100	1.41	2.90	2.00	1.88	7.07	3.41	1.34	1.25	3.44	0	2.63	27.33	35
	940	Peak BRT	Oceanside to Sorrento Mesa via I-5, Carlsbad, Encinitas	\$36	\$14	\$50	5.33	0.82	5.33	1.68	5.03	0.61	2.51	2.5	2.96	0	0.17	26.94	36

Table TA 4.16 – Transit Services Evaluation Rankings (Continued)

TransNet	Route	Mode	Description	Capital Cost (mil)	Operating Subsidy (mil)	Total Costs (mil)	Serves Travel Needs			Develops Network Integration			Addresses Sustainability					2050 RTP Project Rank	
							[1] Congested Areas [10]	[2] Peak Period Trips [5]	[3] Time Comp/Rel Transit [10]	[4] Transit Ridership [10]	[5] High Frequency Transit [15]	[6] Smart Growth [10]	[7] Cost-Effectiveness [20]	[8] GHG Emissions [10]	[9] LIM Access [4]	[10] Indian Access [1]	[11] Job Access [5]		Total Score
	709	Rapid	H St Trolley to Millenia via H St Corridor, Southwestern College	\$30	\$55	\$85	1.07	1.34	3.16	2.76	5.37	2.58	4.90	1.25	3.33	0	0.32	26.07	37
	636	Rapid	SDSU to Spring Valley via East San Diego, Lemon Grove, Skyline	\$32	\$55	\$87	3.40	1.24	2.00	3.32	4.52	2.65	3.56	1.25	3.27	0	0.40	25.60	38
	890	Peak BRT	El Cajon to Sorrento Mesa via Santee, SR 52	\$10	\$23	\$33	5.53	1.20	2.73	1.73	6.99	1.21	2.65	0	2.71	0	0.41	25.16	39
	440	Rapid	Carlsbad to San Marcos via Palomar Airport Road Corridor	\$42	\$57	\$98	1.23	0.89	2.00	4.93	2.73	0.53	6.34	1.25	3.08	0	0.40	23.38	40
	635	Rapid	Millenia to Palomar Trolley via Main St Corridor	\$45	\$70	\$115	3.61	0.69	2.35	1.94	3.84	1.97	2.66	1.25	3.69	0	0.29	22.29	41
	551	Streetcar	Chula Vista Downtown	\$112	\$89	\$201	1.72	0.91	6.00	1.54	3.24	1.14	0.33	2.5	3.61	0	1.16	22.15	42
	637	Rapid	North Park to 32nd St Trolley via Golden Hill, SE San Diego	\$26	\$46	\$72	0.55	1.42	2.00	2.98	4.09	2.95	2.76	1.25	3.37	0	0.58	21.95	43
	557	Streetcar	El Cajon Downtown	\$133	\$98	\$231	0.00	1.04	6.00	3.77	3.66	1.59	0.65	1.25	3.03	0	0.87	21.86	44
	558	Streetcar	Escondido Downtown	\$42	\$33	\$74	0.00	1.09	6.00	1.83	3.24	0.83	0.30	1.25	3.49	0	1.89	19.91	45
	474	Rapid	Oceanside to Vista via Mission Ave/Santa Fe Road Corridor	\$41	\$76	\$117	3.19	1.25	2.00	1.85	3.32	2.05	2.62	0	3.10	0	0.26	19.64	46
	471	Rapid	Downtown Escondido to East Escondido	\$26	\$32	\$58	0.00	0.95	2.00	3.22	3.07	1.44	2.74	1.25	3.61	0	0.86	19.14	47
	638	Rapid	San Ysidro to Otay Mesa via Otay, SR 905 Corridor	\$44	\$67	\$111	0.67	0.61	1.57	3.58	3.41	0.68	4.29	0	3.97	0	0.32	19.10	48
	552	Streetcar	National City Downtown	\$33	\$48	\$81	0.00	1.08	6.00	1.21	4.01	0.83	0.31	0	3.67	0	1.59	18.69	49
	565	Streetcar	Mission Beach to La Jolla via Pacific Beach	\$199	\$154	\$354	2.41	0.54	6.00	1.08	0.85	2.35	0.19	1.25	2.41	0	0.47	17.55	50
	639	Rapid	Otay to North Island via Imperial Beach, Silver Strand, Coronado	\$44	\$65	\$109	0.42	1.17	2.00	2.41	2.81	2.05	3.07	0	2.85	0	0.39	17.18	51
	559	Streetcar	Oceanside Downtown	\$37	\$25	\$62	0.00	0.72	6.00	0.77	3.07	0.61	0.12	1.25	3.01	0	0.93	16.48	52
	477	Rapid	Camp Pendleton to Carlsbad Village via College Blvd, Plaza Camino Real	\$65	\$92	\$156	2.82	0.73	2.00	1.80	2.73	0.76	2.11	0	2.44	0	0.23	15.62	53

Table TA 4.17 – Maritime Project Evaluation Criteria

Criteria	Description
1. Throughput	How much additional freight can be accommodated by the project? Score Description <hr/> Up to 20 The project creates capacity for additional freight <i>Project awarded 0-20 points based on a proportional scaling system.</i>
2. Relieves Freight System Bottlenecks/Capacity Constraints and Reduces Delay	Does the project improve average travel time for freight? Score Description <hr/> Up to 10 The project reduces average idle time for trucks entering or exiting the port Up to 10 Project improves velocity of a cargo unit in the Port or on a connecting road <i>Project awarded 0-20 points based on a proportional scaling system.</i>
3. Improves freight system and/or modal safety	Does the project accommodate features that enhance safety and/or enhance national security? Score Description <hr/> 1 Project increases movement of militarily significant cargo 1 Project provides a buffer between freight and non-freight modes of transportation 3 Project enhances safety of transport function
4. Improves Freight System Management/Efficiency	Does the project include freight management systems, strategies, and/or technologies to improve efficiency, velocity? Score Description <hr/> 10 or 5 Project facilitates information transmittal that improves network integration (i.e. advanced trucker information, improved signage or other information technology)
5. Provides Critical Modal/ Intermodal Link/Connectivity	Does the project integrate the local freight system? Score Description <hr/> 10 or 5 Project completes a regional link = 10 points Project improves a regional link = 5 points

Table TA 4.17 – Maritime Project Evaluation Criteria (Continued)

Criteria	Description						
6. Cost-Effectiveness	How does the project rank against others with respect to cost/project capacity?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>Up to 10</td> <td>Total capital cost/increased capacity in tons</td> </tr> <tr> <td>Up to 5</td> <td>Outside funding sources are available for project implementation</td> </tr> </tbody> </table>	Score	Description	Up to 10	Total capital cost/increased capacity in tons	Up to 5	Outside funding sources are available for project implementation
Score	Description						
Up to 10	Total capital cost/increased capacity in tons						
Up to 5	Outside funding sources are available for project implementation						
7. Minimizes Community Impacts	Does project minimize/address community impacts?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>Up to 10</td> <td>Project provides a buffer between freight and residential development</td> </tr> </tbody> </table>	Score	Description	Up to 10	Project provides a buffer between freight and residential development		
Score	Description						
Up to 10	Project provides a buffer between freight and residential development						
8. Minimizes impacts to Environment/Habitat	Does the project minimize/address environmental/habitat impacts?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats</td> </tr> <tr> <td>5</td> <td>Project reduces externalities to include emissions related to idling, noise and/or visual impacts</td> </tr> </tbody> </table> <p>Note: Preserve areas are defined as habitat preserve planning areas for approved Natural Community Conservation Planning (NCCP) Subregional Plans. Approved NCCP Subregional Plans include: the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Native habitats include all non habitat conservation plan areas within the region.</p>	Score	Description	5	Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats	5	Project reduces externalities to include emissions related to idling, noise and/or visual impacts
Score	Description						
5	Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats						
5	Project reduces externalities to include emissions related to idling, noise and/or visual impacts						

Table TA 4.18 – Rail and Intermodal Facilities Project Evaluation Criteria

Criteria	Description						
1. Throughput	How much additional freight can be accommodated by the project?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>Up to 20</td> <td>Project provides capacity for additional carloads <i>Project awarded 0-20 points based on a proportional scaling system.</i></td> </tr> </tbody> </table>	Score	Description	Up to 20	Project provides capacity for additional carloads <i>Project awarded 0-20 points based on a proportional scaling system.</i>		
Score	Description						
Up to 20	Project provides capacity for additional carloads <i>Project awarded 0-20 points based on a proportional scaling system.</i>						
2. Relieves Freight System Bottlenecks/Capacity Constraints and Reduces Delay	Does the project improve average travel time for freight?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Improves intermodal transfer time</td> </tr> <tr> <td>Up to 15</td> <td>Improves travel time <i>Project awarded 0-15 points based on a proportional scaling system.</i></td> </tr> </tbody> </table>	Score	Description	5	Improves intermodal transfer time	Up to 15	Improves travel time <i>Project awarded 0-15 points based on a proportional scaling system.</i>
Score	Description						
5	Improves intermodal transfer time						
Up to 15	Improves travel time <i>Project awarded 0-15 points based on a proportional scaling system.</i>						
3. Improves freight system and/or modal safety	Does the project accommodate features that enhance safety?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Project includes risk abatement features or safety enhancements such as grade separations</td> </tr> </tbody> </table>	Score	Description	5	Project includes risk abatement features or safety enhancements such as grade separations		
Score	Description						
5	Project includes risk abatement features or safety enhancements such as grade separations						
4. Improves Freight System Management/Efficiency	Does the project include freight management systems, strategies, and/or technologies to improve efficiency, velocity?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>10 or 5</td> <td>Project facilitates information transmittal that improves network integration (i.e., variable message signs)</td> </tr> </tbody> </table>	Score	Description	10 or 5	Project facilitates information transmittal that improves network integration (i.e., variable message signs)		
Score	Description						
10 or 5	Project facilitates information transmittal that improves network integration (i.e., variable message signs)						
5. Provides Critical Modal/ Intermodal Link/Connectivity	Does the project integrate the local freight system?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>10 or 5</td> <td>Project completes a regional link = 10 points Project improves a regional link = 5 points</td> </tr> </tbody> </table>	Score	Description	10 or 5	Project completes a regional link = 10 points Project improves a regional link = 5 points		
Score	Description						
10 or 5	Project completes a regional link = 10 points Project improves a regional link = 5 points						

Table TA 4.18 – Rail and Intermodal Facilities Project Evaluation Criteria (Continued)

Criteria	Description
6. Cost-Effectiveness (Project Lifecycle)	How does the project rank against others with respect to cost/project capacity?
	Score Description
	Up to 10 Total capital cost/increased capacity in tons Up to 5 Outside funding sources are available for project implementation
7. Minimizes Community Impacts	Does project minimize/address community impacts?
	Score Description
	Up to 10 Project provides a buffer between freight and residential development
8. Minimizes impacts to Environment/Habitat	Does the project minimize/address environmental/habitat impacts?
	Score Description
	5 Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats 5 Project reduces externalities to include emissions related to idling, noise and/or visual impacts Note: Preserve areas are defined as habitat preserve planning areas for approved Natural Community Conservation Planning (NCCP) Subregional Plans. Approved NCCP Subregional Plans include: the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Native habitats include all nonhabitat conservation plan areas within the region.

Table TA 4.19 – Road/Truckway Project Evaluation Criteria

Criteria	Description						
1. Throughput	How much additional freight can be accommodated by the project? <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Up to 20</td> <td>Change in trucks per lane mile (AADT) <i>Project awarded 0-20 points based on a proportional scaling system</i></td> </tr> </tbody> </table>	Score	Description	Up to 20	Change in trucks per lane mile (AADT) <i>Project awarded 0-20 points based on a proportional scaling system</i>		
Score	Description						
Up to 20	Change in trucks per lane mile (AADT) <i>Project awarded 0-20 points based on a proportional scaling system</i>						
2. Relieves Freight System Bottlenecks/Capacity Constraints and Reduces Delay	Does the project improve average travel time for freight (by improving travel time for all vehicles)? <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Up to 20</td> <td>What is the number of daily person-hours saved? This criterion accounts for both current (2008) and 2050 congestion relief. Total daily travel time is computed for a baseline condition that includes all current 2008 fully funded and/or environmentally cleared projects. Travel time is again computed by adding each project, one by one, to the baseline condition. The resulting travel time is then compared to the baseline travel time. The difference is the travel time savings that can be attributed to each project. Higher ranking projects have the largest number of person-hours saved. To incorporate existing congestion, the level of service (LOS) on the existing network was analyzed. The LOS were grouped into categories of F, E-D, and C-A. The 2050 hours were then divided by a factor assigned to these three groups. F = 1, E-D = 1.5 and C-A = 2.</td> </tr> </tbody> </table>	Score	Description	Up to 20	What is the number of daily person-hours saved? This criterion accounts for both current (2008) and 2050 congestion relief. Total daily travel time is computed for a baseline condition that includes all current 2008 fully funded and/or environmentally cleared projects. Travel time is again computed by adding each project, one by one, to the baseline condition. The resulting travel time is then compared to the baseline travel time. The difference is the travel time savings that can be attributed to each project. Higher ranking projects have the largest number of person-hours saved. To incorporate existing congestion, the level of service (LOS) on the existing network was analyzed. The LOS were grouped into categories of F, E-D, and C-A. The 2050 hours were then divided by a factor assigned to these three groups. F = 1, E-D = 1.5 and C-A = 2.		
Score	Description						
Up to 20	What is the number of daily person-hours saved? This criterion accounts for both current (2008) and 2050 congestion relief. Total daily travel time is computed for a baseline condition that includes all current 2008 fully funded and/or environmentally cleared projects. Travel time is again computed by adding each project, one by one, to the baseline condition. The resulting travel time is then compared to the baseline travel time. The difference is the travel time savings that can be attributed to each project. Higher ranking projects have the largest number of person-hours saved. To incorporate existing congestion, the level of service (LOS) on the existing network was analyzed. The LOS were grouped into categories of F, E-D, and C-A. The 2050 hours were then divided by a factor assigned to these three groups. F = 1, E-D = 1.5 and C-A = 2.						
3. Improves freight system and/or modal safety	Does the project improve safety? <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>5-4</td> <td>Regional percentage of crash rates that exceed the statewide average</td> </tr> <tr> <td>3-1</td> <td>Regional percentage of crash rates below the statewide average <i>Project scores are based on Caltrans District 11 TASAS Table B report data.</i></td> </tr> </tbody> </table>	Score	Description	5-4	Regional percentage of crash rates that exceed the statewide average	3-1	Regional percentage of crash rates below the statewide average <i>Project scores are based on Caltrans District 11 TASAS Table B report data.</i>
Score	Description						
5-4	Regional percentage of crash rates that exceed the statewide average						
3-1	Regional percentage of crash rates below the statewide average <i>Project scores are based on Caltrans District 11 TASAS Table B report data.</i>						
4. Improves Freight System Management/Efficiency	Does the project include freight management systems, strategies, and/or technologies to improve efficiency, velocity? <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Project facilitates information transmittal that improves network integration (i.e., advanced trucker information, improved signage or other information technology)</td> </tr> </tbody> </table>	Score	Description	10	Project facilitates information transmittal that improves network integration (i.e., advanced trucker information, improved signage or other information technology)		
Score	Description						
10	Project facilitates information transmittal that improves network integration (i.e., advanced trucker information, improved signage or other information technology)						

Table TA 4.19 – Road/Truckway Project Evaluation Criteria (Continued)

Criteria	Description
5. Provides Critical Modal/ Intermodal Link/Connectivity	Does the project integrate the local freight system?
	Score Description
	10 or 5 Project completes a regional link = 10 points Project improves a regional link = 5 points
6. Cost-Effectiveness	How does the project rank against others with respect to cost/project capacity?
	Score Description
	Up to 10 Total capital cost/increased capacity in tons Up to 5 Outside funding sources are available for project implementation
7. Minimizes Community Impacts	Does project minimize/address community impacts?
	Score Description
	Up to 10 Project provides a buffer between freight and residential development
8. Minimizes impacts to Environment/Habitat	Does the project minimize/address environmental/habitat impacts?
	Score Description
	5 Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats 5 Project reduces externalities to include emissions related to idling, noise and/or visual impacts
<p>Note: Preserve areas are defined as habitat preserve planning areas for approved Natural Community Conservation Planning (NCCP) Subregional Plans. Approved NCCP Subregional Plans include: the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Native habitats include all nonhabitat conservation plan areas within the region.</p>	

Table TA 4.20 – Air Cargo Project Evaluation Criteria

Criteria	Description
1. Throughput	How much additional freight volume can be accommodated by the project? Score Description <hr/>
	Up to 20 The project creates capacity for additional freight <i>Project awarded 0-20 points based on a proportional scaling system.</i>
2. Relieves Freight System Bottlenecks/Capacity Constraints and Reduces Delay	Does the project improve average travel time for freight? Score Description <hr/>
	Up to 20 Project improves velocity of a cargo unit in the airport or on a connecting road <i>Project awarded 0-20 points based on a proportional scaling system.</i>
3. Improves freight system and/or modal safety	Does the project accommodate features that enhance safety and/or enhance national security? Score Description <hr/>
	1 Project provides a buffer between freight and non-freight modes of transportation
	1 Project enhances national security
	3 Project enhances safety of transport function
4. Improves Freight System Management/Efficiency	Does the project include freight management systems, strategies, and/or technologies to improve efficiency, velocity? Score Description <hr/>
	10 or 5 Project facilitates information transmittal that improves network integration (i.e., advanced trucker information, improved signage or other information technology)
5. Provides Critical Modal/ Intermodal Link/Connectivity	Does the project integrate the local freight system? Score Description <hr/>
	10 or 5 Project completes a link = 10 points Project improves a link = 5 points

Table TA 4.20 – Air Cargo Project Evaluation Criteria (Continued)

Criteria	Description						
6. Cost-Effectiveness	How does the project rank against others with respect to cost/project capacity?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>Up to 10</td> <td>Total capital cost/increased capacity</td> </tr> <tr> <td>Up to 5</td> <td>Outside funding sources are available for project implementation</td> </tr> </tbody> </table>	Score	Description	Up to 10	Total capital cost/increased capacity	Up to 5	Outside funding sources are available for project implementation
Score	Description						
Up to 10	Total capital cost/increased capacity						
Up to 5	Outside funding sources are available for project implementation						
7. Minimizes Community Impacts	Does project minimize/address community impacts?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Project provides a buffer between freight and residential development</td> </tr> </tbody> </table>	Score	Description	10	Project provides a buffer between freight and residential development		
Score	Description						
10	Project provides a buffer between freight and residential development						
8. Minimizes impacts to Environment/Habitat	Does the project minimize/address environmental/habitat impacts?						
	<table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Score</th> <th style="border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats</td> </tr> <tr> <td>5</td> <td>Project reduces externalities to include emissions related to idling, noise and/or visual impacts</td> </tr> </tbody> </table> <p>Note: Preserve areas are defined as habitat preserve planning areas for approved Natural Community Conservation Planning (NCCP) Subregional Plans. Approved NCCP Subregional Plans include: the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Native habitats include all nonhabitat conservation plan areas within the region.</p>	Score	Description	5	Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats	5	Project reduces externalities to include emissions related to idling, noise and/or visual impacts
Score	Description						
5	Project avoids native habitats or preserve areas Avoids preserve areas as defined by habitat conservation plans or other state, federal lands designated for habitat conservation, and native habitats						
5	Project reduces externalities to include emissions related to idling, noise and/or visual impacts						

Table TA 4.21 – Freight Project Evaluation Criteria and Weighting

Focus Area	Criteria	Description	Max. Score	Total Percent
Serves Freight System Needs	Throughput	How much additional freight can be accommodated by the project?	20	45
	Relieves Freight System Bottlenecks/Capacity Constraints and Reduces Delay	Does the project improve average travel time for freight?	20	
	Improves freight system and/or modal safety	Does the project accommodate features that enhance safety and/or enhance national security?	5	
Develops Freight Network Integration	Improves Freight System Management/Efficiency	Does the project include freight management systems, strategies, and/or technologies to improve efficiency, velocity?	10	20
	Provides Critical Modal/ Intermodal Link/Connectivity	Does the project integrate the local freight system?	10	
Addresses Sustainability	Cost-Effectiveness (Project Lifecycle)	How does the project rank against others with respect to project cost/capacity? Does project have outside funding sources to leverage public funds?	15	35
	Minimizes Community Impacts; Improves Safety, Reduces Hazards	Does the project minimize/address community impacts?	10	
	Minimizes Environmental/Habitat Impacts	Does the project minimize/address environmental/habitat impacts?	10	

Table TA 4.22 - 2050 San Diego Regional Goods Movement Strategy – Project Rankings

System/Project	Estimated Cost (millions)	Throughput	Relieves Freight System Bottlenecks/ Capacity Constraints and Reduces Delay	Improves Freight System and/or Modal Safety	Improves Freight System Management/ Efficiency	Provides Critical Modal/ Intermodal Link/ Connectivity	Cost-Effectiveness	Minimizes Community Impacts	Minimizes Environmental/ Habitat Impacts	Total Points	Modal Ranking
		20	20	5	10	10	15	10	10	Out of 100	Rank
Maritime											
Vesta Street Bridge Mobility Connector over Harbor Drive at Naval Base San Diego	\$60	15	13	5	0	5	4	10	10	62	1
TAMT¹ Enhance Military Project Cargo Capacity, expand open storage	\$19	20	15	2	0	5	12	0	5	59	2
32nd Street Freeway Access Enhancement	\$119	15	16	5	5	5	3	2	5	56	3
TAMT Entrance, Rail Line Grade Separation/ Barrio Logan Enhancement	\$67	5	13	5	5	5	3	10	10	56	3
NCMT² Wharf Extension, Vehicle Processing Facility, Berths 24-10 and 24-11	\$151	20	14	2	0	5	3	0	10	54	5
NCMT Bay Marina Drive, Civic Center Freeway Access Improvements	\$7	10	10	2	5	5	3	2	10	47	6
Rail Mainline Capacity											
LOSSAN³ CP San Onofre to CP Pulgas Double-Track	\$61	20	15	0	5	5	12	0	5	62	1
LOSSAN CP Ponto to CP Moonlight Double-Track	\$28	9	8	0	5	5	9	0	5	41	2
LOSSAN Sorrento to Miramar Phase II Double-Track	\$100	6	15	0	5	5	4	0	5	40	3
LOSSAN CP Moonlight to CP Swami Double-Track	\$20	3	8	0	5	5	6	0	10	37	4
LOSSAN Penasquitos Double-Track	\$80	6	11	0	5	5	4	0	5	36	5
LOSSAN Carlsbad Village Double-Track	\$28	3	9	0	5	5	6	0	5	33	6
LOSSAN San Dieguito Bridge/Double-Track	\$76	4	6	0	5	5	4	0	5	28	7
LOSSAN CP Tecolote to CP Friar Double-Track	\$44	3	4	0	5	5	4	0	5	26	8
Desert Line Basic Service, Rehabilitation	\$182	2	0	0	0	5	3	0	5	15	9
Rail Intermodal Capacity											
National City Rail Yard	\$7	10	5	5	0	10	12	0	5	47	1
Logistics Center South County	\$180	20	5	0	0	10	3	0	5	43	2
Logistics Center Mid County	\$2,130	20	5	0	0	10	3	0	5	43	2
Logistics Center North County	\$166	20	5	0	0	10	3	0	5	43	2

Table TA 4.22 - 2050 San Diego Regional Goods Movement Strategy – Project Rankings (Continued)

					Estimated Cost (millions)	Throughput	Relieves Freight System Bottlenecks/ Capacity Constraints and Reduces Delay	Improves Freight System and/or Modal Safety	Improves Freight System Management/ Efficiency	Provides Critical Modal/ Intermodal Link/ Connectivity	Cost-Effectiveness	Minimizes Community Impacts	Minimizes Environmental/ Habitat Impacts	Total Points	Modal Ranking
System/Project						20	20	5	10	10	15	10	10	Out of 100	Rank
Rail Safety, Tunnels															
LOSSAN Camino Del Mar Tunnel					\$986	0	0	5	5	5	2	10	5	32	1
LOSSAN UTC Tunnel UTC Alignment					\$2,491	0	0	5	5	5	2	10	5	32	1
LOSSAN Del Mar Bluffs Stabilization					\$26	0	0	5	0	0	2	0	5	12	3
Road/Truckway Capacity															
Route	From	To	Existing	Draft 2050 RTP Unconstrained											
I-5	SR 56	Palomar Airport Road	8F/8F+2HOV	10F+4ML	\$2,195	20	20	1	10	5	14	0	5	75	1
I-805	I-8	La Jolla Village Drive	8F/10F	8/10F+4ML	\$594	20	18	2	10	5	15	0	5	75	1
I-5	Palomar Airport Road	Vandegrift Boulevard	8F	10F+4ML	\$1,398	18	18	2	10	5	13	0	5	71	3
I-805	SR 54	I-8	8F	8F+4ML	\$1,800	18	18	1	10	5	13	0	5	70	4
SR 52	I-15	SR 125	4F	6F+3ML/MB	\$440	18	16	1	10	5	14	0	5	69	5
SR 125	SR 94	I-8	8F	10F+2HOV	\$140	18	15	4	10	5	10	0	5	67	6
SR 54	I-5	SR 125	6F	6F+2HOV	\$285	18	16	3	10	5	10	0	5	67	6
I-805	SR 905	Telegraph Canyon Road	8F	8F+4ML	\$440	15	16	1	10	5	13	0	5	65	8
I-805	La Jolla Village Drive	I-5 (North)	8F	8F+4ML	\$90	15	13	2	10	5	15	0	5	65	8
I-805	Telegraph Canyon Road	SR 54	8F	8F+4ML	\$370	15	15	1	10	5	13	0	5	64	10
SR 125	SR 54	SR 94	6F	6F+2HOV	\$303	13	15	2	10	5	13	0	5	63	11

Table TA 4.22 – 2050 San Diego Regional Goods Movement Strategy – Project Rankings (Continued)

System/Project					Estimated Cost (millions)	Throughput	Relieves Freight System Bottlenecks/ Capacity Constraints and Reduces Delay	Improves Freight System and/or Modal Safety	Improves Freight System Management/ Efficiency	Provides Critical Modal/ Intermodal Link/ Connectivity	Cost-Effectiveness	Minimizes Community Impacts	Minimizes Environmental/ Habitat Impacts	Total Points	Modal Ranking
Route	From	To	Existing	Draft 2050 RTP Unconstrained		20	20	5	10	10	15	10	10	Out of 100	Rank
Road/Truckway Capacity (Continued)															
I-5	La Jolla Village Drive	I-5/I-805 Merge	8F/14F	8F/14F+4ML	\$140	15	15	3	10	5	10	0	5	63	11
SR 67	I-8	Mapleview Street	4F/6F	6F/8F	\$180	18	15	4	5	5	10	0	5	62	13
I-805	Mission Valley Viaduct		8F	8F+4ML	\$300	15	15	3	10	5	9	0	5	62	13
SR 94	I-805	College Avenue	8F	8F+2HOV	\$610	13	13	3	10	5	13	0	5	62	13
I-5	I-5/I-805 Merge	SR 56	8F/14F+2 HOV	10F/14F+4ML	\$427	10	13	2	10	5	13	0	5	58	16
SR 52	SR 125	SR 67	4F	6F	\$120	18	15	0	5	5	10	0	5	58	16
SR 94	SR 125	Avocado Boulevard	4F	6F	\$90	13	15	4	5	5	9	0	5	56	18
SR 94	College Avenue	SR 125	8F	8F+2HOV	\$335	15	16	1	5	5	8	0	5	55	19
I-8	2nd Street	Dunbar Road	4F/6F	6F	\$230	10	13	4	10	5	8	0	5	55	19
SR 905	I-805	Mexico	--	8F	\$110	13	15	2	5	5	9	0	5	54	21
SR 94	Jamacha Road	Melody Road	2C	4C	\$205	15	15	0	5	5	9	0	5	54	21
SR 905	I-5	I-805	4F	8F	\$150	15	13	0	5	5	9	0	5	52	23
SR 125	I-8	SR 52	6F	6F+2HOV	\$440	8	13	2	10	5	6	0	5	49	24
I-8	SR 125	2nd Street	6F/8F	6F/8F Operational	\$125	5	13	3	5	5	7	0	10	48	25
I-15	I-5	SR 94	6F	8F+2HOV	\$90	3	13	3	10	5	6	0	5	45	26
SR 94	Avocado Boulevard	Jamacha Road	4C	6C	\$30	8	9	5	5	5	8	0	5	45	26

Table TA 4.22 – 2050 San Diego Regional Goods Movement Strategy – Project Rankings (Continued)

System/Project				Estimated Cost (millions)	Throughput	Relieves Freight System Bottlenecks/ Capacity Constraints and Reduces Delay	Improves Freight System and/or Modal Safety	Improves Freight System Management/ Efficiency	Provides Critical Modal/ Intermodal Link/ Connectivity	Cost-Effectiveness	Minimizes Community Impacts	Minimizes Environmental/ Habitat Impacts	Total Points	Modal Ranking
					20	20	5	10	10	15	10	10	Out of 100	Rank
Road/Truckway Capacity (Continued)														
Freeway	Intersecting Freeway	Movement												
SR 94	SR 125	West to North		\$180	20	20	4	0	5	9	0	10	68	1
SR 94	SR 125	South to East		\$139	17	16	3	0	5	10	0	10	61	2
Air Cargo														
SDIA ⁴ Access to I-5				\$32	15	15	3	5	5	12	0	10	65	1
SDIA, Aircraft/Ground Access, AC Facilities, Transload				\$111	15	15	3	5	5	5	0	10	58	2
Future Expansion, Freeway/Ground Access N. Field				\$173	15	15	3	5	5	4	0	10	57	3
Projects Of Interest														
Pipeline														
I-15 Access to KM MV Terminal														
KM, New Miramar Junction/Terminal/Tanks														
KM Expand to 16 Pipe/Extend to Mexico														
Border/Local Road/Highway Or Toll Projects														
Otay Mesa East and SR 11 (toll)														
Otay Mesa Southbound Truck Route Improvements (City of San Diego local streets and roads)														
SR 125 from 905 to SR 54														
Mexican Freight Projects														
Mesa de Otay II Port of Entry and Related Roads														
Tijuana Intermodal Terminal/Distribution Center														
Ensenada Port Expansion														
Punta Colonet Port/Rail Plan														
Mex Rail Yard Bicentennial Multi-modal Center in Tijuana														
Tijuana-Tecate Rail Line														
1. Tenth Avenue Marine Terminal				3. Los Angeles-San Diego Rail Corridor										
2. National City Marine Terminal				4. San Diego International Airport										

Table TA 4.23 – Rail Grade Separation Criteria

Project-Specific Criteria

These criteria take into account existing vehicular and train traffic, accident history, cost, noise, access to emergency services, and other factors.

Step 1: Warrants

The following criteria and point system is implemented with a potential maximum of 100 points. The total project-specific criteria score is multiplied by 0.75 to produce a scaled, 75-point score for the total regional rail grade separation project score.

- | | |
|---|----------------------------|
| 1. Peak-Period Exposure Index (PPEI) Factor,
measured as the product of the existing high directional traffic and the total measured blocking delay during the same three hours of the day experiencing the highest congestion at the crossing. | MAXIMUM POINTS = 20 |
|---|----------------------------|

$$\text{PPEI} = \text{VT3} \times \text{BD3} \times \text{C3}$$

Where the score is the product of the above formula, rounded to the next whole number, up to a maximum of 20; and, where

VT3 = Vehicular traffic in high direction during selected three-hour period

BD3 = Total blocking delay during same three-hour period selected

C3 = 1/1,350,000, a mathematical constant used for the three-hour peak-period calculation

Notes

- a. For crossings where two or more streets that are adjacent to each other that are affected simultaneously by the operation of the train, the vehicular traffic volume on those streets is cumulative for purposes of the calculation of this congestion relief factor
- b. Selected three-hour period consists of three one-hour periods which may be consecutive. However, the selected three-hour period shall be the same when counting vehicular and train traffic
- c. Blocking delay shall be measured as the time period beginning when the warning devices are activated to the time when the warning devices are de-activated

Example

At a crossing, there are 5,400 total cars in the high direction counted between 6:30 and 7:30 a.m., 8 and 9 a.m., and 5 and 6 p.m., with eight trains per hour during those same hours and a 60-second delay time per train during those same hours.

VT3 = 5400 cars in high direction-selected, three-hour period

BD3 = 8 trains x 2 directions x 3 hours x 60-second delay = 2880

PPEI = 5400 x 2880 x [1/1,350,000] = 11.52

Rounding up to the next whole number: PPEI score = 12

Table TA 4.23 – Rail Grade Separation Criteria (Continued)

2. **Peak-Day Total Delay Exposure Index (PDEI)**

MAXIMUM POINTS = 20

Factor, measured as the product of the existing average daily traffic (ADT), the total number of trains, and an average train crossing delay time factor.

$$PDEI = PD-ADT \times PD-NT \times ATCDF \times PD-C$$

Where the score is the product of the above formula, rounded to the next whole number, up to a maximum of 20; and, where

PD-ADT = Peak-Day Average Daily Traffic

PD-NT = Peak-Day Total Number of Trains

ATCDF = Average Train Crossing Delay Factor, corresponds to point scale as shown in table below

PD-C = 1/1,000,000, a mathematical constant used for peak-day period calculation

ATCDF Table		
From (minutes)	To (minutes)	Points
0.00	0.75	1
0.75	1.00	2
1.00	1.25	3
1.25	1.50	4
1.50	2.00	5
2.00	3.00	6
3.00	4.00	7
4.00	6.00	8
6.00	8.00	9
8.00	10.00	10

Notes:

- a. For crossings where two or more streets that are adjacent to each other that are affected simultaneously by the operation of the train, the vehicular traffic volume on those streets is cumulative for purposes of the calculation of this congestion relief factor
- b. Average annual daily traffic can be used for peak-day, but ADT for weekday or weekend day may be used as appropriate, if available. However, the selected day period shall be the same when counting vehicular and train traffic. As an example, if ADT for weekday is available, the highest train traffic of any day between Monday and Friday can be used for the calculations, and not the weekend day train traffic
- c. Blocking delay shall be measured as the time period beginning when the warning devices are activated to the time when the warning devices are de-activated

Table TA 4.23 – Rail Grade Separation Criteria (Continued)

Example

At a crossing, there is an arterial with an ADT of 30,000 vehicles on weekdays, 144 daily trains in both directions also on weekdays, averaging 55 seconds per crossing.

$$PDEI = PD-ADT \times PD-NT \times ATCDF \times PD-C$$

PD-ADT = 30,000 vehicles on weekdays

PD-NT = 144 trains in both directions, on weekdays

ATCDF = 2 points

$$PDEI = 30,000 \times 144 \times 2 \times [1/1,000,000] = 8.64$$

Rounding up to the next whole number: PDEI score = 9

At a crossing, there is an arterial with an ADT of 30,000 vehicles on weekdays, 144 daily trains in both directions also on weekdays, averaging 55 seconds per crossing.

$$PDEI = PD-ADT \times PD-NT \times ATCDF \times PD-C$$

PD-ADT = 30,000 vehicles on weekdays

PD-NT = 144 trains in both directions, on weekdays

ATCDF = 2 points

$$PDEI = 30,000 \times 144 \times 2 \times [1/1,000,000] = 8.64$$

3. **Accident History:** accident history in the past five years involving vehicles, pedestrians, and bicycles with trains, not including accidents involved in attempted suicides.

MAXIMUM POINTS = 25

Assign points according to the following schedule

Number of Qualifying Accidents	1	2	3	4	5+
Points	2	6	10	14	18
Fatal Accidents	Points				
0	0				
1+	5				

Special Conditions (maximum 2 points)

- More than one traffic signal is pre-empted: 1 point
- More than two tracks cross the roadway: 1 point
- The crossing is skewed more than 20 degrees: 1 point
- Offset roadway intersections are present: 1 point

Table TA 4.23 – Rail Grade Separation Criteria (Continued)

4. **Funding Request:** The funding request criterion awards points for the percentage of total project costs contributed by the local agency including funds already committed from state, federal, or other sources. **MAXIMUM POINTS = 15**

Assign points according to the following schedule

Local Contribution	Points
Less than 10%	0
10% to 25%	5
More than 25% to less than 50%	10
50% or more	15

5. **Pedestrian Benefits** **MAXIMUM POINTS = 4**

Assign points according to the following criteria

- a. Grade separation will serve 1-50 pedestrians during top four hours: 1 point
- b. Grade separation will serve 51-100 pedestrians during top four hours: 2 points
- c. Grade separation will serve 101-150 pedestrians during top four hours: 3 points
- d. Grade separation will serve more than 150 pedestrians during top four hours: 4 points

6. **Bus Operations Effects** **MAXIMUM POINTS = 4**

Assign points according to the following criteria

- a. Grade separation will serve up to four buses an hour: 1 point
- b. Grade separation will serve from four to eight buses an hour: 2 points
- c. Grade separation will serve from eight to sixteen buses an hour: 3 points
- d. Grade crossing is adjacent to a transit center: 1 point

7. **Noise Reduction** **MAXIMUM POINTS = 4**

Assign points according to the following criteria

- a. Rail crossing area located within 200 feet of sensitive receptors: 4 points
- b. Rail crossing area located between 200-500 feet of sensitive receptors: 2 points
- c. Rail crossing area located more than 500 feet away from sensitive receptors: 0 points

Sensitive receptors include: residential areas, hospitals, schools, and houses of worship. Rail crossing area includes crossing plus 200 feet along track in either direction away from crossing.

Table TA 4.23 – Rail Grade Separation Criteria (Continued)

8. Benefit to Emergency Services

MAXIMUM POINTS = 4

Assign points according to the following criteria

- a. Rail crossing located within ½ mile of emergency service provider and no alternative grade-separated crossing exists within ½ half mile: 4 points
- b. Rail crossing located between ½ and 1 mile of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 2 points
- c. Rail crossing located between 1 and 1½ miles of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 1 point
- d. Rail crossing located further than 1½ miles of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 0 points

Emergency service providers include services such as police, fire, paramedic, ambulance, and hospital services. Distance is measured as driven distance from crossing.

9. Impact to Truck Freight Operations

MAXIMUM POINTS = 4

Assign points according to the following table

% Trucks	Points
Greater than 5	4
2 to 5	2
Less than 2	0

Trucks shall include Class 4 to Class 13 as defined by the Federal Highway Administration.

Step 2: Once the projects have been prioritized according to the criteria above, consideration for funding would include the following project readiness elements

- a. Project feasibility (e.g., physical constraints and reliability of cost estimate)
- b. Environmental document status
- c. Right of Way acquisition status
- d. Permits (e.g., Public Utilities Commission, Coastal Commission, or the Department of Fish and Game)

RHNA Criteria

Please refer to SANDAG Board Policy No. 033. Regional rail grade separation projects must include incentive points (a minimum of 25 points out of 100 possible) based on the number of lower income housing units produced in accordance with RHNA Alternative 3. SANDAG staff will calculate the incentive points for each jurisdiction on an annual basis in accordance with the Board Policy.

Table TA 4.24 – Rail Grade Separation Rankings

At Grade Crossing Location	Rank	Veh. per Day ADT	Trains per Day	Accidents	Total Points	Estimated Cost to Grade Separate (\$2010) (mil)	Assumptions
Washington, Laurel, Hawthorn, Grape, Ash, and Broadway Streets, San Diego	1	263,945	137	8	80.8	\$2,200	see note (1)
Taylor Street, San Diego	2	42,670	195	4	62.8	\$110	see note (4)
Broadway/Lemon Grove Avenue, Lemon Grove	3	40,403	144	2	57.8	\$80	light rail only (4)
Palomar Street, Chula Vista	4	59,337	206	0	55.5	\$40	light rail only (4)
H Street, Chula Vista	5	47,596	206	0	53.3	\$40	light rail only (4)
E Street, Chula Vista	6	45,658	206	1	50.3	\$40	light rail only (4)
Euclid Avenue, San Diego	7	37,000	144	0	46.3	\$40	light rail only (4)
Washington St./Sassafras St., San Diego	8	30,345	206	0	46.3	\$150	light rail only (4)
Vista Village Drive/Main Street, Vista	9	61,698	67	0	46.0	\$60	light rail only (2)
Civic Center Drive, Vista	10	40,782	67	0	46.0	\$40	light rail only
28th Street, San Diego	11	33,225	206	0	44.8	\$40	light rail only (4)
Ash Street, San Diego	12	30,575	206	0	44.0	\$100	light rail only
Broadway, San Diego	13	27,845	144	0	43.3	\$110	light rail only
32nd Street, San Diego	14	32,470	206	0	42.5	\$40	light rail only (4)
Allison Ave/University Ave/La Mesa Blvd, La Mesa	15	24,700	144	0	40.3	\$100	light rail only (4)
Severin Drive, La Mesa	16	13,611	288	2	40.3	\$40	light rail only (4)
Sorrento Valley Blvd., San Diego	17	37,990	51	1	39.5	\$130	
Melrose Drive, Vista	18	25,921	67	0	31.8	\$40	light rail only (2)
El Camino Real, Oceanside	19	35,911	67	0	31.7	\$40	light rail only (2)
North Drive, Vista	20	8,793	67	0	29.5	\$30	light rail only
Mar Vista Drive, Vista	21	9,665	67	0	28.8	\$30	light rail only
Los Angeles Drive, Vista	22	4,291	67	0	28.8	\$30	light rail only
Grand Avenue/Carlsbad Village Drive, Carlsbad	23	21,113	51	0	28.3	\$110	
Guajome Street, Vista	24	4,152	67	0	28.0	\$30	light rail only
Tamarack Avenue, Carlsbad	25	10,568	51	0	23.8	\$90	
Cannon Road, Carlsbad	26	12,434	51	0	22.3	\$90	
Leucadia Blvd., Encinitas	27	34,000	51	1	22.0	\$90	see note (3)
Total						\$3,940	

(1) Heavy rail trench only from Washington St. to Downtown San Diego estimated at \$1.9 billion

(2) Included in the SPRINTER double-track project (West Mission Rd, San Marcos also is included at estimated cost of \$40 million)

(3) Included in the COASTER double-track

(4) Included in Blue/Orange Lines frequency enhancements