10-13-11 A041DL

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
619.231.1466 FAX 619.234.3407

Agenda

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

9:00 a.m.

James R. Mills Building
Board Meeting Room, 10th Floor
1255 Imperial Avenue, San Diego

This information will be made available in alternative formats upon request. To request an agenda in an alternative format, please call the Clerk of the Board at least five working days prior to the meeting to ensure availability. Assistive Listening Devices (ALDs) are available from the Clerk of the Board/Assistant Clerk of the Board prior to the meeting and are to be returned at the end of the meeting.

ACTION RECOMMENDED

1. Roll Call

2. Approval of Minutes - September 15, 2011 — Approve

3. Public Comments - Limited to five speakers with three minutes per speaker. Others will be heard after Board Discussion items. If you have a report to present, please give your copies to the Clerk of the Board.

Please SILENCE electronics during the meeting

CONSENT ITEMS

6.	Adoption of 2012 MTS Executive Committee and Board of Directors Meeting Schedule Action would adopt the 2012 Executive Committee and Board of Directors meeting schedule	Adopt
7.	Light Rail Vehicle (LRV) Anti-Graffiti Window Film Contract Award Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1025.0-11 with NMS Management, Inc. to supply and install anti-graffiti window film on 128 light rail vehicles (LRVs), for a two-year base period with three 1-year options, and execute each contractual option year at the CEO's discretion.	Approve
8.	Increased Authorization for Legal Services Action would authorize CEO to execute MTS Doc. No. G1078.0-07 with Ryan, Mercaldo & Worthington, LLP for legal services and ratify prior amendments entered into under the CEO's authority.	Approve
9.	Investment Report - August 2011 Action would receive a report for information.	Receive
10.	MTS Job Order Contract Work Order for Track Replacement at 10th Avenue & C Street in Downtown San Diego Action would authorize the CEO to execute Job Order Contract (JOC) Work Order MTSJOC1582-01 with Herzog Contracting Corporation to perform work under MTS Doc. No. PWL134.012 for track replacement at 10th and C Street.	Approve
11.	Increased Authorization for Legal Services - Liebman, Quigley, Shepphard & Soulema, APC Action would authorize the CEO to execute MTS Doc. No. G1087.12-07 with Liebman, Quigley, Shepphard & Soulema, APC for legal services and ratify prior amendments entered into under the CEO's authority.	Approve
12.	Unallocated Transportation Development Act (TDA) Funds for Transit-Related Projects Action would approve the use of $350,887.22 in unallocated TDA funds currently held by the County of San Diego (County) for transit-related expenses for the City of El Cajon.	Approve
13.	Appointment of Sheriff Representative to Taxicab Advisory Committee Action would authorize the appointment of a representative from the Sheriff's Licensing Division as an ex officio member of the Taxicab Advisory Committee.	Approve

CLOSED SESSION

24.	a. CLOSED SESSION - CONFERENCE WITH REAL PROPERTY NEGOTIATORS PURSUANT TO CALIFORNIA GOVERNMENT CODE SECTION 54956.8; Properties: Encanto/62nd Street Trolley Station, San Diego, California (Assessor Parcel Nos. 549-071-18, 21, 38, and 39); Agency Negotiators: Karen Landers, General Counsel; Tim Allison, Manager of Real Estate Assets; and Paul Jablonski, Chief Executive Officer; Negotiating Parties: AMCAL Multi-Housing, Inc.; Under Negotiation: Price and Terms of Payment	Possible Action

NOTICED PUBLIC HEARINGS

25. None.

DISCUSSION ITEMS

30. None.

REPORT ITEMS

45.	2011 Comic-Con Post Event Summary (Tom Doogan and Brian Riley) Action would receive a report for information.	Receive
46.	Annual Service Performance Monitoring Report (Devin Braun) Action would receive a report for information.	Receive
47.	Bus Year-End Report (Claire Spielberg) Action would receive a report for information.	Receive
48.	FY 11 Year-End Rail Operations Report (Wayne Terry) Action would receive a report for information.	Receive
49.	Operations Budget Status Report for August 2011 (Mike Thompson) Action would receive an MTS operations budget status report for August 2011.	Receive
60.	Chairman's Report	Information
61.	Audit Oversight Committee Chairman's Report	Information
62.	Chief Executive Officer's Report	Information
63.	Board Member Communications	
64.	Additional Public Comments Not on the Agenda If the limit of 5 speakers is exceeded under No. 3 (Public Comments) on this agenda, additional speakers will be taken at this time. If you have a report to present, please furnish a copy to the Clerk of the Board. Subjects of previous hearings or agenda items may not again be addressed under Public Comments.	
65.	Next Meeting Date: October 27, 2011	
66.	Adjournment	

MEETING OF THE BOARD OF DIRECTORS FOR THE
METROPOLITAN TRANSIT SYSTEM (MTS),
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101

September 15, 2011

MINUTES

1. Roll Call

Chairman Mathis called the Board meeting to order at 9:06 a.m. A roll call sheet listing Board member attendance is attached.

Chairman Mathis introduced Board member Mona Rios from National City. Mr. Jablonski introduced Cathy Brown as the Assistant Clerk covering Valerie Vizkeleti while she is out.

2. Approval of Minutes

Mr. Cunningham moved to approve the minutes of the August 18, 2011, MTS Board of Directors meeting. Ms. Emerald seconded the motion, and the vote was 15 to 0 in favor.

3. Public Comments

Joe Gotcher – Mr. Gotcher introduced himself as the President/Business Agent of the Amalgated Transit Union; Local 1309 (ATU Local 1309). He provided background of ATU Local 1309. He expressed that the union would like a smooth labor negotiation.

John L. Wood – Mr. Wood mentioned that the Amaya Station gate comes down early. He is asking the Board of Directors to consider extending the platform at the Lemon Grove Depot trolley station so that the crossing gates are not down for a long period of time. He expressed concerns regarding the greyhound bus station freight and what is MTS or Greyhound are doing regarding freight.

Lorena Gonzalez – Ms. Gonzalez stated she represents those who don't have rights through the union and to ensure that there is a comprehensive retaliation policy in place for the upcoming Taxicab election; and to ensure that voting is done where there are two seats available; to have the ability to vote for two candidates.

Binyam Seifu – Mr. Seifu is a taxi driver and a member of the United Taxi Workers of San Diego (UTWSD). He acknowledged UTWSD for their hard work in representing the interest of all taxi drivers. He also thanked the MTS Board for allowing the UTWSD to be the voice of taxi drivers throughout the county. He emphasized that taxi drivers are hardworking and honest people. He would like to work cooperatively with MTS, UTWSD, and the taxi drivers regarding the issues that taxi drivers are faced with today.

CONSENT ITEMS:

6. Proposed 2011/2012 Internal Audit Plan

Action would approve the proposed 2011/2012 Internal Audit Plan.

7. Compass Card Back-Office Implementation and Commissions on Fare Media

Action would approve MTS Doc. No. G1248.2-09 for an interim agreement between the San Diego Association of Governments (SANDAG), North County Transit District (NCTD), and MTS for shared responsibilities regarding Compass Card back-office implementation and commissions on fare media.

8. Handheld Readers and Software Development Services

Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. G1406.0-12 with General Information Systems Limited (GIS) for handheld reader units (HHUs) and charging-station software development services.

9. Investment Report - July 2011

Action would receive a report for information.

10. E-Procurement Services - Contract Amendment

Action would authorize the CEO to: (1) execute MTS Doc. No. G1305.2-10 with Planet Bids, Inc. for e-procurement services; and (2) exercise option years 1 through 3 at his discretion.

11. Bus Stop Maintenance - Contract Amendment

Action would authorize the CEO to execute MTS Doc. No. B0453.2-06 with Veolia Transportation to provide additional transit center power-washing services effective October 1, 2011.

12. Janitorial Services for MTS Buildings and LRV Fleet

Action would authorize the CEO to execute MTS Doc. No. G1387.0-11 with NMS Management, Inc. for janitorial services at MTS buildings and for the light rail vehicle (LRV) fleet.

Action on Recommended Consent Items

Chairman Mathis pulled item 8 since it is will be discussed in item 31.

Ms. England moved to approve Consent Agenda Item Nos. 6, 7, 9, 10, 11, and 12. Mr. Cunningham seconded the motion, and the vote was 15 to 0 in favor.

CLOSED SESSION:

The Board convened to Closed Session at 9:23 a.m.

24 a. CLOSED SESSION - CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION PURSUANT TO CALIFORNIA GOVERNMENT CODE SECTION 54956.9(a): The United States of America v. 1.31 Acres of Land (Case No. 11cv0949 JLS [POR]); and The United States of America v. 0.537 Acres of Land (Case No. 11cv0952 L [BGS])

b. CLOSED SESSION - CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION Pursuant to California Government Code section 54956.9(b)(3)(C): Noa Jackson

v. MTS (Claim No. TS23022) and CLOSED SESSION - CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION Pursuant to California Government Code section 54956.9(a): Jonathan Stacy v. MTS, et al. (San Diego Superior Court Case No. 37-2011-00085444-CU-PA-CTL)

c. CLOSED SESSION - CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION Pursuant to California Government Code Section 54956.9(a): Anna Krokee Representative for Decedent Tsilia Shuvaks v. MTS, et al. (San Diego Superior Court Case No. 37-2009-00082277-CU-PA-CTL)

The Board reconvened to Open Session at 9:55 a.m.

Oral Report of Final Actions Taken in Closed Session

Karen Landers reported the following:

a. The Board received a report and gave direction to staff.
b. The Board received a report and gave direction to staff.
c. The Board received a report and gave direction to staff.

NOTICED PUBLIC HEARINGS:

25. None.

DISCUSSION ITEMS:

30. Taxicab Advisory Committee Member Elections (Sharon Cooney)

Sharon Cooney, Chief of Staff, discussed the recommendation of the Taxicab Advisory Committee (TAC) meeting held on September 7, 2011, regarding the TAC guidelines and the process of election.

Public Comments

Mikaiil Hussein – Mr. Hussein of the United Taxi Workers of San Diego (UTWSD) expressed his concerns regarding the secret ballot and clarifications in writing of the election process.

Emily Howe – Ms. Howe is a San Diego resident and a volunteer at the United Taxi Workers of San Diego (UTWSD) and she had concerns to the TAC guidelines section 2.4 regarding the good standing language.

Sara Saez – Ms. Saez works with the United Taxi Workers of San Diego (UTWSD). She made the request to extend the timeline of the election to allow drivers enough time to campaign. She also expressed her concerns about retaliation.

Peter Zschiesche – Mr. Zschiesche is the founding director of the Employee Rights Center of San Diego and he expressed that he would like to have an open election with no retaliation. *Kamran Hamidi* - Mr. Hamidi requested the Board of Directors to appoint the Sherriff's office hold a place as an ex-officio member on the MTS Taxicab Advisory Committee.

Margo Tanguay – Ms. Tanguay stated that taxi lease drivers are independent contractors; Taxi drivers are required to have a business tax certificate from the city of San Diego to drive. She is in support of the item.

Discussions

Chairman Mathis reminded the Board that MTS is a public transit agency. He stated that MTS's primary job is to operate buses and trolleys and to make sure people get from point A to point B. He stated that taxicabs operate under the policies established by the City of San Diego. He also stated that Taxicab matters that have been brought up to the Board are not a matter of this election. He stated that the contracts that taxi drivers have are between the employee and the employers and MTS does not govern what is in those contracts and these items should be brought and debated at the City Council level.

Ms. Emerald thanked the staff for all of their hard work. She indicated that she will bring up the issues raised today in the City of San Diego Public Safety Neighborhood Services Committee. She mentioned that there should be an anti-retaliation policy as part of this election and she will defer to San Diego City attorney to determine the wording. She stated that the language related to "good standing" in the guidelines should say in good standing with the San Diego Sherriff's Licensing Division.

Mr. Cunningham expressed concerns regarding retaliation and the election process through a secret ballot. He provided feedback on how to mitigate retaliation during the election and on the good standing language in the guidelines.

Ms. Cooney stated that during the election, MTS needs to verify that they have voted and not vote multiple times.

Chairman Mathis made the assurance that the election will be a secure secret ballot.

Ms. Emerald made a motion to amend the language of "good standing" to read with good standing with the San Diego Sheriff's Department.

Mr. Gloria asked if MTS has had driver elections in the past and where there driver representations in the committee. He also asked about how many drivers will participate in the elections. He also expressed issues regarding the cost of the election process.

In response to Mr. Gloria, Ms. Cooney stated that MTS wants to ensure that the taxicab operation is safe. She stated that drivers are not elected but appointed to the committee. She stated that about 900 will vote. She added that it will take ten minutes to process each vote and will require eight personnel for the process. If MTS finds that it is too much work for in-house staff, a recommendation will be made for an outside consultant to do the process. She also stated that MTS funds cannot be used for the cost of the election.

Chairman thanked everyone regarding this item and stated he looks forward to the elections and a satisfactory conclusion

Action Taken

Ms. Emerald made the motion to approve: (1) changes to Taxicab Advisory Committee (TAC) membership guidelines, amending the language of good standing with San Diego Sherriff's Licensing Division; and (2) an interim balloted election of two taxicab drivers to fill the vacant seats on the TAC for the remaining two years in the 2011-2013 Committee term with a full balloted election for five driver representatives and five owner representatives to be conducted by January 2014. Mr. Young seconded the motion, the vote was 15 to 0 in favor.

31. Fare-Collection Software Upgrades - Sole-Source Contract Award (Sharon Cooney and Marianne Lawrence)

Paul Jablonski, Chief Executive Officer, provided an update on the Compass Card Program and the Smart Card Technology regarding the fare collection software upgrade to support the next phase. He stated that to achieve the configuration of the TVMs, the change to incorporate the Day Pass will be included. It was incorporated at the San Ysidro Station and it was very successful and MTS would like to implement this system-wide. Two things need to be done to accomplish this. The first part would be to change the screen of the TVMs so the patrons will interact with the various fare products which is part of agenda item 31. The second part would be to reconfigure the hardware on the buses, so that the same function can be accomplished that would provide a consistent procedure throughout the system.

Ms. Emerald asked what the amount of fraud is. Mr. Jablonski stated that there is about three to four percent which is about $3 to $4 million.

Mr. Castaneda asked the value of the Compass Card. Mr. Jablonski stated that unit cost of a Compass Card is $1.

Public Comments

Clive Richard – Mr. Richard expressed his concerns about handheld devices working, when he approached security- they say that it doesn't work, 75% high failure rate. He would like to see a system that works.

Margo Tanguay – Ms. Tanguay wanted to let the board know that she is in support of the Compass Card.

Action Taken

Mr. Cunningham moved to authorize the CEO to execute MTS Doc. No. G1408.0-12 with Cubic Transportation Systems, Inc. for fare-collection software upgrades to the trolley ticket vending machines (TVMs) and bus fareboxes. Mr. Castaneda seconded the motion, the vote was 15-0 in favor.

REPORT ITEMS:

45. SDTC Pension Investment Status Report (Cliff Telfer)

Cliff Telfer, Chief Financial Officer (CFO) stated that RV Kuhns will go over the San Diego Transit pension investment status achieved last year in two different phases, the first part will cover the actual fiscal year to June, which is a positive return, that will be used on the actuarial

report. The second part reflects that the market has been up and down, mostly down. The returns show the effect of what has been happening in the last few months with the market. Mr. Telfer introduced Jeremy Miller, RV Kuhns. He stated that as of June 30, 2011, fiscal year end, the San Diego Transit Corporation Employees Retirement Plan total fund was $151,135,482 million, it began the calendar year at $147,898,056 million which included benefit payment of about $3.7 million and gain and loss of approximately $6.9 million, a significant improvement from the previous year. He went over a variety of asset classes and product allocation strategies that the SDTC pension plan currently has. He stated that the plan is in line roughly with target allocations. He added that the client is doing its job implementing its strategies; it worked quite well for fiscal year 2011. He stated that since inception in October 1982, the plan had experienced a solid return of 10.1%, more than enough to cover to benefit payments. The plan showed an exceptional fiscal year relative to other public plans on the top 34 percentile. He went over the asset allocation by theme and asset allocation by liquidity.

Mr. Miller stated that "We truly are living in extraordinary times the last few years, driven by some uncertainty which has driven July and August. The world globalizing has affected us domestically." There has been a significant drop in the market value of the asset, down by $141,442,801 as of August 31, 2011. To cover a few changes that have been made, Westwood, Pimco All Asset, was given a broader mandate, an all cap mandate to help mitigate events in August and any future events. Return of the asset is 11% for the year changed from June to August.

Mr. Ewin questioned for the year end and the month's end in August, the plan is down $10 million. Mr. Telfer clarified that half of that is for the benefits paid out and some structural adjustments have been made. Mr. Ewin asked if there will be a change in the next 90 days. Mr. Miller stated that the asset allocations as a whole are being constantly reviewed.

Mr. Miller explained asset allocations to Ms. Emerald.

Public Comments

Joe Gotcher – Mr. Gotcher declined to speak.

Action Taken

Mr. Castaneda moved to receive a report on San Diego Transit Corporation's (SDTC's) pension investment status for information only. Mr. McClellan seconded the motion, the vote was 12- 0 in favor.

Mr. Mathis made an announcement that the 40-ft. length bus and the new trolley car are in display downstairs on the platform

46. Trolley Rehabilitation Project Update (Wayne Terry and John Haggerty of SANDAG)

John Haggerty of the San Diego Association of Governments (SANDAG) gave the Committee a brief update on the Blue and Orange Line Improvement Program. He provided an update on the original budget of $455.2 million and a budget increase of $96.8 million for the project that will be a plan of finance for SANDAG. He stated that he presented this same report to the ITOC meeting on September 14, 2011. He gave a PowerPoint presentation of the Blue and Orange Line Improvement Corridor of the Trolley improvement map, the schedule, the budget expended

status, and the project status. He ended by going over the upcoming work that needs to be done.

Action Taken

Mr. Ovrom moved to receive the report and Mr. Gloria seconded the motion, the vote was 13-0 in favor.

47. 2011 Comic-Con Post Event Summary (Tom Doogan and Brian Riley)

Trailed to the next Board meeting on October 13, 2011.

48. Operations Budget Status Report for June 2011 (Mike Thompson)

A motion was made to receive a report without a staff presentation.

Action Taken

Mr. Ewin moved to receive an operations budget status report of MTS operations for June 2011. Mr. McClellan seconded the motion, and the vote was 12 to 0 in favor.

60. Chairman's Report

There was no Chairman's report.

61. Audit Oversight Committee Chairman's Report

There was no Audit Oversight Committee Chairman's report.

62. Chief Executive Officer's Report

Mr. Jablonski stated that he recently visited Sacramento for the California Transit Association (CTA). He also wanted to commend MTS for the extraordinary effort during the power outage.

63. Board Member Communications

Mr. Ewin was also very impressed with MTS efforts during the power outage.

64. Additional Public Comments on Items Not on the Agenda

Margo Tanguay – Ms. Tanguay told the Board her experiences during the power outage.

65. Next Meeting Date

The next regularly scheduled Board meeting is Thursday, October 13, 2011.

66. Adjournment

Chairman Mathis adjourned the meeting at 11:55 a.m.

Chairperson
San Diego Metropolitan Transit System

Filed by:

Office of the Clerk of the Board
San Diego Metropolitan Transit System

Approved as to form:

Office of the General Counsel
San Diego Metropolitan Transit System

Attachment: Roll Call Sheet

\\Sdmtsnas\Mts_Users\Valerie.Vizkeleti\Minutes - Executive Committee, Board, And Committees\MINUTES - Board 09-15-11 FINAL.Docx

METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS
ROLL CALL

MEETING OF (DATE): September 15, 2011 CALL TO ORDER (TIME): 9:06 a.m.

RECESS: _____ RECONVENE: _____

CLOSED SESSION: 9:23 a.m. RECONVENE: 9:55 a.m.

PUBLIC HEARING: _____ RECONVENE: _____

ORDINANCES ADOPTED: _____ ADJOURN: 11:55 a.m.

BOARD MEMBER		(Alternate)		PRESENT (TIME ARRIVED)	ABSENT (TIME LEFT)
CASTANEDA	☑	(Rindone)	☐		
CUNNINGHAM	☑	(Mullin)	☐		
EWIN	☑	(Sterling)	☐		
EMERALD	☑	(Faulconer)	☐		11:43 a.m.
ENGLAND	☑	(Gastil)	☐		
GLORIA	☑	(Faulconer)	☐		
JANNEY	☑	(Bragg)	☐		
LIGHTNER	☑	(Faulconer)	☐		
MATHIS	☑	(Vacant)	☐		
MCCLELLAN	☑	(Hanson-Cox)	☐		
MINTO	☐	(McNelis)	☑		11:50 a.m.
OVROM	☑	(Denny)	☐		11:21 a.m.
RIOS	☑	(Zarate)	☐		
ROBERTS	☑	(Cox)	☐		11:35 a.m.
YOUNG	☑	(Faulconer)	☐		11:15 a.m.

SIGNED BY THE OFFICE OF THE CLERK OF THE BOARD: _____

CONFIRMED BY OFFICE OF THE GENERAL COUNSEL: _____

MTS Metropolitan Transit System

AGENDA ITEM NO. 3

REQUEST TO SPEAK FORM

ORDER REQUEST RECEIVED 1

PLEASE SUBMIT THIS COMPLETED FORM (AND YOUR WRITTEN STATEMENT) TO THE CLERK OF THE BOARD PRIOR TO DISCUSSION OF YOUR ITEM

1. INSTRUCTIONS
   This Request to Speak form must be filled out and submitted in advance of the discussion of your item to the Clerk of the Board (please attach any written statement to this form). Communications on hearings and agenda items are generally limited to three minutes per person unless the Board authorizes additional time; however, the Chairperson may limit comment to one or two minutes each if there are multiple requests to speak on a particular item. General public comments on items not on the agenda are limited to three minutes. Please be brief and to the point. No yielding of time is allowed. Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

(PLEASE PRINT)

DATE	Oct 13, 2011
Name	Susan Lesch
Address	3689 Martha St
Telephone	858 605 6175
Organization Represented	self
Subject of Your Remarks	limit cell phones on transit
Regarding Agenda Item No.	3
Your Comments Present a Position of:	☐ **SUPPORT** ☐ **OPPOSITION**

2. TESTIMONY AT NOTICED PUBLIC HEARINGS
   At Public Hearings of the Board, persons wishing to speak shall be permitted to address the Board on any issue relevant to the subject of the Hearing.

3. DISCUSSION OF AGENDA ITEMS
   The Chairman may permit any member of the public to address the Board on any issue relevant to a particular agenda item.

4. GENERAL PUBLIC COMMENTS ON MATTERS NOT ON THE AGENDA
   Public comment on matters not on the agenda will be limited to five speakers with three minutes each, under the Public Comment Agenda Item. Additional speakers will be heard at the end of the Board's Agenda.

NOTE: Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

MTS Metropolitan Transit System

AGENDA ITEM NO. 3

REQUEST TO SPEAK FORM

ORDER REQUEST RECEIVED 2

PLEASE SUBMIT THIS COMPLETED FORM (AND YOUR WRITTEN STATEMENT) TO THE CLERK OF THE BOARD PRIOR TO DISCUSSION OF YOUR ITEM

1. INSTRUCTIONS
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(PLEASE PRINT)

DATE 10/15/11	
Name	Rhonda Ciardetti
Address	9910 Loren Dr.
Telephone	(619) 303-6999
Organization Represented	Self / resident LA MESA
Subject of Your Remarks	Noise Element Trolley
Regarding Agenda Item No.	not on agenda / Public Speaking
Your Comments Present a Position of:	☐ SUPPORT ☑ OPPOSITION

2. TESTIMONY AT NOTICED PUBLIC HEARINGS
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NOTE: Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

MTS Metropolitan Transit System

AGENDA ITEM NO. 3

REQUEST TO SPEAK FORM

ORDER REQUEST RECEIVED 3

PLEASE SUBMIT THIS COMPLETED FORM (AND YOUR WRITTEN STATEMENT) TO THE CLERK OF THE BOARD PRIOR TO DISCUSSION OF YOUR ITEM

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(PLEASE PRINT)

DATE	10-13-11
Name	John Herms
Address	9014 Loren Dr. La Mesa, CA 91942
Telephone	619-698-3193
Organization Represented	Self
Subject of Your Remarks	Trolley noise
Regarding Agenda Item No.	Public speaking
Your Comments Present a Position of:	☐ SUPPORT ☒ OPPOSITION

2. TESTIMONY AT NOTICED PUBLIC HEARINGS
At Public Hearings of the Board, persons wishing to speak shall be permitted to address the Board on any issue relevant to the subject of the Hearing.

3. DISCUSSION OF AGENDA ITEMS
The Chairman may permit any member of the public to address the Board on any issue relevant to a particular agenda item.

4. GENERAL PUBLIC COMMENTS ON MATTERS NOT ON THE AGENDA
Public comment on matters not on the agenda will be limited to five speakers with three minutes each, under the Public Comment Agenda Item. Additional speakers will be heard at the end of the Board's Agenda.

NOTE: Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

MTS Metropolitan Transit System

AGENDA ITEM NO. 3

REQUEST TO SPEAK FORM

ORDER REQUEST RECEIVED 4

PLEASE SUBMIT THIS COMPLETED FORM (AND YOUR WRITTEN STATEMENT) TO THE CLERK OF THE BOARD PRIOR TO DISCUSSION OF YOUR ITEM

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(PLEASE PRINT)

DATE	Oct. 13, 2011
Name	MARCO POLO CORTES
Address	640 W. Beech St. #38
Telephone	(619) 852-4690
Organization Represented	ECO-PEDICABS
Subject of Your Remarks	REQUESTING PERMIT
Regarding Agenda Item No.	
Your Comments Present a Position of:	☐ **SUPPORT** ☐ **OPPOSITION**

2. TESTIMONY AT NOTICED PUBLIC HEARINGS
At Public Hearings of the Board, persons wishing to speak shall be permitted to address the Board on any issue relevant to the subject of the Hearing.

3. DISCUSSION OF AGENDA ITEMS
The Chairman may permit any member of the public to address the Board on any issue relevant to a particular agenda item.

4. GENERAL PUBLIC COMMENTS ON MATTERS NOT ON THE AGENDA
Public comment on matters not on the agenda will be limited to five speakers with three minutes each, under the Public Comment Agenda Item. Additional speakers will be heard at the end of the Board's Agenda.

NOTE: Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

Agenda Item No. 6

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

ADOPTION OF 2012 MTS EXECUTIVE COMMITTEE AND BOARD OF DIRECTORS MEETING SCHEDULE

RECOMMENDATION:

That the Board of Directors adopt the 2012 Executive Committee and Board of Directors meeting schedule (Attachment A).

Budget Impact

None.

DISCUSSION:

The MTS Board of Directors annually adopts its meeting schedule for the next year. Attachment A is the proposed 2012 Executive Committee and Board of Directors meeting schedule.

The American Public Transportation Association (APTA) Annual Meeting is scheduled for September 30 through October 3, 2012. It is recommended that the full complement of meetings be held in October since conference attendees will most likely return to San Diego on Wednesday, October 2, 2011. There are no other meeting conflicts.

Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Valerie Vizkeleti, 619.557.4515, valerie.vizkeleti@sdmts.com

Attachment: A. Proposed 2012 MTS Executive Committee and Board of Directors Meeting Schedule

METROPOLITAN TRANSIT SYSTEM

2012 JOINT BOARD AND EXECUTIVE COMMITTEE MEETING SCHEDULE

James R. Mills Building, 10th Floor
1255 Imperial Avenue, San Diego

Executive Committee Meetings Thursdays at 9:00 a.m.	Board Meetings Thursdays at 9:00 a.m.
January 12	January 19
February 9	February 16
March 8	March 15 (9:00 a.m. Finance Workshop)
April 12	April 19 (9:00 a.m. Finance Workshop)
May 10	May 17 (9:00 a.m. Finance Workshop)
June 14	June 21
July 12	July 19
August 9	August 16
September 13 *	September 20*
October 11	October 18
November 8	November 15
December 6	December 13

* The League of California Cities is holding its annual meeting September 5 – 7. Meetings in September have been scheduled accordingly.

** The APTA Annual Meeting is being held September 30 – October 3. The schedule has not been adapted to accommodate this meeting, but changes may be made at a later date.

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
619.231.1466, FAX: 619.234.3407

Agenda Item No. 7

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

LIGHT RAIL VEHICLE (LRV) ANTI-GRAFFITI WINDOW FILM CONTRACT AWARD

RECOMMENDATION:

That the Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1025.0-11 (in substantially the same format as Attachment A) with NMS Management, Inc. to supply and install anti-graffiti window film on 128 light rail vehicles (LRVs), for a two-year base period with three 1-year options, and execute each contractual option year at the CEO's discretion.

Budget Impact

Funding for the total cost not to exceed $1,306,985.80 would come from the LRV Maintenance Budget (LRV Vandalism Parts 356-54510), which is 100% federally funded.

DISCUSSION:

MTS Policy No. 52 governing procurement of goods and services requires a formal competitive bid process for procurements exceeding $100,000. This solicitation was to obtain services from a qualified company.

On July 1, 2011, MTS issued an Invitation for Bids (IFB) to interested parties to provide anti-graffiti window film and installation services for the LRV Maintenance Department for up to a five-year period. On August 24, 2011, MTS received four bids (see Bid Summary - Exhibit B, two bids were responsive, and two bids were deemed nonresponsive. NMS Management, Inc. was found to be the lowest responsive, responsible bidder for the five-year period at $1,306,985.80. NMS Management, Inc. is a certified Disadvantaged Business Enterprise (DBE) firm.

Based on the comparison between the independent cost estimate and NMS's bid amount, MTS's cost savings would be approximately $176,945.41 over the two-year base period, including three 1-year option periods, for a total of five years.

Therefore, staff is requesting approval of MTS Doc. No. L1025.0-11 (in substantially the same format as Attachment A) with NMS Management, Inc. to supply and install anti-graffiti window film on 128 LRVs, for a two-year base period with three 1-year options, and to authorize the CEO to execute each contractual option year at his discretion.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Lee Summerlott, 619.595.4904, lee.summerlott@sdmts.com

OCT13-11.7.LRV ANTI-GRAFFITI.NMS MGMT.KBENSON

Attachments: A. MTS Doc. No. L1025.0-11
B. Bid Summary

DRAFT

STANDARD SERVICES AGREEMENT

L1025.0-11
CONTRACT NUMBER
OPS 960.2
FILE NUMBER(S)

THIS AGREEMENT is entered into this _____ day of _____ 2011, in the state of California by and between San Diego Metropolitan Transit System ("MTS"), and the following contractor, hereinafter referred to as "Contractor":

Name: NMS Management, Inc.

Address: 155 W. 35th St., Ste. D
National City, CA 91950

Form of Business: Corporation
(Corporation, partnership, sole proprietor, etc.)

Telephone: 619-425-0440

Authorized person to sign contracts: David Guaderrama (Name) President (Title)

The attached Standard Conditions are part of this Agreement. The Contractor agrees to furnish to SDTI services and materials, as follows:

Provide and install anti-graffiti window film, as set forth in the Scope of Work (attached as Exhibit A), the bid forms (attached as Exhibit B), and the Terms and Conditions (attached as Exhibit C) (hereinafter "Contract Documents").

This contract shall be for a two-year base period with three 1-year options exercisable at MTS's sole discretion, effective November 1, 2011, through October 31, 2016.

Total amount of this contract shall not exceed $1,306,985.80.

SAN DIEGO TROLLEY, INC.	CONTRACTOR AUTHORIZATION
By: _____ Chief Operating Officer	Firm: _____
Approved as to form:	By: _____ Signature
By: _____ Office of General Counsel	Title: _____

AMOUNT ENCUMBERED	BUDGET ITEM	FISCAL YEAR
FY 12: $274,470.21; FY 13: $274,470.21 FY 14: $274,470.21; FY 15: $241,787.63 FY 16: $241,787.63	35653610	FY 12-FY 16

By: _____
Chief Financial Officer — Date

(___ total pages, each bearing contract number)

SECTION 4.0 - TECHNICAL SPECIFICATIONS – EXHIBIT A.

A technical deviation has been accepted that affects this Section. See Section 4.9 – Addendum No. 1, dated July 7, 2011, and Section 4.2 and Refer to MTS' Responses to Approved Equals/Clarifications, dated August 10, 2011.

ANTI-GRAFFITI WINDOW FILM
MTS DOC. NO. L1025.0-11

4.1 GENERAL OVERVIEW

The San Diego Metropolitan Transit System (MTS) on behalf of the San Diego Trolley, Inc. (SDTI) hereinafter referred to as "MTS," is inviting qualified firms to submit a bid for material and installation services of all anti-graffiti window film for a fleet of one hundred twenty-eight (128) LRV's, as described in the attached specifications for up to a five (5) year period (two (2) year base with three (3) one-year options exercisable at MTS' discretion). SDTI is a subsidiary of the MTS, who currently operates one hundred twenty-eight (128) Light Rail Vehicles (LRVs).

A qualified firm must have a minimum of three (3) years of relevant experience in installing anti-graffiti window films on light rail vehicles and/or buses, for a company or any public and/or transit agencies similar to MTS/SDTI.

The current fleet consists of the following:

MAKE/MODEL	QUANTITY
Siemens U2	65
Siemens SD-100	52
Siemens S70	11
Total:	**128**

MTS recently purchased fifty seven (57) new light rail vehicles, and expects to start receiving the "S70 Ultra Shorts (S70 US)" beginning July 2011. By the year 2014, the LRV revenue fleet will consist of one hundred twenty (120) LRVs with the following make up:

MAKE/MODEL	QUANTITY
Siemens SD-100	52
Siemens S70	11
Siemens S70 Ultra Short	57
Total:	**120**

Each of the U2 and SD-100 LRV's have sixteen (16) safety glass passenger windows and sixteen (16) smaller vent windows above the passenger windows. The S70 and S70 Ultra Shorts LRV fleet each have sixteen (16) passenger windows with no vent windows and eight (8) doors with two (2) windows per door. Also, only the eleven (11) S70 LRV's have sixteen (16) large partitions and eight (8) small partitions.

(Note: Please refer to Page 41-42 of the IFB for illustration of the types of LRV fleet).

4.2 ANTI-GRAFFITI WINDOW FILM MATERIALS

A technical deviation has been accepted that affects this section. MTS approved the Bekeart Specialty Firm product as an approved equal.

A. Materials

The anti-graffiti window film shall be seven (7) mil thick, 3M™ Scotchgard Anti-Graffiti Window Film (and/or Requested Approved Equals - see Section 1.41 Request for Approved Equals [RFA's]). The anti-graffiti window film shall be properly measured and cut in accordance to size specifications for each window, glass, portal, and door partition as provided on the bid forms.

Approved Equal - Bekeart Specialty Films – See Pages 18-25.

4.3 LABOR - INSTALLATION SERVICE

The following section describes detailed requirements of the installation service:

A. Anti-Graffiti Window Film Installation

All glass surfaces shall be thoroughly cleaned with appropriate cleaner. The anti-graffiti window film shall then be applied to the clean window glass in accordance with the procedure described in attached window film specification (see Attachment A). Finished application shall be smooth, clear, and free of air bubbles and should not have more than 1/16" gap between edge of the window and the film. No more than three (3) pinhole-sized dust spots per square foot of film will be accepted. If, after ten (10) days of drying period, any air bubble exists on any window film, the Contractor shall replace the film within seven (7) days at no cost to MTS.

During the term of this contract, the Contractor shall be required to schedule for the replacement of all damaged window film reported to them in the previous week with a minimum of two (2) film installers on-site at all scheduled work hours. Work hours shall be scheduled as needed, generally between 10:00 p.m. and 4:00 a.m., seven (7) days per week, and may be subject to change to meet unexpected repair requirements. All hours and days scheduled shall be subject to approval by the MTS Project Manager, Mr. Lee Summerlott. Mr. Summerlott can be reached by telephone (619) 595-4904 or email lee.summerlott@sdmts.com.

B. Clean-up

After installing the anti-graffiti window film, the window shall be thoroughly cleaned with manufacturer-recommended solution, and excess solution removed from the window sills, car panels, seats, and floors.

4.4 WORK AND STORAGE SPACE, LRV OPERATIONS, AND LRV AVAILABLITY

A. Work and Storage Spaces

During the term of this contract, MTS will provide the required number of LRV's for use by the Contractor. The Contractor shall be responsible for bringing and storing its own equipment. No office or storage space in the building is available; however, yard space for the Contractor's secure storage container (no larger than 8' x 10') may be available. The entire workspace made available to the Contractor shall be cleaned of debris, chemicals, old equipment, etc., on a daily basis. MTS will not be responsible for the safe storage of the Contractor's equipment. In addition, while working on LRV's, the Contractor shall observe safety rules and procedures of MTS.

B. LRV Operations

All LRV movements shall be made by SDTI employees at no cost to the Contractor. Therefore, very close coordination with the SDTI LRV Maintenance Superintendent or a designated representative for scheduling an LRV will be necessary.

The acceptance of the work shall be done by the Contractor and a designated representative of the LRV Maintenance Department. Final inspections shall be documented with signatures of Contractor and MTS/SDTI representative. The warranty period begins on the day of the acceptance of that car.

C. LRV Availability

MTS will make available the entire fleet of LRVs needing graffiti film replacement staged in the yards between the hours of 10:00 p.m. until 4:00 a.m. LRV availability may be limited due to special events, and/or circumstances beyond SDTI's control. MTS will attempt to provide twenty four (24) hours advance notice to the Contractor for special events.

4.5 TRAINING

All training will be at the request of and scheduled by the MTS Project Manager. Training shall be scheduled approximately two (2) times per year for SDTI LRV personnel in proper cutting and application of the anti-graffiti window film, and in proper removal of etched and damaged plastic film at no additional cost to MTS. All dates and times shall be coordinated by the MTS Project Manager and the Contractor.

4.6 WARRANTY

The anti-graffiti window film material and the application of film on LRV windows shall be warranted for five (5) years for defects in materials and/or workmanship. The Contractor shall be responsible for replacing defective material and/or application within ten (10) calendar days from notification by MTS Project Manager or his designee, at no cost to MTS. The warranty period begins on the day of the inspection and acceptance of the individual LRV car.

4.7 IDENTIFICATION OF PERSONNEL/SECURITY

MTS shall provide Contractor's personnel who enter MTS property with identification badges. All personnel shall display these badges prominently upon their persons while on MTS properties. MTS will allow only properly certified personnel on these properties. MTS shall have the right to require the Contractor to conduct background checks on its employees and to remove from MTS properties an employee MTS considers incompetent, careless, or who constitutes a security risk or safety hazard. The Contractor's personnel must have appropriate documentation, as determined by the MTS Project Manager, to gain access to MTS properties.

4.8 COMPLIANCE/APPROVED EQUALS

In all cases, materials used must be furnished as specified in the technical specifications or be an approved equal.

4.9 INVOICING/PAYMENT

The Contractor shall invoice MTS one (1) time per month for all work completed. *All invoices must always include the LRV car number and description of repairs*.

MTS shall process the invoice for payment within thirty (30) days of the final invoice date. Contractor shall always reference the MTS Contract and/or Purchase Order number on the invoice, and shall submit two (2) copies of an itemized invoice along with supporting delivery receipts to the following address:

San Diego Metropolitan Transit System (MTS)
Attn: Accounting Department
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101

3M Innovation

Visual Quality Standard for Applied Window Film

As adopted by the IWFA May 15, 1999*

1. Installed film on flat glass surfaces is not expected to have the same level of visual quality as glass. The following criteria apply to the installed film only and not to any defect inherent in the glass.

2. Installed film has a discrete time for full adhesion to be effected since installation utilizes a detergent solution in the water to float the film onto the glass: the excess water is squeegeed out, but inevitably residual water will remain between the film and glass. The time to achieve full adhesion is often referred to as "the adhesive cure time". Adhesion will be increasing from a lower value during this time. Visual and adhesive cure time is related to thickness of the film and various metallic coating on the film. Typical visual cure times may be extended or shortened according to climatic conditions.

3. Inspection for optical quality can be made before full visual cure is attained. Table 1 provides a guide for typical visual cure times. It should be noted that effects during cure, such as water bubbles, water distortion, and water haze are not to be regarded as defects.

4. The glass with applied film shall be viewed at right angles to the glass from the room side, at a distance of not less than 6 feet (2 meters). Viewing shall be carried out in natural daylight, not in direct sunlight, and shall assess the normal vision area with the exception of a 2 inch (50mm) wide band around the perimeter of the unit.

5. The installation shall be deemed acceptable if all of the following are unobtrusive (effects during visual cure should be disregarded): (e.g.) Dirt Particles,Hair & Fibers, Adhesive Gels, Fingerprints, Air Bubbles, Water Haze, Scores and Scratches, Film Distortion, Creases, Edge Lift, Nicks and Tears.

   Inspection may by made within 1 day of installation. Obtrusiveness of blemishes shall be judged by looking through the film installation under lighting conditions described in 4.

6. The 2 inch (50mm) wide band around the perimeter shall be assessed by a similar procedure to that in 3 and 4, but a small number of particles is considered acceptable where poor frame condition mitigates against the high quality standards normally achieved.

7. Edge gaps will normally be 1/32-1/16 inch (1-4mm). This allows for the water used in the installation to be squeegeed out. This ensures that film edges are not raised up by contact with the frame margin. Contact with the frame margin could lead to peeling of the film.

8. For thicker safety films the edge gaps will normally be 1/32-1/16 inch (1-4mm), with 1/32-1/8 inch (1-5mm) being acceptable for films of 7 mil ,8Mil (Combination solar control safety films will also fall within this standard.

   An edge gap of up to 1/16 inch (2mm) is recommended, especially for darker (tintec, metallized, tinted/metallized, and sputtered) films, to minimize the light line around the edge of the installed film.

9. Splicing of films is necessary when larger panels of glass are treated, where both length and width of the glass exceed the maximum width of film. The splice line itself should not be viewed as a defect. This line should be straight and should be parallel to one edge of the frame margin. The two pieces of film may be butt jointed. The maximum gap at any point in the splice line should be 1/64 inch (1mm). Film may be overlapped, spliced or butt jointed.

10. Certain films with special high performance coating may have lengthened cure times. Consult the 3M for cure times of these films.

Table 1 – Typical Cure Times

Film thickness in mils	Film thickness in microns(μ)	Typical Cure Time (days)
Up to 4	Up to 100	30
4 to 8	100 to 200	60
8 to 12	200 to 300	100
Over 12 but not more than 17	Over 300 but not more than 425	140

SPECIFICATIONS FOR SCOTCHGARD™ ANTI-GRAFFITI WINDOW FILM

1.0 **Scope**

This specification is for a graffiti resistant and abrasion resistant window film which when applied to the interior or exterior window surface will provide resistance to typical graffiti materials such as glass etchants, gauging and abrasion and reduce the ultra-violet light that normally would enter through the window by 98%. The film shall be called Scotchgard™ AG-4 or AG-7 Anti-Graffiti Window Film.

2.0 **Applicable Documents**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

The 1985 American Society for Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Handbook of Fundamentals.

The American Society for Testing and Materials (ASTM) publication:

ASTM E-308 Standard Recommended Practice for Spectrophotometry and Description of Color in CIE 1931 System

ASTM E-903 Standard Methods of Test for Solar Absorbance, Reflectance and Transmittance of Materials Using Integrating Spheres

ASTM D-1044 Standard Method of Test for Resistance of Transparent Plastics to Surface Abrasion (Taber Abrader Test)

ASTM G-90 Standard Practice for Performing Accelerated Outdoor Weathering for Nonmetallic Materials Using Concentrated Natural Sunlight

ASTM E-162 Standard Method for Surface Flammability of Materials Using a Radiant Heat Energy Source

ASTM E-662 Standard Method for Specific Optical Density of Smoke Generated by Solid Materials

Window 4.0, A Computer Tool for Analyzing Window Thermal Performance, Lawrence Berkeley Laboratory

3.0 **Requirements of the Film**

3.1 Film Material: The film material shall consist of an optically clear 4 mil (.004) or 7 mil (.007 inches) polyester film with a durable acrylic abrasion resistant coating over one surface and a pressure sensitive adhesive and liner on the other. The film color is clear and will not contain dyed polyester. There shall be no evidence of coating voids. The film shall be identified as to Manufacturer of Origin (hereafter to be called Manufacturer)

3.2 Transmission - Visible: When applied to 1/4' (6mm) clear glass, the luminous transmittance shall be nominal when measured with an integrating sphere spectrophotometer as referenced by ASTM E-903 and calculated per ASTM E-308 using Standard Source 'C for average daylight.

3.3 Reflection - Visible: When applied to 1/4' (6mm) clear glass, the total luminous reflection from the glass surface shall be nominal when measured with an integrating sphere spectrophotometer as referenced by ASTM E-903 and calculated per ASTM E-308 using Standard CIE Source 'C" for average daylight

3.4 Transmission - Ultraviolet Light: When applied to 1/4' (6mm) clear glass, the total transmission of solar ultraviolet radiation of air mass = 2 over the spectral range of 3000 to 3800 angstroms shall not exceed when measured with an integrating sphere spectrophotometer as referenced by ASTM E-903.

3.5 Adhesive System: The film shall be supplied with a high mass pressure sensitive weatherable acrylate adhesive applied uniformly over the surface opposite the abrasion resistant coated surface. The adhesive shall be essentially optically flat and shall meet the following criteria:

a. Viewing the film from a distance of ten feet at angles up to 45 degrees from either side of the glass, the film itself shall not appear distorted.

3.6 Abrasion Resistance: The Manufacturer shall provide independent test data showing that the film has a surface coating that is resistant to abrasion such that, less than 5% increase of transmitted light haze will result in accordance with ASTM D-1044 using 100 cycles, 500 grams weight, and the CS I OF Calbrase Wheel.

4.0 Requirements of the Authorized Dealer/Applicator ADA)

4.1 The ADA shall provide documentation that the ADA is certified by the Manufacturer of the window film to install said window film as per the Manufacturer's specifications and in accordance with specific requests as to be determined and agreed to by the customer.

4.2 Authorization of dealership may be verified through the company's 3M ID Number.

5.0 Requirements of the Manufacturer

5.1 The Manufacturer will insure proper quality control during production, shipping and inventory, clearly identify and label each film core with the product designation and run number

5.2 The Manufacturer will, upon request and pre-approval, provide 10096 financing for the complete installation of the window film to the end-user customer in either an installment purchase or lease purchase format to be decided upon by customer.

5.3 Materials shall be manufactured by: 3M Consumer Safety and Light Management Department
3M Center, Building 223-2N-21
St. Paul, MN 55144-1000
Phone: 800-480-1704

6.0 Warranty

6.1 Scotchgard Anti-graffiti films are warranted for a period of 6 months when installed outdoors and for a period of 10 years when installed indoors.

SPECIFICATIONS FOR SCOTCHGARD™ ANTI-GRAFFITI WINDOW FILM

7.0 Application

7.1 Outdoor application should be done when the air temperature is not expected to fall below 32 degrees F, or 0 degrees C for 72 hours. Indoor application should be done when the glass temperature is not expected to fall below 32 degrees F, or 0 degrees C for 72 hours.

7.2 Examination: Examine glass surfaces to receive new film and verify that they are free from defects and imperfections, which will affect the final appearance. Correct all such deficiencies before starting film application.

7.3 Preparation:

a. The window and window framing will be cleaned thoroughly with a neutral cleaning solution. The surface of the window glass shall be bladed with industrial razors to insure the removal of any foreign contaminants.

b. Toweling or other absorbent material shall be placed on the window sill or sash to absorb moisture accumulation generated by the film application.

7.4 Installation: The film shall be applied as to the specifications of the Manufacturer by an ADA.

a. Materials will be delivered to the job site with the manufacturer's labels intact and legible.

b. To minimize waste, the film will be cut to specification utilizing a vertical dispenser designed for that purpose. Film edges shall be cut neatly and square at a uniform distance of 1/8" to 1/16' of the window sealing device.

c. Water and film slip solution only will be used on the window glass to facilitate the proper positioning of the film.

d. To insure efficient removal of excess water from the underside of the film and to maximize bonding of the pressure sensitive adhesive, a 6" maximum width polyplastic bladed squeegees will be utilized. It is recommended that the final squeegee process be followed by a final push with a 5-way tool. This will ensure that a minimal amount of water is left behind.

e. **Upon completion, the film may have a small number of small water pockets. These water pockets, under reasonable weather conditions, dry flat and disappear within a period of 30 calendar days when viewed under normal viewing conditions.**

f. After installation, any left over material will be removed and the work area will be returned to original condition. Use all necessary means to protect the film before, during and after the installation

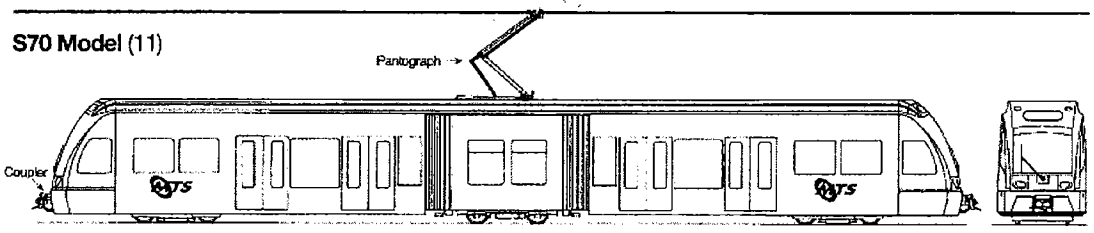
8.0 Cleaning

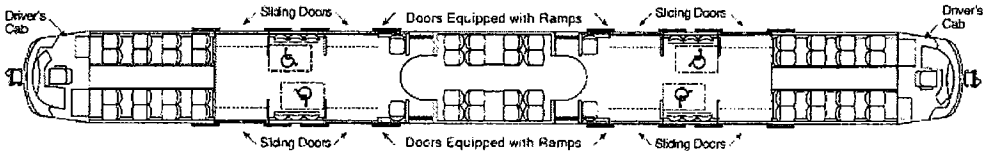
The film may be washed using common window cleaning solutions, including ammonia solutions. Abrasive type cleaning agents and bristle brushes, which could scratch the film, must not be used. Synthetic sponts or soft cloths are recommended

SPECIFICATIONS FOR SCOTCHGARD™ ANTI-GRAFFITI WINDOW FILM

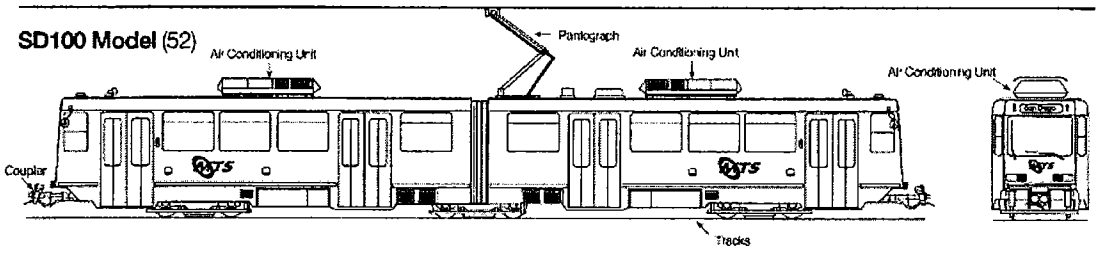
Scope	AG-4	AG-7
Thickness		
(mils)	4.0	7.0
(inches)	.004	.007
Emissivity	0.87	0.87
U Value	1.09	1.09
Transmission-Visible	85%	85%
Reflection-Visible	10%	10%
Transmission-UV	<2%	<2%
Shading Coefficient	0.90	0.90
Shrinkage	No Detectable Shrinkage	
Tensile Strength	31k psi	28k psi
Adhesion	1500 gm/m2	1500 gm/m2
Removeability	Does not leave significant amount of adhesive when removed from glass.	
ANSI Z97 impact	150 ft lbs	400 ft lbs

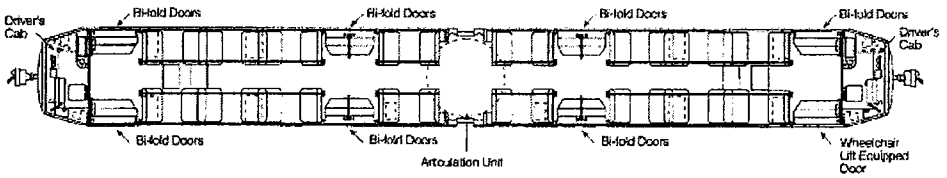
S70 Model (11)



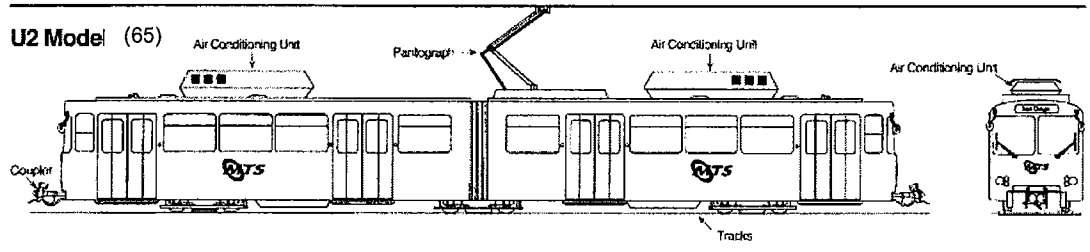


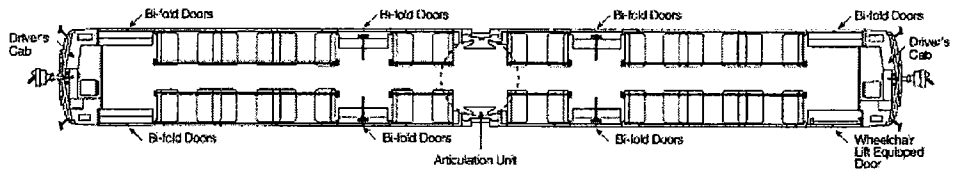
SD100 Model (52)



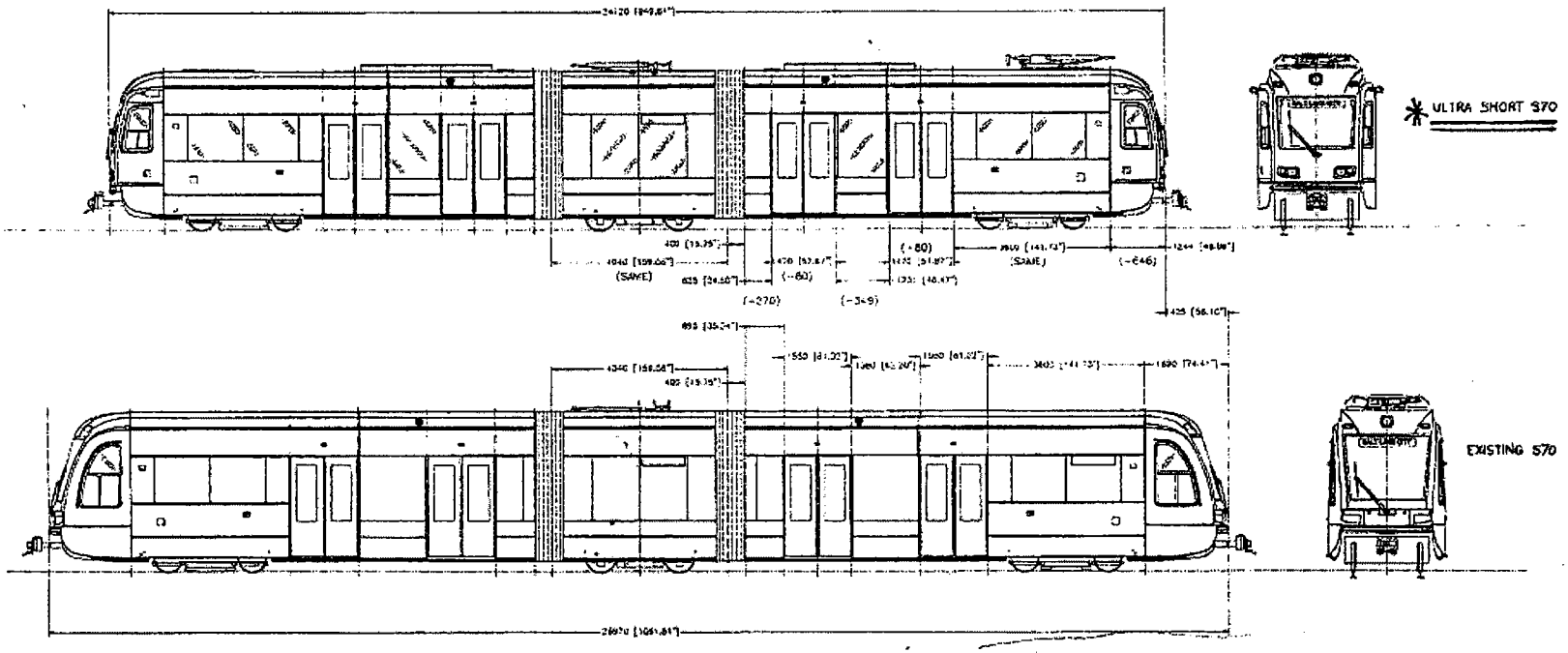


U2 Model (65)





S70 UltraShort Light Rail Vehicle (57) *
The Evolution of the Ultra-Short S70



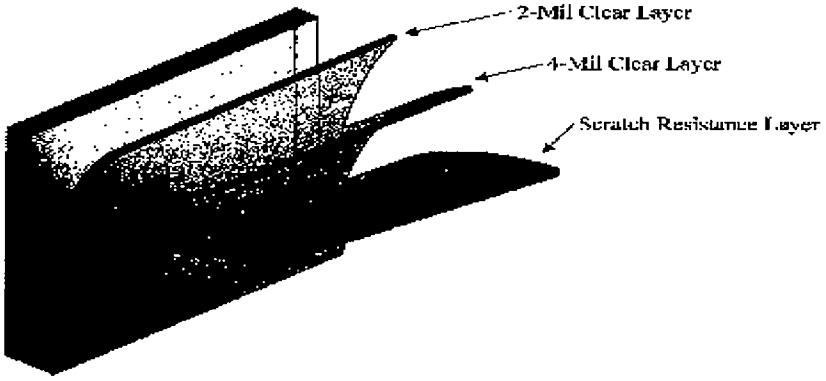
Approved Equal - Bekeart Specialty Films – See Attached.

XLNT TINT
WINDOW TINTING

1. Graffiti Film Specifications BSF vs 3M

	VLT	Visible Light Reflection	UV Rejection	Shading Coefficient	Solar Heat Gain Coefficient	Energy Rejection
6-Mil Graffitigard by BSF	88%	10%	98%	0.91	0.79	21%
Anti Graffiti 6 Mil by 3M	86	10%	99%	?	?	?

4. Diagram BSF 6-mil Graffiti Film



2940 E. La Palma Ave. Suite C, Anaheim, CA 92806
(714) 630-6227 Fax (714) 632-6600
www.xlnttint.com

BUREAU VERITAS
Certification

Certification

Awarded To

BEKAERT SPECIALTY FILMS, LLC

4540 VIEWRIDGE AVENUE
SAN DIEGO, CALIFORNIA, U.S.A.

Bureau Veritas Certification North America, Inc. certifies that the management system of the above organization has been audited and found to be in accordance with the requirements of the management system standards and scope of supply detailed below

STANDARDS:

ISO 14001:2004

SCOPE OF SUPPLY:

THE DESIGN, MANUFACTURE AND SALES OF METALLIZED, COATED AND LAMINATED PRODUCTS FOR THE SOLAR CONTROL, SAFETY, INDUSTRIAL, CUSTOM, AND SPECIALTY FILM MARKETS

Original Approval Date: 21 August 2002

Subject to the continued satisfactory operation of the Organization's Management System, this certificate will remain valid until: 20 August 2012

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.

Certificate No. US 890006CC
Issue Date: 21 August 2009

For Bureau Veritas Certification North America, Inc.
3063 North Sam Houston Pkwy, Houston, Texas, USA
www.us.bureauveritas.com/bvc

ANAB ACCREDITED

BUREAU VERITAS
Certification

Certification

Awarded To

BEKAERT SPECIALTY FILMS, LLC

4540 VIEWRIDGE AVENUE,
SAN DIEGO, CALIFORNIA, U.S.A.

Bureau Veritas Certification North America, Inc. certifies that the management system of the above organization has been audited and found to be in accordance with the requirements of the management system standards and scope of supply detailed below

STANDARDS

ISO 9001:2008

SCOPE OF SUPPLY

THE DESIGN, MANUFACTURE AND SALES OF METALLIZED, COATED AND LAMINATED PRODUCTS FOR THE SOLAR CONTROL SAFETY, INDUSTRIAL, CUSTOM AND SPECIALTY FILM MARKETS.

Original Approval Date: 02 October 1998

Subject to the continued satisfactory operation of the Organization's Management System, this certificate will remain valid until: 02 January 2013

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.

Certificate No: US 09/10/3806
Issue Date: 03 January 2010

For Bureau Veritas Certification North America, Inc.
3663 North Sam Houston Pkwy, Houston, Texas, USA
www.us.bureauveritas.com/bvc

ANAB ACCREDITED

BEKAERT

Bekaert Specialty Films, LLC
4640 View Ridge Ave
San Diego, CA 92123-1637
US
T +1 858 578 0200
+1 800 736 1895
F +1 858 571 3600
www.bekaertfilms.com

Material Safety Data Sheet

The information on this Data Sheet represents our current data and best opinion as to the proper use in handling of this material under normal conditions. Any use of the material which is not in conformance with this Data Sheet or which involves using the material in combination with any other material or any other process is the responsibility of the user.

Note: A Material Safety Data Sheet is not required by the OSHA Hazard communication Standard (29 CFR 1910.1200) for this product. This is provided as a service to customers.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION:

Product Name:	Solar Contro Window Film
Date	January 1, 2008
Manufacturer	Bekaert Specialty Films, LLC 4640 Viewridge Avenue. San Diego, CA 92123

SECTION 2. INGREDIENTS:

INGREDIENTS	C.A.S NO.	PERCENT
1 - 14 mil (PET) Polyethylene terephthalate polyester film constructed with acrylic PSA or polyester based dry adhesive, with or without polyester/ polyurethane laminating adhesive and acrylate scratch resistant coating.	Unknown	100

SECTION 3. PHYSICAL DATA

Appearance:	Film, transparent, tinted or reflective
Boiling Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Evaporation Rate:	N/A
Solubility in Water:	N/A
Specific Gravity:	N/D
Percent Volatiles:	N/A
Volatile Organics:	N/A
VOC Less H2O & Exempt Solvent:	N/A

pH	N/A
Viscosity	N/A
Melting Point:	N/A

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

Flash Point:	N/A
Flammable Limits UFL:	N/A
Flammable Limits LEL:	N/A
Autoignition Temperature:	N/A
Extinguishing Media:	Water spray, dry chemical, foam.

Special Fire Fighting Procedures: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

Unusual Fire and Explosion Hazards: None Known

NFPA HAZARD CODES:	**HEALTH 1**	**FIRE 0**	**REACTIVITY 0**

Unusual Reaction Hazard: None

SECTION 5. REACTIVITY DATA

Stability:	Stable
Incompatibility Materials to Avoid:	None Known
Hazardous Polymerization:	Will Not Occur
Hazardous Decomposition Products:	Carbon Monoxide and Carbon Dioxide

SECTION 6. ENVIRONMENTAL INFORMATION

Spill Response:	N/A			
Recommended Disposal:	Dispose of waste product in a sanitary landfill.			
	Disposal alternative: Incinerate in an industrial or commercial facility.			
Environmental Data:	N/D			
Regulatory Information:	Since regulations vary, consult applicable regulations or authorities before disposal			
	U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous)			
EPCRA HAZARD CLASS:	FIRE HAZARD:	No	PRESSURE:	No
	REACTIVITY:	No	ACUTE:	No
	CHRONIC:	No		

SECTION 7. SUGGESTED FIRST AID

Eye Contact:	N/A
Skin Contact:	No need for first aid is anticipated in the event of skin contact.
Inhalation:	No need for first aid is anticipated.
If Swallowed:	N/A

SECTION 8. PRECAUTIONARY INFORMATION

Eye Protection:	N/A
Skin Protection:	N/A
Ventilation Protection:	N/A
Respiratory Protection:	N/A
Prevention of Accidental Ingestion:	N/A
Recommended Storage:	N/A
Fire and Explosion Avoidance:	N/A

EXPOSURE LIMITS

INGREDIENTS	VALUE	UNIT	TYPE	AUTH	SKIN*
5 - 14 mil (PET) Polyethylene terephthalate polyester film constructed with acrylic pressure sensitive or polyester based dry adhesive with or without polyester/polyurethane laminating adhesive and acrylate scratch resistant coating.	None	None	None	None	

*Skin Notation: Listed substances indicated with "Y" under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA: None, (None Established)

SECTION 9. HEALTH HAZARD DATA

EYE CONTACT:	Eye contact is not expected to occur during normal use of the product.
SKIN CONTACT:	No adverse health effects are expected from skin contact.
INHALATION:	No adverse health effects are expected from inhalation exposure.
IF SWALLOWED	Ingestion is not a likely route of exposure to this product.

BEKAERT

Bekaert Specialty Films, LLC
4640 Viewridge Avenue
San Diego, CA 92123
USA
Tel. 858-576-0200
Fax 858-571-3506

Graffitigard® Protection from Glass Etching

Background: A new method employed by graffiti vandals or "taggers" is the use of glass etching compounds. These over the counter items usually contain hydrofluoric, ammonium bifluoride and/or sulfuric acids. These etching compounds can be mixed with shoe polish and applied to windows where they will react with the glass within minutes. The use of polyester film as a sacrifical barrier has been found to be very useful in preventing damage to windows by physical and chemical attack.

Test Matrix: The 4 and 7 mil Graffitigard films (our thinnest & thickest Graffitigard) was tested for their protective capabilities against readily available glass etching materials. Armour Etch® glass etching cream and Etch Bath® glass dipping solution where applied to 4 and 7 mil Graffitigard on ordinary 3mm annealed clear float glass. The test panels were placed in a horizontal position (worse case) and the etch compounds were left in contact with the film for 24, 48 and 72 hours. The results from the exposures are listed in Table 1.

Table 1

Film	24 Hour	48 Hour	72 Hour
Bare Glass	Severe (5 minutes)	N/A	N/A
4 mil Graffitigard Etch Cream	No Damage	No Damage	Slight glass marring
4 mil Graffitigard Etch Solution	No Damage	No Damage	No Damage
7 mil Graffitigard Etch Cream	No Damage	No Damage	No Damage
7 mil Graffitigard Etch Solution	No Damage	No Damage	No Damage

Conclusion: Neither the Etch Cream, nor the Etch Bath caused glass damage during the extended test duration with the 7 mil Graffitigard. The Etch Cream caused a slight "haze" on the glass surface with the 4 mil Graffitigard but only after 72 hours. The ladder would not be expected in a realistic window configuration for the reasons enumerated below.

The Etch Cream was applied as a very thick coating. Therefore, the acid did not completely dry-out during the entire test duration. In actual use, the coating is assumed to be somewhat thinner, thus less likely to cause damage. In a real-world scenario, the glass would more than likely be cleaned within 45 hours, probably quicker if not a weekend. Additionally, the experiment was carried out in a horizontal orientation. More commonly, windows and glazing is vertical thus allowing for run-off. Additionally, the effect of exterior environmental factors, solar heat, wind, etc., would cause these etchants to dissipate faster, decreasing the actual duration the etchant is in contact with the glass. Worth noting, the Etch Bath material is extremely low in viscosity and does not wet out the film's surface well. The liquid etch would run off vertically installed glass rather quickly.

*Armour Etch® and Etch Bath® are registered trademarks of Armour Products.

EXHIBIT B

BID SUMMARY - GRAND TOTALS
ANTI-GRAFFITI WINDOW FILM IFB

GRAND TOTAL - LABOR (INSTALLATION SERVICE)	NMS	XLNT TINT
TOTAL YEAR 1 :	$ 158,139.00	$ 180,373.20
TOTAL YEAR 2 :	$ 158,139.00	$ 180,379.20
SUB TOTAL (BASE YEARS 1 & 2) :	**$ 316,278.00**	**$ 360,752.40**
TOTAL YEAR 3 - OPTION YEAR 1 :	$ 158,139.00	$ 186,391.68
TOTAL YEAR 4 - OPTION YEAR 2 :	$ 143,099.40	$ 192,404.16
TOTAL YEAR 5 - OPTION YEAR 3 :	$ 143,099.40	$ 198,416.88
SUBTOTAL (OPTION YEARS 1, 2, & 3) :	**$ 444,337.80**	**$ 577,212.72**
Grand Total for all 5 Years:	$ 760,615.80	$ 937,965.12

GRAND TOTAL - MATERIALS	NMS	XLNT TINT
TOTAL YEAR 1 :	$ 116,331.21	$ 273,794.30
TOTAL YEAR 2 :	$ 116,331.21	$ 273,795.59
SUB TOTAL (BASE YEARS 1 & 2) :	**$ 232,662.42**	**$ 547,589.89**
TOTAL YEAR 3 - OPTION YEAR 1 :	$ 116,331.21	$ 273,794.30
TOTAL YEAR 4 - OPTION YEAR 2 :	$ 98,688.23	$ 273,794.30
TOTAL YEAR 5 - OPTION YEAR 3 :	$ 98,688.23	$ 273,794.30
SUBTOTAL (OPTION YEARS 1, 2, & 3) :	**$ 313,707.67**	**$ 821,382.90**
Grand Total for all 5 Years:	$ 546,370.09	$ 1,368,972.79

GRAND TOTALS - BASE + OPTION YEARS (LABOR & MATERIALS)	NMS	XLNT TINT
GRAND TOTAL - BASIS OF AWARD	***$1,306,985.89***	***$ 2,306,937.91***

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

Agenda Item No. 8

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

INCREASED AUTHORIZATION FOR LEGAL SERVICES

RECOMMENDATION:

That the Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. G1078.9-07 (in substantially the same form as Attachment A) with Ryan, Mercaldo & Worthington, LLP for legal services and ratify prior amendments entered into under the CEO's authority.

Budget Impact

Not to exceed $50,000 for Ryan, Mercaldo & Worthington, LLP. The budget for this action would be covered in FY 12.

DISCUSSION:

On January 18, 2007, the Board approved a list of qualified attorneys for general liability and workers' compensation for use by MTS, San Diego Trolley, Inc. (SDTI), and San Diego Transit Corporation (SDTC) (hereinafter referred to as the Agencies) staffs on an as-needed basis. Thereafter, MTS began to contract with approved attorneys for various amounts depending upon current and anticipated needs.

Pursuant to Board Policy No. 52 (Procurement of Goods and Services), the CEO may enter into contracts with service providers for up to $100,000. The Board must approve all agreements in excess of $100,000. All attorneys listed have multiple cases that are scheduled to proceed to trial, and the total cost of their legal services will exceed the CEO's authority.

Ryan, Mercaldo & Worthington, LLP is currently under contract with the Agencies for $340,000. Attorneys Norm Ryan and Tim White have successfully defended the Agencies in a number of tort liability matters. Pending future invoices for two open matters along with past billings are anticipated to exceed the current contract authority.

The CEO has approved contracts up to the $100,000 authority level. Staff is requesting Board approval of MTS Doc. No. G1078.9-07 with Ryan, Mercaldo & Worthington, LLP, for legal services and ratification of prior contracts/amendments entered into under the CEO's authority.

Sharon Cooney for

Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: James Dow, 619.557.4562, jim.dow@sdmts.com

OCT13-11.LEGAL SVCS.RYAN MERCALDO WORTHINGTON.JDOW

Attachment: A. MTS Doc. No. G1078.9-07

DRAFT

October 13, 2011

MTS Doc. No. G1078.9-07
LEG 491 (PC 50633)

Mr. Norman A. Ryan
Ryan, Mercaldo & Worthington, LLP
3636 Nobel Drive, Suite 200
San Diego, CA 92122-1063

Dear Mr. Ryan:

Subject: AMENDMENT NO. 9 TO MTS DOC. NO. G1078.0-07: LEGAL SERVICES – GENERAL LIABILITY

This letter will serve as Amendment No. 9 to MTS Doc. No. G1078.0-07. This contract amendment authorizes additional costs not to exceed $50,000 for professional services. The total value of this contract, including this amendment, is $390,000. Additional authorization is contingent upon MTS approval.

If you agree with the above, please sign below, and return the document marked "Original" to the Contracts Specialist at MTS. The other copy is for your records.

Sincerely,

Paul C. Jablonski
Chief Executive Officer

Accepted:

_____
Norman A. Ryan
Ryan Mercaldo & Worthington, LLP

Date: _____

Metropolitan Transit System

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San Diego, CA 92101-7490
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Agenda Item No. 9

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

INVESTMENT REPORT – AUGUST 2011

RECOMMENDATION:

That the Board of Directors receive a report for information.

Budget Impact

None.

DISCUSSION:

Attachment A comprises a report of MTS investments as of August 2011. The combined total of all investments has increased by $20.4 million in the current month largely due to the receipt of Federal Transit Administration (FTA) subsidy funds.

The first column provides details about investments restricted for capital improvement projects and debt service—the majority of which are related to the 1995 lease and leaseback transactions. The funds restricted for debt service are structured investments with fixed returns that will not vary with market fluctuations if held to maturity. These investments are held in trust and will not be liquidated in advance of the scheduled maturities. The second column (unrestricted investments) reports the working capital for MTS operations allowing for employee payroll and vendors' goods and services.

During August, $25 million was transferred to the temporary investment account at Local Agency Investment Fund, and $5 million was transferred from the temporary investment account at San Diego County to fund operating expenses in advance of the receipt of FTA funds.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Tom Lynch, 619.557.4538, tom.lynch@sdmts.com

Attachment: A. Investment Report for August 2011

San Diego Metropolitan Transit System
Investment Report
August 31, 2011

	Restricted	Unrestricted	Total	Average rate of return
Cash and Cash Equivalents				
Bank of America - concentration sweep account	$ 5,250,283	$ 6,149,760	$ 11,400,043	0.00%
Total Cash and Cash Equivalents	5,250,283	6,149,760	11,400,043	
Cash - Restricted for Capital Support				
US Bank - retention trust account	2,277,461	-	2,277,461	N/A *
Local Agency Investment Fund (LAIF) Proposition 1B TSGP grant funds	5,552,773	-	5,552,773	0.41%
Total Cash - Restricted for Capital Support	7,830,235	-	7,830,235	
Investments - Working Capital				
Local Agency Investment Fund (LAIF)	-	26,440,665	26,440,665	0.41%
San Diego County Investment Pool	-	686,340	686,340	
Total Investments - Working Capital	-	27,127,005	27,127,005	
Investments - Restricted for Debt Service				
US Bank - Treasury Strips - market value (Par value $39,474,000)	38,522,043	-	38,522,043	
Rabobank - Payment Undertaking Agreement	82,053,636	-	82,053,636	7.69%
Total Investments Restricted for Debt Service	120,575,679	-	120,575,679	
Total cash and investments	**$ 133,656,196.15**	**$ 33,276,765**	**$ 166,932,961**	

N/A* - Per trust agreements, interest earned on retention account is allocated to trust beneficiary (contractor)

Metropolitan Transit System

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Agenda Item No. 10

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

MTS JOB ORDER CONTRACT WORK ORDER FOR TRACK REPLACEMENT AT 10TH AVENUE & C STREET IN DOWNTOWN SAN DIEGO

RECOMMENDATION:

That the Board of Directors authorize the Chief Executive Officer (CEO) to execute Job Order Contract (JOC) Work Order MTSJOC1582-01 (in substantially the same format as Attachment A) with Herzog Contracting Corporation to perform work under MTS Doc. No. PWL134.012 (Attachment B) for track replacement at 10th and C Street.

Budget Impact

As individual JOC work orders are written, they are encumbered from each project's funding source; $181,123.10 for track replacement at the intersection of 10th Avenue and C Street would come from CIP 11183 (Blue Line Tie Replacement).

DISCUSSION:

The JOC being requested would be for the replacement of the east and westbound tracks at the intersection of 10th Avenue and C Street in downtown San Diego. The current crossing is settling and requires replacement of the track structure, including ballast, rail, ties, and paving. Approximately 160 track feet would be replaced. The work would be performed during the Broadway Wye weekend track closure to take advantage of the bus bridge between America Plaza and City College Stations.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contacts: Russ Desai, 619.595.4908, Rushikesh.Desai@sdmts.com
Fred Byle, 619.595.4937, Fred.Byle@sdmts.com
Michael Diana, 619.595.1021, Michael.Diana@sdmts.com

Attachments: A. JOC Detailed Scope of Work
B. Standard Services Agreement

Job Order Contract
Detailed Scope of Work

Metropolitan Transit System

Date: September 24, 2011

To: Gene Chimits
Project Manager
Herzog
3760 Kilroy Airport Way
Suite 120
Long Beach, CA 90806

Phone:
FAX:

From: Michael Diana
Assistant Resident Engineer
Metropolitan Transit System
1255 Imperial Avenue, Suite 900
San Diego, CA 92101

Phone: (619) 595-1021
FAX:

Project: MTSJOC1582-01 **Project/Cost Center:** 1129300 Race Neutral

Title: 10th Avenue & C Street Rail Replacement

Location:

Railroad Protective: [X] Yes [ ] No

Detailed Scope of Work

The Contractor shall complete the construction of this project in its entirety and shall provide all labor, materials, equipment and traffic control permits required for all work including utility location and protection, demolition, track replacement, drainage, resurfacing and replacement striping and pavement markings, traffic control, procuring all materials and performing all other work necessary to complete the work in accordance with this Detailed Scope of Work, and the Conformed Special Provisions.

Revised on September 20, 2011, M. Diana
This work includes replacement of the Eastbound *and Westbound* track at the intersection of 10th Avenue and C Street totaling ~~seventy-seven (77)~~ *one hundred sixty-five (165)* track feet. *Install the section* using the *detail for the "WB track"* as shown on Dwg T-2, Section C, as provided by David Evans and Associates.
The work requires but is not limited to the installation of new rail, ties, ballast, filter fabric, rebar, concrete, hot asphalt between the new crossing and existing, and rubber rail interface. The contractor is responsible for disposal of the old track material, waste and any spoils along with testing of concrete, welds, etc. along with providing traffic control. Due to the excessive settlement on the south side of the crossing, replacement of the existing asphalt a minimum of 4' for transitioning the grades through the crossing to be included in this job order.

Submittals: Contractor to provide the following but not limited to submittals, Progress Schedule per section 8-1.04 of the Special Provisions, quality control work plan with written summary of work describing proposed labor, material, equipment, testing and contingency plans; hourly schedule for weekend cutovers, water pollution control plan, safety plan, staging plan, pedestrian control plan with temporary signage, rail, weld kits, insulated joints, track bonding materials, pre-cast concrete grade crossing panels, rubber crossing, rubber rail interface, other track materials, ballast, sub ballast, filter fabric, concrete, asphaltic concrete, traffic coatings, joint sealant, drainage pipe, select backfill, PVC conduit, tracer wire, pull boxes, prior to starting work. Provide notification to the adjacent occupants or businesses 7 days prior to the start of work.

Construction Surveying:

All field construction surveying required for accurate horizontal and vertical location of railroad tracks and other various items of work on the contract shall be furnished by the Contractor. For track rehabilitation, the elevation and alignment of the new track shall, generally, be based on the location of the existing tracks as indicated on the plans. The Contractor shall provide the Engineer with the location and elevation of the existing track extending 100 feet beyond the project limits.

The Contractor shall replace all existing property corner markers and monuments and any local agency monuments disturbed during construction operations as directed by the Engineer. These new markers, monuments, and well monuments shall be on a record of survey map in accordance with applicable laws and regulations and filed in the Office of the County Recorder of San Diego County.

Owner Furnished Material:

MTS to supply the contractor with concrete ties and rail for use on the project and are located at 2155 Wright Street, San Diego. Contractor to supply all other material i.e. clips, pads, etc. for installing the ties including transporting the material to the project site. Contact Ricardo Medina of MTS a minimum 24 hours prior to transporting material at (619) 595-4928.

Existing Utilities:

The contractor shall notify the Engineer and

Underground Service Alert (USA) (800) 422-4133

At least two working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, wire or other structure.

Signal wires, track circuits, platform lighting cables, irrigation lines or other MTS underground facilities may exist within the track way. The Contractor is to locate and protect in-place all existing underground facilities. The contractor shall coordinate with SDTI MOW personnel in order to have said facilities located and marked out by

Cable, Pipe & Leak Detection (CPL) (619) 660-0844

or other approved utility locating subcontractor familiar with MTS facilities. If the Contractor cannot protect in-place existing underground facilities, the Contractor shall replace any damaged or removed underground facilities in a timely manner as to not allow for extended delays to the trolley services. If the services are subject to extended delays, the Contractor shall notify MTS prior to the expiring of the original scheduled work time. All existing MTS underground facilities located shall be as-built and included on the contractor's as-built drawings.

Where such facilities are not located on the plans, no work shall be performed near said facilities until the owner, or his representative. has located the facility by potholing, probing, or other means that will locate and identify the facility.

The Contractor's attention is directed to the existence of overhead power lines, energized trolley wires, catenary poles, signals and grade-crossing signals at the locations of work. Any one or a combination of these obstructions could exist at any one location. No obstructions shall be permitted within 10 feet of operating tracks. The Contractor shall notify MTS at least 2 working days prior to excavating in the railroad right-of way to locate buried cables.

Schedule: All work shall be completed as soon as possible within 45 calendar days from issuance of NTP. The work shall proceed using 1 weekend for installation of the grade crossing. Staging of materials and partial demolition work may take place during the week under single track and during non-revenue service. The contractor to provide ingress egress, including accessible wheelchair access and directional signage to include the universal symbol for wheelchair access, for passengers at all times

during construction.
WORK WINDOWS:
The work to take place during one (1) weekend shutdown, the hours will be from 9:00PM on Friday to 4:00AM on Monday.

Special Events: Contractor to schedule the work around special events such as Padres, Chargers, Comicom etc. and to coordinate with other City and MTS Projects.

Michael Diana, Assistant Resident Engineer

9-27-11

Gene Chimits, Contractor Project Manager

MTS - Office of General Counsel

MTS - Chief Executive Officer

Price Proposal - CSI Summary

To: Michael Diana
Assistant Resident Engineer
Metropolitan Transit System
1255 Imperial Avenue, Suite 900
San Diego, CA 92101

From: Gene Chimits
Contractor Project Manager
Herzog
3760 Kilroy Airport Way
Suite 120
Long Beach, CA 90806

Date : 09/23/2011

Basic Project Information

Job Order Number:	MTSJOC1582-01
Job Order Name:	10th & "C" Street
Contractor:	Herzog
Proposal Name:	**10th & "C" Street**
Proposal Value:	$181,123.10

Subtotal for 01-General Requirements	**$61,722.47**
Subtotal for 02-SiteWork	**$108,948.01**
Subtotal for 03-Concrete	**$10,452.62**
Project Proposal Total	**$181,123.10**

The work order proposal total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding of the line totals and sub-totals.

Gene Chimits 9-27-11

Contractor Project Manager Date

MTS - Office of General Counsel

MTS - Cheif Executive Officer

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

ORIGINAL

AWARDED OUTSTANDING PUBLIC TRANSIT SYSTEM MTS 2009

STANDARD SERVICES AGREEMENT

PWL134.0-12
CONTRACT NUMBER
OPS 970.4
FILE NUMBER(S)

THIS AGREEMENT is entered into this 6 day of September 2011, in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following contractor, hereinafter referred to as "Contractor":

Name: Herzog Contracting Corporation

Address: 600 South Riverside Road
Saint Joseph, MO 64507

Form of Business: Corporation
(Corporation, partnership, sole proprietor, etc.)

Telephone: 816.901.4076

Authorized person to sign contracts: Scott Norman (Name) Vice President (Title)

The attached Standard Conditions are part of this Agreement. The Contractor agrees to furnish to MTS services and materials, as follows:

Provide Job Order Contract (JOC) services as described in SANDAG JOC No. 5001582, in accordance with the Standard Conditions Services, Federal Requirements, and MTS Safety Program (hereinafter "Contract Documents").

This contract shall be effective September 1, 2011, through August 31, 2014. The total cost of this contract shall not exceed $2,000,000.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM	CONTRACTOR AUTHORIZATION
By: _____ Chief Executive Officer	Firm: Herzog Contracting Corp
Approved as to form: By: _____ Office of General Counsel	By: _____ Signature
	Title: Vice President

AMOUNT ENCUMBERED	BUDGET ITEM	FISCAL YEAR
$to be encumbered on JOC		FY 12-14

By: _____ Chief Financial Officer

8/25/11 Date

(84 total pages, each bearing contract number)

CBROWN-SA
SA-PWL134.0-12.HERZOGCONTRACTIMHCORP.MYNIGUEZ
8/12/11

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
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Agenda Item No. 11

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

INCREASED AUTHORIZATION FOR LEGAL SERVICES – LIEBMAN, QUIGLEY, SHEPPARD & SOULEMA, APC

RECOMMENDATION:

That the Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. G1087.12-07 (in substantially the same form as Attachment A) with Liebman, Quigley, Sheppard & Soulema, APC for legal services and ratify prior amendments entered into under the CEO's authority.

Budget Impact

Not to exceed $70,000 for Liebman, Quigley, Sheppard & Soulema, APC. The recommended amounts are contained within the fiscal year 2011 budget.

DISCUSSION:

On January 18, 2007, the Board approved a list of qualified attorneys for general liability and workers' compensation for use by MTS, San Diego Trolley, Inc. (SDTI), and San Diego Transit Corporation (SDTC) (hereinafter referred to as the Agencies) staffs on an as-needed basis. Thereafter, MTS began to contract with approved attorneys for various amounts depending upon current and anticipated needs.

Pursuant to Board Policy No. 52 (Procurement of Goods and Services), the CEO may enter into contracts with service providers for up to $100,000. The Board must approve all agreements in excess of $100,000. All attorneys listed have multiple cases that are scheduled to proceed to trial, and the total cost of their legal services will exceed the CEO's authority.

Liebman, Quigley, Sheppard & Soulema, APC is currently under contract with the Agencies for $515,000. Attorney John Madsen has successfully defended the Agencies in a number of tort liability matters. Pending invoices for recent and current services are anticipated to exceed current contract authority due to legal defense costs.

The CEO has approved contracts up to the $100,000 authority level. Staff is requesting Board approval of MTS Doc. No. G1087.12-07 with Liebman, Quigley, Sheppard & Soulema, APC for legal services and ratification of prior contracts/amendments entered into under the CEO's authority.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: James Dow, 619.557.4562, jim.dow@sdmts.com

OCT13-11.11.LEGAL SVCS.LIEBMAN.JDOW

Attachment: A. MTS Doc. No. G1087.12-07

DRAFT

October 13, 2011

MTS Doc. No. G1087.12-07
LEG 491 (PC 50633)

Mr. James J. Rij
Liebman, Quigley, Sheppard & Soulema, APC
110 W. C Street, Suite 2100
San Diego, CA 92101-3997

Dear Mr. Rij:

Subject: AMENDMENT NO. 12 TO MTS DOC. NO. G1087.0-07: LEGAL SERVICES – GENERAL LIABILITY

This letter will serve as Amendment No. 12 to MTS Doc. No. G1087.0-07. This contract amendment authorizes additional costs not to exceed $70,000 for professional services. The total value of this contract, including this amendment, is $585,000. Additional authorization is contingent upon MTS approval.

If you agree with the above, please sign below, and return the document marked "Original" to the Contracts Specialist at MTS. The other copy is for your records.

Sincerely,

Paul C. Jablonski
Chief Executive Officer

Accepted:

_____
James J. Rij
Liebman, Quigley, Sheppard & Soulema, APC

Date: _____

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

Agenda Item No. 12

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

UNALLOCATED TRANSPORTATION DEVELOPMENT ACT (TDA) FUNDS FOR TRANSIT-RELATED PROJECTS

RECOMMENDATION:

That the Board of Directors approve the use of $350,887.22 in unallocated TDA funds currently held by the County of San Diego (County) for transit-related expenses for the City of El Cajon.

Budget Impact

The use of unallocated TDA funds set aside by the County for transit-related projects in various jurisdictions would have no impact on MTS's operating or capital budgets. The total available unallocated TDA held for the benefit of the City of El Cajon would be reduced by $350,887.22 resulting in a remaining balance of $1,662,639 held by the County for future transit-related projects (pending Board approval).

DISCUSSION:

On October 3, 2011, MTS received a request from the City of El Cajon requesting the use of $350,887.22 of the unallocated TDA funds held by the County to reimburse City of El Cajon's fiscal year 2010/2011 transit-related expenditures.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Mike Thompson, 619.557.4557, mike.thompson@sdmts.com

OCT13-11.12.TDA CITY OF EL CAJON.ECHEUNG

Attachment: A. Letter from City of El Cajon

CITY OF EL CAJON
www.ci.el-cajon.ca.us
PUBLIC WORKS DEPARTMENT

September 27, 2011

Tom Lynch
Metropolitan Transit System
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Lynch:

The following information is submitted for review in consideration of the City of El Cajon utilizing a portion of our transit reserve fund in the amount of $350,887.22 for the following:

Description	Expenditures
Overlay Thoroughfares 2010	$ 316,741.73
Other Operating Expenses to Repair & Replace Existing Facilities	$ 125,028.49
Subtotal	**$ 441,770.22**
Previously Requested	- $ 90,883.00
Transit Reserve Fund Request	**$ 350,887.22**

Attached are the budget documents approved by the El Cajon City Council, the Project Transaction Analysis, the Expenditure Audit Trail and the Expenditure Status Report. The City had previously requested $90,883. The $350,887.22 represents the difference between $441,770,22 and the $90,883 previously requested.

Should you require any additional information as you prepare the agenda report for the board's approval please contact me directly at (619) 441-5598.

Your assistance processing our request is appreciated, and I look forward to hearing from you soon.

Sincerely,

Elizabeth A.S. Schofer
Senior Management Analyst

Attachments: Transit Budget for FY 2010-11
Expenditure Status Report
Expenditure Audit Trail
Project Transaction Analysis

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

Agenda Item No. 13

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

APPOINTMENT OF SHERIFF REPRESENTATIVE TO TAXICAB ADVISORY COMMITTEE

RECOMMENDATION:

That the Board of Directors authorize the appointment of a representative from the Sheriff's Licensing Division as an ex officio member of the Taxicab Advisory Committee.

Budget Impact

None.

DISCUSSION:

The San Diego County Sheriff's Department is responsible for licensing taxicab drivers in the MTS area of jurisdiction. The appointment of a representative from the Sheriff's Department to the Taxicab Advisory Committee in a nonvoting capacity would facilitate communications between the Taxicab Advisory Committee and the licensing agency.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Sharon Cooney, 619.557.4513, sharon.cooney@sdmts.com

OCT13-11.13.TAXICAB COMMITTEE.SCOONEY

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

Agenda Item No. 45

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

2011 COMIC-CON POST EVENT SUMMARY (TOM DOOGAN AND BRIAN RILEY)

RECOMMENDATION:

That the Board of Directors receive a report for information.

Budget Impact

None.

DISCUSSION:

The annual Comic-Con event was held from July 20, 2011, through July 24, 2011, at the San Diego Convention Center. MTS once again played a significant role in the success of this event as thousands chose public transit as their means to get to the venue each day. MTS also used the opportunity to join in the festivities, which included installing special station decorations and signage.

Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Tom Doogan, 619.595.4984, tom.doogan@sdmts.com

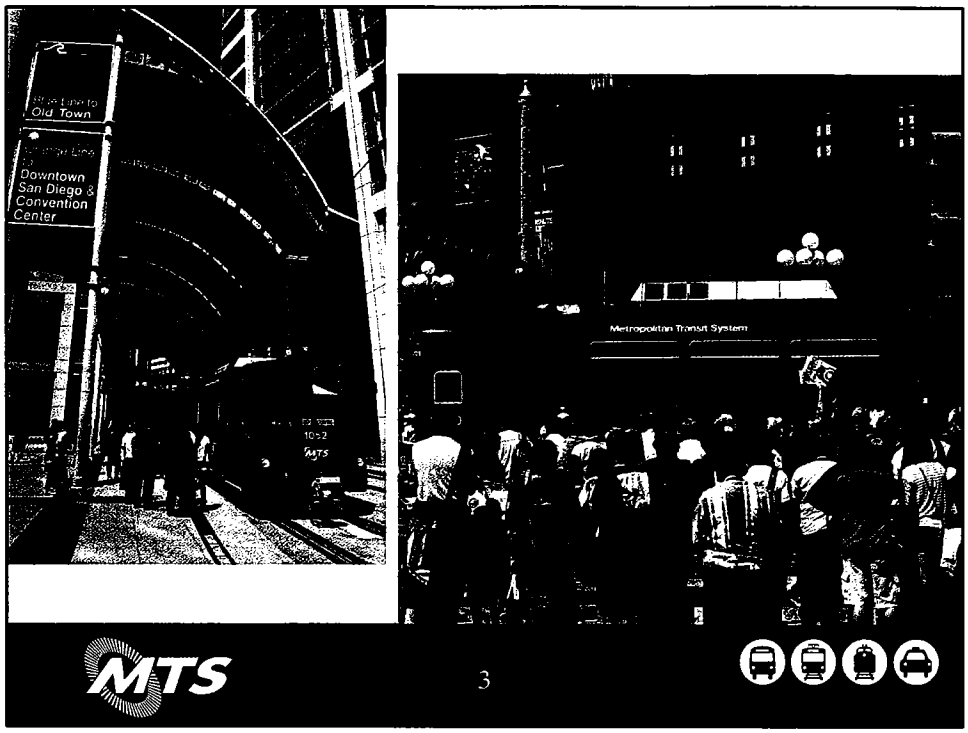
OCT13-11.45.COMIC-CON.TDOOGAN

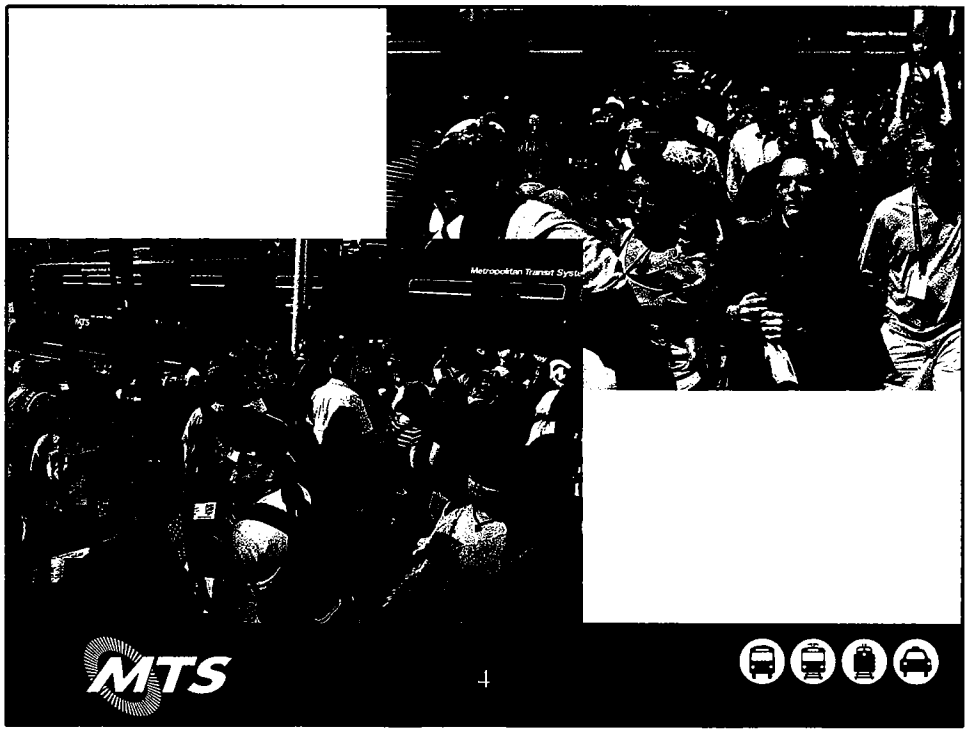
Metropolitan Transit System
2011 Comic Con Recap

Board of Directors Meeting
October 13, 2011

Event Overview

- Wednesday, July 20 - Preview Night, Estimated attendance: 15,000
- Thursday through Sunday: Daily attendance 60 - 75,000
- After hours events held each night through Saturday
- Heaviest ridership from Mission Valley / Old Town
- 'Red Line' service operated each day
- Red Line did not operate during the evening commute on weekdays

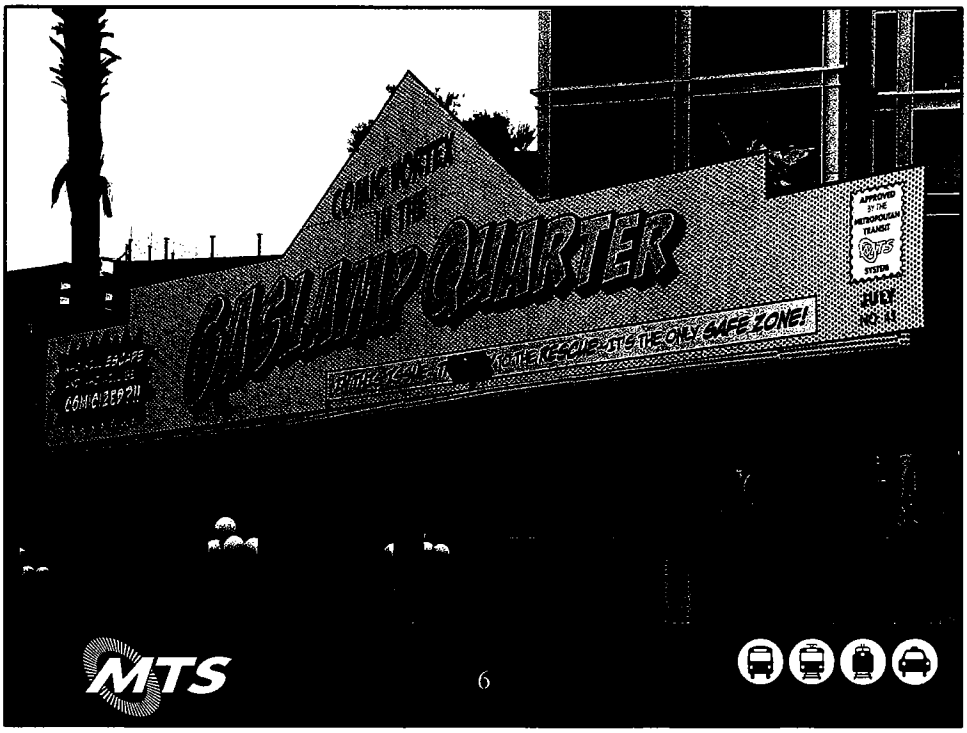

Old Town
Downtown
San Diego &
Convention
Center
Metropolitan Transit System
MTS
3


Metropolitan Transit System
MTS
4

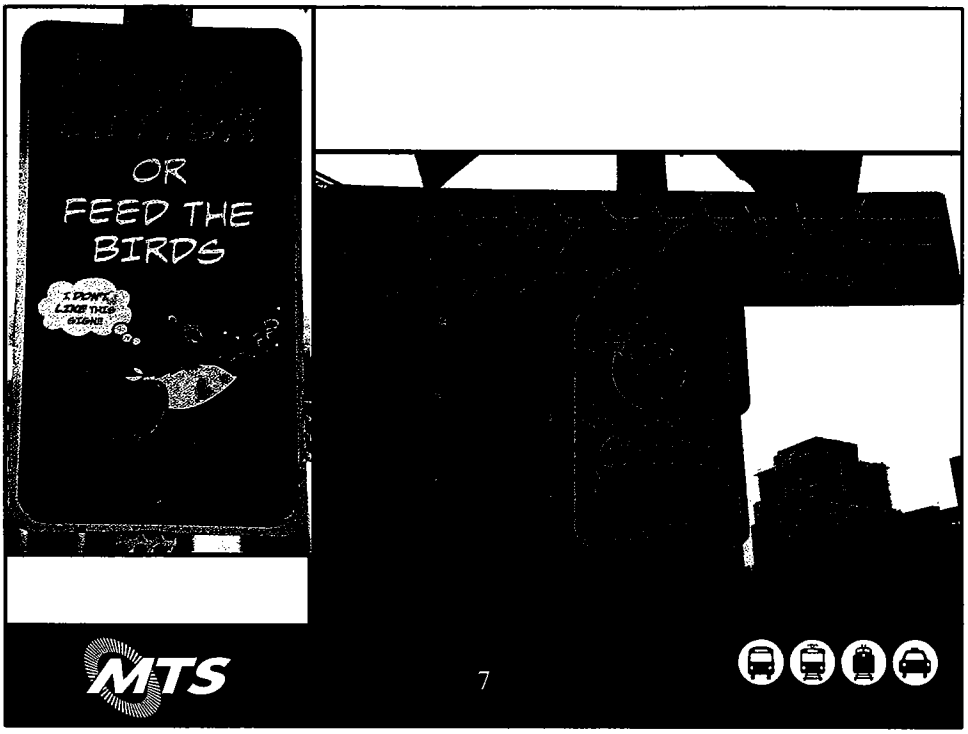
Gaslamp Quarter Station

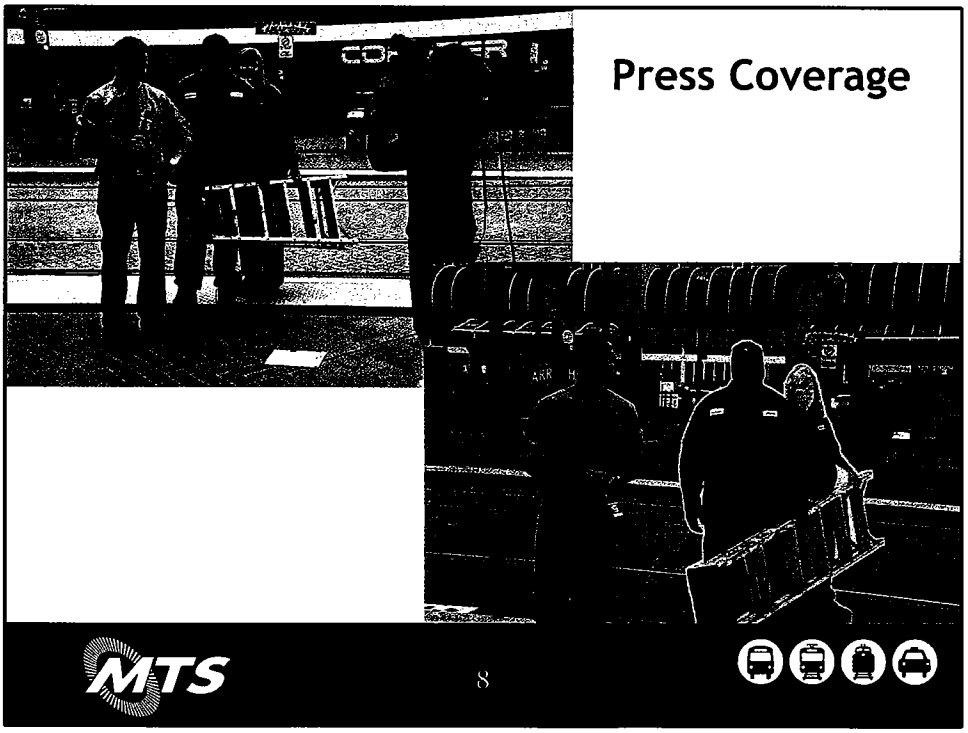
Facilities personnel, under the direction of the MTS Marketing Dept. transformed the Gaslamp Quarter station into a 2-dimensional Comic Book vortex.

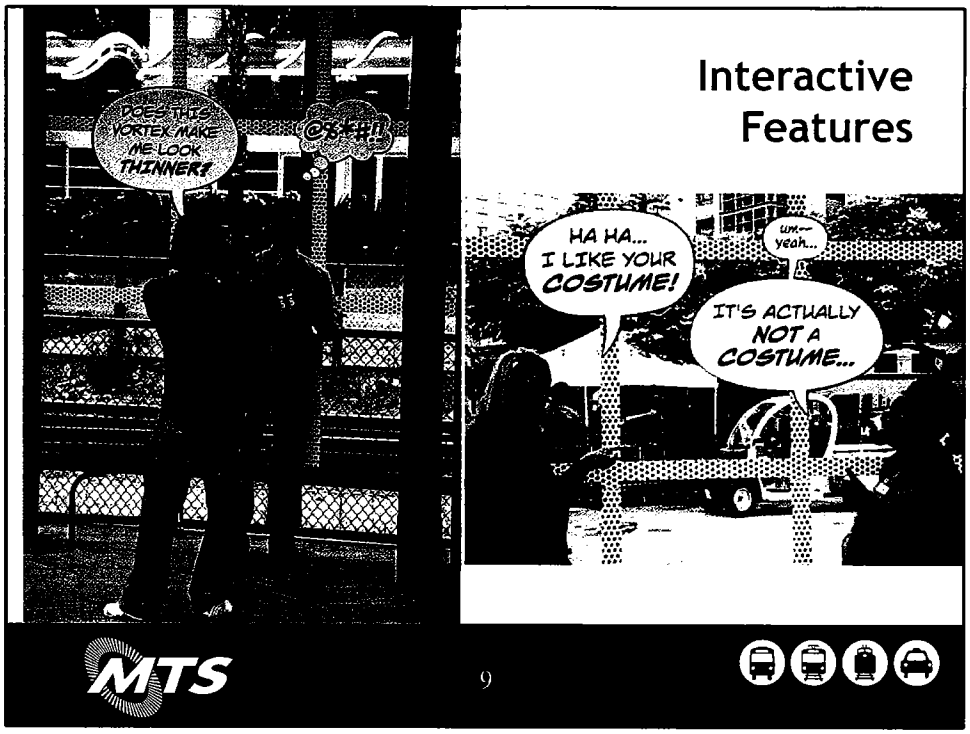
MTS 5

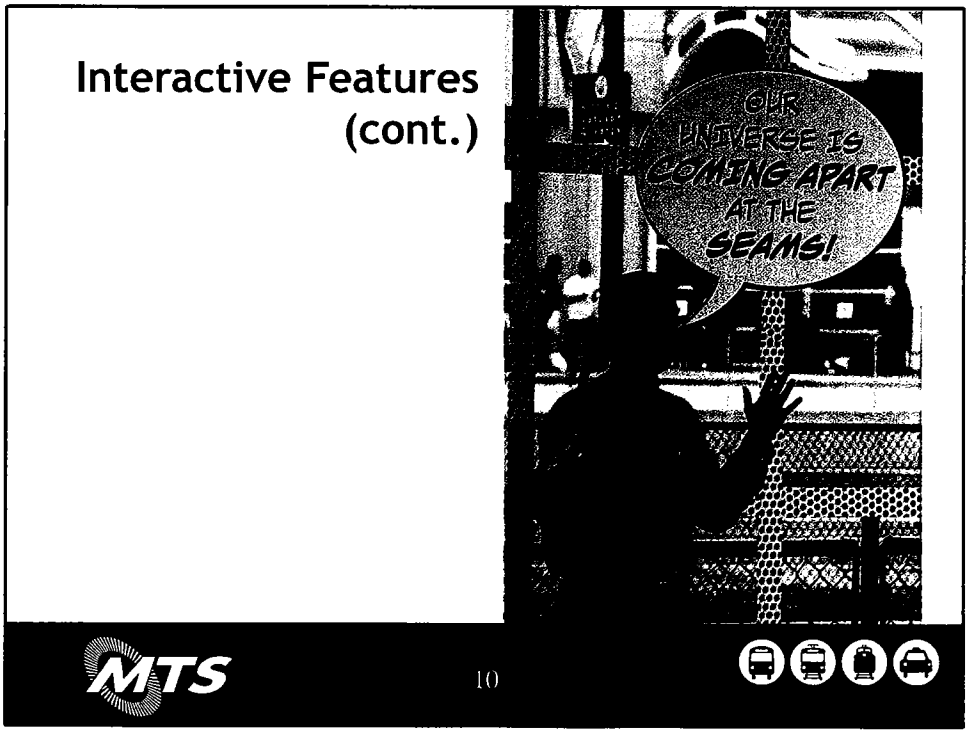


MTS 6

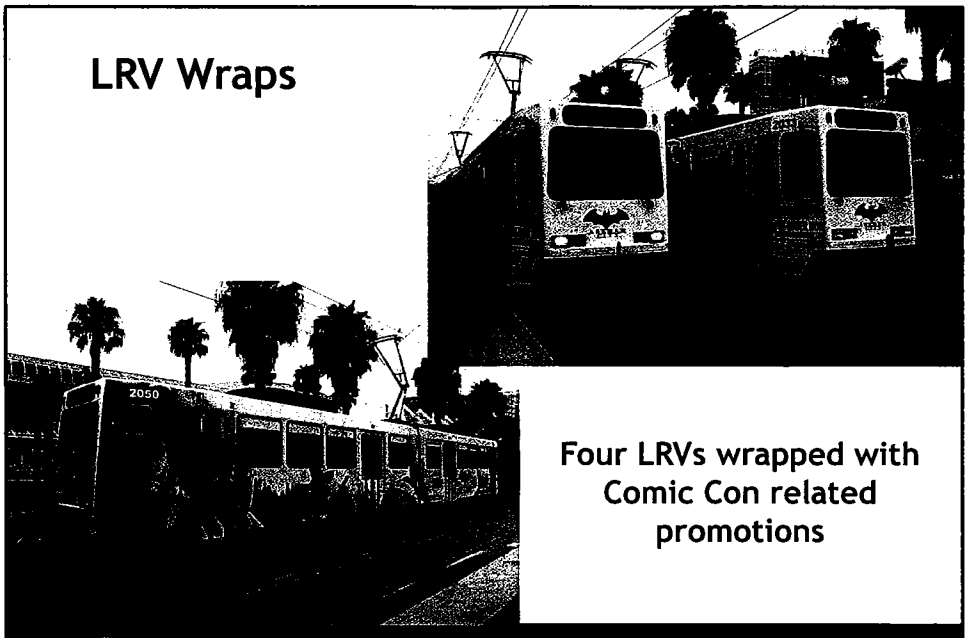

OR
FEED THE
BIRDS
I DON'T LIKE THIS STAND!
MTS
7


Press Coverage
MTS
8


DOES THIS VORTEX MAKE ME LOOK THINNER?
@$*#!
Interactive Features
HA HA... I LIKE YOUR COSTUME!
um— yeah...
IT'S ACTUALLY NOT A COSTUME...
MTS
9


Interactive Features (cont.)
OUR UNIVERSE IS COMING APART AT THE SEAMS!
MTS
10

LRV Wraps



Four LRVs wrapped with Comic Con related promotions

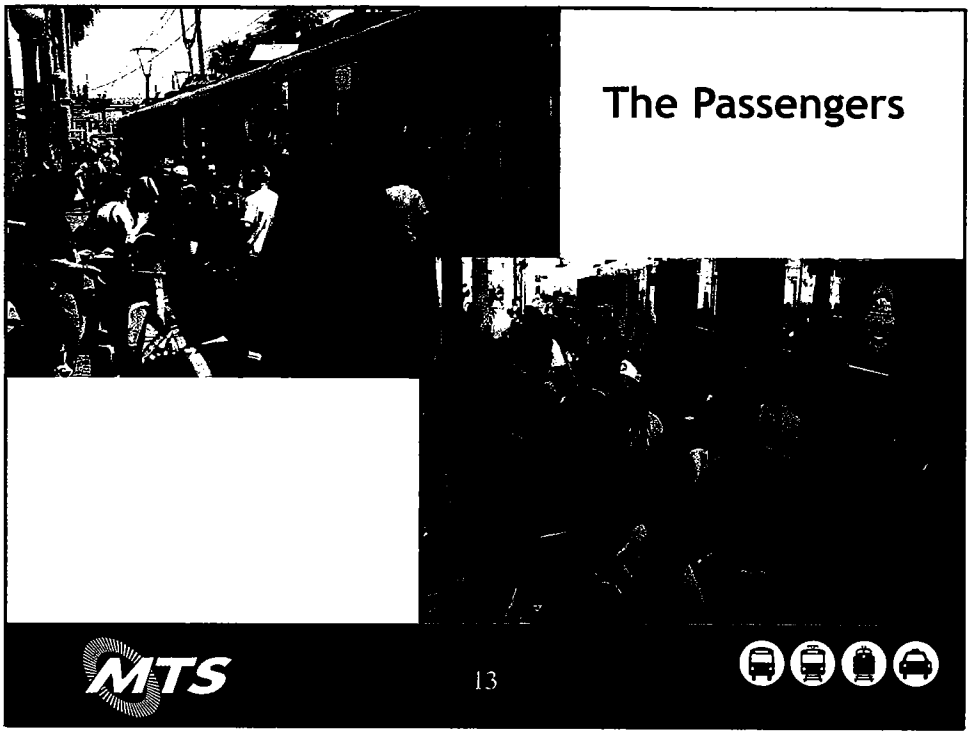
MTS

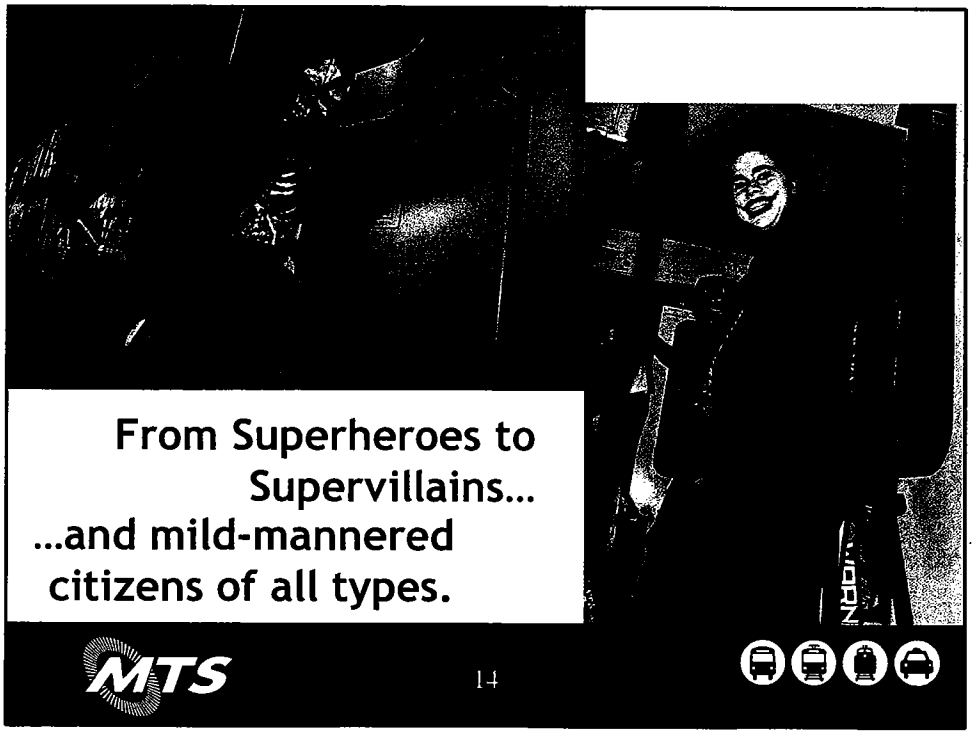
11

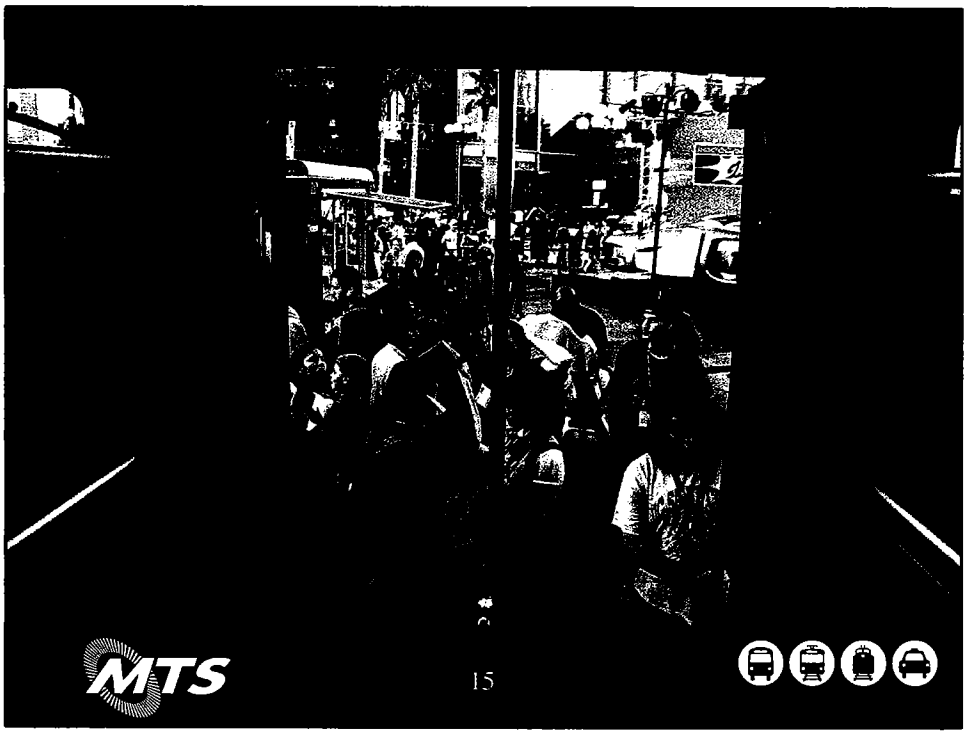
Operational Priority: Safety

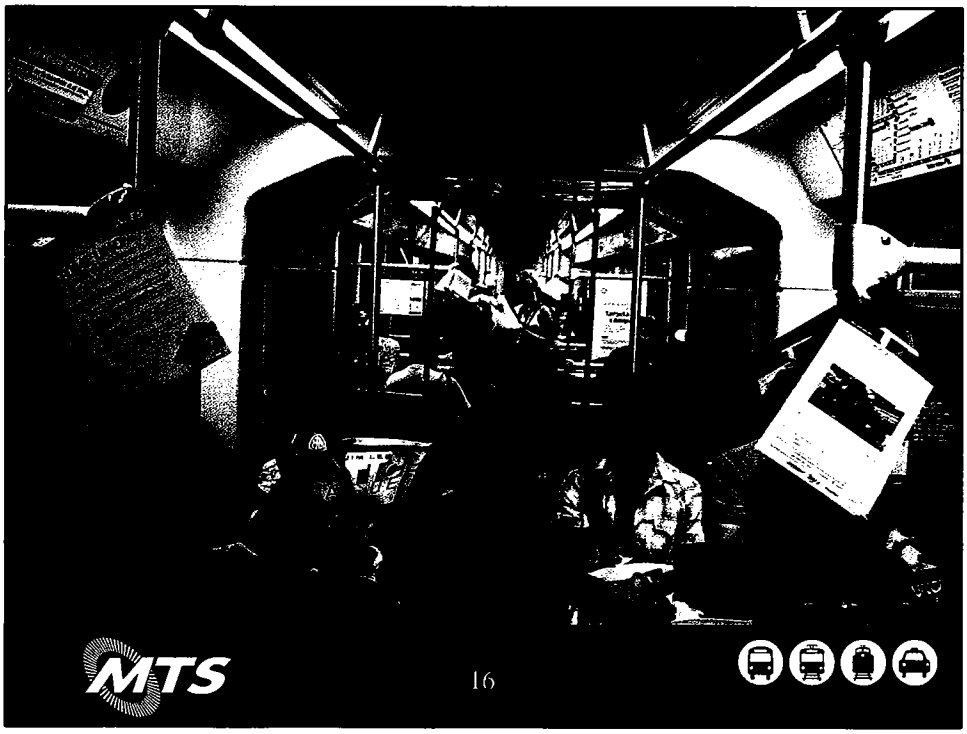
MTS

12


The Passengers
MTS
13


From Superheroes to Supervillains...
...and mild-mannered citizens of all types.
MTS
14


MTS
15

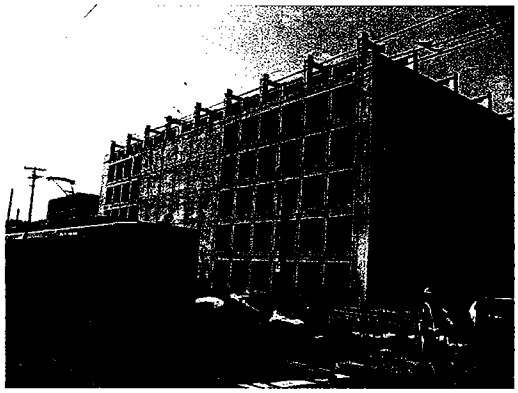

MTS
16

Pass/Ticket Sales Summary

Denomination		Units	Revenue
One Way Tickets	=	15,707	$35,468
1-Day Passes	=	35,976	$179,880
2-Day Passes	=	1,494	$13,446
3-Day Passes	=	1,992	$23,904
4-Day Passes	=	6,174	$92,610
Units Sold		61,343	$345,308
Est. Trips		185,989	

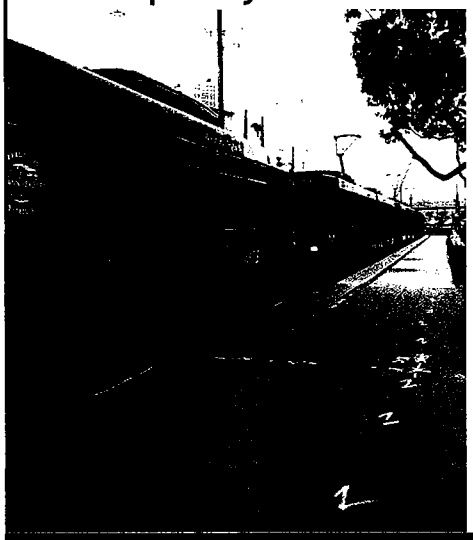
MTS 17

Construction - 12th & Imperial Bayside Platform



MTS 18

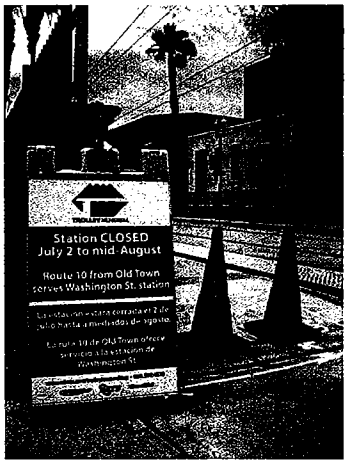
Temporary Platform - 12th & Imperial Bayside



- Temporary platform opened during Comic Con
- 8' wide concrete platform
- Allowed room for Orange Line and Red Line trains at the same time
- This was important due to single track terminal configuration

MTS 19

Construction - Washington Street



MTS 20

Lessons Learned - LRT

- Event continues to grow in scope as more off site and after hours activities are included
- Limitations on fleet availability during the weekday evening commute hours create an inconvenience for riders traveling back to Mission Valley
- Many riders opted to wait until Red Line service was scheduled to be reestablished after 5:30pm
- This created a backlog of passengers exceeding the capacity of the first few trains

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Lessons Learned - LRT (cont.)

- The number of mobility impaired riders exceeded the capacity of the current high floor fleet at times
- Some riders using wheelchairs had to wait through multiple Red Line departures as a result of this capacity issue
- **The Good News** – The current platform upgrade project, additional low floor cars, and the subsequent extension of the Green Line will provide relief during the PM commute and for our mobility impaired customers

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Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
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(619) 231-1466 • FAX (619) 234-3407

Agenda Item No. 46

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

ANNUAL SERVICE PERFORMANCE MONITORING REPORT (DEVIN BRAUN)

RECOMMENDATION:

That the Board of Directors receive a report for information.

Budget Impact

None.

DISCUSSION:

MTS Board Policy No. 42 establishes a process for evaluating existing transit services to achieve the objective of developing a customer-focused, competitive, integrated, and sustainable system. The policy states that services will be evaluated annually and provides a set of measures for evaluation. This report represents the annual service evaluation for FY 2011.

Attachment A provides route-specific details. Routes are designated into seven service categories based on route characteristics and compared against other similar services in the same category.

Develop a Customer-Focused and Competitive System

The following measures of productivity and service quality are used to ensure that services are focused on providing competitive and attractive transportation that meets MTS's customers' needs.

- Total Passengers - *Percent change in passengers should equal or exceed percent change in average daily traffic within the MTS urban network area*

Route Categories	FY 2009	FY 2010	FY2011	Chg. 09-10	Chg. 10-11	Rev. Hrs Change
Premium Express	292,526	282,097	300,330	-3.6%	6.5%	11.6%
Express	2,450,920	2,149,975	2,146,895	-12.3%	-0.1%	-8.5%
Light Rail	36,928,284	30,468,981	31,612,877	-17.5%	3.8%	-2.0%
Urban Frequent	39,113,634	37,101,318	36,672,454	-5.1%	-1.2%	-6.2%
Urban Standard	11,830,577	11,552,482	12,791,167	-2.4%	10.7%	1.5%
Circulator	1,059,706	823,681	807,117	-22.3%	-2.0%	-3.6%
Rural	24,425	26,697	34,962	9.3%	31.0%	-1.1%
Demand-Responsive	372,373	353,986	358,646	-4.9%	1.3%	-1.0%
Total MTS Passengers	92,072,445	82,759,217	84,724,448	-10.1%	2.4%	-3.6%

Despite reductions of 3.6% of service overall, system-wide ridership increased 2.4% (+1,965,231 passengers) between FY 2010 and FY 2011.

The largest percentage decrease was in Circulator routes (-2.0% or -16,564 passengers). This decrease is partly due to a reduction in revenue hours of approximately 3.6%.

Urban Frequent routes also saw a 1.2% decline in ridership with a 6.2% reduction in service levels from FY 2010.

Urban Standard routes had the largest increase with 1,238,685 passengers or 1.2%. Because Urban Frequent routes had reduced service levels, many passengers moved to Urban Standard routes instead—many of which share the same corridors.

While Rural ridership numbers show a marked increase, MTS believes there is an error in the farebox system, and staff will be cross-checking the ridership figures with the new automatic passenger counters currently being installed.

Demand-Responsive refers to Americans with Disabilities Act (ADA) Paratransit operations referred to as MTS Access.

(Average Daily Traffic (ADT) statistics for the San Diego region are not available for FY 2011; therefore, the increase in ridership cannot be compared to the ADT for this report.)

- Average Weekday Passengers - *Improve ratio between ridership and average daily traffic within the MTS urban network area*

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	1,149	1,126	1,181	-2.1%	4.9%
Express	8,688	7,741	7,760	-10.9%	0.2%
Light Rail	109,882	91,284	94,217	-16.9%	3.2%
Urban Frequent	124,892	119,764	120,416	-4.1%	0.5%
Urban Standard	39,094	38,474	43,505	-1.6%	13.1%
Circulator	3,868	3,467	3,435	-10.4%	-0.9%
Rural	139	158	209	14.1%	31.8%
Demand-Responsive	1,347	1,292	1,334	-4.0%	3.2%
Avg. Weekday Passengers	289,057	263,306	272,056	-8.9%	3.3%

Average weekday ridership increased 3.3% (8,750 passengers) between FY 2010 and FY 2011.

The largest increase was on Urban Standard routes which carried 5,031 more passengers per weekday than the previous year (+13.1%). More passengers are using these routes on weekdays because of reduced or eliminated service on weekends.

While Rural ridership numbers show a marked increase, MTS believes there is an error in the farebox system, and staff will be cross-checking the ridership figures with the automatic passenger counters currently being installed.

(Transit's percent of Average Daily Traffic (ADT), or mode split, cannot be calculated at this time since ADT statistics are not available for FY 2010.)

- Passengers per Revenue Hour – *Improve route-category average*

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	23.6	23.5	22.4	-0.6%	-4.6%
Express	29.0	28.9	31.5	-0.4%	9.1%
Light Rail	223.6	171.7	181.9	-10.1%	5.9%
Urban Frequent	34.9	34.4	36.2	-1.5%	5.4%
Urban Standard	25.2	25.7	28.0	2.1%	9.1%
Circulator	14.7	15.7	15.9	6.8%	1.6%
Rural	5.64	6.05	8.01	7.2%	32.4%
Demand-Responsive	2.0	2.0	2.1	1.4%	2.3%
MTS System	43.5	40.9	43.4	-4.9%	6.2%
Fixed-Route Bus Only	31.0	31.1	32.9	0.0%	5.8%

Passengers per revenue hour is an industry standard for assessing service productivity. Revenue hours include the time that vehicles are transporting passengers (in service) as well as the recovery time at the end of each trip.

Overall, passengers per revenue hour for the system increased by 6.2% from 40.9 to 43.4. Fixed-route bus service increased from 31.1 to 32.9 passengers per revenue hour.

The only category with decreased performance was the Premium Express category with a decline of 4.6%. This was mainly due to the addition of Route 830, which brought more ridership but relatively few riders compared to the levels of service provided.

- Passengers per In-Service Hour – *Improve route category average*

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	25.1	25.0	24.7	-0.2%	-1.2%
Express	37.7	35.0	38.3	-7.1%	9.5%
Light Rail	241.4	205.7	215.1	-14.8%	4.6%
Urban Frequent	43.8	42.5	44.7	-2.9%	5.0%
Urban Standard	34.4	34.3	37.4	-0.4%	8.9%
Circulator	25.2	24.2	25.0	-3.9%	3.2%
Rural	5.6	5.5	7.9	-0.5%	42.8%
Demand-Responsive					
MTS System	59.0	54.6	57.7	-7.5%	5.7%

Passengers per in-service hour represents a more accurate picture of productivity because in-service hours only include hours of operation solely dedicated to transporting passengers and does not include recovery time. This measure demonstrates how passenger levels increase or decrease caused directly by changes in service levels and not by adding additional hours to the route without extra service (such as extra layover time).

Overall, passengers per in-service hour were up by 3.1 passengers per in-service hour or 5.7%. Only Premium Express routes declined slightly due to the addition of Route 830.

Passenger Load Factor – *No more than 20% of revenue hours exceeding one standee per 4 ft^2 on local street operation (55 passengers on a standard bus and 90 passengers on an articulated bus) and seating capacity on freeway operations and minibus service*

Route	Type of Route	% Trips With Overcrowding
3	Freeway	2.36%
11	Urban	0.68%
28	Urban	11.39%
30	Urban	0.74%
35	Urban	2.86%
704	Urban	1.56%
709	Urban	11.30%
712	Urban	8.62%
810	Freeway	10.0%
816	Urban	1.79%
855	Urban	1.64%
901	Urban	2.13%
905	Urban	2.35%
906/907	Urban	9.38%
933/934	Urban	3.42%
955	Urban	0.80%

Due to a change in the passenger-reporting system administered by the San Diego Association of Governments (SANDAG), overcrowding is only available on the trip level for FY 2008 and beyond; therefore, a figure for overcrowding is not available. As a result, the number of trips that had overcrowding at some point during the trip is reported above. These figures do not mean that buses were overcrowded for the whole trip, but rather at some time during the trip, they experienced overcrowding conditions based on the definition.

Overcrowded trips are uncommon, and when overcrowding becomes chronic, MTS adds tripper buses where needed and appropriate to pick up the extra passengers. Typically, buses are overcrowded on trips during the peak periods of the above-listed routes.

- On-Time Performance – *85% for Urban Frequent and 90% for all other route categories*

	Service Changes					
Route Categories	Sept-09	Feb-10	June-10	Sept-10	Jan-11	June-11
Premium Express	99%	99%	100%	98%	98%	100%
Express	89%	84%	91%	84%	70%	71%
Light Rail	95%	94%	90%	90%	91%	92%
Urban Frequent	86%	85%	87%	85%	84%	82%
Urban Standard	87%	88%	90%	87%	84%	84%
Circulator	86%	86%	78%	80%	87%	90%
Rural	N/A	N/A	N/A	N/A	N/A	N/A
Demand-Responsive	N/A	N/A	N/A	N/A	N/A	N/A
MTS System	88%	87%	88%	86%	84%	84%

On-time performance is calculated as departing within 5 minutes of the scheduled time.

On-time performance is reported for service change periods in order to isolate the changes made to routes so that MTS staff can monitor the impact of scheduling changes on on-time performance and adjust as needed.

Express routes show an on-time performance for the January 2011 and June 2011 service periods of 70%-71%. Express routes are routes which have fewer stops and often run on freeways and include Routes 20, 50, 150, 210, and 960. The on-time performance for this group of routes is particularly low due to the inclusion of Route 960. This one-way express route has a very small sample size of trips checked due to limited availability of ride checkers on these trips. On the occasions it was checked, its on-time performance was extremely low. These few trips could have been delayed due to freeway traffic or other outside influences, which would be counteracted by a larger sample size. All of the other routes in this category have an electronic-dispatching system that checks the on-time performance for all trips.

If Route 960 were excluded from the results, the on-time performance for the Express routes would be 87.2% for the September 2010 period, 81.8% for the January 2011 scheduling period, and 87.7% for the June 2011 scheduling period.

MTS system-wide on-time performance has been consistent from service change to service change and varies only slightly due to seasonal adjustments. Where route categories have not reached their on-time performance goals, both the Planning and Scheduling and Bus Operations Departments work to improve on-time performance through driver counseling, improved running times, and strict oversight of contract operations.

As more traffic signals and stop signs are added and as traffic congestion increases, routes will continue to be negatively impacted. The Planning and Scheduling Department will continue to monitor these routes and make schedule adjustments as the budget and available resources allow.

- Mean Distance Between Failures – *Improve operator average*

Operator	FY 2010	FY 2011	Chg 10-11
MTS Bus	5,248	6,781	29.2%
MTS Contract Services	14,081	13,751	-2.3%
MTS Rail	301,195	318,705	5.8%

Mean distance between failures (MDBF) signifies the average mileage of transit vehicles between major mechanical failures. The MTS Bus figure shows a 29.2% increase in MDBF. Contracted buses experienced only a slight decline of 2.3%, which is normal when a fleet ages.

- Preventable Accidents per 100,000 Miles – *Improve operator average*

Operator	FY 2009	FY 2010	FY 2011	Chg 09-10	Chg 10-11
MTS Bus	1.76	1.73	1.58	-1.6%	-8.5%
MTS Contract Services	1.73	1.00	0.96	-42.4%	-3.6%
MTS Rail	0.00	0.01	0.00	-100.0%	0%

MTS Rail experienced zero preventable accidents in FY 2011. MTS Bus and MTS Contract Services had a slight decrease in the preventable accident rate. Continued operator retraining and improved driver safety-awareness programs and materials were used throughout the year to maintain relatively low incident levels for bus and trolley operators. Staff will continue to strive to improve the operator average for this important safety metric.

- Complaints per 100,000 Passengers – *Improve operator average*

Operator	FY 2009	FY 2010	FY 2011	Chg 09-10	Chg 10-11
MTS Bus	10.7	8.9	9.1	-16.6%	1.9%
MTS Contract Services [1]FR	11.1	9.4	8.4	-14.9%	-11.2%
MTS Contract Services [2]DR	N/A	N/A	N/A	N/A	N/A
MTS Rail	1.79	2.37	2.64	32.6%	11.2%

The rate of complaints per 100,000 passengers has risen slightly for MTS Bus while it has decreased slightly for Contracted Fixed-Route buses. Complaints for MTS Rail have increased by 11.2%, which is attributable to better record-keeping due to a new in-house system for tracking complaints. Now that all operators are using the same automated tracking system for complaints, reported complaint levels have remained consistent.

Staff will continue to aggressively address complaints and seek to drive down the number of incidents.

Develop a Sustainable System

The following measures are used to ensure that transit resources are deployed as efficiently as possible and do not exceed budgetary constraints.

- In-Service Miles - *Not to exceed budget*

Operator	FY 2011		Difference	
	Actual	Budget	Number	Percent
MTS Bus	8,156,701	8,156,456	245	0.0%
MTS Contract Service Fixed-Route	9,202,377	9,220,263	-17,886	-0.2%
MTS Rail	7,518,512	8,172,920	-654,408	-8.0%

In FY 2011, actual in-service miles were below budget for MTS Contract Services fixed-route and Rail while MTS Bus was almost on budget with only a negligible difference.

[1] Fixed-Route
[2] Demand Response Routes

- Revenue Hours - *Not to exceed budget*

Operator	FY 2011		Difference	
	Actual	Budget	Number	Percent
MTS Bus	751,800	751,979	-179	0.0%
MTS Contract Service Fixed-Route	854,664	856,137	-1,473	-0.2%
MTS Rail	416,528	441,145	-24,617	-5.6%

In FY 2011, actual revenue hours were below budget for all operators.

- Weekday Peak-Vehicle Requirement - *Not to exceed budget*

Operator	June 2010	June 2011	Chg 10-11
MTS Bus	195	196	+1
MTS Contract Services Fixed-Route	242	243	+1
MTS Rail	94	94	0

The weekday peak-vehicle requirement is the maximum number of vehicles available to provide scheduled service during the heaviest service period of the week. Peak vehicles have seen a slight increase for MTS Bus and MTS Contract Service Fixed-Route services. These increases are mainly due to increased running times that require more buses to be placed on the road to operate service.

- In-Service Speeds - *Improve operator average*

Operator	June 2010	June 2011	Chg 10-11
MTS Bus	13.2	13.4	1.5%
MTS Contract Services Fixed-Route	14.0	14.0	0%
MTS Rail	21.3	21.3	0%

In-service speeds were almost neutral for all modes of service between the June 2010 and June 2011 schedule periods. This demonstrates that traffic and increased ridership have not caused a marked increase in the bus running time from service change to service change.

- In-Service Miles/Total Miles - *Improve operator average*

Operator	June 10	June 11	Chg 10-11
MTS Bus	87.7%	87.5%	-0.24%
MTS Contract Services Fixed-Route	N/A	N/A	N/A
MTS Rail	98.8%	98.7%	-0.1%

In-service miles per total miles are only calculated for MTS Bus operations, which are scheduled and run-cut (assigning buses and drivers) by MTS. Since the bus contractor is responsible for run-cutting, their figures are not tracked. MTS Bus ratios have been generally consistent over time with only a minor decrease in the ratio. As services have been reduced on weekends, it is often a better and more efficient solution to route a bus out of service to another location to complete a trip than to sit and wait at the terminal for the next trip. MTS Rail operates only minimal out-of-service miles.

- In-Service Hours/Total Hours - *Improve operator average*

Operator	June 10	June 11	Chg 10-11
MTS Bus	77.2%	76.9%	-0.43%
MTS Contract Services Fixed-Route	N/A	N/A	N/A
MTS Rail	97.8%	98.3%	+0.5%

As with the mileage statistic, in-service hours per total hours can only be calculated for MTS Bus (in-house) operations. Efficiency of scheduling has shown that the in-service to total vehicle hours has remained steady for MTS Bus. MTS Rail operates only minimal out-of-service hours. There is a slight change due to special-event service differences year-to-year.

- Farebox Recovery Ratio – *Transportation Development Act (TDA) requirement of 31.9 percent system wide for fixed-route (excluding regional routes that have a 20 percent requirement)*

Operator	FY 09	FY 10	FY 11	Chg 09-10	Chg 10-11
MTS FR (No Premium Exp.)	38.3%	38.0%	36.3%	-0.5%	-4.5%
Premium Express	46.4%	53.1%	49.2%	14.4%	-7.3%
MTS Rail	57.2%	55.3%	58.9%	-3.3%	6.5%
System	43.9%	43.3%	43.0%	-5.5%	-0.8%

For both system-wide and Premium Express services, farebox recovery ratios continue to exceed the Transportation Development Act (TDA) target but have slightly decreased year over year. The decline is primarily due to service-level decreases, which cause ridership loss and increased labor and materials costs.

- Subsidy per Passenger - *Improve route-category average*

Route Categories	FY 2009	FY 2010	FY 2011	Chg 09-10	Chg 10-11
Premium Express	$3.74	$3.50	$3.89	-6.5%	12.1%
Express	$2.19	$2.46	$2.42	12.5%	-1.3%
Light Rail	$0.68	$0.88	$0.77	29.2%	-12.6%
Urban Frequent	$1.32	$1.44	$1.50	9.2%	3.9%
Urban Standard	$1.50	$1.40	$1.31	-6.6%	-6.1%
Circulator	$2.46	$2.25	$2.66	-8.8%	18.3%
Rural	$23.50	$20.28	$15.67	-13.7%	-22.7%
Demand-Responsive	$25.92	$26.61	$31.04	2.7%	16.6%
Fixed-Route Bus Average	$1.43	$1.50	$1.52	4.6%	1.6%
MTS System	$1.24	$1.38	$1.37	12.0%	-0.8%

Overall, system-wide subsidy per passenger decreased from $1.38 to $1.37 in FY 2011. For Fixed-Route bus service, subsidy per passenger increased from $1.50 to $1.52 in FY 2011. Light rail decreased from $0.88 to $0.77 over the last year, which is a result of higher ridership along with reduced service levels.

Sharon Cooney for
Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Devin Braun, 619.595.4916, devin.braun@sdmts.com

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Attachment: A. FY 2011 Annual Route Statistics

FY 2011 ANNUAL ROUTE STATISTICS

Updated: *10/7/2011*

Route	Annual Passengers	Avg. Weekday Passengers	Passengers/ Revenue Hour	Subsidy per Passenger	Farebox Recovery
Blue Line	17,692,138	53,087	239.8	$0.28	79.8%
Orange Line	6,923,619	21,039	124.8	$1.62	40.4%
Green Line	6,997,120	20,092	157.2	$1.16	48.7%
1	1,586,385	5,191	33.5	$2.21	29.9%
2	1,540,620	4,886	41.2	$1.61	37.3%
3	1,909,044	6,292	41.5	$0.15	85.8%
4	834,888	2,653	36.7	$1.95	32.2%
5	895,077	3,012	47.9	$1.29	41.9%
6	569,356	1,822	32.9	$2.27	29.3%
7	3,797,188	11,862	49.5	$1.18	44.6%
8	659,385	1,788	35.5	$2.04	31.6%
9	486,502	1,453	28.6	$2.76	25.3%
10	1,376,004	4,425	37.2	$1.89	33.7%
11	2,496,334	8,352	33.3	$2.21	30.1%
13	1,914,417	6,348	42.6	$1.54	38.0%
14	89,519	351	12.0	$7.87	10.5%
15	1,573,113	5,132	39.9	$1.69	36.2%
18	58,964	231	20.5	$1.72	37.5%
20	1,148,685	3,837	31.9	$2.36	28.9%
25	109,801	432	17.1	$2.32	29.7%
27	247,826	899	16.6	$2.23	29.5%
28	421,897	1,374	33.8	$0.26	78.5%
30	1,919,676	6,298	28.6	$2.68	27.2%
31	107,634	419	22.1	$3.80	20.2%
35	539,703	1,665	32.4	$0.21	81.9%
41	1,234,762	4,103	38.0	$1.85	34.5%
44	1,242,060	4,258	37.9	$1.83	34.5%
50	287,498	1,133	25.5	$3.20	22.7%
83	45,598	179	14.0	$3.03	24.7%
84	37,752	150	12.5	$3.50	22.6%
88	94,609	315	23.5	$3.50	22.1%
105	366,965	1,270	23.8	$3.45	22.1%
115	321,699	1,208	22.6	$2.32	30.4%
120	1,052,708	3,434	31.2	$2.45	27.8%
150	539,026	2,120	37.2	$1.91	32.6%
201	606,966	1,914	33.1	$2.21	30.8%
202	772,545	2,603	42.0	$1.71	36.6%
210	74,866	295	26.2	$3.10	23.1%
701	637,929	2,426	26.2	$1.12	44.7%
703	34,958		26.1	$1.60	36.9%
704	520,066	1,901	25.5	$1.37	39.5%
705	295,174	1,068	26.4	$0.86	50.9%
707	65,573	263	24.6	$1.71	33.6%
709	1,008,464	3,747	38.9	$0.62	59.3%
712	819,641	3,134	35.6	$0.60	59.9%
810	146,650	577	30.5	$2.63	59.2%
815	326,152	1,073	32.7	$0.40	71.4%
816	320,979	1,265	30.6	$0.96	51.4%
820	47,212	186	24.6	$3.82	48.8%
830 (Note A)	4,115	25	4.3	$30.47	N/A
832	52,489	181	14.1	$2.47	27.3%
833	129,471	448	18.9	$2.02	32.1%
834	17,486	72	14.9	$4.65	18.0%
844/845	180,008	676	13.4	$3.22	23.5%
848	379,984	1,163	27.4	$1.28	43.9%
850	46,197	182	26.7	$3.26	53.6%
851	104,439	411	22.4	$1.54	38.8%
854	187,282	710	24.6	$1.64	37.9%
855	272,188	936	29.8	$0.89	52.7%

Route	Annual Passengers	Avg. Weekday Passengers	Passengers/ Revenue Hour	Subsidy per Passenger	Farebox Recovery
856	701,875	2,614	31.1	$1.32	43.0%
860	38,664	152	28.6	$3.42	51.7%
864	425,158	1,428	19.8	$3.14	24.3%
870	13,597	53	12.8	$4.08	20.0%
871/872	118,480	449	20.1	$1.57	38.9%
874/875	468,325	1,612	28.2	$1.28	43.9%
880 (Note B)	17,492	69	10.9	$7.95	32.8%
888	1,851	19	3.5	$42.57	6.2%
891	1,923	40	5.5	$28.63	7.4%
892	1,569	33	4.5	$34.14	8.2%
894	29,619	116	9.5	$9.99	24.2%
901	984,447	3,149	24.5	$2.40	28.1%
904	30,165	96	11.4	$1.62	37.9%
905 (Note D)	457,454	1,684	34.2	$0.83	66.1%
906/907	1,800,170	5,853	44.5	$0.02	98.1%
916/917	256,158	905	22.3	$2.03	31.1%
921	351,584	1,319	23.6	$1.63	38.6%
923	241,943	923	17.1	$1.97	32.4%
928	363,557	1,276	27.2	$1.67	35.7%
929	2,335,997	7,441	36.1	$0.68	57.3%
932	1,291,624	4,366	32.7	$0.92	50.1%
933/934	1,891,794	6,314	33.4	$1.19	43.7%
936	565,163	1,580	30.1	$0.92	51.5%
955	1,657,850	5,448	40.0	$0.45	67.1%
960 (Note E)	83,223	322	23.7	$3.78	21.2%
961/962/963	1,268,658	4,410	30.4	$1.11	45.4%
964	93,806	369	16.6	$2.41	28.9%
965	65,564	237	14.0	$3.07	23.8%
967	60,860	224	14.0	$2.90	24.0%
968	63,522	240	14.5	$3.28	21.8%
992	412,566	1,218	21.6	$1.26	43.3%
MTS ACCESS	358,646	1,334	2.1	$31.04	13.6%
SVCC	102,738	409	19.8	$2.98	Note F

SERVICE CATEGORY	Annual Passengers	Avg. Weekday Passengers	Passengers/ Revenue Hour	Subsidy per Passenger	Farebox Recovery
Premium Express	300,330	1,181	22.4	$3.89	49.2%
Express	2,146,895	7,760	31.5	$2.42	28.0%
Light Rail	31,612,877	94,217	181.9	$0.77	58.9%
Urban Frequent	36,672,454	120,416	36.2	$1.50	38.6%
Urban Standard	12,791,167	43,505	28.0	$1.31	42.5%
Circulator	807,117	3,435	15.9	$2.66	29.4%
Rural (Note C)	34,962	209	8.0	$15.67	18.7%
Demand-Responsive	358,646	1,334	2.1	$31.04	13.6%

MODE	Annual Passengers	Avg. Weekday Passengers	Passengers/ Revenue Hour	Subsidy per Passenger	Farebox Recovery
Light Rail	31,612,877	94,217	181.9	$0.77	58.9%
Fixed Route Bus	52,717,963	176,296	32.9	$1.52	38.8%
Demand-Responsive	358,646	1,334	2.1	$31.04	13.6%
Rural (Note C)	34,962	209	8.0	$15.67	18.7%

System Totals	84,724,448	272,056	43.4	$ 1.37	43.0%

Notes

A: Route 830 subsidy is fully funded by SANDAG and the Navy.
B: Route 880 subsidy is fully funded by the 4S Ranch Transit Fund.
C: After Rural 5311 and 5311(c) grants, subsidy/passenger is $3.22.
D: After federal JARC grant, Route 905 subsidy/passenger is $0.44.
E: After federal JARC grant, Route 960 subsidy/passenger is $1.89.
F: Fares and one-half of the subsidy are paid for by NCTD resulting in a 66% farebox recovery.

Metropolitan Transit System

FY 2011 Annual Service Performance Monitoring Report

October 13, 2011

(1)

Evaluation Criteria

CUSTOMER FOCUSED/COMPETITIVE		SUSTAINABLE	
PRODUCTIVITY	QUALITY	RESOURCES	EFFICIENCY
• Total Passengers • Average Weekday Passengers • Passengers/ Revenue Hour • Passengers/In Service Hour	• Passenger Load Factor • On Time Performance • Accidents/ 100,000 Miles • Complaints/ 100,000 Passengers • Mean Distance Between Failures	• In Service Miles • In Service Hours • Peak Vehicle Requirement	• In Service Speeds • In Service/Total Miles • In Service/Total Hours • Farebox Recovery Ratio • Subsidy/ Passenger

(2)

Total Passengers

Percent change in passengers should equal or exceed percent change in average daily traffic within the MTS urban network area

Route Categories	FY 2009	FY 2010	FY2011	Chg. 09-10	Chg. 10-11	Rev. Hrs Change
Premium Express	292,526	282,097	300,330	-3.6%	6.5%	11.6%
Express	2,450,920	2,149,975	2,146,895	-12.3%	-0.1%	-8.5%
Light Rail	36,928,284	30,468,981	31,612,877	-17.5%	3.8%	-2.0%
Urban Frequent	39,113,634	37,101,318	36,672,454	-5.1%	-1.2%	-6.2%
Urban Standard	11,830,577	11,552,482	12,791,167	-2.4%	10.7%	1.5%
Circulator	1,059,706	823,681	807,117	-22.3%	-2.0%	-3.6%
Rural	24,425	26,697	34,962	9.3%	31.0%	-1.1%
Demand-Responsive	372,373	353,986	358,646	-4.9%	1.3%	-1.0%
Total MTS Passengers	**92,072,445**	**82,759,217**	**84,724,448**	**-10.1%**	**2.4%**	**-3.6%**

(3)

Average Weekday Passengers

Improve ratio between ridership and average daily traffic within the MTS urban network area

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	1,149	1,126	1,181	-2.1%	4.9%
Express	8,688	7,741	7,760	-10.9%	0.2%
Light Rail	109,882	91,284	94,217	-16.9%	3.2%
Urban Frequent	124,892	119,764	120,416	-4.1%	0.5%
Urban Standard	39,094	38,474	43,505	-1.6%	13.1%
Circulator	3,868	3,467	3,435	-10.4%	-0.9%
Rural	139	158	209	14.1%	31.8%
Demand-Responsive	1,347	1,292	1,334	-4.0%	3.2%
Avg. Weekday Passengers	**289,057**	**263,306**	**272,056**	**-8.9%**	**3.3%**

(4)

Passengers Per Revenue Hour

Improve route category average

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	23.6	23.5	22.4	-0.6%	-4.6%
Express	29.0	28.9	31.5	-0.4%	9.1%
Light Rail	223.6	171.7	181.9	-10.1%	5.9%
Urban Frequent	34.9	34.4	36.2	-1.5%	5.4%
Urban Standard	25.2	25.7	28.0	2.1%	9.1%
Circulator	14.7	15.7	15.9	6.8%	1.6%
Rural	5.64	6.05	8.01	7.2%	32.4%
Demand-Responsive	2.0	2.0	2.1	1.4%	2.3%
MTS System	**43.5**	**40.9**	**43.4**	**-4.9%**	**6.2%**
Fixed Route Bus Only	31.0	31.1	32.9	0.0%	5.8%

MTS

3

Passengers Per In-Service Hour

Improve route category average

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	25.1	25.0	24.7	-0.2%	-1.2%
Express	37.7	35.0	38.3	-7.1%	9.5%
Light Rail	241.4	205.7	215.1	-14.8%	4.6%
Urban Frequent	43.8	42.5	44.7	-2.9%	5.0%
Urban Standard	34.4	34.3	37.4	-0.4%	8.9%
Circulator	25.2	24.2	25.0	-3.9%	3.2%
Rural	5.6	5.5	7.9	-0.5%	42.8%
Demand-Responsive					
MTS System	**59.0**	**54.6**	**57.7**	**-7.5%**	**5.7%**

MTS

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On-Time Performance

85% for Urban Frequent, and 90% for all other route categories

	Service Changes					
Route Categories	Sept-09	Feb-10	June-10	Sept-10	Jan-11	June-11
Premium Express	99%	99%	100%	98%	98%	100%
Express	89%	84%	91%	84%	70%	71%
Light Rail	95%	94%	90%	90%	91%	92%
Urban Frequent	86%	85%	87%	85%	84%	82%
Urban Standard	87%	88%	90%	87%	84%	84%
Circulator	86%	86%	78%	80%	87%	90%
Rural	N/A	N/A	N/A	N/A	N/A	N/A
Demand-Responsive	N/A	N/A	N/A	N/A	N/A	N/A
MTS System	**88%**	**87%**	**88%**	**86%**	**84%**	**84%**
Express not incl. Route 960				87%	82%	88%

7

Mean Distance Between Failures

Improve operator average

Operator	FY 2010	FY 2011	Chg. 10-11
MTS Bus	5,248	6,781	29.2%
MTS Contract Services	14,081	13,751	-2.3%
MTS Rail	301,195	318,705	5.8%

8

Preventable Accidents per 100,000 Miles

Improve operator average

Operator	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
MTS Bus	1.76	1.73	1.58	-1.6%	-8.5%
MTS Contract Services	1.73	1.00	0.96	-42.4%	-3.6%
MTS Rail	0.00	0.01	0.00	N/A	-100%

9

Complaints per 100,000 Passengers

Improve operator average

Operator	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
MTS Bus	10.7	8.9	9.1	-16.6%	1.9%
MTS Contract Services FR	11.1	9.4	8.4	-14.9%	-11.2%
MTS Contract Services DR	N/A	N/A	N/A	N/A	N/A
MTS Rail	1.79	2.37	2.64	32.6%	11.2%

10

In-Service Miles

Not to exceed budget

Operator	FY 2011		Difference	
	Actual	Budget	Number	Percent
MTS Bus	8,156,701	8,156,456	245	0.0%
MTS Contract Service FR	9,202,377	9,220,263	-17,886	-0.2%
MTS Rail	7,518,512	8,172,920	-654,408	-8.0%

Revenue Hours

Not to exceed budget

Operator	FY 2011		Difference	
	Actual	Budget	Number	Percent
MTS Bus	751,800	751,979	-179	0.0%
MTS Contract Service FR	854,664	856,137	-1,473	-0.2%
MTS Rail	416,528	441,145	-24,617	-5.6%

(11)

Peak-Vehicle Requirement

Not to exceed budget

Operator	June 2010	June 2011	Chg 10-11
MTS Bus	195	196	+1
MTS Contract Services FR	242	243	+1
MTS Rail	94	94	0

(12)

Farebox Recovery Ratio

Meet TDA Requirement of 31.9% system-wide for fixed-route, excluding regional routes which only require 20%

Operator	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
MTS FR (No Prem Exp)	38.3%	38.0%	36.3%	-0.5%	-4.5%
Premium Express	46.4%	53.1%	49.2%	14.4%	-7.3%
MTS Rail	57.2%	55.3%	58.9%	-3.3%	6.5%
System	**43.9%**	**43.3%**	**43.0%**	**-5.5%**	**-0.8%**

Agency	Bus	Light Rail
NTD Top 50 Agencies	28.3%	28.5%
LA MTA	28.6%	20.7%
Sacramento	20.7%	31.9%
San Jose VTA	14.0%	14.8%
SFMTA	23.1%	18.7%

MTS

(13)

Subsidy per Passenger

Improve Route Category Average

Route Categories	FY 2009	FY 2010	FY 2011	Chg. 09-10	Chg. 10-11
Premium Express	$3.74	$3.50	$3.89	-6.5%	12.1%
Express	$2.19	$2.46	$2.42	12.5%	-1.3%
Light Rail	$0.68	$0.88	$0.77	29.2%	-12.6%
Urban Frequent	$1.32	$1.44	$1.50	9.2%	3.9%
Urban Standard	$1.50	$1.40	$1.31	-6.6%	-6.1%
Circulator	$2.46	$2.25	$2.66	-8.8%	18.3%
Rural	$23.50	$20.28	$15.67	-13.7%	-22.7%
Demand-Responsive	$25.92	$26.61	$31.04	2.7%	16.6%
Fixed-Route Bus Average	$1.43	$1.50	$1.52	4.6%	1.6%
MTS System	**$1.24**	**$1.38**	**$1.37**	**12.0%**	**-0.8%**

MTS

(14)

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
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Agenda Item No. 47

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

BUS YEAR-END REPORT (CLAIRE SPIELBERG)

RECOMMENDATION:

That the Board of Directors receive a report for information.

Budget Impact

None.

DISCUSSION:

This report provides a summary of combined fixed-route bus and paratransit operations in FY 11.

MTS Bus and Contract Services Operations Highlights

- Customer Service – Bus operator-related complaints continue to decrease due to management of all customer complaints and the operating retraining program.
- Safety – Preventable accident frequency decreased by 7.2% from FY 10 as a result of retraining efforts. For the fifth consecutive year, 300+ bus operators qualified for a Safe Driver Award by avoiding a preventable accident for an entire year. Seventy-one bus operators have attained a Safe Driver Award for all five years.
- Rock 'n' Roll Marathon – This year, MTS utilized 135 buses to serve this annual event.

ADA Paratransit Update

MTS executed contracts with First Transit to operate Americans with Disabilities Act (ADA) services and minibus services. In FY 2011, MTS purchased a centrally located facility at Copley Park Place in San Diego to consolidate the two operations at one location. The new arrangement is expected to achieve more than a $1 million annual operating savings. The new facility is fully operational.

South Bay Maintenance Facility Improvements

MTS purchased the abutting property to expand the South Bay Maintenance Facility to 10.6 acres. Improvements on the site began in October 2010, and the demolition phase is nearly finalized. When completed in 2013, this facility will have a newly constructed administration building, maintenance shop, and bus wash bays.

Maintenance Performance

In FY 2011, MTS Bus continued to face challenges with ongoing maintenance issues associated with its new articulated fleet and the engine that provides the propulsion for this vehicle. Staff negotiated with the manufacturer for extended warranty coverage for an additional year to replace cylinder heads and turbochargers and to make required software programming changes. If calculated levels of improvement on the five key areas are not met, the bus manufacturer will continue coverage for an additional year. Staff and the manufacturer have developed a Performance Plan to address performance issues and increase the reliability of this critically important subfleet of articulated vehicles.

Sharon Cooney

Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Claire Spielberg, 619.238.0100, Ext. 6400, claire.spielberg@sdmts.com

OCT13-11.47.BUS ANNUAL.SPIELBERG

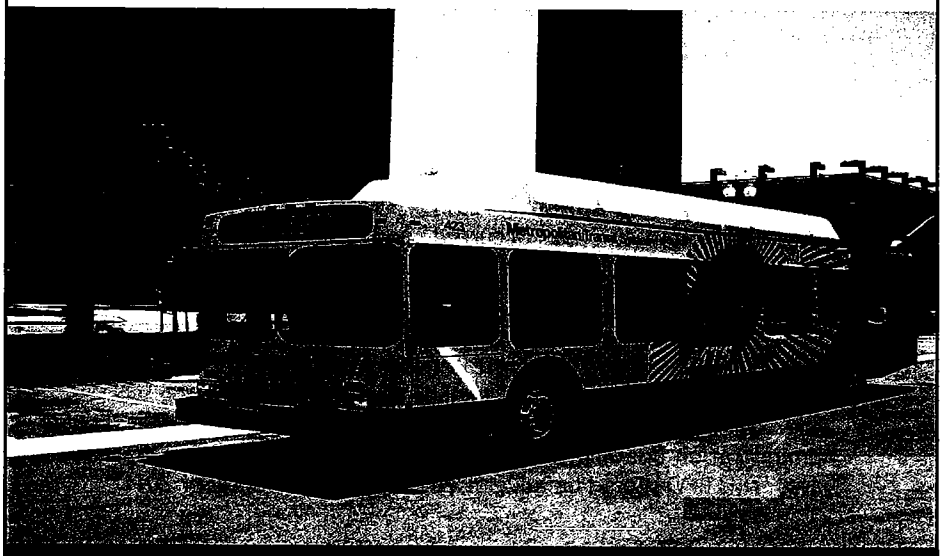
FY 2011 YEAR END

REPORT FOR MTS BUS

AND PARATRANSIT OPERATIONS

MTS

MTS Bus, Contract Services and Paratransit



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FY 11 Milestones

1. South Bay Maintenance Facility Improvements
2. MTS Bus and Contract Services Operational Issues
   - Improved Customer Service
   - Improved Safety
   - Achievement of the Most Passengers per Revenue Hour
   - Driver Recognition
3. Maintenance Performance
4. ADA Paratransit Update
5. On-Time Performance Task Force

South Bay Maintenance Facility

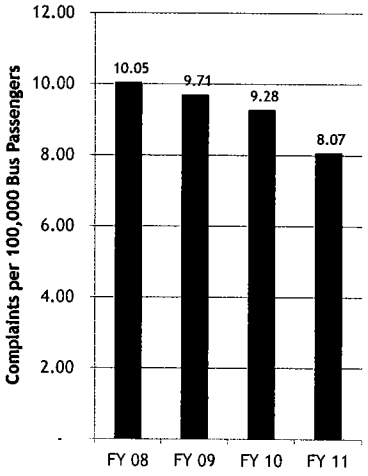
- This project began in October 2010 and the anticipated completion date is November 2011. At the present time, all planned demolition has occurred and the majority of the electrical site lighting and irrigation placement for future development is complete.
- SANDAG has developed the draft Request for Qualifications for the new SBMF complex which will include the demolition of the west wing of 3650A structure and the construction of a new Administration building, the new Maintenance shop and Bus Wash bays. This RFQ should be advertised by the end of October 2011.

Customer Service

Our management team reviews all complaints and ride check reports and we take every opportunity to re-invest in our employees through retraining to improve our image within the community.

This investment in retraining has provided a long term benefit of decreased passenger complaints regarding bus operator behaviors.

The chart measures the number of operator related complaints we received for every 100,000 passengers carried.



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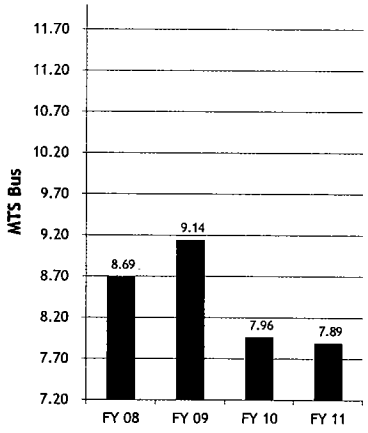
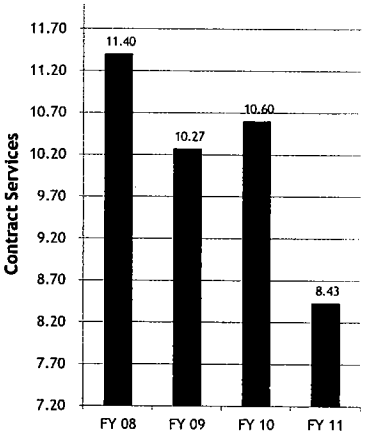
Complaint Comparison





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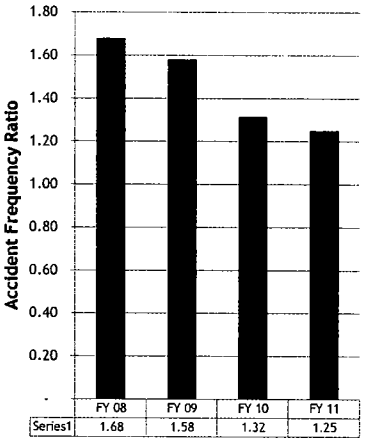
Safety on the Road

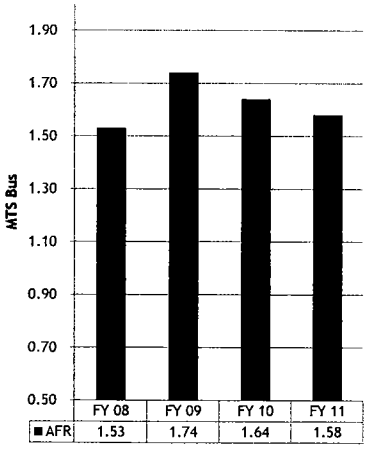
Our management team reviews all accident reports and complaints of aggressive driving. Based on our review, we will schedule bus operators for safety retraining which is conducted in the classroom and on the road.

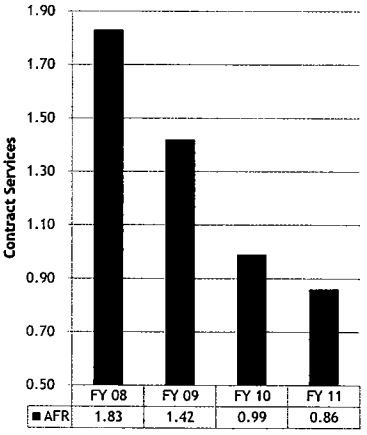
All operators must demonstrate full proficiency before being allowed to return to revenue service.

Our efforts resulted in a 7.2% reduction in preventable accidents.



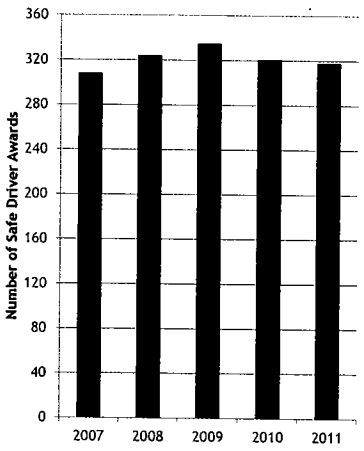
Accident Frequency Comparison





MTS Bus Safe Driver Award Program

- 318 bus operators qualified for the Safe Operator award for 2011 of that number 71 bus operators have achieved five years of driving without experiencing a preventable accident.
- All awardees will receive a patch denoting their achievement and our five year awardees will receive a specially designed patch to reflect this level of achievement.



MTS

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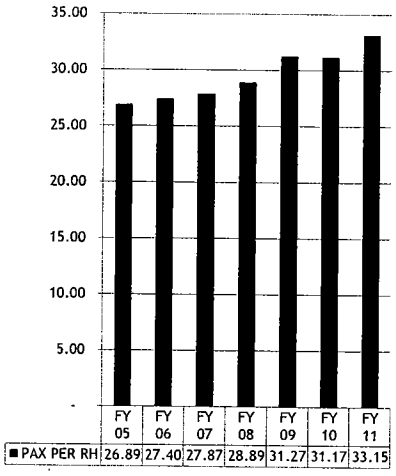
Passengers per Revenue Hour

The most useful measurement of any transit agency's productivity and efficiency is the number of passengers carried per revenue hour.

In the last five years, we have experienced a 21% increase in our passengers carried per revenue hour.

This accomplishment demonstrates our ability to retain our ridership base and our success in attracting new riders onto our service.

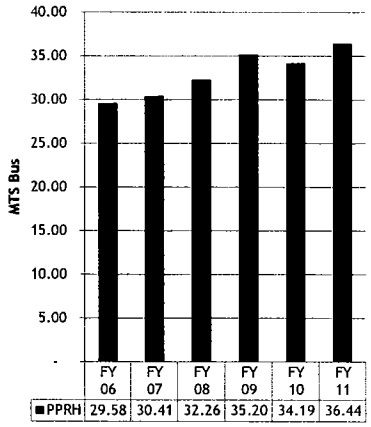


	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
PAX PER RH	26.89	27.40	27.87	28.89	31.27	31.17	33.15

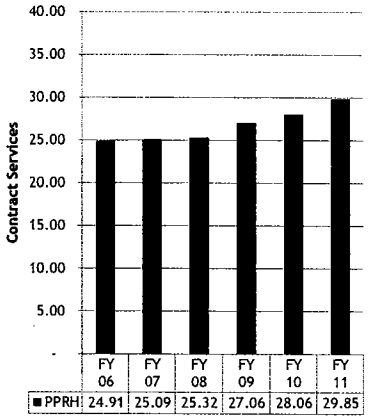
MTS

12

Passengers per Revenue Hour Comparison

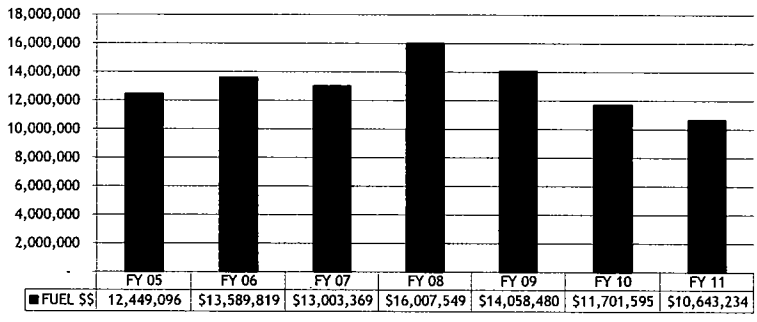


	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
PPRH	29.58	30.41	32.26	35.20	34.19	36.44



	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
PPRH	24.91	25.09	25.32	27.06	28.06	29.85

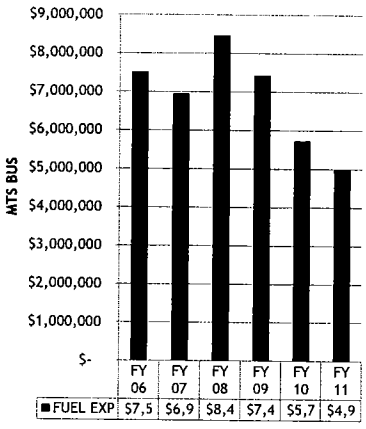
Fuel Expense

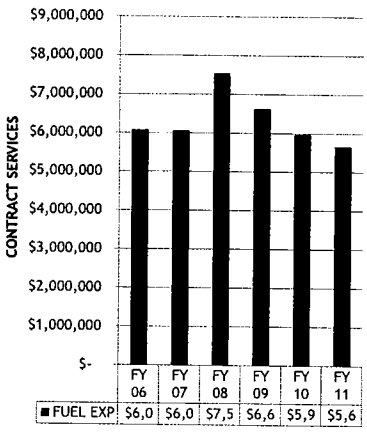


	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
FUEL $$	12,449,096	$13,589,819	$13,003,369	$16,007,549	$14,058,480	$11,701,595	$10,643,234

Fuel expenses in FY 11 decreased by 9%. Revenue miles decreased by 4.5% and diesel buses were replaced by CNG.

Fuel Comparison





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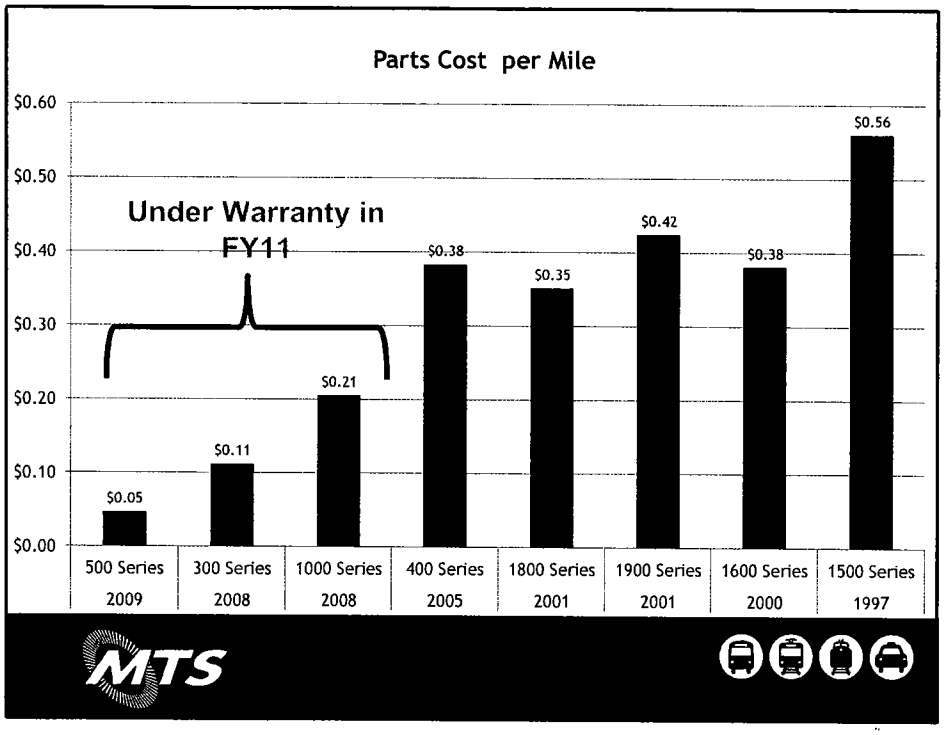
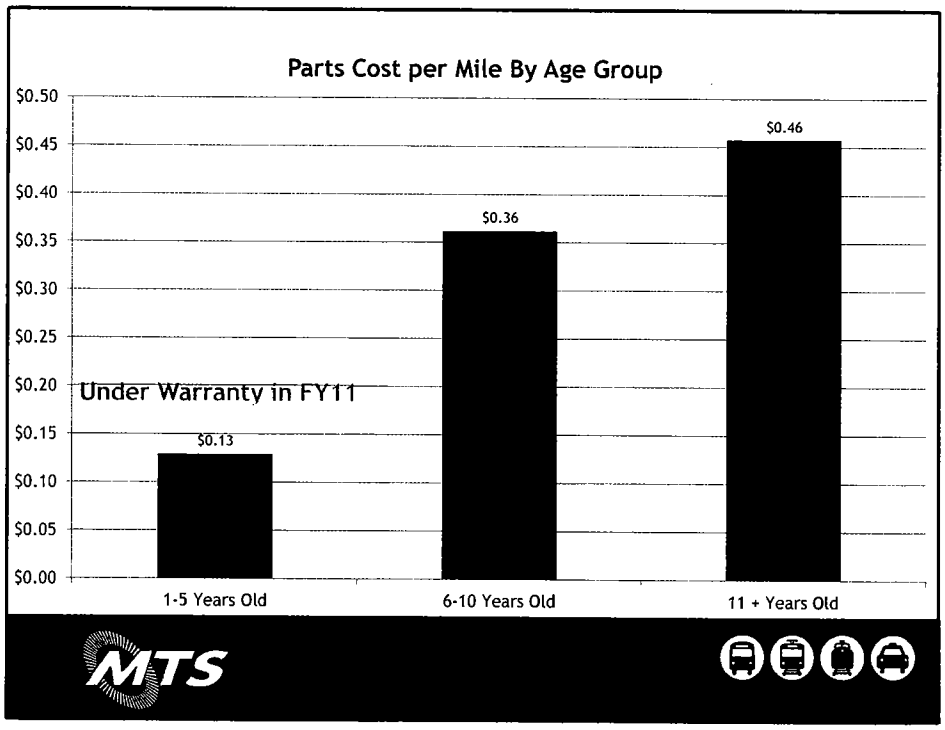
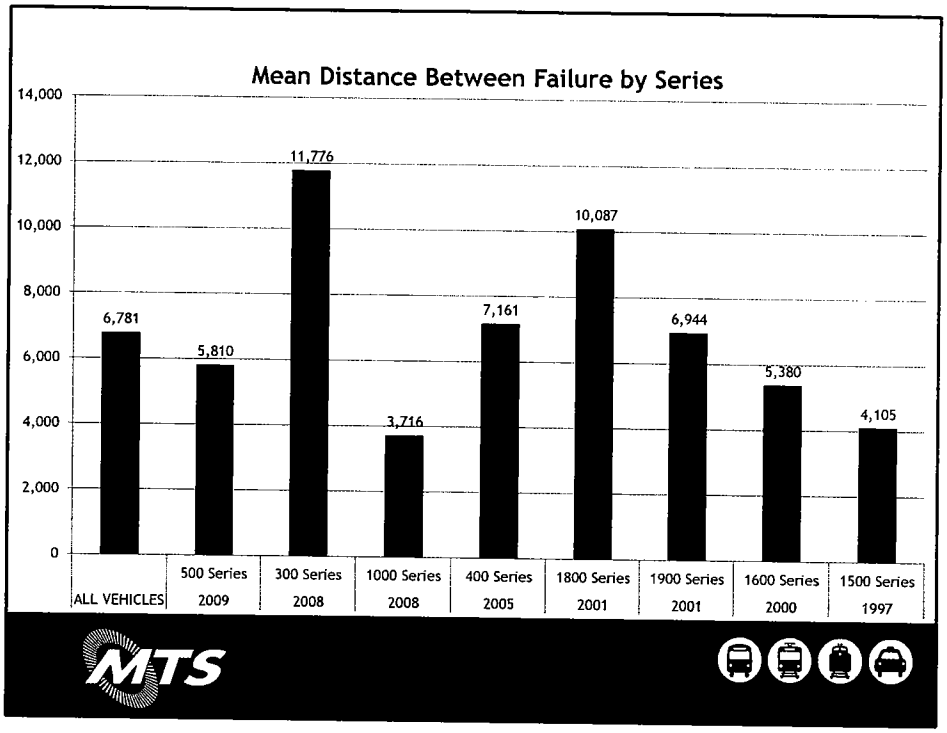
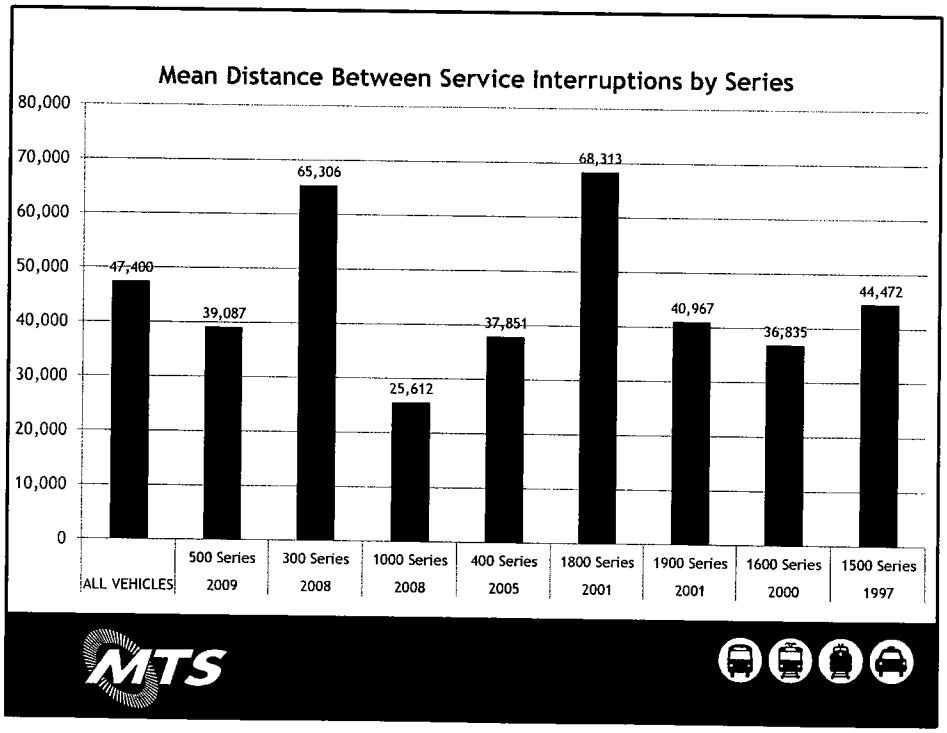
MTS Bus Vehicle Maintenance

MTS


Parts Cost per Mile
$0.60
$0.50
$0.40
$0.30
$0.20
$0.10
$0.00
Under Warranty in FY11
$0.05
$0.11
$0.21
$0.38
$0.35
$0.42
$0.38
$0.56
500 Series 2009
300 Series 2008
1000 Series 2008
400 Series 2005
1800 Series 2001
1900 Series 2001
1600 Series 2000
1500 Series 1997
MTS


Parts Cost per Mile By Age Group
$0.50
$0.45
$0.40
$0.35
$0.30
$0.25
$0.20
$0.15
$0.10
$0.05
$0.00
Under Warranty in FY11
$0.13
$0.36
$0.46
1-5 Years Old
6-10 Years Old
11 + Years Old
MTS


Mean Distance Between Failure by Series
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
6,781
5,810
11,776
3,716
7,161
10,087
6,944
5,380
4,105
ALL VEHICLES
500 Series 2009
300 Series 2008
1000 Series 2008
400 Series 2005
1800 Series 2001
1900 Series 2001
1600 Series 2000
1500 Series 1997
MTS


Mean Distance Between Service Interruptions by Series
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
47,400
39,087
65,306
25,612
37,851
68,313
40,967
36,835
44,472
ALL VEHICLES
500 Series 2009
300 Series 2008
1000 Series 2008
400 Series 2005
1800 Series 2001
1900 Series 2001
1600 Series 2000
1500 Series 1997
MTS

Fleet Concerns

- Mean Distance between Failures (MDBF) statistic was lower than expected due to the ongoing issues we are experiencing with the NABI fleet of articulated vehicles and the Cummins ISL engines.
- For FY 11, this subfleet experienced a mechanical failure every 3,716 miles.

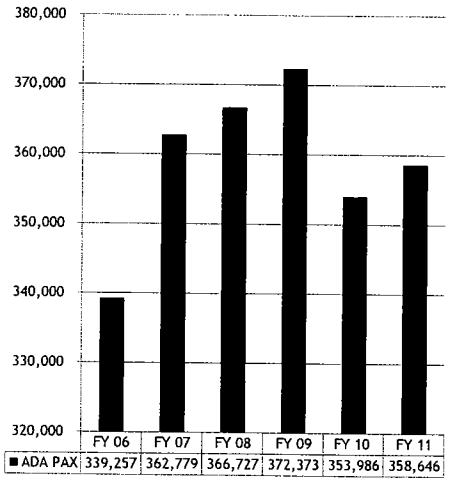
Extended Warranty

- Cummins engine campaigns have improved reliability and Cummins has extended warranty.
- NABI has extended warranty coverage for an additional year on five key areas with the highest percentage of failures.

MTS ACCESS - Our ADA Paratransit Service

ADA Paratransit Operations

- Ridership on MTS Access increased by 1.3% to 358,646 passengers.
- During this fiscal year, we moved into our new paratransit facility, the Copley Park Division located in Kearny Mesa. This location is better situated to provide service for our ADA population.
- First Transit provides total turn key paratransit service on behalf of MTS.



	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
ADA PAX	339,257	362,779	366,727	372,373	353,986	358,646

Copley Park Division

On Time Performance Task Force

- MTS Bus senior management and Veolia management met on a regular basis to study and improve on-time performance.
- We questioned every factor that might cause a bus to operate at variance to scheduled times.
- We have implemented campaigns to encourage riders to exit via the rear doors and we have campaigned to raise the seats in the wheelchair area to discourage their use by ambulatory passengers.
- We have also recognized the need to develop a formal policy regarding carts on buses since our bus aisles are jammed with mobility devices and grocery carts impeding the orderly flow of passengers.

Factors Influencing On Time Performance

SYSTEM MANAGEMENT	PASSENGERS	ENVIRONMENT
BUS OPERATORS	PHYSICAL ABILITY	WEATHER
SUPERVISORS	SYSTEM KNOWLEDGE	FREQUENCY OF STOPS
SCHEDULING	FARE TYPE	SIGNALIZED INTERSECTIONS
MAINTENANCE	CARRY-ONS	TRAFFIC/CONGESTION
PLANNING	VOLUME/LOADS*	WORK/SCHOOL
RESOURCES		SPECIAL EVENTS
MARKETING		OTHER TRENDS

* A result of environmental conditions

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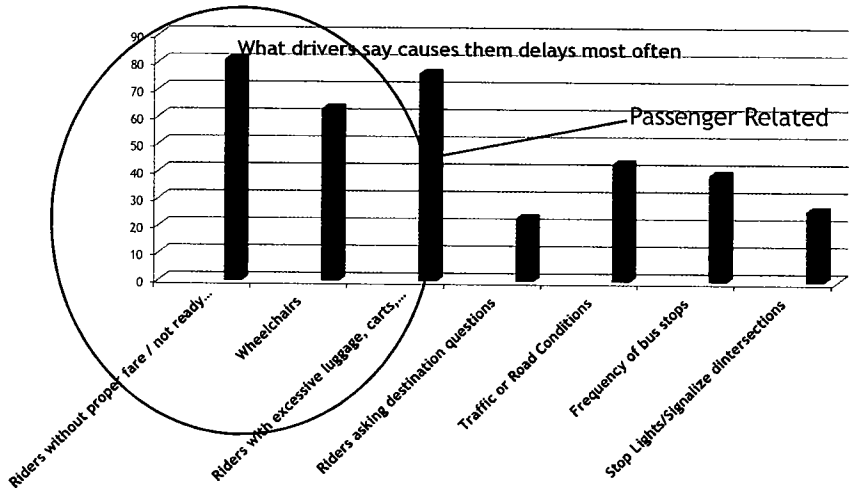
MTS Cause of OTP Delays



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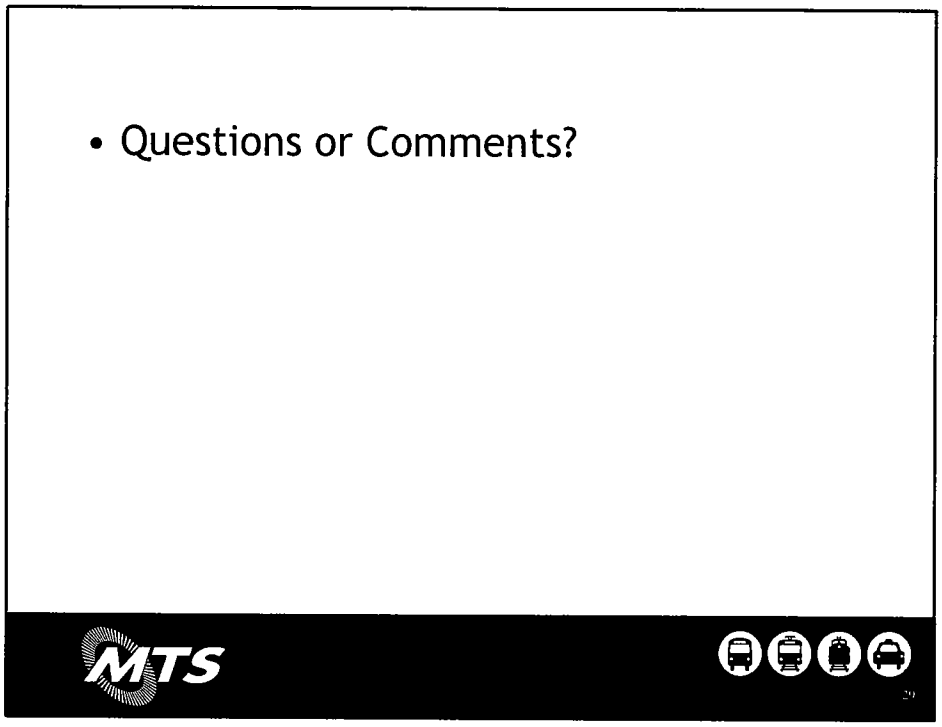
• Questions or Comments?
MTS

Metropolitan Transit System

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619.231.1466, FAX 619.234.3407

Agenda Item No. 48

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

FY 11 YEAR-END RAIL OPERATIONS REPORT (WAYNE TERRY)

RECOMMENDATION:

That the Board of Directors receive a report for information.

Budget Impact

None.

DISCUSSION:

This report provides information pertaining to the status of San Diego Trolley, Inc.'s (SDTI's) rail operations and maintenance for FY 11. An overview of statistical information will be presented followed by a brief discussion of accomplishments during the fiscal year.

TRANSPORTATION

Accidents Per 100,000 Train Miles

SDTI experienced an 8.7% decrease in accidents in FY 11 (21 vs. 23 in FY 10) and continues to rank favorably among the other light rail agencies in the state. During FY 11, there were 3,209,505 train miles operated. The total number of accidents during the fiscal year was 21 representing 0.65 accidents per 100,000 miles operated. Of these incidents, none involved a violation of the California Vehicle Code (CVC).

Operating Rule Infractions

SDTI experienced 85 operating rule infractions in FY 11 as opposed to 94 infractions in FY 10, which represents a 9.6% decrease. The Transportation Department, working with the Safety Manager, continues to evaluate individual incidents and causes, evaluate and track

trends, and modify training and recertification programs as necessary to improve staff skills and reduce the potential for an infraction.

Lift Service

Total wheelchair ridership during FY 11 reached 141,657 passengers representing a 17.6% increase over FY 10 (141,657 vs. 120,467). Disabled boardings on the Green Line where the S70 (low-floor) LRVs are operated are not included in these numbers as the low-floor boarding generally do not create station-stop delays. In FY 11, there was a reduction of 6% in "wheelchair bypasses" from FY 10 (3,838 vs. 4,077).

Special Events Service

During FY 11, SDTI provided service to 152 special events, including 85 Padres games, 10 Chargers games, the Holiday Bowl, the Poinsettia Bowl, Comic-Con, the Rock 'n' Roll Marathon, and Oktoberfest. Of these, it is estimated that 10%-20% used the trolley as their choice of transportation with as many as 25% for individual Chargers games. There were over 3,707 train trips operated to support special event service. Revenue from manual ticket sales was down 12% as compared to FY 10 ($833,445 vs. $951,610). Chargers game attendance was down 11.4% (10 games vs. 11 in FY 10), and average attendance was down 2% with a corresponding decrease in ridership as a percentage of the gate (22.7% vs. 23.1%).

Special Operations – South Line Wire Replacement Project

During FY 11, the Transportation Department developed and implemented seven distinct operating schedules to support 27 weekend track closures associated with the overhead wire replacement on the Blue Line. Successful completion of this project with minimum impact to trolley patronage involved a cooperative effort with the San Diego Transit Corporation (SDTC), Veolia (contract bus service), SDTI Wayside Maintenance Department, MTS Planning and Marketing staffs, the San Diego Association of Governments (SANDAG), and contractor personnel.

LRV MAINTENANCE DEPARTMENT

LRV Body Restoration Program

In FY 11, a total of 8 SD 100 LRVs received a full paint and body restoration. To date, 47 SD 100s have been restored. Currently there are four remaining SD 100 LRVs that have not been restored as they have been set aside for an advertising wrap. These LRVs will be restored in the regular FY 12 capital program cycle, which will complete the fleet.

LRV Door Failures

The LRV doors are the most heavily used piece of equipment on the system. The Maintenance Department maintains an aggressive preventative maintenance program to ensure the door mechanisms are properly serviced and proactively institutes fleet tasks to meet performance standards. In FY 11, there were more door failures reported than in FY 10 (890 vs. 653), and door failures per 100,000 car miles operated in FY 11 was 10.75 as compared to 7.53 in FY 10. The reason for the increase in failures is primarily due to excessive wear on the door and step barrier sensors on both the U-2 and SD 100 LRVs. In FY 11, 12 SD 100s were retrofitted with new and updated door light sensors bringing the total LRVs retrofitted to date to 17. This ongoing fleet task is necessary not only

because the original sensors are problematic and obsolete, they are no longer supported by the original equipment manufacturer.

Siemens S70US LRV Procurement

The LRV Maintenance Department continues to manage the design improvement and procurement process of 57 low-floor LRVs as part of the Blue Line Rehabilitation Project. With the first of the new sleek low-floor LRVs scheduled to arrive in the 1st quarter of FY 12, the project management of this procurement has proven to be extremely efficient with the Superintendent of LRV Maintenance (serving as the principle project manager for MTS) working directly with the project manager for the vehicle manufacturer.

Siemens/Utah Transit Authority – Wheel-Truing Project

In FY 11, Siemens contracted with MTS to perform wheel-truing services on 5 Utah Transit Authority (UTA) LRV truck and wheel assemblies. MTS provided this assistance due to the UTA having not retrofitted its wheel-truing equipment and the urgent need to resurface wheels that were damaged during vehicle testing. This project generated $8,653 in revenue for MTS.

Mendoza, Argentina – U-2 LRV Procurement

In FY 11, MTS contracted with the Province of Mendoza, Argentina, for the sale of 11 U-2 LRVs at a price of $3,325,003 ($300,000 per vehicle plus $2,273 per vehicle for disassembly). The initial 6 LRVs were shipped to Mendoza during FY 11 with the remaining 5 scheduled for delivery during the 2nd quarter of FY 12. In March 2011, a crew from the MTS LRV Maintenance Department was sent to Mendoza for two weeks to train and instruct Metrotranvia Mendoza staff on LRV reassembly procedures and standard maintenance practices. MTS management personnel also traveled to Mendoza for a five-day period to review and provide assistance in governance issues, operating plan development, management structure and operations, and maintenance training protocols.

REVENUE DEPARTMENT

In FY 11, the transactions between failures were 4,109, which surpassed the goal of 3,500. Twenty-five new Cubic fare vending machines were procured and deployed replacing the older VenTek machines. All staff received training on fiber equipment, which is presently being deployed system wide. All of the portable ticket vending trailers were also refurbished and painted during FY 11.

WAYSIDE MAINTENANCE DEPARTMENT

Maintenance programs and inspection activities specific to the track structure, safety, ride quality, signaling, grade-crossing safety, and general system maintenance continued throughout the year. These programs are initiated annually to ensure a safe operating environment is consistently maintained. The Maintenance Department continued to improve on its preventive maintenance programs with the implementation of training modules associated with signaling, traction power, and station electrical systems. An enhanced substation and catenary inspection program has significantly reduced the frequency of system failures involving these critical wayside components.

Blue Line Contact Wire Project

The Blue Line Contact Wire Project (the largest under-traffic endeavor in the 30-year history of the trolley) was completed by HMS Construction in FY 11. The Wayside Maintenance and Facilities Departments supported the contractor and bus-bridge operations during this project. In total, 32 miles of contact wire and associated hardware were replaced without delays to the weekday commuter operation.

Storm Recovery

On December 22, 2010, the system was hit with extreme rain and wind conditions resulting in significant flooding system wide—specifically in the Mission Valley corridor. The Wayside, Track, and Facilities Departments worked around the clock to restore service to Mission Valley and to maintain single-track operations between Grossmont Summit and El Cajon due to a mudslide and downed trees. The Facilities Department successfully reopened the Fashion Valley Transit Center and Qualcomm Stadium Station in time for the Poinsettia Bowl football game. Representatives from the Federal Emergency Management Agency (FEMA) toured the reported damage from the storm's aftermath, and MTS has filed a reimbursement claim with FEMA for qualifying damages.

Track Projects

In FY 11, 1,300 crossties were replaced on the Orange Line, and 6 miles of track were resurfaced system wide. Less track miles were resurfaced in FY 11 than the previous year (6 vs. 19) due to contractor-required track time during the Blue Line Contact Wire Project, which prevented the track crew from working during the contractor's work window.

ARM performed rail grinding services on the Mission Valley East line segment using a new European-style rail grinder, which allowed grinding within the station platform and grade-crossing areas. A significant amount of rail imperfections were removed creating a smoother and quieter ride. This was especially beneficial at America Plaza Station. Rail-detector services continue to be operated quarterly on the Blue Line focusing specifically on the 90-pound rail that is scheduled to be replaced as part of the comprehensive system-wide capital project.

Track Department personnel repaved the Iris Avenue and Beyer Blvd. Station platforms. Performing this work in-house resulted in a cost savings of over $10,000.

H&H Construction was contracted (using the job order contract [JOC] process) to eliminate slow orders at MP 17.25 west of Arnele Avenue Station, Main Street bridge approaches, west of Gillespie Field Station, west of Rio Vista Station on both main tracks. The track was distressed, cut, and welded to the correct temperature, the broken concrete plinth on the Fletcher Parkway Bridge was repaired, and a total of six slow orders were eliminated from the system during this fiscal year.

Facilities Projects

In FY 11, the Facilities Department repurposed a shelter from 12th & Imperial Station that was removed during the station renovation project. The shelter was refurbished and installed adjacent to the taxi zone at the El Cajon Transit Center. By using in-house resources and personnel, this project was accomplished for $3,324.99. Similarly, a shelter was repurposed from the Washington Street Station (renovation project) and refurbished for use at the San Diego Vintage Trolley Station stop at 12th and Imperial. The shelter was

refinished to coordinate with the Vintage Trolley theme, and the project was accomplished for $8,175.20.

Blue Line Rehabilitation Program/Orange Line Station Improvement Corridor

A series of major capital projects have been identified for the infrastructure renewal program, and transition to system-wide, low-floor rail service. The blueprint for the overall capital plan matured in FY 11, and a variety of projects have been advertised, awarded, or are in some phase of construction. The ongoing status of this project is reported regularly at MTS Executive Committee and Board meetings.

Master Concessionaire Services

This contract was bid, negotiated, and awarded in FY 10 to the existing master concessionaire (BriceHouse Kobey LLC). The terms and conditions of the new contract are structured more favorably to MTS than the previous contract. The revenue generated from this contract is based on a tiered rent split between MTS and the master concessionaire. The master concessionaire is responsible for advertising and contracting with vendors to occupy vendor kiosks at various MTS trolley stations. The master concessionaire is also responsible for securing advertising opportunities for displays on vendor kiosks at trolley stations—the revenue from advertising is subject to the same percentage split with MTS. The FY 11 goal for the master concessionaire program was to increase revenue by 200%, which was achieved at 310% (FY 11 $101,688 vs. FY 10 $32,772).

Sharon Cooney for

Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Wayne Terry 619.595.4906, wayne.terry@sdmts.com

OCT13-11.48.RAIL RPT.WTERRY

San Diego Trolley

FY 11 Year End Operating Report

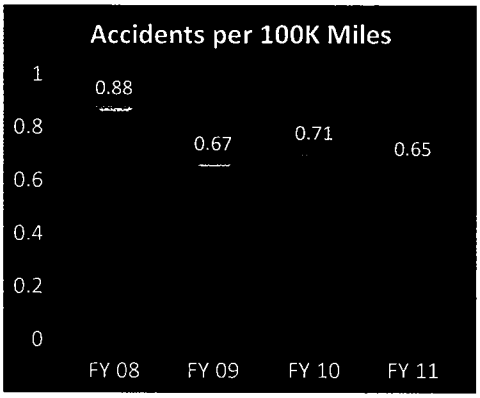
Board of Directors Meeting

Transportation Department

FY 11

TRAIN ACCIDENTS
FY 11

- Accidents: 21 (FY 11) vs. 23 (FY 10)
- SDTI compares favorably with other California LRT Agencies in Accidents per 100K Miles:
  - –Sacramento: 0.55
  - –LA Metro Blue and Gold Lines: 1.06
  - –San Jose VTA: 1.45



MTS

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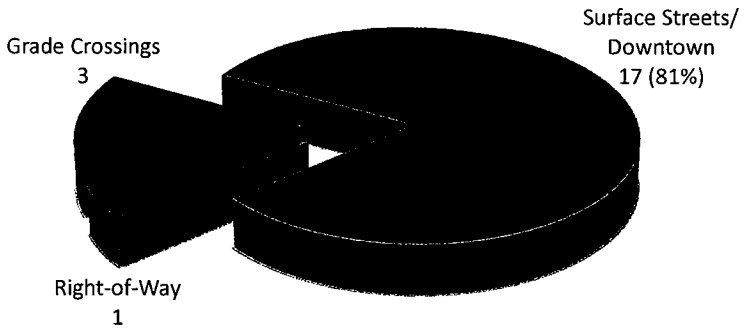
ACCIDENTS BY LOCATION
FY 11



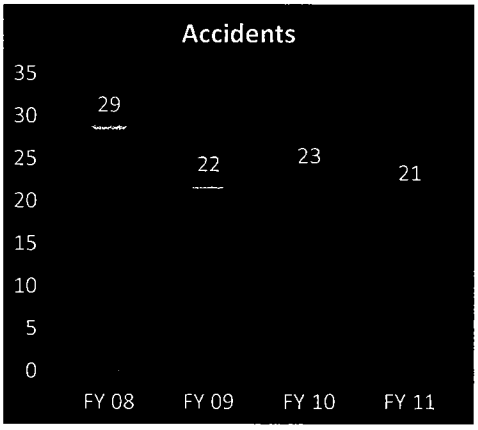
TOTAL FY 11 ACCIDENTS: 21

MTS

4

ACCIDENTS BY TYPE
FY 11

- Crossing Gate: 3
- Hit and Run: 0
- Train vs. Pedestrian / Trespasser: 2
- Traffic Signal / Stop Sign: 10
- Illegal Left: 4
- Illegal Right: 2
- No CVC Violations
- **Accident review committee**
- **Accident prevention training**



MTS

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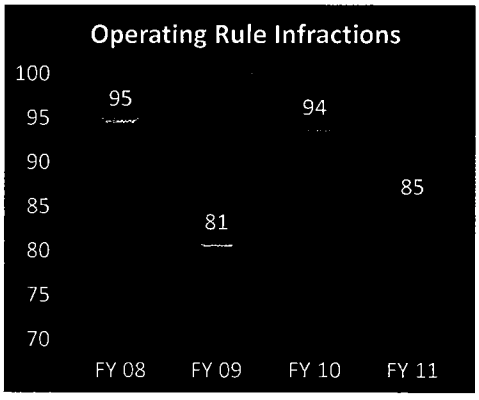
OPERATING RULE INFRACTIONS
FY 11

- Operating Rule Infractions: ↓ 9.6% from FY 10
- Reinstruction and progressive discipline practices
- Review and target developing trends
- Supervisor / Safety Manager onboard train observations
- Efficiency testing program



MTS

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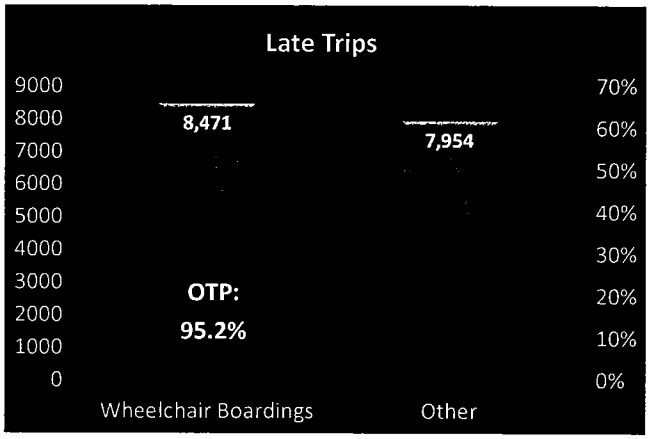
SCHEDULE ADHERENCE

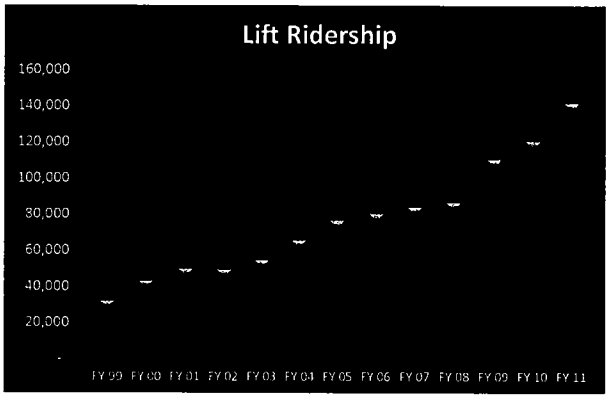
FY 11



LIFT SERVICE

FY 11

- Ricon lift on the U2 and SD100 LRVs is a slow, time-consuming operation
- FY 11 averaged 388 daily wheelchair boardings
- Wheelchair bypasses were reduced from 4,077 in FY 10 to 3,838 in FY 11



S70 LOW-FLOOR RAMP

FY 11

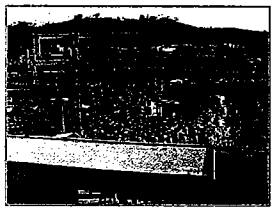
- More timely and user-friendly boarding
- Shorter station dwell times, with minimal impact to the service schedule
- Easily accommodates multiple wheelchair passengers, and others with disabilities
- The S70 LRV will accommodate up to eight wheelchairs per vehicle
- There have been no reportable boarding injuries using ramp on low-floor vehicles

MTS 10

SPECIAL EVENTS SERVICE

FY 11

- Special Events Serviced: 152
- Special Event Train Trips 3,707
- Special Events Service Revenue: $ 833,445



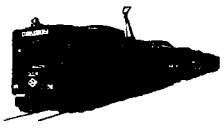
MTS 11

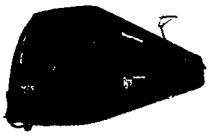
LRV Maintenance Department

FY 11

TRAIN MILES BETWEEN SERVICE FAILURES
FY 11

- Three series of Siemens Light Rail Vehicles each requiring specific training and a high degree of technical knowledge
- U2 LRV average mileage: 1.7M
- SD100 LRV average mileage: 900K
- S70 LRV average mileage: 480K
- Train miles between service failures: 188,794
- FY 10: 161,271

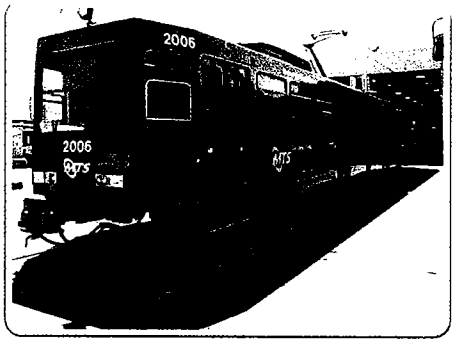




LRV RESTORATION PROGRAM

FY 11

- SD100 LRVs rehabilitated: 8
- Total SD100 LRVs rehabilitated to date: 47
- The remaining 4 SD100 LRVs will be rehabilitated in the FY 13 capital budget cycle



MTS

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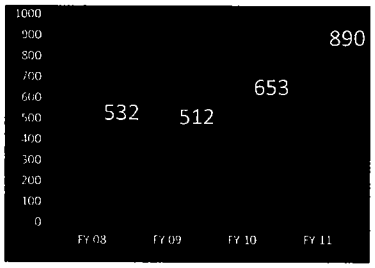
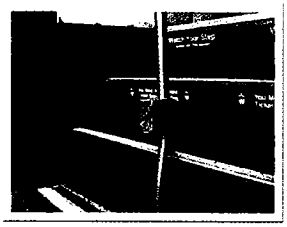
LRV DOOR FAILURES

FY 11



- Doors are most heavily used equipment on the vehicle
- Continuous fleet tasks performed for door adjustment
- Door / step sensor retrofit underway with 17 LRVs completed in FY 11



MTS

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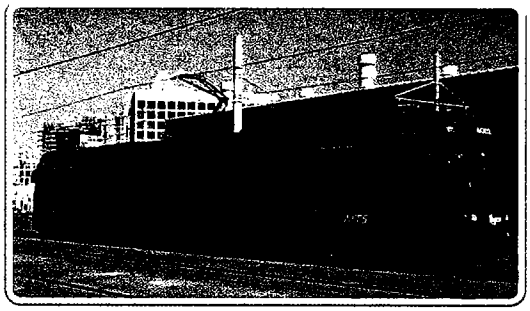
SIEMENS NEW S70 LRV PROCUREMENT
FY 11

- 57 S70 81-foot LRVs are in procurement and will begin to arrive 1st quarter of FY 12
- Project management team
- Improvements made from lessons learned on the 90-foot S70 LRV



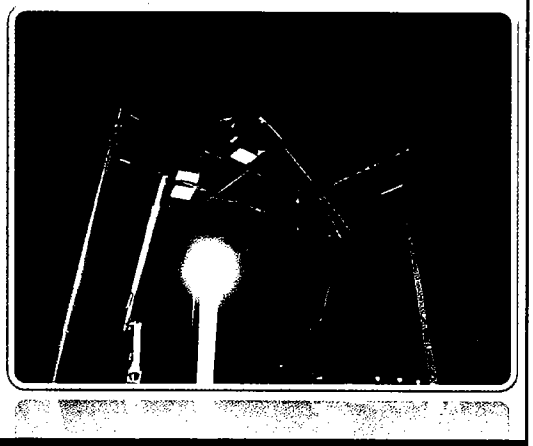
Wayside Maintenance Department

FY 11

BLUE LINE WIRE REPLACEMENT

FY 11

- Seven (7) distinct operating schedules
- Twenty-seven (27) weekend track closures
- Project finished ahead of schedule and under budget
- Project success: Wayside Maintenance, MTS Planning and Marketing, SDTC, Veolia contract services, SANDAG and an excellent contractor (HMS)



MTS

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STORM RECOVERY

FY 11 – Mission Valley

- California Emergency Management Agency (CalEMA)
- Emergency Funds reimbursement to MTS: $21,246 – Clean up only

MTS

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STORM RECOVERY

FY 11 – El Cajon Slope

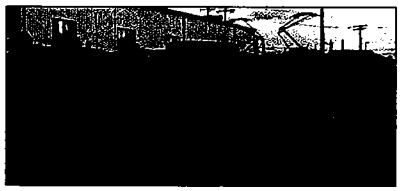
- California Emergency Management Agency (CalEMA)
- Emergency funds reimbursement to MTS: $21,246 – clean up only

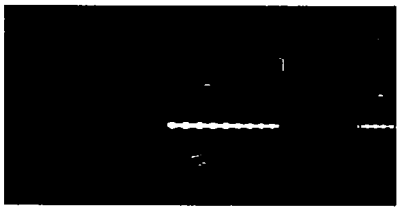
MTS

TRACK MAINTENANCE PROGRAM

FY 11

- Track tamped and regulated: 6 miles
- Blue Line contact wire replacement impacted tamping program
- Crossties replaced: 1,300





MTS

FACILITIES DEPARTMENT

- 12th and Imperial Vintage Trolley Station
- Shelter removed from Washington Street Station and refurbished in-house

FACILITIES DEPARTMENT

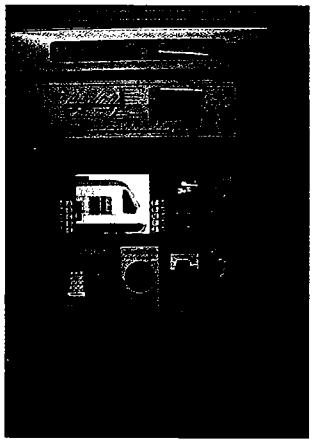
- El Cajon Station taxi stand
- Shelter removed from 12th & Imperial station and refurbished in-house

Revenue Department

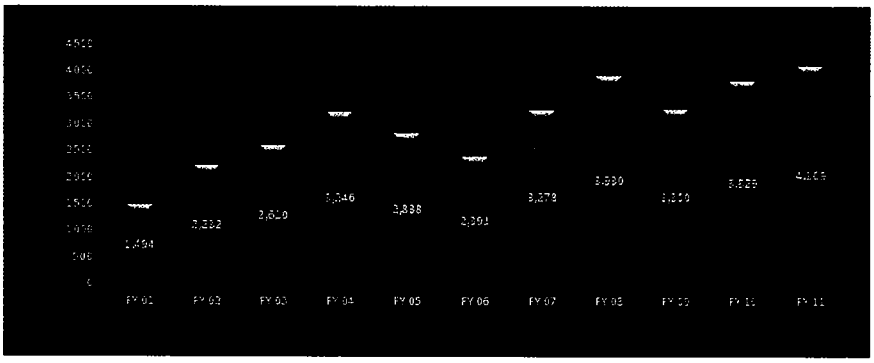
FY 11

Ticket Vending Machines

- 132 Cubic TVMs
  - Credit
  - Debit
  - Compass Card
  - 38 TVMs use fiber
- Fiber training



TRANSACTIONS BETWEEN FARE MACHINE FAILURES (GOAL – 3,500)

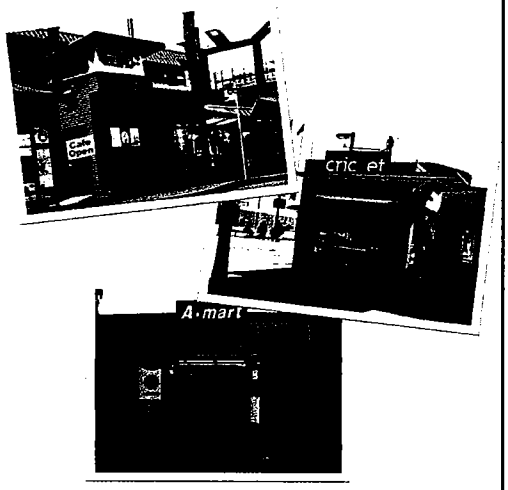


MASTER CONCESSIONAIRE UPDATE

- BriceHouse Kobey LLC
- FY 11 goal to increase revenue 200% over FY 10. Actual: 310%
- 9-year contract with MTS rent split: 50%, 57% and 62%
- Advertising revenue same as rent split

CONCESSION EXAMPLES

- Fashion Valley Transit Center vendor kiosk
- San Ysidro Transit Center Cricket cellular kiosk
- San Ysidro Transit Center A-Mart



MTS

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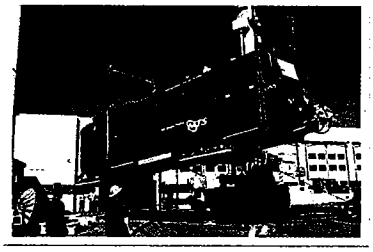
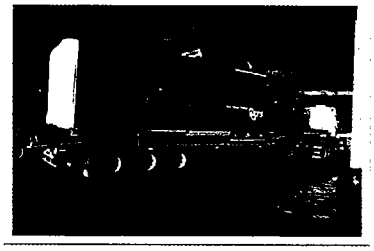
Mendoza, Argentina

- LRT start up in Mendoza
- Contracted for the purchase of 11 U2 LRVs at $300K per vehicle plus $2.2K for disassembly
- Exceptional vehicle maintenance and condition supported pricing
- The initial 6 LRVs were shipped in FY 11 and the remaining 5 will be shipped to coincide with the new MTS S70US LRV arrivals.
- In March 2011, LRV Maintenance staff provides training and vehicle reassembly in Mendoza.





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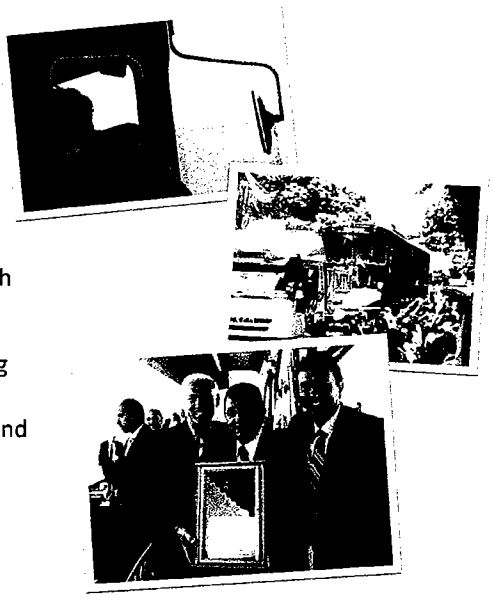
Mendoza - U2 LRVS



- MTS – Metrotranvia, partnership meetings held in Mendoza in March 2011
- Reviewed and advised on operating plan, staffing, training, start-up activities, management structure and governance-related matters.
- Their success is our success.

MTS

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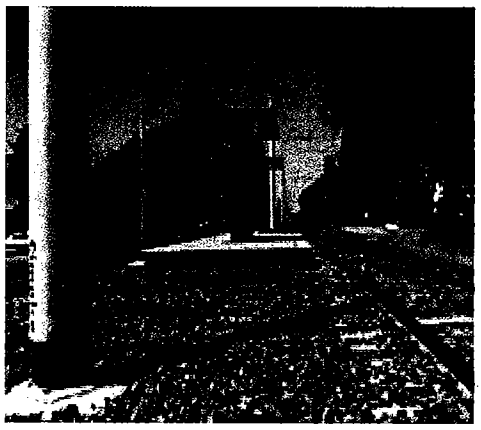
MTM, San Francisco Station, Mendoza, AR

- Westbound test train LRV 1001 with local dignitaries onboard



MTS

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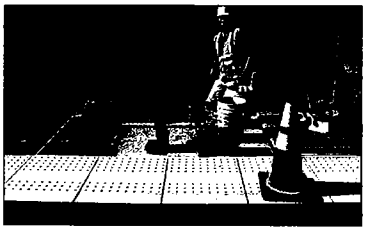
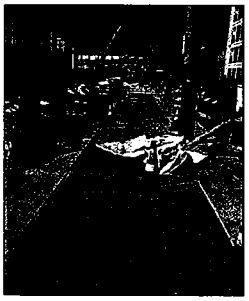
MAJOR CAPITAL PROJECTS FY 11

- Blue Line Contact Wire Replacement
- Blue Line Crossovers and Signaling
- Green Line Extension, Station Platforms
- Orange Line Station Platforms
- C Street Double Crossover (JOC)
- Euclid Avenue Track Replacement (JOC)



Washington Street Station



Imperial Transit Center

MTS

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Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
619.231.1466 FAX 619.234.3407

Agenda Item No. 49

MEETING OF THE METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

October 13, 2011

SUBJECT:

OPERATIONS BUDGET STATUS REPORT FOR AUGUST 2011 (MIKE THOMPSON)

RECOMMENDATION:

That the Board of Directors receive an MTS operations budget status report for August 2011.

Budget Impact

None at this time.

DISCUSSION:

This report summarizes MTS's operating results for August 2011 compared to the approved fiscal year 2012 budget. Attachment A-1 combines the operations, administration, and other activities results for August 2011. Attachment A-2 details the August 2011 combined-operations results, and Attachments A-3 to A-8 present budget comparisons for each MTS operation. Attachment A-9 details budget comparisons for MTS Administration, and A-10 provides August 2011 results for MTS's other activities (Taxicab/San Diego and Arizona Eastern Railway Company/debt service).

MTS NET-OPERATING SUBSIDY RESULTS

As indicated within Attachment A-1, the year-to-date August 2011 MTS net-operating subsidy favorable variance totaled $426,000 (2.0%). Operations produced a $35,000 (0.2%) favorable variance and the administrative / other activities areas were favorable by $391,000.

MTS COMBINED RESULTS

Revenues

Year-to-date combined revenues through August 2011 were $17,234,000 compared to the year-to-date budget of $16,907,000, which represents a $327,000 (1.9%) positive variance. This is due to a favorable variance within passenger revenue.

Expenses

Year-to-date combined expenses through August 2011 were $37,692,000 compared to the year-to-date budget of $37,791,000, which resulted in a $99,000 (0.3%) favorable variance.

Personnel Costs. Year-to-date personnel-related costs totaled $19,439,000 compared to a year-to-date budgetary figure of $19,022,000, which produced an unfavorable variance of $417,000 (-2.2%). This is primarily due to unfavorable year-to-date variances within transit service operations due to workers' compensation costs from historical claims.

Outside Services and Purchased Transportation. Total outside services for the first two months of the fiscal year totaled $12,097,000 compared to a budget of $12,507,000, which resulted in a year-to-date favorable variance of $410,000 (3.3%). This is primarily due to purchased transportation favorable variances within paratransit operations.

Materials and Supplies. Total year-to-date materials and supplies expenses totaled $1,259,000 compared to a budgetary figure of $1,242,000, which resulted in an unfavorable expense variance of $18,000 (-1.4%).

Energy. Total year-to-date energy costs were $3,998,000 compared to a budget of $3,980,000 resulting in a year-to-date unfavorable variance of $18,000 (-0.4%). Year-to-date energy rates are as follows:

- Diesel: cost per gallon was $3.29 versus a budgeted rate of $3.24.
- Gasoline: cost per gallon was $3.66 versus a budgeted rate of $3.84.
- CNG: cost per therm was $0.893 versus a budgeted rate of $0.892.

Risk Management. Total year-to-date expenses for risk management were $599,000, compared to the year-to-date budget $639,000 resulting in a favorable variance totaling $40,000 (6.3%).

General and Administrative. Year-to-date general and administrative costs, including vehicle and facilities leases, were $101,000 (25.1%) favorable to budget, totaling $300,000 through August 2011, compared to a year-to-date budget of $401,000. This is primarily due to favorable cost recovery within rail operations.

YEAR-TO-DATE SUMMARY

The August 2011 year-to-date net-operating subsidy totaled a favorable variance of 426,000 (2.0%). These factors include favorable variances in passenger revenue, outside services, general and administrative, and risk management, offset by unfavorable variances in other operating revenue, personnel costs, materials and supplies, and energy.

Sharon Cooney for

Paul C. Jablonski
Chief Executive Officer

Key Staff Contact: Mike Thompson, 619.557.4557, mike.thompson@sdmts.com

OCT13-11.49.OPS BUDGET AUG.MTHOMPSON

Attachment: A. Comparison to Budget

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

MTS
CONSOLIDATED
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 16,007	$ 15,655	$ 351	2.2%
Other Revenue	1,228	1,252	(24)	-1.9%
Total Operating Revenue	**$ 17,234**	**$ 16,907**	**$ 327**	**1.9%**
Personnel costs	$ 19,439	$ 19,022	$ (417)	-2.2%
Outside services	12,097	12,507	410	3.3%
Transit operations funding	-	-	-	-
Materials and supplies	1,259	1,242	(18)	-1.4%
Energy	3,998	3,980	(18)	-0.4%
Risk management	599	639	40	6.3%
General & administrative	199	284	85	29.9%
Vehicle/facility leases	101	117	16	13.5%
Amortization of net pension asset	-	-	-	-
Administrative Allocation	0	0	(0)	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 37,692**	**$ 37,791**	**$ 99**	**0.3%**
Operating income (loss)	**$ (20,458)**	**$ (20,883)**	**$ 426**	**2.0%**
Total public support and nonoperating revenues	**(129)**	**(166)**	**37**	**-22.3%**
Income (loss) before capital contributions	**$ (20,587)**	**$ (21,050)**	**$ 463**	**-2.2%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

OPERATIONS
CONSOLIDATED OPERATIONS
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 16,007	$ 15,655	$ 351	2.2%
Other Revenue	35	125	(90)	-72.1%
Total Operating Revenue	**$ 16,041**	**$ 15,780**	**$ 261**	**1.7%**
Personnel costs	$ 17,032	$ 16,463	$ (569)	-3.5%
Outside services	10,488	10,836	349	3.2%
Transit operations funding	-	-	-	-
Materials and supplies	1,257	1,237	(19)	-1.6%
Energy	3,909	3,862	(47)	-1.2%
Risk management	548	546	(2)	-0.4%
General & administrative	(8)	45	53	117.2%
Vehicle/facility leases	76	85	9	10.8%
Amortization of net pension asset	-	-	-	-
Administrative Allocation	4,024	4,024	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 37,325**	**$ 37,099**	**$ (226)**	**-0.6%**
Operating income (loss)	**$ (21,284)**	**$ (21,319)**	**$ 35**	**0.2%**
Total public support and nonoperating revenues	**602**	**555**	**47**	**8.5%**
Income (loss) before capital contributions	**$ (20,682)**	**$ (20,764)**	**$ 82**	**-0.4%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

OPERATIONS

TRANSIT SERVICES (SAN DIEGO TRANSIT CORPORATION)

COMPARISON TO BUDGET - FISCAL YEAR 2012

AUGUST 31, 2011

(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 4,698	$ 4,435	$ 263	5.9%
Other Revenue	2	3	(2)	-51.7%
Total Operating Revenue	**$ 4,700**	**$ 4,438**	**$ 262**	**5.9%**
Personnel costs	$ 11,557	$ 10,985	$ (572)	-5.2%
Outside services	289	348	59	17.0%
Transit operations funding	-	-	-	-
Materials and supplies	758	703	(55)	-7.9%
Energy	937	955	18	1.9%
Risk management	261	242	(19)	-8.0%
General & administrative	26	22	(4)	-16.9%
Vehicle/facility leases	39	40	2	4.4%
Amortization of net pension asset	-	-	-	-
Administrative Allocation	1,515	1,515	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 15,380**	**$ 14,809**	**$ (571)**	**-3.9%**
Operating income (loss)	**$ (10,681)**	**$ (10,371)**	**$ (309)**	**-3.0%**
Total public support and nonoperating revenues	**(325)**	**(372)**	**47**	**-12.6%**
Income (loss) before capital contributions	**$ (11,006)**	**$ (10,744)**	**$ (262)**	**2.4%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
OPERATIONS
RAIL OPERATIONS (SAN DIEGO TROLLEY, INCORPORATED)
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 6,602	$ 6,797	$ (195)	-2.9%
Other Revenue	33	122	(88)	-72.7%
Total Operating Revenue	**$ 6,635**	**$ 6,919**	**$ (284)**	**-4.1%**
Personnel costs	$ 5,169	$ 5,172	$ 3	0.1%
Outside services	603	615	12	2.0%
Transit operations funding	-	-	-	-
Materials and supplies	496	533	37	6.9%
Energy	1,456	1,469	12	0.8%
Risk management	285	304	20	6.4%
General & administrative	(34)	21	55	262.6%
Vehicle/facility leases	34	41	7	16.3%
Amortization of net pension asset	-	-	-	-
Administrative Allocation	2,247	2,247	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 10,256**	**$ 10,402**	**$ 145**	**1.4%**
Operating income (loss)	**$ (3,621)**	**$ (3,483)**	**$ (139)**	**-4.0%**
Total public support and nonoperating revenues	**-**	**-**	**-**	**-**
Income (loss) before capital contributions	**$ (3,621)**	**$ (3,483)**	**$ (139)**	**4.0%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

OPERATIONS
MULTIMODAL OPERATIONS (FIXED ROUTE)
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 3,900	$ 3,637	$ 263	7.2%
Other Revenue	-	-	-	-
Total Operating Revenue	**$ 3,900**	**$ 3,637**	**$ 263**	**7.2%**
Personnel costs	$ 76	$ 58	$ (18)	-30.9%
Outside services	6,797	6,861	64	0.9%
Transit operations funding	-	-	-	-
Materials and supplies	2	1	(1)	-147.6%
Energy	1,027	929	(98)	-10.5%
Risk management	-	-	-	-
General & administrative	0	1	0	50.6%
Vehicle/facility leases	3	3	1	21.5%
Amortization of net pension asset	-	-	-	-
Administrative Allocation	178	178	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 8,084**	**$ 8,031**	**$ (52)**	**-0.7%**
Operating income (loss)	**$ (4,183)**	**$ (4,394)**	**$ 211**	**4.8%**
Total public support and nonoperating revenues	**-**	**-**	**-**	**-**
Income (loss) before capital contributions	**$ (4,183)**	**$ (4,394)**	**$ 211**	**-4.8%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

OPERATIONS
MULTIMODAL OPERATIONS (PARATRANSIT)
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 319	$ 324	$ (6)	-1.8%
Other Revenue	-	-	-	-
Total Operating Revenue	**$ 319**	**$ 324**	**$ (6)**	**-1.8%**
Personnel costs	$ 19	$ 28	$ 9	33.5%
Outside services	1,670	1,873	203	10.8%
Transit operations funding	-	-	-	-
Materials and supplies	-	-	-	-
Energy	406	420	14	3.3%
Risk management	3	-	(3)	-
General & administrative	0	1	1	81.7%
Vehicle/facility leases	-	-	-	-
Amortization of net pension asset	-	-	-	-
Administrative Allocation	63	63	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 2,161**	**$ 2,385**	**$ 224**	**9.4%**
Operating income (loss)	**$ (1,842)**	**$ (2,061)**	**$ 219**	**10.6%**
Total public support and nonoperating revenues	-	-	-	-
Income (loss) before capital contributions	**$ (1,842)**	**$ (2,061)**	**$ 219**	**-10.6%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
OPERATIONS
CONSOLIDATED CHULA VISTA TRANSIT OPERATIONS
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ 488	$ 462	$ 26	5.6%
Other Revenue	-	-	-	-
Total Operating Revenue	**$ 488**	**$ 462**	**$ 26**	**5.6%**
Personnel costs	$ 23	$ 31	$ 8	27.1%
Outside services	947	958	11	1.2%
Transit operations funding	-	-	-	-
Materials and supplies	0	1	1	94.6%
Energy	83	90	7	7.6%
Risk management	-	-	-	-
General & administrative	-	0	0	-
Vehicle/facility leases	-	-	-	-
Amortization of net pension asset	-	-	-	-
Administrative Allocation	21	21	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 1,074**	**$ 1,101**	**$ 27**	**2.5%**
Operating income (loss)	**$ (586)**	**$ (639)**	**$ 53**	**8.3%**
Total public support and nonoperating revenues	**903**	**903**	**-**	**0.0%**
Income (loss) before capital contributions	**$ 317**	**$ 264**	**$ 53**	**20.1%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

OPERATIONS
CORONADO FERRY

COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ -	$ -	$ -	-
Other Revenue	-	-	-	-
Total Operating Revenue	**$ -**	**$ -**	**$ -**	**-**
Personnel costs	$ -	$ -	$ -	-
Outside services	26	26	-	0.0%
Transit operations funding	-	-	-	-
Materials and supplies	-	-	-	-
Energy	-	-	-	-
Risk management	-	-	-	-
General & administrative	-	-	-	-
Vehicle/facility leases	-	-	-	-
Amortization of net pension asset	-	-	-	-
Administrative Allocation	-	-	-	-
Depreciation	-	-	-	-
Total Operating Expenses	**$ 26**	**$ 26**	**$ -**	**0.0%**
Operating income (loss)	**$ (26)**	**$ (26)**	**$ -**	**0.0%**
Total public support and nonoperating revenues	**24**	**24**	**-**	**0.0%**
Income (loss) before capital contributions	**$ (3)**	**$ (3)**	**$ -**	**0.0%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
ADMINISTRATION
CONSOLIDATED
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ -	$ -	$ -	-
Other Revenue	1,129	1,054	76	7.2%
Total Operating Revenue	**$ 1,129**	**$ 1,054**	**$ 76**	**7.2%**
Personnel costs	$ 2,299	$ 2,446	$ 147	6.0%
Outside services	1,628	1,644	16	1.0%
Transit operations funding	-	-	-	-
Materials and supplies	2	4	2	49.8%
Energy	87	116	29	24.6%
Risk management	47	88	41	46.7%
General & administrative	188	221	33	14.7%
Vehicle/facility leases	25	32	7	20.7%
Amortization of net pension asset	-	-	-	-
Administrative Allocation	(4,040)	(4,040)	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 236**	**$ 510**	**$ 274**	**53.7%**
Operating income (loss)	**$ 893**	**$ 544**	**$ 350**	**-64.3%**
Total public support and nonoperating revenues	**(731)**	**(721)**	**(10)**	**1.4%**
Income (loss) before capital contributions	**$ 163**	**$ (177)**	**$ 340**	**-191.7%**

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

OTHER ACTIVITIES
CONSOLIDATED
COMPARISON TO BUDGET - FISCAL YEAR 2012
AUGUST 31, 2011
(in $000's)

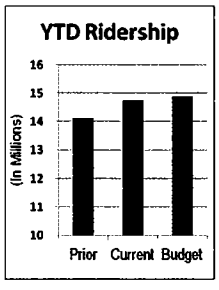
	YEAR TO DATE			
	ACTUAL	BUDGET	VARIANCE	% VARIANCE
Passenger Revenue	$ -	$ -	$ -	-
Other Revenue	63	73	(10)	-13.5%
Total Operating Revenue	**$ 63**	**$ 73**	**$ (10)**	**-13.5%**
Personnel costs	$ 109	$ 113	$ 4	3.7%
Outside services	(19)	27	45	169.2%
Transit operations funding	-	-	-	-
Materials and supplies	1	0	(0)	-35.6%
Energy	2	2	0	21.1%
Risk management	4	6	2	29.9%
General & administrative	18	18	(0)	-2.3%
Vehicle/facility leases	-	-	-	-
Amortization of net pension asset	-	-	-	-
Administrative Allocation	16	16	-	0.0%
Depreciation	-	-	-	-
Total Operating Expenses	**$ 131**	**$ 182**	**$ 51**	**28.1%**
Operating income (loss)	**$ (67)**	**$ (108)**	**$ 41**	**38.0%**
Total public support and nonoperating revenues	-	-	-	-
Income (loss) before capital contributions	**$ (67)**	**$ (108)**	**$ 41**	**-38.0%**

Metropolitan Transit System
FY 2012 - August 2011
Financial Review

MTS Board of Directors Meeting
October 13, 2011

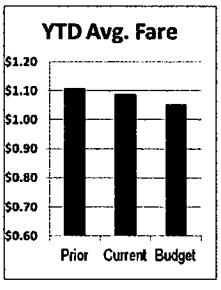
COMBINED MTS TRANSIT OPERATORS
COMPARISON TO BUDGET - AUGUST 31, 2011 - FY 2012
(in $000's)

	ACTUAL	BUDGET	VARIANCE	VAR. %
Fare Revenue	$ 16,007	$ 15,655	$ 351	2.2%
Other Revenue	35	125	(90)	-72.1%
Total Operating Revenue	**$ 16,041**	**$ 15,780**	**$ 261**	**1.7%**



Ridership Comparison
- Budget: 1.0% lower
  - ($154K) negative variance
- Prior Year: 4.5% higher

Average Fare Comparison
- Budget: 3.3% higher
  - $506K positive variance
  - $1.087 versus $1.053 budgeted
- Prior Year: -1.8% lower
  - $1.087 versus $1.108



COMBINED MTS TRANSIT OPERATORS
COMPARISON TO BUDGET - AUGUST 31, 2011 - FY 2012
(in $000's)

	ACTUAL	BUDGET	VARIANCE	VAR. %
Personnel Costs	$ 17,032	$ 16,463	$ (569)	-3.5%
Purchased Transportation	9,166	9,367	201	2.1%
Other Outside Services	1,321	1,469	148	10.1%
Energy	3,909	3,862	(47)	-1.2%
Other Expenses	5,897	5,937	40	0.7%
Total Expenses	**$ 37,325**	**$ 37,099**	**$ (226)**	**-0.6%**

Personnel
- Bus operations: $572K unfavorable variance

Purchased Transportation
- Paratransit Operations: $203K favorable variance

Other Outside Services
- Engines and Transmissions: $75K favorable variance

3

METROPOLITAN TRANSIT SYSTEM
COMPARISON TO BUDGET - AUGUST 31, 2011 - FY 2012
TOTAL OPERATING REVENUE LESS EXPENSES ($000's)

Combined Net Operating Variance		
MTS Operating Revenue	$ 261	
MTS Operating Expenses	(226)	
Combined MTS Operators		$ 35
MTS Administration / Other Activities		391
Total Combined Net Operating Variance		**$ 426**

4

METROPOLITAN TRANSIT SYSTEM

COMPARISON TO BUDGET - AUGUST 31, 2011 - FY 2012

ON-GOING CONCERNS DASHBOARD

	FY12 Budget	FY12 YTD Actual	FY12 Projection	Status
Sales Tax Subsidy Revenue	4.0%	5.7%	4.0%	Y
Energy Prices				
CNG	0.892	0.893	0.892	
Diesel	3.240	3.289	3.240	Y
Gas	3.840	3.661	3.840	
Passenger Levels	86.8 M	14.7 M	86.8 M	Y
State of California Budget	0	0	0	Y

G Positive Y Holding R Negative

Metropolitan Transit System
FY 2012 - August 2011
Financial Review

MTS Board of Directors Meeting

October 13, 2011

Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

Agenda

Item No. 62

Chief Executive Officer's Report

ADM 121.7

October 13, 2011

In accordance with Board Policy No. 52, Procurement of Goods and Services, attached are listings of contracts, purchase orders, and work orders that have been approved within the CEO's authority (up to and including $100,000) for the period September 1, 2011, through September 29, 2011.

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EXPENSE CONTRACTS

Doc #	Organization	Subject	Amount	Day
G1402.0-12	DOCUFLOW SOLUTIONS, INC	MAINT REPAIR 1 YR COLOR COPIER COPY RM	$3,260.00	9/8/2011
G1404.0-12	GCAP SERVICES	DBE AND/OR LABOR COMPLIANCE SERVICES	$100,000.00	9/8/2011
G1398.0-12	MORSE GIESLER CALLISTER & KARL	LEGAL SERVICES GENERAL & TORT LIABILITY	$20,000.00	9/12/2011
G1399.0-12	PRIZM JANITORIAL SERVICES	FASHION VALLEY TRANSIT CTR DRIVER RESTRM	$43,924.10	9/22/2011

REVENUE CONTRACTS

Doc #	Organization	Subject	Amount	Day
L1031.0-12	SIEMENS INDUSTRY, INC	LEASE AG OFF SPACE 12 S 13TH BLDG A	($350.00)	9/1/2011
S200-12-503	KEHOE TESTING & ENGINEERING	ROE PERMIT GEOTECH TESTING SVCS SANDAG	$0.00	9/1/2011
S200-12-501	LEIGHTON CONSULTING INC	ROE PERMIT GEOTECH SVCS ORANGE/BLUE LINE	$0.00	9/8/2011
L1035.0-12	AGUIRRE ENGINEERING INC	ROE PERMIT LAND SURVEY SVCS SANDAG	$0.00	9/12/2011
S200-12-500	HNTB CORP	ROE PERMIT DESIGN CONS TRACTION POWER	$0.00	9/12/2011
S200-12-504	PACIFIC DRILLING CO	ROE PERMIT GEOTECH BORE & DRILLING SVCS	$0.00	9/12/2011
G1403.0-12	SAN DIEGO CHARGERS	AGREE FOR CHARGERS SD 100 TROLLEY WRAP	$0.00	9/19/2011
L1039.0-12	SDGE	ROE PERMIT ELECTRICAL SVC UPGRADES SANDA	$0.00	9/19/2011
L1034.0-12	CALTRANS/CHIEF DIV RAIL	CONSTRUCT PACIFIC SURFLINER RR XOVERS	$0.00	9/22/2011
L1036.0-12	CH2M HILL INC	ROE PERMIT ENGINEERING SUPPORT SVCS	$0.00	9/29/2011
L1037.0-12	SIMON WONG ENGINEERING INC	ROE PERMIT ENGINEERING SUPPORT SVCS	$0.00	9/29/2011
L1038.0-12	NINYO MOORE	ROE PERMIT GEOTECH ENG SUPPORT SVCS	$0.00	9/29/2011

PURCHASE ORDERS

DATE	PO NUMBER	Organization	Subject	AMOUNT
9/12/2011	3055	MAINTEX INC	PURCHASE 1 WALK BEHIND FLOOR SCRUBB	$10,500.00
9/12/2011	3052	CDW GOVERNMENT INC	HP 1 GB ETHERNET PASS-THRU MODULE	$2,470.30
9/12/2011	3053	EN POINTE TECHNOLOGIES SALES	CISCO 2811 INTEGRATED SVC ROUTER	$1,652.53
9/15/2011	3059	CUBIC TRANSPORTATION SYSTEMS	POLE DISPLAY RS 232 12V GY	$2,119.78
9/15/2011	3058	IACCESS INC	HID CARDS FOR H/R DEPT	$2,747.63
9/15/2011	3057	SAN DIEGO SWEEPING	SABRE SPRING, BERNRDO, LAGO SWEEP	$2,292.00
9/19/2011	PW001065	NEAL ELECTRIC CORP	MATERIAL VISUAL MESSAGING DEMO	$4,268.89
9/19/2011	3056	SAP AMERICA INC	ANNUAL SOFTWARE MAINT AND SUPPORT	$7,854.48
9/19/2011	PW001066	COMMUNICATION WIRING SPECIALS	LABOR EST TIME 450 HRS @$52,00 HR	$32,289.38
9/22/2011	3054	ASPARIAN LLC	REMOTE DBA SVCS FOR MTS DATABASE	$2,500.00
9/22/2011	3060	CDW GOVERNMENT INC	HARD DRIVE HP PART 17223329	$1,826.50

MTS Metropolitan Transit System

AGENDA ITEM NO. 3

REQUEST TO SPEAK FORM

ORDER REQUEST RECEIVED 2

PLEASE SUBMIT THIS COMPLETED FORM (AND YOUR WRITTEN STATEMENT) TO THE CLERK OF THE BOARD PRIOR TO DISCUSSION OF YOUR ITEM

1. INSTRUCTIONS
   This Request to Speak form must be filled out and submitted in advance of the discussion of your item to the Clerk of the Board (please attach any written statement to this form). Communications on hearings and agenda items are generally limited to three minutes per person unless the Board authorizes additional time; however, the Chairperson may limit comment to one or two minutes each if there are multiple requests to speak on a particular item. General public comments on items not on the agenda are limited to three minutes. Please be brief and to the point. No yielding of time is allowed. Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

(PLEASE PRINT)

DATE 10/15/11	
Name	Rhonda Ciardetti
Address	9910 Loren Dr.
Telephone	(619) 303-6999
Organization Represented	Self / resident LA MESA
Subject of Your Remarks	Noise Element Trolley
Regarding Agenda Item No.	not on agenda / Public Speaking
Your Comments Present a Position of:	☐ SUPPORT ☑ OPPOSITION

2. TESTIMONY AT NOTICED PUBLIC HEARINGS
   At Public Hearings of the Board, persons wishing to speak shall be permitted to address the Board on any issue relevant to the subject of the Hearing.

3. DISCUSSION OF AGENDA ITEMS
   The Chairman may permit any member of the public to address the Board on any issue relevant to a particular agenda item.

4. GENERAL PUBLIC COMMENTS ON MATTERS NOT ON THE AGENDA
   Public comment on matters not on the agenda will be limited to five speakers with three minutes each, under the Public Comment Agenda Item. Additional speakers will be heard at the end of the Board's Agenda.

NOTE: Subjects of previous hearings or agenda items may not again be addressed under General Public Comments.

Rhonda Ciardetti 9410 Loren Dr. La Mesa CA 91942 rciardetti@cox.net Phone (619)303-6999

MTS 9/30/2011
To Whom It May Concern at Metropolitan Transit System –San Diego County and letter has been previously sent to: Chris Jacobs, Senior Planner City of La Mesa

Regarding: **NOISE ELEMENT**- Request for noise reduction of trolley for environment and community improvement in residential area. **Location Description**: Loren Dr. Slope near Trolley Tracks (see attached map) Double track trolley operates adjacent to Water St. between Severin Dr. and Murray Dr. La Mesa 91942

Please see the attachments: Map of Area, Trolley Route, and the La Mesa Noise Element Background Study 1989 with map of decibel levels identifying the area for noise over 20 years ago. There are two trolleys now and double tracks, more frequent trips, and longer hours of operation.

1) Request trolley and environment noise reduction funded by one or more of the following: a grant, the City of La Mesa, County, State, Airport Authority, MTS-Metropolitan Transit System, Federal, community improvement funding, environment program funding, noise abatement funds, energy conservation funding, and/or other available program funding.

- An additional trolley rail was installed since the attached noise and decibel 1989 study. Trolleys turn around from end of line in a few minutes. Noise is from: Orange Line and Green Line Trolleys.
- Sleep is impacted. Hours of operation and low ridership questioned. The trolley operates approx. 21hrs per day and residents feel this is excessive. Trolley squeals can be heard on Loren Dr., adjoining streets to Loren Dr.
- Residence cannot enjoy saving energy as they are not able to cool homes by opening doors and windows. The trolley is costing residence money and unnecessary utility use.
- Recreation is impacted due to noise. The trolleys emit different levels of squeals and rail noise that travels from the tracks to the community. The sound waves travel like rushing water up the slope from Loren Dr. to streets and homes.
- This area impacted by trolley noise has churches, schools, and parks. There is a hospice on Loren Dr.
- There are numerous parcels impacted with excessive noise.
- The community also contends with noise of interstate 8, highway 125, and Helispot- airway- helicopters.

Community improvement to this noisy situation is desired. The neighborhood could be made more beautiful with a sound barrier or rail tunnel that holds art murals. The residence could enjoy life better if trolley sound was reduced. I would appreciate a resolution and look forward to hearing from you. Please let me know what else you need from me for this request.

Sincerely,

Rhonda Ciardetti 9/30/11

Enclosure 3(s) 1989 La Mesa Noise Element: and Decibels page (found on the City of La Mesa web site), MTS Trolley Map, and Map of Area.

CITY OF
LA MESA
JEWEL of the HILLS

COMMUNITY DEVELOPMENT DEPARTMENT

October 3, 2011

Rhonda Ciardetti
9410 Loren Drive
La Mesa, CA 91942

Re: San Diego Trolley

Dear Ms. Ciardetti:

Thank you for contacting the City of La Mesa Community Development Department regarding your concern about noise from the San Diego trolley. The trolley is operated by San Diego Trolley, Inc., a subsidiary of the San Diego Metropolitan Transit System (MTS). The San Diego Trolley began service in 1981 and currently has three lines, which are the Blue, Orange, and Green lines. The Amaya Drive trolley station, located to the northwest of your property, is serviced by the Orange and Green lines. The trolley tracks are located behind your property to the northeast of Loren Drive. As we discussed on the telephone yesterday, the Metropolitan Transit System web site address is www.sdmts.com. From the web site, you may contact MTS customer service directly.

You have expressed an interest in having operational noise from the San Diego trolley reduced. As I stated to you yesterday on the telephone, this may be difficult to accomplish. Extension of trolley lines were subject to the requirements of the California Environmental Quality Act (CEQA). The CEQA documents prepared for the trolley have long since been circulated for public review and comment and approved by the decision making bodies.

In the correspondence that you submitted to the Community Development Department on September 29th, a copy of the La Mesa Noise Element Background Report dated June 1989 was attached. Please be aware that the Community Development Department is working on an update to the La Mesa General Plan, including a new Noise Element. Public review of the first draft of the General Plan is anticipated by early next year. You may check the City of La Mesa's web site at www.cityoflamesa.com for additional information about the general plan update.

Thank you again for contacting the City of La Mesa. If you have additional questions, you may feel free to contact me at 619-667-1188.

Sincerely,

Chris Jacobs,
Senior Planner

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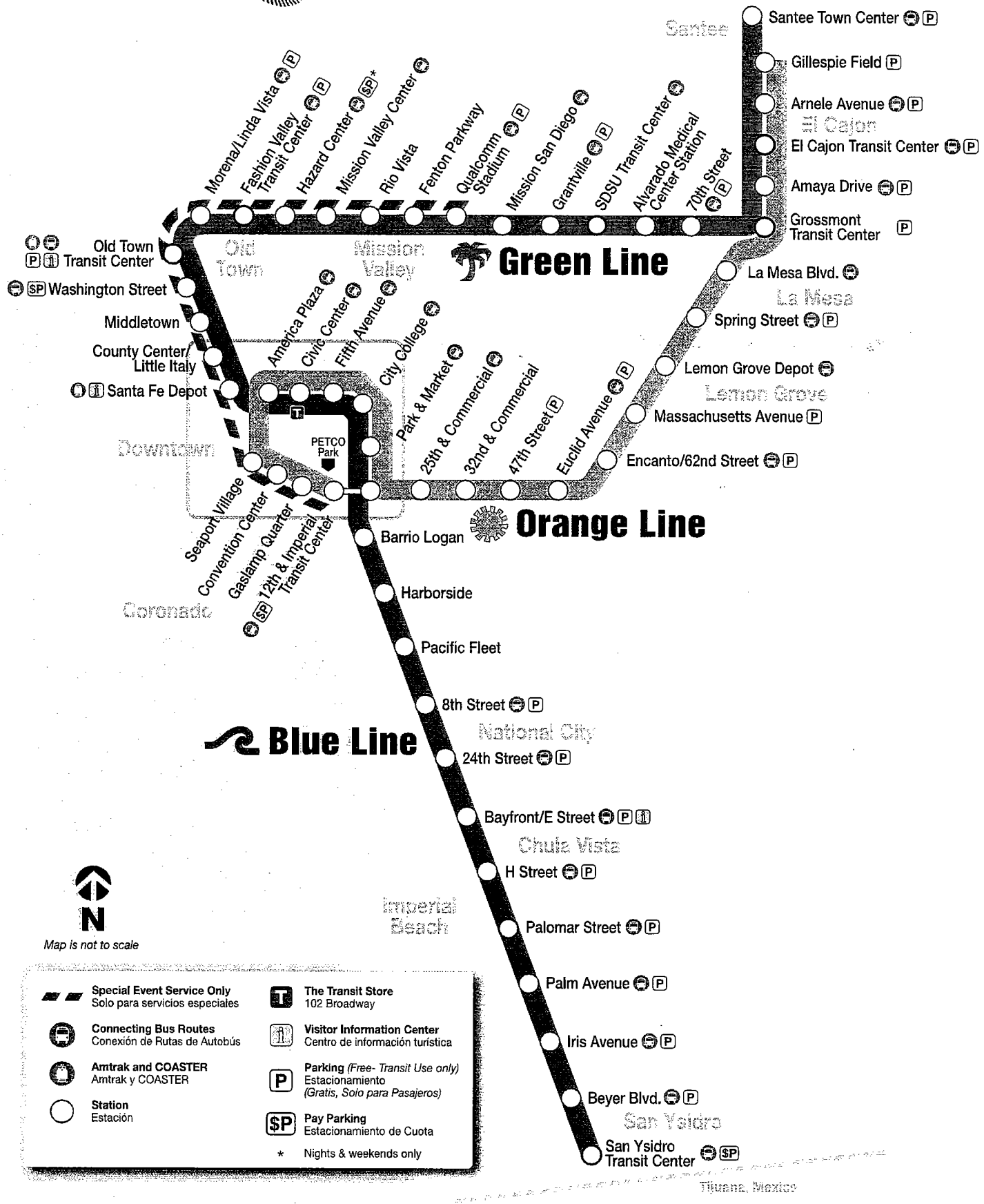
MTS Trolley Map



LA MESA NOISE ELEMENT

BACKGROUND REPORT

Prepared for:

City of La Mesa
8130 Allison Avenue
La Mesa, CA 92041-0314

Prepared by:

ERC Environmental and Energy Services Co.
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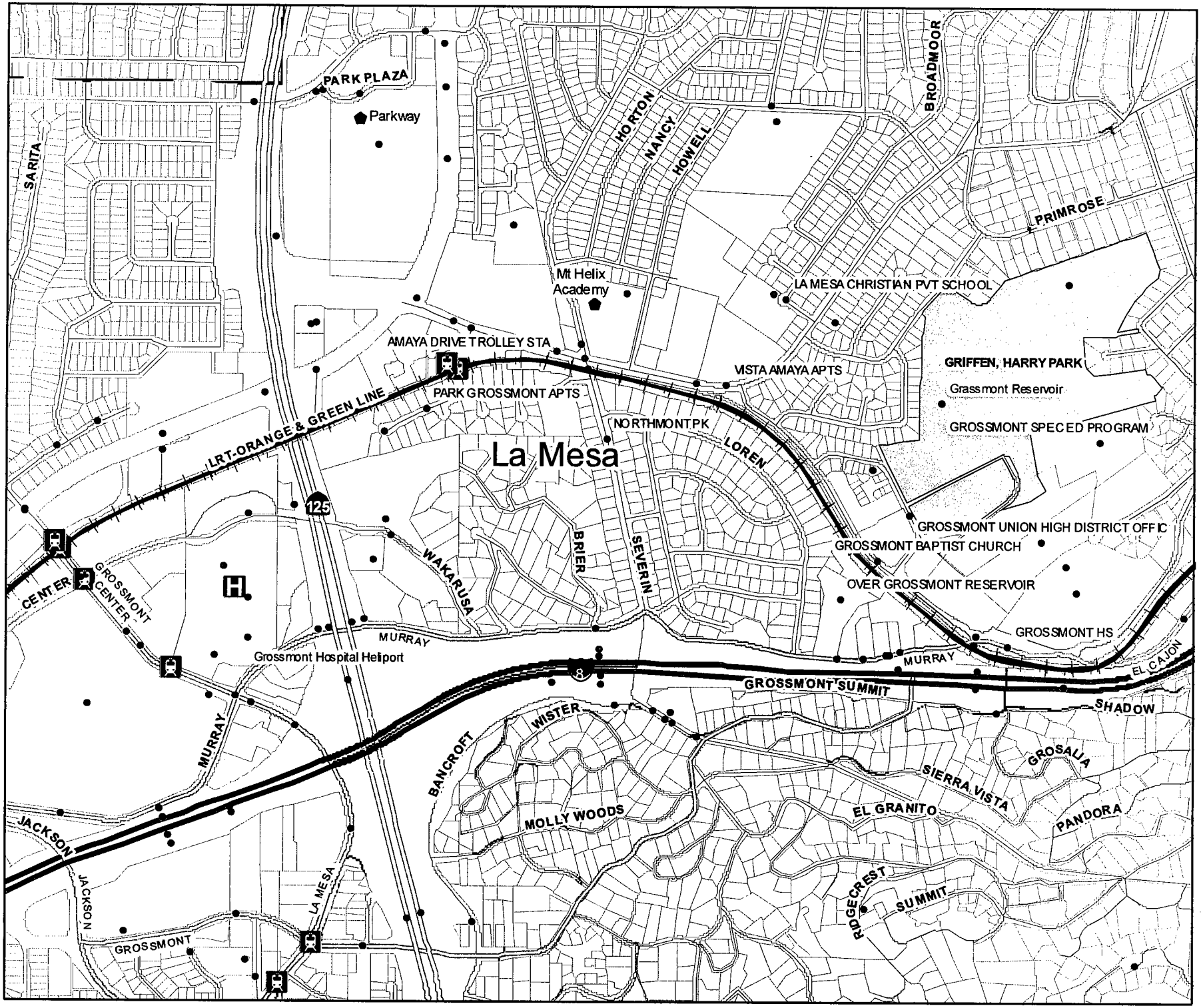
ERC
Environmental
and Energy
Services Co.

June 1989



La Mesa - Legend

- SCHOOL
- TRANSP STOPS
- PLACES
- HOSPITAL
- Trolley-Rail
- ROADS
- PARCELS

N

Scale:

Miles

0 0.030.06 0.12

September 20, 2011

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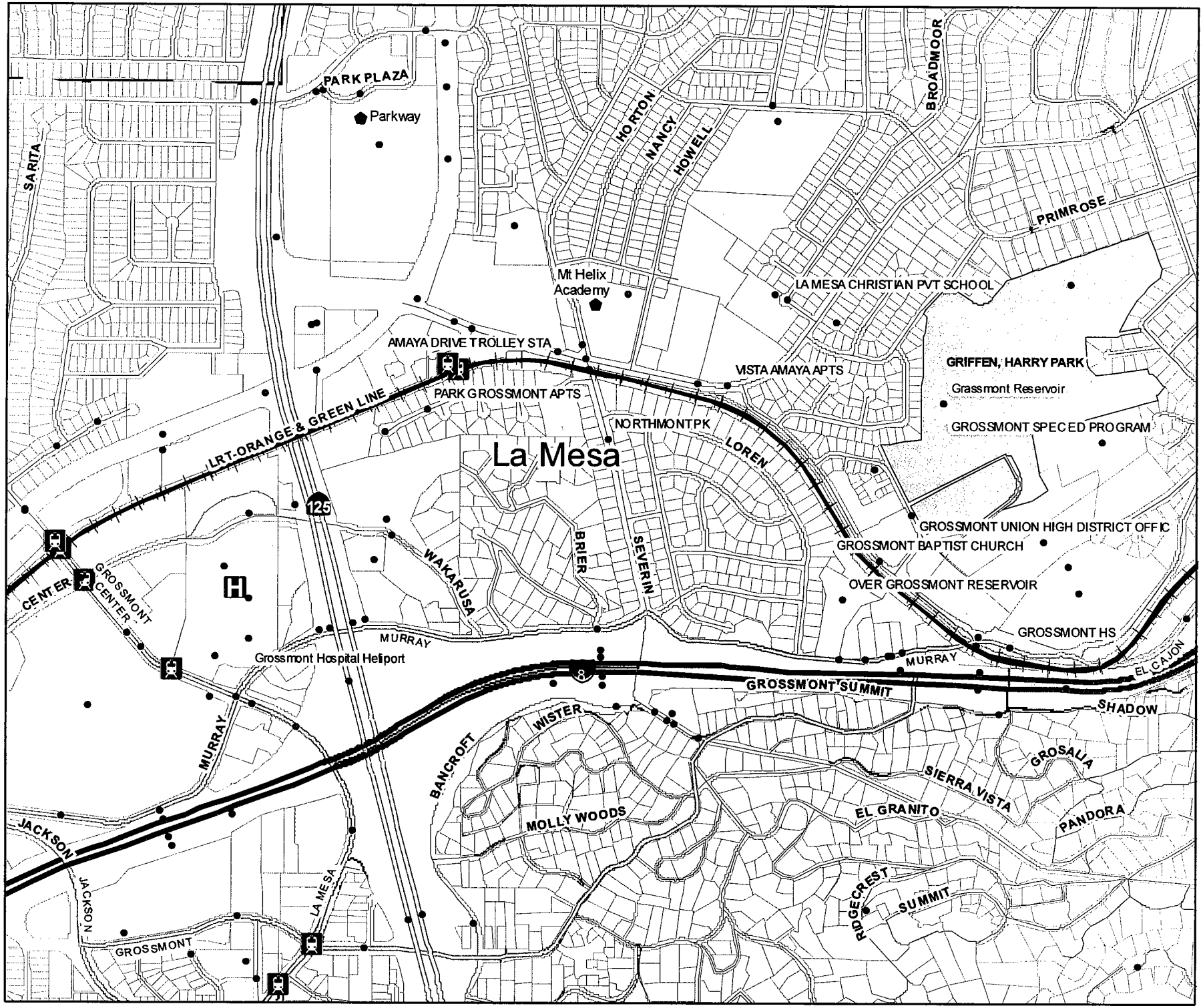
Vicinity Map



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LA MESA NOISE ELEMENT

BACKGROUND REPORT

Prepared for:

City of La Mesa
8130 Allison Avenue
La Mesa, CA 92041-0314

Prepared by:

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I. INTRODUCTION

The purpose of the Noise Element is to identify and appraise existing noise problems in the community and to provide guidance to planners and developers for avoiding problems in the future. Accomplishing this task requires an evaluation of the noise sources in the community. Noise contours of major roadways and railways have been prepared to assist in the placement of appropriate land uses to reduce noise impacts. Noise policies can be established for new land uses, and potential solutions to existing problems can be recommended, based on the results of the community noise survey.

The State of California recognizes the relationship between noise and noise-sensitive land uses, and emphasizes the need to control noise at the local level through land use regulation. A Noise Element, as well as other general plan policy and implementing ordinances (zoning codes, noise ordinances, etc.), are effective tools in noise reduction and mitigation. Section 65302(f) of the California Government Code requires that each City have a Noise Element as part of the General Plan. Preparation of the City of La Mesa Noise Element follows the guidelines adopted by the Office of Noise Control, pursuant to Section 46050.1 of the Health and Safety Code.

State guidelines are very specific as to the content of the Noise Element. The Government Code (Section 65302{f}) states that the Noise Element should be prepared according to guidelines established by the State Department of Health Services. At a minimum, the Government Code requires the Element to analyze noise levels for the following:

- Highways and freeways;
- Primary arterials and major local streets;
- Passenger and freight on-line railroad operations and ground rapid transit systems;
- Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation;
- Local industrial plants, including but not limited to, railroad classification yards; and

- Other ground sources identified by local agencies as contributing to the community noise environment.

This Element quantifies the community noise environment of the City of La Mesa in terms of noise exposure contours. These contours are the basis for the development of land use compatibility guidelines.

II. ENVIRONMENTAL NOISE CHARACTERISTICS

Understanding environmental noise requires a familiarity with the physical description of noise and the way humans react to different noises. The important physical characteristics of environmental noise include frequency (pitch), loudness, and duration. The effects of noise on people can be grouped into three general categories: subjective effects, interference with activities, and physiological effects.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. The pressure fluctuation is caused by a vibrating object. It is received by the ear and perceived by the brain as sound. Noise is defined as unwanted or undesired sound. Table 1 contains the definitions of technical terminology commonly used in the characterization of noise.

The standard unit of sound measurement, which includes both loudness and frequency is the decibel, abbreviated "dB(A)". Filters are used with sound level measuring equipment to emphasize various frequency or pitch ranges. The "A" filter is most commonly used since it comes closest to matching the frequency range of the human ear.

Sound pressure levels measured in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a tenfold increase in sound pressure, or acoustic energy. Zero dB(A) is the faintest sound a good human ear can hear. Upper limits are approximately 140-160 dB(A). The ear begins to feel pain at about 120 dB(A). Figure 1 depicts common noises and their resulting noise levels.

The effects of noise on people include: subjective effects, such as annoyance and nuisance; interference with activities, such as speech and sleep; and physiological effects, such as startle and hearing loss.

In any typical noise environment, about 10 percent of the population will object to any noise not of their own making, and 25 percent will not react or complain at all, regardless of the level of noise being generated. Noise control measures, then, are most beneficial to the remaining 65 percent of the population who are neither ultrasensitive nor insensitive to noise. Negative reaction to noise generally increases with the increase in difference between background, or ambient, noise

Table 1

DEFINITION OF NOISE-RELATED TECHNICAL TERMS

Term	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, hZ	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dB	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 p.m. and 7 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Maximum Instantaneous Noise Levels	The greatest sound level measured on the sound level meter during a designated time interval or event.

Figure 1

TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

At a Given Distance from Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100')	130		
Jet Takeoff (200')	120		Pain Threshold
	110	Rock Music Concert	
Pile Driver (50') Ambulance Siren (100')	100		Very Loud
	90	Boiler Room Printing Press Plant	
Freight Cars (50') Pneumatic Drill (50') Freeway (100')	80	In Kitchen with Garbage Disposal Running	
	70		Moderately Loud
Vacuum Cleaner (10')	60	Data Processing Center Department Store	
Light Traffic (100') Large Transformer (200')	50	Private Business Office	
	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

and the noise generated from a particular source such as traffic or railroad operations. In most situations, noise control measures need to reduce noise by five to ten dB(A) in order to effectively reduce complaints.

People generally have the ability to distinguish one sound from a background of sounds, such as a telephone ringing over music. However, certain noise levels can render a sound inaudible, for example, when heavy trucks interfere with a conversation on Spring Street. Face-to-face conversation usually can proceed where the noise level is up to 66 dB(A), group conversations up to 50 or 60 dB(A), and public meetings, up to 45 or 55 dB(A), without interruption.

Sleep interference is more difficult to quantify, although studies have shown that progressively deeper levels of sleep require louder noise levels to cause a disturbance. The California Office of Noise Control (ONC) recommends that individual events within sleeping areas should not exceed 50 dB(A) in residential areas exposed to noise levels of 60 Ldn or greater. Interior noise standards of 45 Ldn will protect against sleep interference.

Environmental noise, in almost every case, produces effects which are subjective in nature or involve interference with human activity. However, brief sounds at levels exceeding 70 dB(A) can produce temporary physiological effects such as constriction of blood vessels, changes in breathing, and dilation of the pupils. Steady noises of 90 dB(A) have been shown to increase muscle tension and adversely affect simple decision making. Long-term exposure to levels exceeding 70 dB(A) can cause hearing loss.

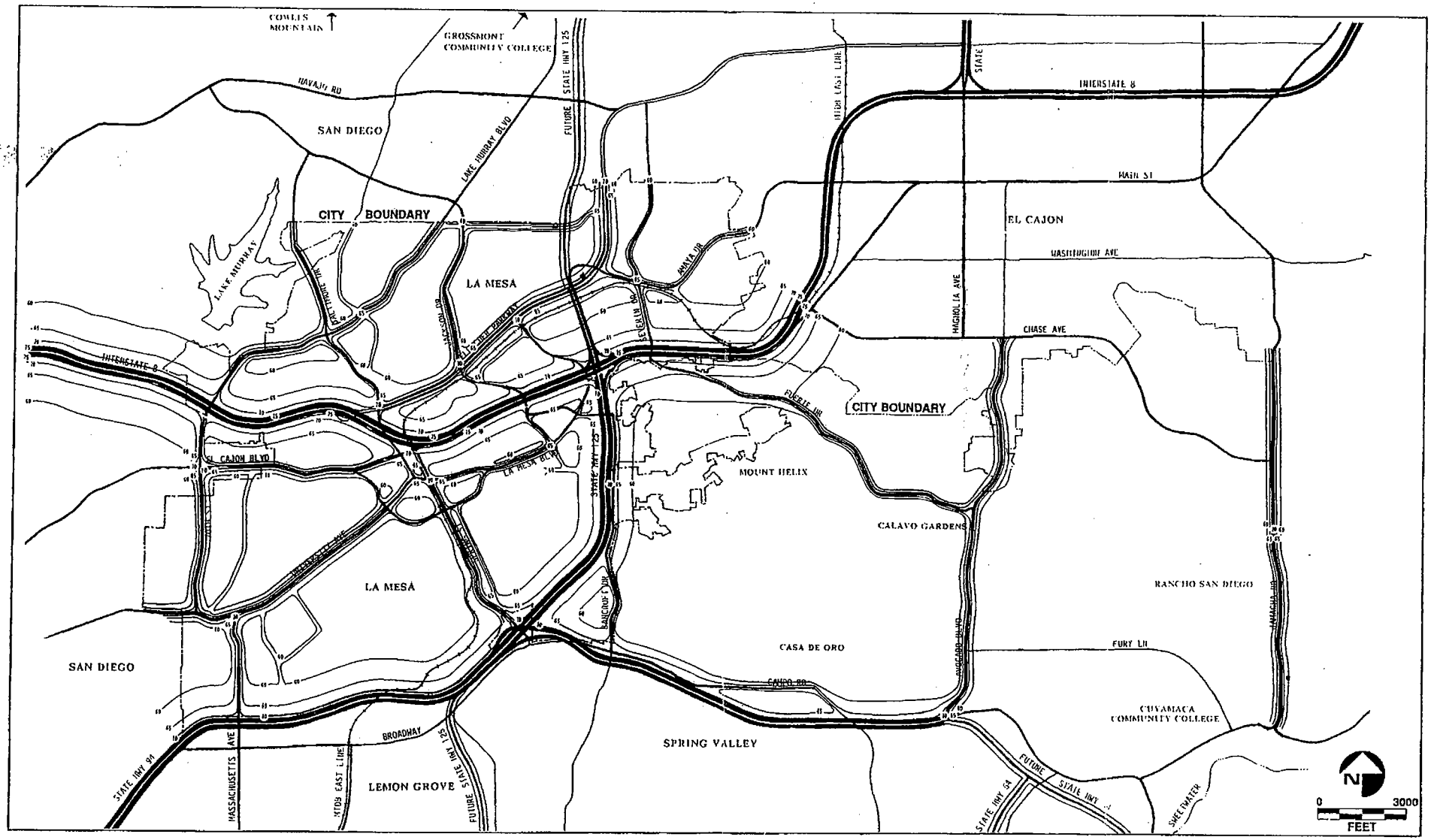
III. EXISTING NOISE ENVIRONMENT

Highway and Vehicular Traffic: The major source of noise in La Mesa is vehicular traffic including automobiles, trucks, buses, and motorcycles. The level of vehicular noise generally varies with the volume of traffic, the percent of trucks, the speed of traffic, and the distance from the roadway. Noise generated by vehicular traffic in the City currently is greatest along Interstate 8, Highway 94, Highway 125, Fletcher Parkway, Lake Murray Boulevard, Baltimore Drive, Jackson Drive, 70th Street, Massachusetts Avenue, El Cajon Boulevard, University Avenue and Spring Street.

Figure 2 depicts the existing 1989 noise levels within the La Mesa planning area. The noise contours are based on the Federal Highway Administration Traffic Noise Prediction Model. The contours reflect an existing "worst-case" potential and do not include the effects of shielding from buildings, terrain or other barriers which tend to reduce noise levels. The contours are shown in terms of the day/night average noise level (Ldn), a single-number rating of the average daily noise level at a given location. The Ldn is calculated by averaging the acoustical energy at a given location over a 24-hour period with a 10 dB(A) penalty added to noise levels that occur between the hours of 10 p.m. and 7 a.m. The penalty is added to account for increased sensitivity of people exposed to noise during sleeping hours.

To validate the traffic noise prediction model for the La Mesa planning area, noise measurements were taken at various roadside locations within the area. Continuous 24-hour measurements were taken at four locations, and short-term measurements were taken at about ten additional locations. Measurements were taken along Interstate 8, Highway 94, and major roads. The results of the noise survey are summarized in Table 2. Appendix A contains the actual results from the 24-hour and short-term monitorings.

Based on the noise survey throughout the City, noise levels within the La Mesa planning area are generally above 65 dB(A) along the major roadways. Traffic along Interstate 8, Highway 94, and Highway 125 generate noise levels of approximately 80 dB(A) Ldn adjacent to the highway. Outdoor noise levels of 65 dB(A) are normally considered intrusive, while outdoor noise levels of 80 dB(A) are normally considered unacceptable in residential areas. Those areas adjacent to



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1989 Existing Noise Exposure (In L_{dn})

FIGURE 2

Table 2

SUMMARY OF 24-HOUR NOISE MEASUREMENTS CONDUCTED IN THE CITY OF LA MESA

Location	Hourly Noise Level (L_{eq}) 7 AM-10 PM	Hourly Noise Level (L_{eq}) 10 PM-7 AM	L_{dn}
I-8, east of 70th Street (120 ft. from centerline)	73-78 dB(A)	67-73 dB(A)	80 dB(A)
SR 94 (120 ft. from centerline)	73-78 dB(A)	67-79 dB(A)	80 dB(A)
Baltimore Drive (60 ft. from centerline)	58-65 dB(A)	49-61 dB(A)	64 dB(A)
El Cajon Blvd. (40 ft. from centerline)	68-72 dB(A)	60-67 dB(A)	73 dB(A)

*Detailed data and short-term data are included in Appendix A.

roadways with higher average daily traffic volumes, therefore, experience higher noise levels. Tables within Appendix B summarize the existing noise levels adjacent to the major city streets in La Mesa and the City's planning area.

Railway Operations: San Diego & Eastern Arizona Railway Company (SD&AE) operate the only railway in La Mesa. The SD&AE railroad passes through the La Mesa planning area adjacent to Spring Street, Fletcher Parkway, and Water Street. Currently, one train per night is operated on the tracks. For safety reasons, the train blows its whistle at each major road crossing which results in annoying noise events for nearby residents. A whistle generates a maximum level of about 105 dBA at 100 feet from the source. An engine typically generates a maximum level of about 90 dBA at a distance of 100 feet from the engine. Because only one train per day is operated on the tracks, significant average noise levels are not generated. Maximum instantaneous noise levels generated by trains are high, however.

Industrial Noise Sources: Noise generated by industrial operations, such as loading, unloading, and general warehouse activities, is limited primarily to the industrial and manufacturing area located south of Fletcher Parkway between Baltimore Drive and Jackson Drive. This area is separated from residential areas by commercial land uses and by Interstate 8 which masks the noise generated by the industrial area. No sensitive land uses are, therefore, exposed to industrial-generated noise.

Aircraft Noise: There are no airports located within the City of La Mesa planning area. The closest airport is Gillespie Field located in El Cajon, approximately 2 miles northeast of the planning area boundary. Residents in La Mesa are located far enough from the airport so that they are subjected to relatively low average noise levels from aircraft operations at the facility.

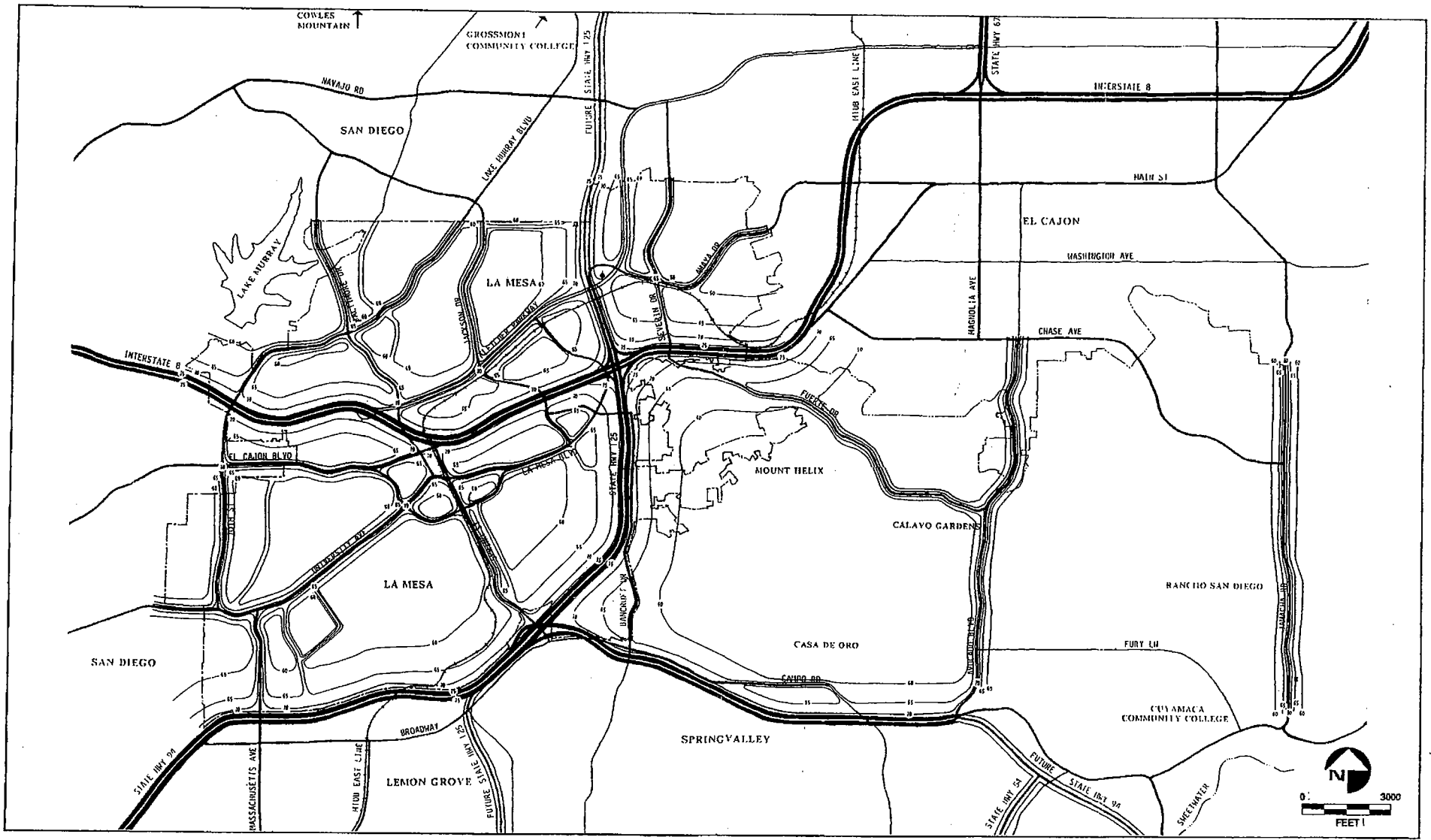
Grossmont Hospital operates the only heliport in the City of La Mesa. The facility is only used to transport medical patients and not trauma cases. Five to ten flights are normally flown to the hospital every month, typically during normal business hours. This relatively low number of flights is not enough to generate noise levels above 60 Ldn.

IV. FUTURE NOISE ENVIRONMENT

Highway and Vehicular Traffic: Major existing streets and highways can be expected to continue to be the dominant noise sources in La Mesa in the future. In most cases, the noise levels are expected to increase by about one to two decibels for areas adjacent to the major roads due to increases in traffic volumes. Noise levels along some of the streets serving the northern and southern portions of the city, where new development (city or regional) is expected to occur, will receive significantly greater increases in traffic. Baltimore Drive at the northern city limits and Massachusetts Avenue are examples of streets that will carry significantly greater traffic volumes in the future. Because future traffic volumes have only been calculated for the primary arterials and highways, the noise contours in Figure 3 depict the future (Year 2010) noise levels for only those roadways. Some Class II collectors would also generate a significant level of noise in the future. However, future noise levels for these roadways and some segments of the primary arterials cannot be calculated until future traffic volumes have been determined. In the absence of specific traffic information, three decibels could be added to the existing noise levels on these Class II collectors to provide an approximation of the future noise levels for these roadways. Tables within Appendix C depict the future noise levels for those streets with traffic information.

Railway Operations: The Metropolitan Transit Development Board (MTDB) is currently finishing the construction of the El Cajon segment of the East Line Light Rail Transit (LRT) system. Starting in June 1989, LRT vehicles will begin operating along the SD&AE railway, which travels through La Mesa. MTDB is expected to operate approximately four LRT trains per hour during the day and two LRT trains per hour during the evening and night until 11:00 p.m. The LRT trains are expected to generate noise levels of 58 to 61 Ldn at 50 feet.

In addition to the railway noise generated by the LRT, grade crossing bells are anticipated at each street intersection the LRT passes through. The greatest intrusion due to the bell noise would occur when the bells are ringing before and after the LRT passing the intersection is audible; the LRT noise itself would otherwise mask the bell noise.



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Future (Year 2010) Noise Exposure (in Ldn)

FIGURE 3

Industrial Noise: The industrial area is expected to continue its present operations. No new industrial areas are planned in the City, and, in the future, industrial generated noise would remain the same as the existing conditions.

Aircraft Noise: Any future changes in helicopter operations at Grossmont Hospital are not known at this time. However, because residential development is designated adjacent to the hospital, noise impacts may occur in the future due to the close proximity of the residential area to the helipad facility.

V. GOALS AND POLICIES

Noise and Land Use Compatibility: The objective of noise and land use compatibility guidelines is to provide an acceptable community noise environment and to minimize noise related complaints from residents. The compatibility guidelines are used in conjunction with the future noise exposure levels in Figure 3 to identify projects or activities which may require special treatment to minimize noise exposure. Homes should not be allowed near a freeway, for example, unless mitigation measures can effectively reduce noise exposure to acceptable levels.

Figure 4 contains an example of preliminary guidelines which the City may consider adopting to evaluate the compatibility between land uses and future noise levels in La Mesa. It is recommended that the City eliminate the overlaps between acceptable and unacceptable noise exposures in the final adopted version. The guidelines should be used in conjunction with the noise exposure levels in Figure 3, which refer to the outdoor day/night average noise level (Ldn) in general locations. According to the guidelines, a land use or proposed project in the "normally acceptable" category will be considered compatible with the noise levels indicated in the figure, in most cases, without special noise abatement measures. For example, a home of standard construction would be an acceptable use in any area of 60 Ldn or less without special insulation, setback or building design. A home in an area projected for noise levels of 60 to 70 Ldn should only be allowed following an acoustical study which recommends site specific noise attenuation measures such as double pane windows, setbacks and/or construction of soundwalls to provide acceptable indoor and outdoor noise levels.

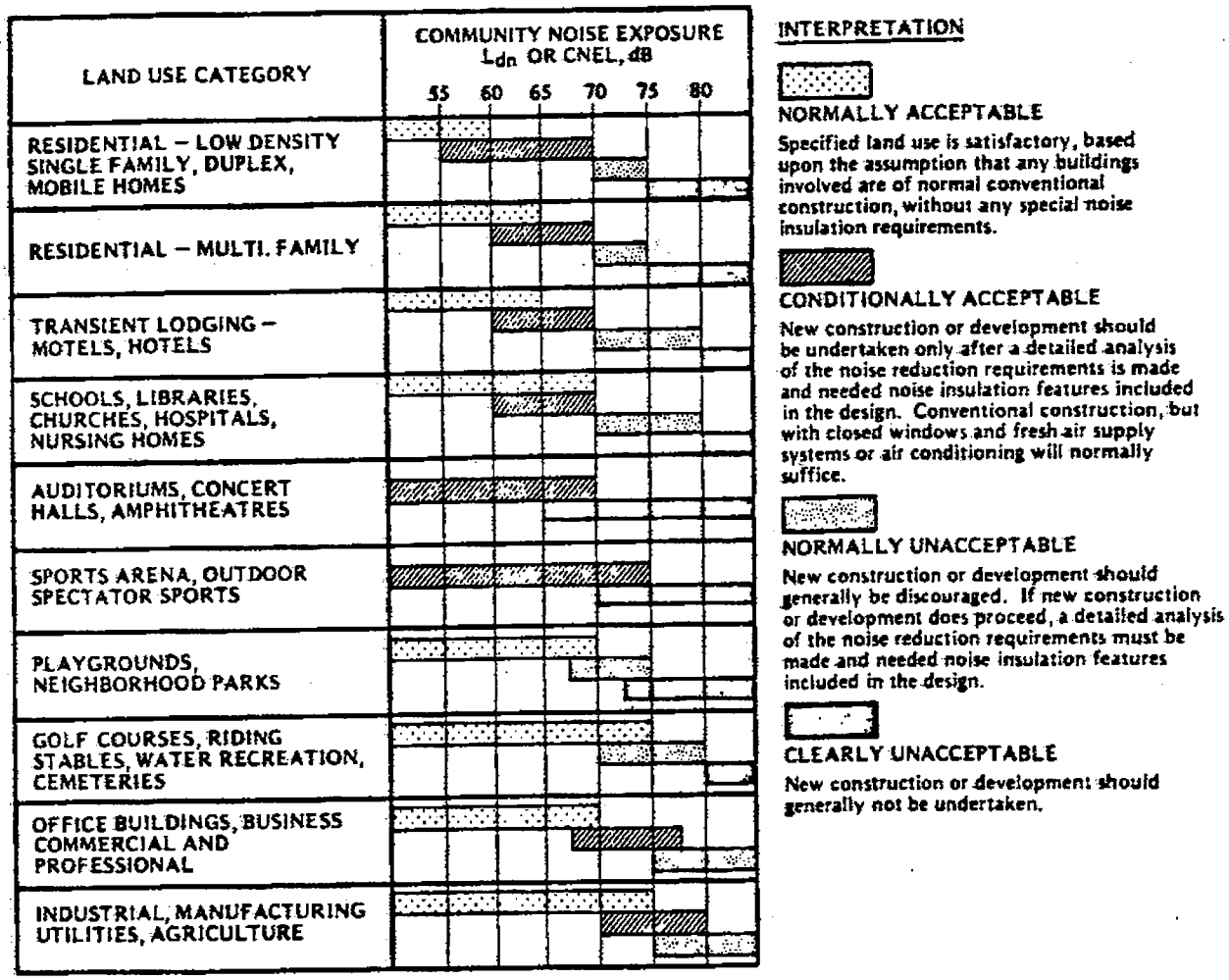
The following considerations should be taken into account when using the Noise and Land Use Compatibility Guidelines:

- The goal for maximum outdoor noise levels in residential areas is an Ldn of 60 dB(A). This level is a requirement to guide the design and location of future development, and a goal for the reduction of noise in existing development. However, 60 Ldn is a goal which cannot necessarily be reached in all residential areas within the realm of economic or aesthetic feasibility. This goal should be applied where outdoor use is a major consideration (e.g., backyards in single-family housing developments and

Figure 4

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

(Source: Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Department of Health Services, 1988)



INTERPRETATION

NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL or L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

recreation areas in multi-family housing projects). The outdoor standard should not normally be applied to balconies or patios associated with apartments and condominiums due to the general lack of use of these balconies and patios even in quiet areas.

- The indoor noise level, as required by the State of California Noise Insulation Standards, must not exceed an Ldn of 45 dB in multi-family dwellings. This indoor criterion could also be adopted as the maximum acceptable indoor noise level in single-family homes.

- If the primary noise source is a railroad, then the outdoor noise exposure criterion should be 70 Ldn for future development. It may not be feasible to reduce exterior noise levels to 70 Ldn in existing residential areas adjacent to railroads. This is because train noise is usually characterized by a relatively small number of loud events which generally do not create significant noise effects in an outdoor environment. Even though the outdoor Ldn may be high, during the majority of the time the noise level will be acceptable for speech communication, and people would not be highly annoyed.

- Interior noise levels in new single-family and multi-family residential units exposed to an Ldn of 60 dB(A) or greater should be limited to a maximum instantaneous noise level in the bedrooms of 50 dBA. Maximum instantaneous noise levels in other rooms should not exceed 55 dB(A).

- Appropriate interior noise levels in commercial, industrial, and office buildings are a function of the use of space. For example, the noise level in private offices should generally be quieter than for data processing rooms. Interior noise levels in offices generally should be maintained at 45 Leq or less. Acoustical designs to achieve this level should be demonstrated by the project sponsor in sufficient detail to satisfy City staff and OSHA requirements.

- These guidelines are not intended to be applied reciprocally. In other words, if the ambient noise in an area is currently below the desired noise standard, an increase in noise up to the maximum should not necessarily be allowed. The impact of a proposed project on an existing land use should

be evaluated in terms of the potential for adverse community response, based on a significant increase in existing noise levels, regardless of the compatibility guidelines.

Noise Goals, Policies and Programs: The following goals, policies and programs are proposed as examples which the City may consider in development of the Noise Element.

Goal 1: To reduce noise to acceptable levels throughout the community.

Policy 1: Require new projects to meet acceptable exterior noise level standards.

Program 1.1: Use the "normally acceptable" noise levels for new land uses as established in the "Noise and Land Use Compatibility Guidelines" contained in Figure 4, including the descriptions in the text.

Program 1.2: Use noise guidelines and contours to determine the need for noise studies, and require new developments to pay for noise attenuation features as a condition of approving new projects.

Program 1.3: Require noise studies for future projects to use a consistent format, to analyze alternative mitigations and to monitor the effectiveness of the mitigations following their implementation.

Policy 2: Reduce outdoor noise levels in existing residential areas that currently exceed the City standards where economically and aesthetically feasible.

Program 2.1: Install soundwalls, noise insulation and other mitigations.

Program 2.2: Continue to project and monitor noise levels using traffic projections and noise monitoring.

Program 2.3: Verify projected noise levels with noise monitors at locations adjacent to residential and other noise sensitive areas where

traffic volumes are projected to increase by more than 50 percent from baseline conditions.

Policy 3: Ensure that noise does not exceed interior noise levels of 45 Ldn for residential uses and those levels specified in noise studies for other uses.

Program 3.1: Require new developments to pay their fair share of mitigation measures necessary to reduce interior noise levels within adjacent or impacted land uses.

Policy 4: Control noise at its source to maintain existing noise levels, and in no case allow noise to exceed acceptable levels as established in the Noise and Land Use Compatibility Guidelines.

Program 4.1: Enforce the noise emission standards for various noise emitting land uses established in the City's Noise Ordinance.

Policy 5: Protect schools, hospitals, libraries, churches, convalescent homes, and other noise sensitive uses from noise levels exceeding those allowed in residential areas.

Program 5.1: Locate noise sensitive uses away from significant noise sources whenever possible, unless mitigation measures are included in development plans.

Policy 6: Limit truck traffic in residential and commercial areas to designated truck routes.

Program 6.1: Limit construction, delivery and through truck traffic to designated routes.

Program 6.2: Distribute maps of approved truck routes to City traffic office.

Policy 7: Design City streets to reduce noise levels in adjacent areas.

Program 7.1: Continue to require soundwalls, earth berms, setbacks and other noise reduction techniques as conditions of development approval.

Program 7.2: Attempt to maintain local and collector streets at 6000-9000 ADT or less to ensure acceptable noise levels at and within adjacent residences.

Policy 8: Encourage other agencies to reduce noise levels generated by roadways, railways, airports, and other facilities.

Program 8.1: Continue to work with the County Airport Land Use Commission (ALUC), State Office of Noise Control (ONC), Metropolitan Transit Development Board (MTDB), and other agencies to reduce noise generated from sources outside the City's jurisdiction.

VI. RECOMMENDED NOISE MITIGATION

Noise mitigation measures recommended by site specific studies include soundwalls, earth berms, noise insulation, building orientation and setback requirements. Most new buildings in La Mesa include construction materials adequate to reduce interior noise by 15 to 20 dB(A) below exterior levels. Special acoustical construction techniques can be added to new buildings or retrofitted to old buildings, including roof and wall insulation, sound rated windows and ventilation systems. Site plan review of new building projects in La Mesa includes consideration of topography, building orientation and setbacks to reduce noise levels. All of these noise reduction measures should be considered in locations shown in Figure 3 as being within "conditionally acceptable" areas, and should be tailored to individual site characteristics based on the findings of an acoustical report. The objective of implementing such measures is to provide outdoor noise levels at or below 60 Ldn and interior noise levels at or below 45 Ldn. This would reduce the noise in usable areas, i.e., backyards, pool areas, to acceptable levels.

VII. POLICY ENFORCEMENT

To adequately carry out the programs identified in the Noise Element and to comply with State requirements for certain other noise control programs, specific enforcement programs are recommended at the local level:

1) Adoption and application of a community noise ordinance for resolution of noise complaints. Currently, La Mesa has a quantitative noise ordinance, which regulates the level of noise that can be generated from one property onto another. The ordinance allows noise levels during the nighttime hours of up to 50 dB(A) for single-family development and 55 dB(A) for multi-family residences. The ordinance is intended to discourage unusually noisy activities in residential areas.

   The ordinance should be strengthened by establishing criteria to account for the tonal content of the noise, regulating construction activities of single-family residential occupants, and applying the 50 dB(A) noise criteria at multi-family areas.

2) Recent studies have shown that the most objectionable feature of traffic noise is the sound produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such hot rod vehicles are often operated in a manner that causes tire squeal and excessively loud exhaust noise. There are a number of statewide vehicle noise regulations that can be enforced by local authorities as well as the California Highway Patrol. Specifically, Sections 23130, 23130.5, 27150, 27151, and 38275 of the California Vehicle Code. In addition, excessive speed laws may be strictly enforced to curtail this problem. Both the Highway Patrol and the State Department of Health Services (through local health departments) are available to aid local authorities in code enforcement and training pursuant to proper vehicle sound level measurements.

3) The adopted Noise Element shall serve as a guideline for compliance with the State's and the City's recommended noise insulation standards. Recognizing the need to provide acceptable habitation environments, State law requires noise insulation of new multi-family dwellings constructed within the 60 dB (CNEL or L_{dn}) noise exposure contours. It is a function of the noise element to provide

noise contour information around all major sources in support of the sound transmission control standards (Chapter 2-35, Part 2, Title 24, California Administrative Code).

Areas projected to exceed 60 L_{dn} would have the potential to generate interior noise levels greater than 45 L_{dn}. Therefore, an interior acoustical analysis should be conducted for all residential projects proposed in areas exposed to exterior noise levels greater than 60 L_{dn} to comply with the recommended City standards.

APPENDIX A

NOISE SURVEY RESULTS

Table A-1

24-HOUR MONITORING ALONG INTERSTATE 8 EAST OF 70TH STREET (APPROXIMATELY 120 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (L_{eq})*
4/26/89	12:00 p.m.	76
	1:00 p.m.	77
	2:00 p.m.	77
	3:00 p.m.	74
	4:00 p.m.	73
	5:00 p.m.	74
	6:00 p.m.	78
	7:00 p.m.	77
	8:00 p.m.	76
	9:00 p.m.	76
	10:00 p.m.	74
	11:00 p.m.	73
4/27/89	12:00 p.m.	71
	1:00 a.m.	68
	2:00 a.m.	68
	3:00 a.m.	67
	4:00 a.m.	69
	5:00 a.m.	73
	6:00 a.m.	77
	7:00 a.m.	77
	8:00 a.m.	78
	9:00 a.m.	77
	10:00 a.m.	77
	11:00 a.m.	77
	L_{dn} = 80 dB(A)	

*L_{eq} = The average A-weighted noise level during the measurement period.

Table A-2

24-HOUR MONITORING ALONG HIGHWAY 94 EAST OF MASSACHUSETTS AVENUE (APPROXIMATELY 120 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (L_{eq})*
4/27/89	2:00 p.m.	76
	3:00 p.m.	77
	4:00 p.m.	76
	5:00 p.m.	76
	6:00 p.m.	75
	7:00 p.m.	74
	8:00 p.m.	74
	9:00 p.m.	73
	10:00 p.m.	73
	11:00 p.m.	72
4/28/89	12:00 a.m.	69
	1:00 a.m.	67
	2:00 a.m.	67
	3:00 a.m.	67
	4:00 a.m.	71
	5:00 a.m.	77
	6:00 a.m.	79
	7:00 a.m.	78
	8:00 a.m.	77
	9:00 a.m.	76
	10:00 a.m.	76
	11:00 a.m.	76
	12:00 p.m.	76
	1:00 p.m.	76
	L_{dn} = 80 dB(A)	

*L_{eq} = The average A-weighted noise level during the measurement period.

Table A-3

24-HOUR MONITORING ALONG BALTIMORE DRIVE NORTH OF LAKE MURRAY BOULEVARD (APPROXIMATELY 60 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (L_{eq})*
5/3/89	11:00 a.m.	62
	12:00 p.m.	63
	1:00 p.m.	63
	2:00 p.m.	63
	3:00 p.m.	63
	4:00 p.m.	64
	5:00 p.m.	64
	6:00 p.m.	62
	7:00 p.m.	62
	8:00 p.m.	60
	9:00 p.m.	59
	10:00 p.m.	58
	11:00 p.m.	54
5/4/89	12:00 a.m.	52
	1:00 a.m.	52
	2:00 a.m.	50
	3:00 a.m.	49
	4:00 a.m.	50
	5:00 a.m.	55
	6:00 a.m.	61
	7:00 a.m.	64
	8:00 a.m.	65
	9:00 a.m.	64
	10:00 a.m.	63
	L_{dn} = 64 dB(A)	

*L_{eq} = The average A-weighted noise level during the measurement period.

Table A-4

24-HOUR MONITORING ALONG EL CAJON BOULEVARD
WESTERN END OF CITY LIMITS
(APPROXIMATELY 40 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (L_{eq})*
5/23/89	9:00 a.m.	70
	10:00 a.m.	70
	11:00 a.m.	70
	12:00 p.m.	71
	1:00 p.m.	71
	2:00 p.m.	72
	3:00 p.m.	72
	4:00 p.m.	72
	5:00 p.m.	72
	6:00 p.m.	71
	7:00 p.m.	71
	8:00 p.m.	70
	9:00 p.m.	70
	10:00 p.m.	68
	11:00 p.m.	67
5/24/89	12:00 a.m.	65
	1:00 a.m.	63
	2:00 a.m.	61
	3:00 a.m.	60
	4:00 a.m.	60
	5:00 a.m.	65
	6:00 a.m.	69
	7:00 a.m.	72
	8:00 a.m.	71
	L_{dn} = 73 dB(A)	

*L_{eq} = The average A-weighted noise level during the measurement period.

Table A-5

SHORT-TERM MEASUREMENTS

Street/ Segment	Distance to Centerline	Date	Time	L_{eq}[1]	L01[2]	L10	L50	L90	Number of: Cars	Medium Trucks	Heavy Trucks
Amaya Dr. (between Fletcher Parkway and Severin Dr.)	80'	5/4/89	3:36-3:51 p.m.	62	71	65	59	53	276	3	5
Fletcher Parkway (between Grossmont Center and Amaya Dr.)	100'	4/26/89	11:25-11:35 a.m.	66	75	70	62	55	233	7	3
Jackson Dr. (5700 Block)	60'	5/4/89	9:40-9:55 a.m.	67[3]	77	71	63	51	232	3	1
Lake Murray (near Maryland Ave.)	55'	5/4/89	8:45-9:00 a.m.	70[3]	79	73	67	61	486	7	10
La Mesa Blvd. (between University Ave. and Jackson Dr.)	55'	5/4/89	2:22-2:32 a.m.	67	77	71	65	55	200	1	3
Massachusetts Ave. (near Pearson)	50'	5/4/89	10:35-10:50 a.m.	70	77	72	68	57	355	12	5
Severin Dr. (between Murray Rd. and Amaya Dr.)	50'	5/4/89	3:04-3:14 p.m.	66	72	70	65	58	168	0	2
Spring St. (between Finley St. and La Mesa Blvd.)	60'	5/4/89	1:42-1:57 p.m.	66	76	70	64	55	440	9	7
University Ave. (near Maple)	65'	5/4/89		66	75	70	64	56	331	7	2

[1]Leq – The average A-weighted noise level during the measurement period.
[2]L_{01}, L_{10}, L_{50}, L_{90} – The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50, and 90 percent of the time, respectively.
[3]Leq – Estimated from, statistical data.

APPENDIX B

EXISTING NOISE CONTOURS ALONG MAJOR ROADWAYS

Table B-1

1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L_{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Interstate 8						
Western City Limits to Spring St.	176,000	80	170	360	775	1675
Spring St. to Jackson Dr.	154,000	70	155	330	710	1532
Jackson Dr. to Hwy. 125	145,000	70	145	315	685	1472
Hwy. 125 to Eastern City Limits	195,000	85	180	385	830	1793
Highway 94						
Western City Limits to Lemon Grove Ave.	121,000	60	130	280	605	1305
Lemon Grove to Future Hwy. 125	115,000	60	125	270	585	1260
Future Hwy. 125 to Spring St.	115,000	60	125	270	585	1260
Spring St. to East of City Limits	57,000	*	80	170	365	790
Highway 125						
Northern City Limits to Interstate 8	-0-					
Interstate 8 to Lemon Ave.	70,000		90	195	420	905
Lemon Ave. to Spring St.	74,000		95	205	435	940
Amaya Drive						
Fletcher Parkway to Severin Dr.	13,367				60	130
Severin Dr. to Water St.	15,532				65	145
Water St. to Primrose Dr.	7,624					90
Allison Avenue						
University Ave. to Spring St.	6,551					65
Spring St. to Palm Ave.	6,177					R-O-W
Baltimore Drive						
Northern City Limits to El Paso St.	10,271					110
El Paso St. to Lake Murray Blvd.	12,170				55	120
Lake Murray Blvd. to Aztec Dr.	15,253				65	140
Aztec Dr. to Parkway Dr.	20,010				80	170
Parkway Dr. to El Cajon Blvd.	31,383				105	230
El Cajon Blvd. to University Ave.	27,694				100	210
Bancroft Drive						
I-8 to Shirley Dr.	13,103				60	130
Shirley Dr. to Lemon Ave.	8,059				40	95
Lemon Ave. to Golondrina Dr.	10,943				55	115
Golondrina Dr. to Campo Rd.	9,526				45	105
Center Street						
Commercial St. to Timken St.	7,363				45	100
Timken St. to Jackson Dr.	11,147				60	130
Grossmont Center Dr. to Future Hwy. 125	3,624					60

Table B-1 (Continued)

1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L_{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Commercial Street						
Center St. to Guild St.	4,848					75
Guild St. to Center Dr.	5,062					75
Cowles Mountain Boulevard						
Northern City Limits to Lake Murray Blvd.	4,357					60
Dallas Street						
Lake Murray Blvd. to Jackson Dr.	4,816					65
Jackson Dr. to Meadowcrest Dr.	7,041				35	85
Meadowcrest Dr. to Fletcher Parkway	9,735				50	105
El Cajon Boulevard						
Western City Limits to Thorne Dr.	27,667			60	130	280
Thorne Dr. to La Mesa Blvd.	26,560			60	125	275
La Mesa Blvd. to Baltimore Dr.	24,439			55	120	260
Baltimore Dr. to I-8	21,809			50	110	240
Fletcher Parkway						
I-8 to Baltimore Dr.	33,965			90	195	425
Baltimore Dr. to Jackson Dr.	31,788			90	190	405
Jackson Dr. to Grossmont Center Dr.	24,422			75	160	340
Grossmont Center Dr. to Amaya Dr.	28,443			80	175	380
Amaya Dr. to Dallas St.	30,529			85	185	395
Dallas St. to Northern City Limits	26,437			60	165	360
Grossmont Boulevard						
La Mesa Blvd. to Hwy. 125	19,319				90	190
Grossmont Center Drive						
Fletcher Parkway to Center Dr.	19,649				50	110
Center Dr. to Havenhill Rd.	12,629					80
Havenhill Rd. to Murray Dr.	17,935				45	105
Murray Dr. to I-8	18,396				50	105
Guava Avenue						
Alvarado Rd. to El Cajon Blvd.	5,886					60
Harbinson Avenue						
Amhurst St. to Camellia Dr.	3,902					45
Camellia Dr. to University Ave.	5,519					60
Jackson Drive						
Northern City Limits to Laird St.	12,058				55	120
Laird St. to Fletcher Parkway	20,965			40	95	210
Fletcher Parkway to Center St.	27,457				90	195

Table B-1 (Continued)

1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L_{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Jackson Drive (Continued)						
Center St. to Murray Dr.	22,389				80	170
Murray Dr. to Grossmont Blvd.	28,136			45	100	215
Grossmont Blvd. to Washington Ave.	15,800				65	145
Washington Ave. to La Mesa Blvd.	11,203				55	115
La Mesa Blvd. to Jefferson Ave.	12,180				45	100
Jefferson Ave. to Lemon Ave.	6,677					65
Lake Murray Boulevard						
Northern City Limits to El Paso St.	27,137				95	210
El Paso St. to Aztec Dr.	28,975				85	180
Aztec Dr. to Baltimore Dr.	30,227				100	220
Baltimore Dr. to Maryland Avenue	34,385				105	225
Maryland Ave. to I-8	33,382			65	115	245
La Mesa Boulevard						
El Cajon Blvd. to Guava Ave.	8,753					80
Guava Ave. to University Ave.	11,603					95
University Ave. to Acacia Ave.	13,110					105
Acacia Ave. to Spring St.	12,165					80
Spring St. to Third St.	6,927					55
Third St. to Grant Ave.	7,044					55
Grant Ave. to University Ave.	7,328					70
University Ave. to Jackson Dr.	13,765				60	130
Jackson Dr. to Grossmont Blvd.	8,808					100
Grossmont Blvd. to I-8	13,125				60	130
Lemon Avenue						
Glenn St. to Jackson Dr.	5,280					45
Jackson Dr. to Hwy. 125	12,302				45	100
Hwy. 125 to East of City Limits	3,498					
Lowell Street						
University Ave. to Orion Ave.	4,565					50
Massachusetts Avenue						
University Ave. to Hoffman Ave.	20,155				105	225
Hoffman Ave. to Hwy. 94	22,974			60	135	290
Murray Drive						
Jackson Dr. to Grossmont Center Dr.	15,607				65	145
Grossmont Center Dr. to Future Hwy. 125	11,659				55	120
Future Hwy. 125 to Severin Dr.	10,363				50	110
Severin Dr. to Water St.	7,271				35	85
Murray Hill Road						
University Ave. to Waite Dr.	7,520					75

Table B-1 (Continued)

1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L_{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Orion Avenue						
Murray Hill Rd. to Lowell St.	4,675					55
Palm Avenue						
La Mesa Blvd. to Finley Ave.	10,568				55	110
Finley Ave. to Spring St.	10,645				50	110
Parkway Drive						
Lake Murray Blvd. to Baltimore Dr.	5,423				35	85
Baltimore Dr. to Jackson Dr.	8,158				50	110
Severin Drive						
Northern City Limits to Stanley Dr.	8,508					80
Stanley Dr. to Amaya Dr.	11,637				45	95
Amaya Dr. to Murray Dr.	18,605				90	190
Spring Street						
I-8 to University Ave.	28,163				105	220
University Ave. to Allison Ave.	32,668			65	115	245
Allison Ave. to La Mesa Blvd.	30,164				105	230
La Mesa Blvd. to Finley Ave.	31,103			60	110	235
Finley Ave. to Palm Ave.	31,822			75	160	340
Palm Ave. to Hwy. 94	39,308			85	180	390
University Avenue						
Western City Limits to Massachusetts Ave.	31,026			65	140	305
Massachusetts Ave. to Lowell St.	27,858			60	130	280
Lowell St. to La Mesa Blvd.	23,807			65	120	255
La Mesa Blvd. to Spring St.	20,984				110	235
Spring St. to La Mesa Blvd.	9,286				65	135
Waite Avenue						
Massachusetts Ave. to Murray Hill Rd.	6,977					70
Water Street						
Amaya Dr. to Murray Dr.	6,281					65
70th Street						
I-8 to El Cajon Blvd.	48,356			50	130	285
El Cajon Blvd. to University Ave.	?					

(*) Traffic data provided by Caltrans and City of La Mesa.
*Blank indicates noise contour within right-of-way.

Table B-2

1989 L_{dn} CONTOURS BY ROADWAY (ROADS WITHIN PLANNING AREA)

Roadway	Average Traffic	L_{dn} (Distance in Feet) 70	65	60
Avocado Blvd.	20,000	50	105	225
Campo Rd.	17,000	35	85	180
Fuerte Dr.	13,712	*	60	130
Jamacha Rd.	20,000	48	105	226

*Blank indicates noise contour is located within the right of way.

APPENDIX C

FUTURE NOISE CONTOURS ALONG MAJOR ROADWAYS

Table C-1

2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L_{dn} (Distance in Feet from center line of roadway) 80	75	70	65	60
Interstate 8						
Western City Limits to Fletcher Parkway	211,000	90	190	410	880	1890
Fletcher Parkway to Spring St.	169,000	75	165	350	760	1630
Spring St. to Hwy. 125	187,000	80	175	3765	810	1745
Hwy. 125 to East of City Limits	225,000	90	200	425	915	1970
Highway 125						
Spring St. to Grossmont Blvd.	223,000	95	200	435	940	2020
Grossmont Blvd. to I-8	212,000	90	190	410	880	1895
I-8 to Northern City Limits	145,000	70	150	320	685	1470
Highway 94						
Western City Limits to Massachusetts Ave.	161,000	75	160	340	735	1580
Massachusetts Ave. to Future Hwy. 125	169,000	75	165	380	760	1630
Future Hwy. 125 to Spring St.	229,000	90	200	430	920	1985
Spring St. to East of City Limits	110,000	60	120	265	570	1225
Amaya Drive						
Fletcher Parkway to Severin Dr.	18,000				75	160
Severin Dr. to Primrose Dr.	15,000				65	140
Baltimore Drive						
Northern City Limits to El Paso St.	17,000				70	155
El Paso St. to Lake Murray Blvd.	21,000				80	175
Lake Murray Blvd. to El Cajon Blvd.	32,000				110	230
El Cajon Blvd. to University Ave.	27,000				95	210
El Cajon Boulevard						
Western City Limits to I-8	39,000			25	165	355
Fletcher Parkway						
Interstate 8 to Jackson Dr.	33,000			50	195	415
Jackson Dr. to Grossmont Center Dr.	27,000			50	170	365
Grossmont Center Dr. to Future Hwy. 125	64,000		65	140	300	650
Future Hwy. 125 to Northern City Limits	16,000			85	120	260
Grossmont Boulevard						
La Mesa Blvd. to Hwy. 125	14,000				70	150
Jackson Drive						
Northern City Limits to Fletcher Parkway	19,000				90	195
Fletcher Parkway to I-8	19,000				70	155
I-8 to La Mesa Blvd.	26,000			40	95	200
La Mesa Blvd. to Lemon Ave.	17,000				60	125

Table C-1 (Continued)

2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L_{dn} (Distance in Feet from center line of roadway) 80	75	70	65	60
Lake Murray Boulevard						
Northern City Limits to Baltimore Dr.	22,000				85	180
Baltimore Dr. to Maryland Ave.	24,000				90	190
Maryland Ave. to I-8	33,000			60	130	280
La Mesa Boulevard						
El Cajon Blvd. to University Ave.	19,000				65	135
University Ave. (west) to University Ave.	16,000				40	95
University Ave. to Jackson Dr.	32,000			50	110	235
Jackson Dr. to Grossmont Blvd.	28,000				100	215
Lemon Avenue						
Jackson Dr. to Hwy. 125	17,000				60	125
Massachusetts Avenue						
University Ave. to Hoffman Ave.	29,000			60	135	290
Hoffman Ave. to Hwy. 94	38,000			75	160	345
Murray Drive						
Future Hwy. 125 to East of City Limits	15,000				65	140
Murray Hill Road						
University Ave. to Waite Dr.	15,000				55	115
Severin Drive						
Amaya Dr. to I-8	19,000				90	195
Spring Street						
I-8 to La Mesa Blvd.	43,000			65	135	295
La Mesa Blvd. to Finley Ave.	33,000			53	115	245
Finley Ave. to Hwy. 94	33,000			75	160	350
University Avenue						
Western City Limits to Spring St.	33,000			70	145	315
Spring St. to La Mesa Blvd.	34,000			70	150	320
Waite Drive						
Murray Hill Rd. to Hwy. 94	13,000				45	100

(a) Based on data provided by SANDAG, SANDAG Series VII, 2010 Regional Forecast, May, 1989.

* Blank indicates noise contour within right-of-way.

Table C-2

2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic (A)	L_{dn} (Distance in Feet) from Centerline of Roadway 80	75	70	65	60
Allison Avenue						
University Ave. To Spring St.	9,892				*	90
Spring St. to Palm Ave.	7,968					60
Bancroft Drive						
I-8 to Shirley Dr.	16,903				70	150
Shirley Dr. to Lemon Ave.	10,396				50	110
Lemon Ave. to Golondrina Dr.	14,116				65	135
Golondrina Dr. to Campo Rd.	14,003				60	135
Center Street						
Commercial St. to Timken St.	10,308				60	125
Timken St. to Jackson Dr.	15,606				75	165
Grossmont Center Dr. to Future Hwy. 125	5,074					75
Commercial Street						
Center St. to Guild St.	6,848				40	95
Guild St. to Center Dr.	7,087				40	95
Cowles Mountain Boulevard						
Northern City Limits to Lake Murray Blvd.	5,359					70
Dallas Street						
Lake Murray Blvd. to Jackson Dr.	6,116					75
Jackson Dr. to Meadowcrest Dr.	8,942				45	100
Meadowcrest Dr. to Fletcher Parkway	12,363				55	125
Grossmont Center Drive						
Fletcher Parkway to Center Dr.	29,081				65	140
Center Dr. to Havenhill Rd.	18,691				50	105
Havenhill Rd. to Murray Dr.	26,544				60	135
Murray Dr. to I-8	27,226				65	135
Guava Avenue						
Alvarado Rd. to El Cajon Blvd.	7,828					75
Harbinson Avenue						
Amhurst St. to Camellia Dr.	5,580					60
Camellia Dr. to University Ave.	7,892					75

Table C-2 (Continued)

2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic (A)	L_{dn} (Distance in Feet) from Centerline of Roadway 80	75	70	65	60
Lowell Street						
University Ave. to Orion Ave.	9,632				35	85
Orion Avenue						
Murray Hill Rd. to Lowell St.	9,864				35	85
Palm Avenue						
La Mesa Blvd. to Finley Ave.	13,633				60	130
Finley Ave. to Spring St.	14,690				65	140
Parkway Drive						
Lake Murray Blvd. to Baltimore Dr.	6,941				45	100
Baltimore Dr. to Jackson Dr.	10,442				60	130
Severin Drive						
Northern City Limits to Stanley Dr.	13,528				50	110
Stanley Dr. to Amaya Dr.	18,503				60	135
Waite Avenue						
Massachusetts Ave. to Murray Hill Rd.	10,466				40	90
70th Street						
I-8 to El Cajon Blvd.	64,313			75	160	345
El Cajon Blvd. to University Ave.	33,372			70	150	320

(A) Future traffic volumes based on SANDAG's projection of percentage increase in Daily Trip Ends by Traffic Analysis Zones (TAZ) September 1988.
(*) Traffic data provided by Caltrans and City of La Mesa.
* Blank indicates noise contour within right-of-way.

Table C-3

2010 L_{dn} CONTOURS BY ROADWAY (ROADS WITHIN PLANNING AREA)

Roadway	Average Traffic	L_{dn} (Distance in Feet) 70	65	60
Avocado Blvd.	23,000	70	145	315
Campo Rd.	15,000	*	75	165
Fuerte Dr.	24,000	*	90	190
Jamacha Rd.	50,000	90	195	415

*Blank indicates noise contour is located within the right of way.

4.12 NOISE

This section analyzes the potential noise impacts associated with implementation of the 2050 RTP/SCS. The noise analysis includes a description of existing noise conditions, an evaluation of potential noise impacts associated with construction and operation of projects in the 2050 RTP/SCS, and identification of potentially feasible noise mitigation measures.

4.12.1 EXISTING CONDITIONS

Terminology and Methodology

Noise

The noise measurement terms used in this section include the decibel (dB), which represents the loudness of a noise source; A-weighted decibel (dBA), a frequency weighting method that approximates the range of human hearing; the average noise level over a measured period of time (L_{eq}), typically a 1-hour or 24-hour measurement; and the Community Noise Equivalent Level (CNEL), which assigns a 5-dB "penalty" to noise levels between 7:00 p.m. and 10:00 p.m. and 10-dBA penalty to noise levels between 10:00 p.m. and 7:00 a.m. Neither L_{eq} nor CNEL is an "average" in the normal sense of the word, where introduction of a quiet event would pull down the average. Furthermore, similar to the effect of rainfall in watering a field or garden, scientific evidence strongly indicates that total noise exposure is the truest measure of noise impact. Neither the moment-to-moment rain rate nor the moment-to-moment A-weighted noise level is a good measure of long-term effects (FTA 2006).

Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Therefore, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease (FHWA 2011). Additionally, human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not "sound twice as loud" as one source. It is widely published that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease; that a change of 5 dBA is readily perceptible; and that an increase of 10 dBA sounds twice as loud (Caltrans 2009).

Noise levels generated by project construction and operation would be generally described based on common equipment used or reference noise levels and compared against established standards. Both construction and operation noise sources would include stationary and mobile sources, which would attenuate, or reduce, at different rates due to the effects of interference from the ground and atmosphere. Stationary sources are fixed or have a limited area of movement and are generally associated with on-site operations. Stationary, or point, sources attenuate at a rate of 6 dBA per doubling of distance (Crocker 2007). Mobile sources are generally located on long linear paths, such as roadways and railways, which attenuate at a rate of 3 dBA be doubling of distance (FHWA 2011). These attenuation rates assume a hard site condition, such as pavement or water. As this EIR is programmatic in nature, no consideration of additional attenuation for more absorptive, or acoustically soft, intervening terrain, such as a grass or tilled field, is considered.

Construction noise is calculated at the sources and attenuated to locations determined by the standards (e.g., at the nearest residential property line). Construction noise sources include the operation of diesel engines of equipment and vehicles, and various construction activities, both of which can be stationary and mobile. Construction activities typically involve several vehicles and equipment operating at various times within a fixed area and assessed as a stationary source. Construction noise is predicted by

considering the noise rating of the equipment to be used to establish a resultant noise level at 50 feet from the center of the activity. Considering typical duty cycles of this equipment, hourly average noise levels (L_{eq}) are approximated at 50 feet. These noise levels at the source are attenuated with distance at receptors based on source type, ground surface type, and any intervening topography or structures. Given the programmatic nature of this EIR, site-specific construction noise levels are not calculated.

Operational noise sources include stationary sources, e.g.,. mechanical equipment associated with building ventilation, industrial activities, parking lots, etc., and mobile sources, such as traffic or rail. Stationary noise sources are calculated at the source to locations determined by the standards (e.g., at the nearest residential property line). Operation noise of stationary noise sources is predicted by considering the manufacturer's, or measured, sound level of the equipment at a given distance and the typical duty cycles of the equipment (or how continuously the equipment is operated in a given hour) to calculate an L_{eq} at a specific location. These noise levels at the source are attenuated with distance based on ground surface type and any intervening topography and structures to determine the resultant noise level at the nearest property line. Given the programmatic nature of this EIR, project-level operation noise levels from stationary sources are not calculated.

Operation-related mobile noise is calculated from the roadway or railway to locations determined by the standards (e.g., exterior noise-sensitive areas or habitable rooms). Mobile source noise levels are calculated based on traffic speed, traffic volume, and vehicle classification mix. In general, the larger the traffic volume is on a roadway, the higher the noise levels that are generated on that roadway. This holds true until there is so much traffic volume that traffic flow degrades and traffic speeds decrease, which lowers traffic noise levels. This condition is known as the boundary between level of service (LOS) C and D. Thus, the loudest hour traffic noise level increase can be reasonably calculated with a few assumptions, e.g.. the vehicle mix would be similar to the previous condition, the maximum traffic speed would be the same, and the roadway elevation and shielding relative to the local receivers would be similar. Similar to traffic noise, rail noise can be reasonably calculated based on the increase in rail traffic on a given railway; i.e., four trains passing by the same point in the future as two trains pass by today would be approximately 3 dBA louder than the existing train noise. Given the programmatic nature of this EIR, and the lack project-level plans, traffic noise levels are not calculated for specific projects but a range of potential noise level increases is provided to determine the relative level of impact.

Vibration

Vibration levels are usually expressed as a single-number measure of vibration magnitude in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (ppv) is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second. Since it is related to the stresses that are experienced by buildings, ppv is often used in monitoring of blasting vibration. Although ppv is appropriate for evaluating the potential of building damage, it is not suitable for evaluating human response (FTA 2006). This is because it takes some time for the human body to respond to vibrations. In a sense, the human body responds to the average vibration. Vibration is usually measured in inches per second.

Vibrations transmitted through the ground during construction operations may annoy people and detrimentally affect structures and sensitive devices. Where construction vibration does cause structural damage, it is through direct damage and/or vibration-induced settlement. Structural damage depends on the frequency of the vibration at the structure, as well as the condition of the structure and its foundation. Human annoyance by vibration is related to the number and duration of events. The more events or the greater the duration, the more annoying it will be to humans.

There are no state thresholds for construction vibrations; however, the Caltrans considers the architectural damage risk level for continuous vibrations to be a PPV somewhere between 0.1 and 0.5 inches per second while transient sources would potentially result in architectural damage between 0.2 and 2.0; see Table 4.12-1 (Caltrans 2004).

Table 4.12-1
Potential Structural Damage Thresholds

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2004

Vibrations generated by construction and operations would be generally calculated based on manufacturer's specifications or reference vibration levels, which are compared against established standards. Construction and operation associated with regional growth/land use changes and transportation network improvements would include vibration sources. Construction sources are usually considered temporary and transient, while vibration sources associated with operation of commercial or industrial facilities and transportation facilities are continuous of frequent intermittent sources.

Ambient Noise Levels and Existing Noise Sources

The ambient noise level is the composite of noise from all sources near and far, and represents the normal or existing level of environmental noise at a given location. It is the composite of sound from many sources in all directions with no particular sound being dominant (Harris 1991). Typical ambient levels range from approximately 35 to 50 CNEL in rural and agricultural areas, approximately 50 to 65 CNEL in suburban to urban areas, and approximately 65 to 75 CNEL in downtown urban areas (EPA 1974).

The most prevalent noise generators in the SANDAG region are vehicular and aircraft traffic. Local collector streets are not considered a significant source of noise since traffic volume and speed are generally much lower than for freeways and arterial roadways. Rail and stationary sources associated with industrial and commercial uses also contribute to the noise environment; however, these sources are more localized than traffic and aircraft.

4.12.2 REGULATORY SETTING

Federal noise standards include transportation-related noise sources related to interstate commerce (i.e., aircraft, trains, and trucks) for which there are no more stringent state standards. State noise standards are set for automobiles, light trucks, and motorcycles. Local noise standards are set for industrial, commercial, and construction activities subject to local noise ordinances and general plan policies.

Federal Regulations and Agencies

Federal regulations establish noise limits for medium and heavy trucks (more than 10,000 pounds, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

US Department of Transportation (USDOT)

The USDOT is composed of several agencies and has the primary responsibility to keep the traveling public safe and secure, increase their mobility, and have our transportation system contribute to the nation's economic growth. The USDOT agencies with regulations associated with the RTP include the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Aviation Administration (FAA), and the Federal Rail Administration (FRA).

FHWA

Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) is the federal regulation governing traffic noise. A Federal or federally-funded project would have a traffic noise impacts if it involved the construction of a new highway, or significant modification of an existing freeway, where the project would result in a substantial operational noise increase, or when the predicted operational noise levels approach or exceed the FHWA Noise Abatement Criteria (NAC). A "substantial increase" is not defined by the FHWA but rather by state agencies. FHWA has developed the NAC for Categories A – G at various noise-sensitive land uses (Federal Register 2010). For example, the FHWA NAC for Category B land uses, which are exterior locations of residences, and Category C land uses, which include active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings., is 67 dBA L_{eq}. Noise levels that approach the NAC are defined as one dBA less than the criterion level, or 66 dBA for Category B and C land uses (Federal Register 2010).

There are no FHWA standards for vibration.

FAA

Aircraft operated in the U.S. are subject to federal requirements for noise emissions levels. The requirements are set forth in Title 14 CFR, Part 36, which establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight, and number of engines. Pursuant to the federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 "Stage 3" standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft.

The FAA Part 150 program encourages airports to prepare noise exposure maps that show land uses that are incompatible with high noise levels (FICON 1992). The program proposes measures to reduce the incompatibility. With an FAA Part 150 program approved, airport projects such as land acquisition, acoustic treatment of residences, etc., become eligible for Federal AIP funds.

There are no FAA standards for vibration.

FRA and FTA

The Federal Railroad Noise Emission Compliance Regulation (49 C.F.R. Part 210) prescribes minimum compliance regulations for enforcement of the railroad noise emission standards adopted by the EPA (40 C.F.R. Part 201). The FTA has also established criteria for assessment of noise and vibration impacts for high-speed ground transportation projects (FTA 2006). The FRA has adopted the FTA methodologies and significance criteria for the evaluation of noise impacts from surface transportation modes. These have applicability to noise from motor vehicle traffic, such as buses, on local roadway that the 2050 RTP/SCS would generate, as well as train noise, and as to how the noise might be judged in relation to the existing and future background noise. The FTA and FRA incremental noise impact criteria are summarized in Table 4.12-2.

Table 4.12-2
Noise Impact Criteria for Noise-Sensitive Uses (dBA)

	For Land Use Categories 1 & 2			For Land Use Category 3		
Existing Noise Level	Project Impact Threshold	Combined Noise Level	Allowable Noise Increment	Project Impact Threshold	Combined Noise Level	Allowable Noise Increment
55	55	58	3	60	61	6
60	58	62	2	63	65	5
65	61	66	1	66	68	3
70	64	71	1	69	73	3
75	65	75	0	70	76	1

Notes:
Land Use Category 1: Tracts of land where quiet is an essential element in their intended purposes. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor uses. Also included are recording studios and concert halls. The noise metric for Category 1 is the outdoor 1-hour L_{eq} during the noisiest hour of activity.
Land Use Category 2: Residences and buildings where people normally sleep. This category includes homes, hospitals and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance. The noise metric for Category 2 is the outdoor L_{eq} or CNEL.
Land Use Category 3: Institutional land uses with primarily daytime and evening uses. This category includes schools, libraries, theaters, churches where it is important to avoid interference with such activities as speech, meditation and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds and recreational facilities can also be considered in this category. Certain historical sites and parks are also included. The noise metric for Category 3 is the outdoor 1-hour L_{eq} during the noisiest hour of activity.
Source: FAA 2006

FTA uses hourly L_{eq} as the measure of total noise impact for non-residential land uses (those not involving sleep) because: (1) L_{eq}'s correlate well with speech interference in conversation and on the telephone – as well as interruption of TV, radio and music enjoyment, (2) L_{eq} 's increase with the duration of noise events, which is important to people's reaction, (3) L_{eq} 's take into account the number of events over the hour, which is also important to people's reaction, and (4) L_{eq} 's are used by the Federal Highway Administration in assessing highway-traffic noise impact (FTA 2006). Thus, this noise descriptor can be used for comparing and contrasting various noise sources, such as automobile and trains. L_{eq} is computed for the loudest hour during noise-sensitive activity at each particular non-residential land use.

FTA uses CNEL as the measure of total noise impact for residential land uses and those involving sleep, because: (1) CNEL correlates well with the results of attitudinal surveys of residential noise impact; (2) CNEL's increase with the duration of events; (3) CNEL's take into account the number of events over a 24-hour period, which is important in evaluating total exposure; (4) CNEL's take into account the increased sensitivity to noise during the evening and night; (5) CNEL's allow composite measurements to capture all sources of community noise combined; (6) CNEL's allow quantitative comparison of specific

noise sources with other community noises; and (7) CNEL is the designated metric of choice for airport planning and community planning, and also has wide acceptance internationally (FTA 2006).

The FTA also provides guidance for evaluating construction noise in environmental documents. According the to the FTA "[p]roject construction noise criteria should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use" (FTA 2006). While the FTA does not specify standardized criteria for construction noise impact, the guidelines presented in Table 4.12-3 are considered reasonable criteria for construction noise when little project-level information is available. Additionally, the FTA considers a 10 dBA increase in high ambient noise levels a substantial temporary increase in noise levels. There is no guidance for a temporary substantial increase in noise levels in rural or quiet areas.

Table 4.12-3
Construction Noise Criteria

Land Use	1-hour L_{eq} (dBA)		8-hour L_{eq} (dBA)	
	Day	Night	Day	Night
Residential	90	80	80	70
Commercial	100	100	85	85
Industrial	100	100	90	90

Note: In urban areas with very high ambient noise levels, construction operations should not exceed existing ambient + 10 dB.
Source: FTA 2006

The FRA and FTA have published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to groundborne vibration levels of 0.5 PPV without experiencing structural damage (FTA 2006). The FTA and FRA have identified the human annoyance response to vibration levels from train operations as 80 VdB (FTA 2006).

State Regulations and Agencies

State of California

Noise Insulation Standard

The California Noise Insulation Standards found in the California Code of Regulations, Title 24, set requirements for new residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For areas with exterior noise levels greater than 60 dBA, the noise insulation standard is 45 dBA in any habitable room; an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard is required where such units are proposed in such areas. From Title 24, California Code of Regulations (CCR), Part 2, Section 1207.11.2, "The noise metric must be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan

California Department of Transportation (Caltrans)

Caltrans manages California's highways and freeways, provides inter-city rail services, and permits public-use airports and special-use hospital heliports. The Caltrans has programs and divisions with policies or regulations associated with the RTP including Aeronautics, Highway Transportation, Rail, and Mass Transportation.

Sections 27201-27206 of the California Vehicle Code sets noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State standard is consistent with the federal limit of 80 dBA. The State

passby standard for motorcycles, passenger cars, and light trucks is also a maximum of 80 dBA at 50 feet from the centerline. For roadway projects, Caltrans uses the FHWA NAC and sets the substantial increase criterion at 12 dBA L_{eq} (Caltrans 2011a). Additionally, construction noise from a contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., must not exceed 86 dBA at a distance of 50 feet.

The California Airport Noise Standards (Title 21 CCR Section 5000 et seq.) apply to any airport that is determined to have a noise problem by the local County Board of Supervisors. At this time, San Diego International Airport is the only airport in within the jurisdiction of SANDAG that has been determined to have a noise problem (Caltrans 2011b). Title 21 CCR Section 5006, states "[t]he level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations." Section 5012 sets 65 dBA CNEL as the acceptable level standard. The Caltrans Division of Aeronautics is responsible for licensing and permitting programs for airports and heliports. Assistance for the development and maintenance of aviation facilities through engineering and aviation experience is also provided, as well as systems planning and environmental and community service programs (Caltrans 2002b).

Caltrans Division of Rail uses FRA and FTA noise criteria and methodologies for assessing rail related noise or vibration impacts.

Local Plans and Policies

General Plan Noise Elements

Cities and the County within SANDAG's region adopt a noise element as part of their General Plan to identify, appraise, and remedy noise problems in local communities. Noise elements analyze and quantify current and projected noise levels associated with local noise sources, including, but not limited to, highways and freeways, primary arterials and major local streets, rail operations, air traffic associated with the airports, local industrial plants, and other ground stationary sources that contribute to the community noise environment. Beyond statutory federal standards, local jurisdictions may to adopt their own noise goals and policies in their noise elements, or adopt noise/land use compatibility guidelines similar to those recommended by the State, see Table 4.12-4. With the exception of two cities, Del Mar and Oceanside, all other jurisdictions have adopted land use and noise compatibility goals similar to Table 4.12-4. Neither Del Mar nor Oceanside have published noise level and land use goals.

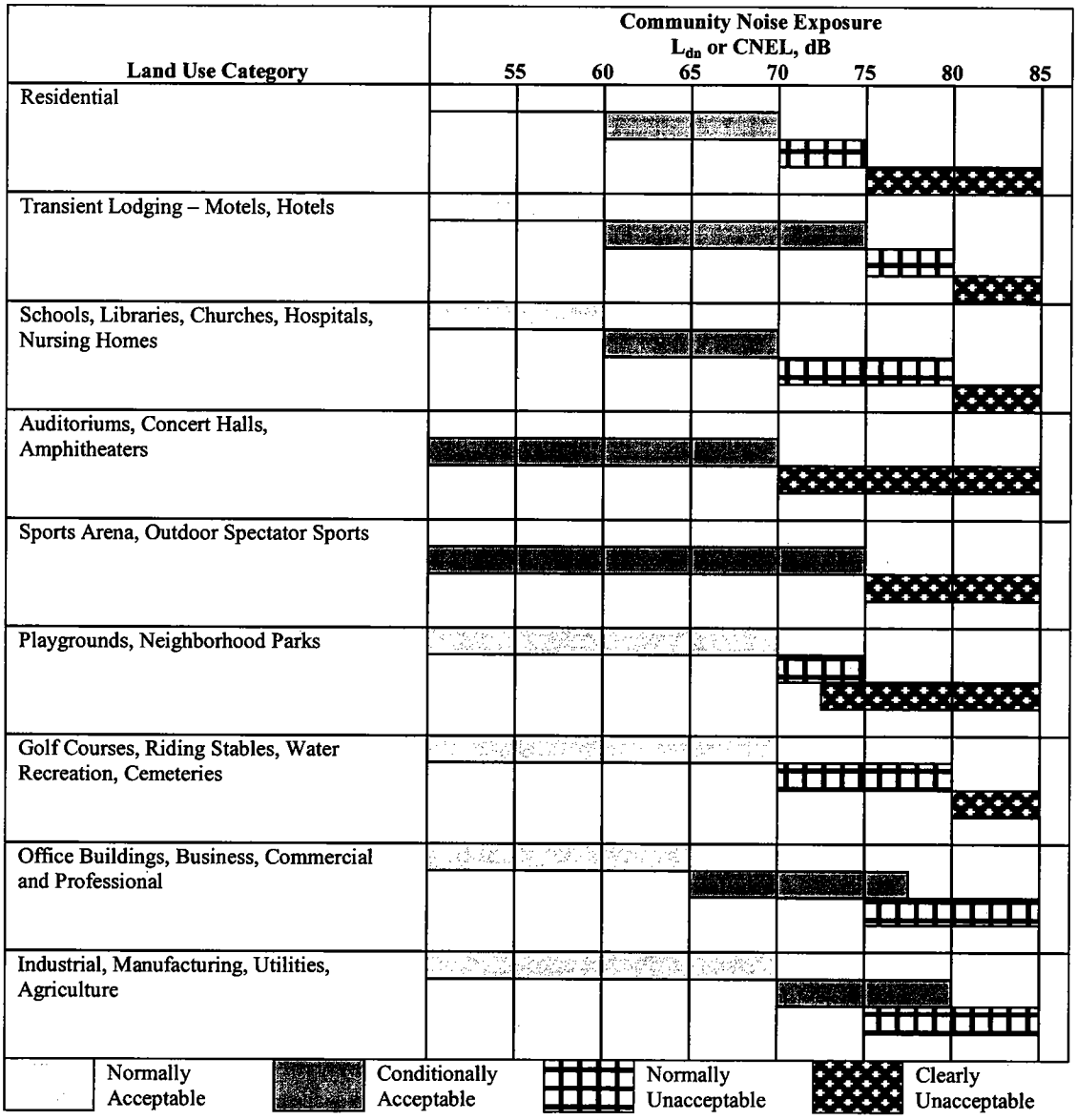
Noise Ordinances

In addition to general plan noise element policies, local jurisdictions regulate specific noise sources through enforcement of local ordinance standards in their municipal codes including noisy activities (e.g., loudspeakers, construction noise, and stationary noise sources and facilities (e.g., air conditioning units and industrial activities). Table 4.12-5 summarizes the various property line noise limits and Table 4.12-6 summarizes the construction noise regulations for each jurisdiction within the SANDAG region.

Airport Land Use Commissions

In the SANDAG region, the relationships of transportation, transit, and mobility, and of population growth to noise associated with aircraft in flight are the responsibility of the San Diego County Regional Airport Authority, established under state law to protect the safety and welfare of the general public and the ability of airports to operate now and in the future (SDCRAA 2011). One of the Authority's responsibilities is to serve as the Airport Land Use Commission (ALUC) for San Diego County. The ALUC is charged with creating or updating Airport Land Use Compatibility Plans (ALUCP) for the region's 16 public-use and military airports in accordance with applicable state and federal laws.

Table 4.12-4
Noise/Land Use Compatibility Guidelines



Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.	New construction or development should generally not be undertaken.

Source: OPR 2003

Table 4.12-5
Summary of Applicable Property Line Noise Level Limits

Jurisdiction	General Land Use Zone					
	Residential		Commercial		Industrial	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
Carlsbad	--	--	--	--	--	--
Chula Vista	--	--	--	--	--	--
Coronado	50-55	40-45	60	50	--	--
Del Mar	50	40	60	50	--	--
El Cajon	60	50	65	55	75	75
Encinitas	50-55	45-50	60	55	60	55
Escondido	50-55	45-50	60	55	70-75	70-75
Imperial Beach	--	--	--	--	--	--
La Mesa	55-60	50-55	65	60	70	70
Lemon Grove	50-60	40-50	60	55	70	70
National City	45-50	55-60	60	65	70-80	70-80
Oceanside	50-55	45-50	65	60	70	65
Poway	50-55	40-50	60	55	70	70
San Diego, City	50-60	40-50	65	60	75	75
San Diego, County	50-55	45-50	60	55	70-75	70-75
San Marcos	--	--	--	--	--	--
Santee	50-55	40-45	60	50	70-75	70-75
Solana Beach	50-55	45	60	55	70	60
Vista	50-55	45-50	60	55	75	75

Source: Data compiled by AECOM 2011

Table 4.12-6
Summary of Applicable Construction Noise Standards

Jurisdiction	Code Section	Construction Hours Prohibited	Construction Noise Limits
Carlsbad	8.48	After sunset any day; before 7:00 a.m. weekdays; before 8:00 a.m. Saturday; Sundays; seven holidays	75dBA L_{eq}
Chula Vista	17.24	10:00 p.m. - 7:00 a.m., Monday through Friday, and before 8:00 a.m. or after 10:00 p.m. Saturdays, Sundays	None
Coronado	41.10	7:00 p.m. – 7:00 a.m. Monday through Saturday; Sundays; legal holidays	75 dBA L_{eq}
Del Mar	9.20	7:00 p.m. - 7:00 a.m., Monday through Friday, and before 9:00 a.m. or after 7:00 p.m. Saturdays, Sundays; holidays	75 dBA L_{eq} at residential properties
El Cajon	17.115	7:00 p.m. – 7:00 a.m., within 500 feet of residential uses	None
Encinitas	9.32	7:00 p.m. – 7:00 a.m. Monday through Friday; Sundays; federal holidays	75 dBA $L_{eq(8)}$ at residential properties
Escondido	17-234	6:00 p.m. - 7:00 a.m., Monday through Friday, before 9:00 a.m. or after 5:00 p.m. Saturdays, Sundays	75 dBA L_{eq} at residential properties
Imperial Beach	9.32	10:00 p.m.-7:00 a.m.[IB]	75 dBA L_{eq}
La Mesa	10.80	10:00 p.m.-7:00 a.m.; Sundays	None
Lemon Grove	9.24	7:00 p.m. – 7:00 a.m. Monday through Saturday	75 dBA $L_{eq(8)}$ at residential properties
National City	12.10	6:00 p.m.-7:00 a.m. weekdays; weekends; federal holidays	75 dBA L_{eq} at residential properties, and 85 dBA L_{eq} at commercial properties
Oceanside	515	6:00 p.m.-7:00 a.m. weekdays; weekends; Federal holidays [O]	
Poway	8.80	5:00 p.m.- 7:00 a.m. Monday through Saturday; Sundays; federal holidays	75 dBA $L_{eq(8)}$ at residential properties
San Diego, City	59.5	7:00 a.m. – 7:00 p.m. Monday through Saturday; Sundays; federal holidays	75 dBA L_{eq}
San Diego, County	36.40	7:00 a.m. – 7:00 p.m. Monday through Saturday; Sundays; federal holidays	75 dBA $L_{eq(8)}$ at residential properties
San Marcos	10.24	6:00 p.m. - 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 5:00 p.m. Saturdays, Sundays	
Santee	8.12	7:00 p.m. – 7:00 a.m. Monday through Saturday	75 dBA $L_{eq(8)}$ at residential properties
Solana Beach	7.34	7:00 p.m.-7:00 a.m. weekdays; 7:00 p.m.-8:00 a.m. Saturday; Sundays; nine holidays[SB]	75 dBA $L_{eq(8)}$ at residential properties
Vista	NA	None	None

Source: Data compiled by AECOM 2011

ALUCPs have been adopted for 14 of the 16 public use or military airports in the region. Those airports, with the year of adoption of the latest ALUCP, are:

- Agua Caliente Airport (2006)
- Borrego Valley Airport (2006)
- Brown Field (2010)
- Fallbrook Community Airpark (2006)
- Gillespie Field (2010)
- Jacumba Airport (2006)
- Marine Corps Air Station Camp Pendleton (2008)
- Marine Corps Air Station Miramar (2010)
- McClellan-Palomar Airport (2010)
- Montgomery Field (2010)
- Oceanside Municipal Airport (2010)
- Ocotillo Airport (2006)
- Ramona Airport (2008)
- San Diego International Airport - Lindbergh Field (2004)

The two airports that do not have ALUCPs are both military airfields: the Navy's Outlying Landing Field Imperial Beach and Naval Air Station North Island. The Department of Defense requires military airfields to adopt Air Installation Compatible Use Zone (AICUZ) studies, which assess compatible land uses in the vicinity of a military air station in a way equivalent to ALUCPs.

The ALUC reviews land use plans, development proposals, and certain airport development plans for consistency with adopted ALUCPs. An ALUCP focuses on a defined area around each airport known as the Airport Influence Area (AIA). The AIA is composed of noise, safety, airspace protection, and overflight factors, in accordance with guidance from the California Airport Land Use Planning Handbook published by Caltrans, Division of Aeronautics. ALUCPs provide guidance on appropriate land uses surrounding airports to protect the health and safety of people and property within the vicinity of an airport, as well as the public in general. While, the ALUC has no jurisdiction over the operation of airports or over existing land uses, regardless of whether such uses are incompatible with airport activities, within 180 days of an ALUCP being adopted by the ALUC, local agencies with land located within the AIA boundary for any of the airports must, by law, amend their planning documents to conform to the applicable ALUCP. If a local agency fails to take either action, it is required to submit all land use development actions involving property within the AIA to the ALUC for review. The local agency may propose to overrule an ALUC's compatibility plan by a two-thirds vote of its governing body if it makes specific findings at a hearing that the local agency's plans are consistent with the intent of state airport land use planning statutes. The local agency must provide both the ALUC and the California Division of Aeronautics the opportunity to provide comments to the local agency, which must be included in the public record of the local agency's final decision to overrule the ALUC. Similar requirements apply to a local agency's decision to overrule the ALUC's consistency determinations for individual development proposals in an ALUCP and Airport Master Plan (Pub. Util. Code § 21676 et seq.).

The four compatibility factors considered in an ALUCP are noise, safety, airspace protection, and overflight. However, only noise is covered in this section. The purpose of noise being included in the ALUCP is to "avoid introducing new noise-sensitive land uses in the vicinity of an airport that would be exposed to significant levels of aircraft noise, taking into account the characteristics of the airport and the communities surrounding the airport." While airport noise may be addressed by altering runway use through flight routing changes, aircraft operational procedure changes, and engine run-up restrictions, these actions generally are subject to approval by the FAA, which has the authority and responsibility to

control aircraft noise sources, implement and enforce flight operational procedures, and manage the air traffic control system.

In addition to the public or military airports, there are numerous private airports, airstrips, and helipads in the region. Many of these private airports are located in the eastern areas of the region or remote vacation destinations. There are several private helipads located on the roofs of hospitals and buildings owned by large corporations, or used by police stations. The majority of these private airports do not have adopted an ALUCP or CLUP.

4.12.3 SIGNIFICANCE CRITERIA

The 2050 RTP/SCS would have a significant impact on noise if implementation were to:

N-1 Expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

N-2 Expose persons to or generation of excessive groundborne vibration or groundborne noise levels.

N-3 Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

N-4 Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

N-5 For a project located within an airport land use plan or where such a plan has not been adopted within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

N-6 For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

4.12.4 IMPACT ANALYSIS

Noise Analysis Methodology

This section analyzes the impacts associated with the implementation of the 2050 RTP/SCS. This analysis focuses on the main components of the 2050 RTP/SCS that would affect noise—regional growth and transportation system improvements. The method to assess noise impacts of the 2050 RTP/SCS is to review the projected growth and review the list of transportation improvements, then assess the likelihood of significant noise impacts based on the type of project (e.g., roadway expansion, new railway, etc.), location, and land uses surrounding the project. Analysis of significance criteria includes a program-level discussion of anticipated impacts in the planning horizon years of 2020, 2035, and 2050. Significant impacts are identified and mitigation measures are provided where appropriate.

Regional Growth/ Land Use Change

Development projects implemented under the 2050 RTP/SCS would include residential uses located in proximity to commercial uses and in areas served by public transit along major roadways. Development projects implementing the growth forecast would generate noise during construction and operation. Additionally, new residential and mixed-use development that would occur with implementation of the

2050 RTP/SCS would potentially be constructed within the same building as commercial uses or adjacent to incompatible land uses, such as commercial or industrial land uses.

Noise sources associated with commercial and industrial land uses include mechanical equipment, public address systems, parking lot noise (e.g., opening and closing of vehicle doors, people talking, car alarms), delivery activities (e.g., use of forklifts, hydraulic lifts), trash compactors, and air compressors. Noise from such equipment can reach intermittent levels of approximately 90 dBA, 50 feet from the source (USEPA 1974).

Transportation Network Improvements

Traffic Noise

The traffic noise generated on a roadway is dependent on traffic speed, volume, and percentage of trucks. In general, the larger the traffic volume is on a roadway, the higher the noise levels that are generated on that roadway. This holds true until there is so much traffic volume that traffic flow degrades and traffic speeds decrease, which lowers traffic noise levels. Roadways with large percentages of heavy trucks will generate higher noise levels. A heavy truck traveling 50 mph generates about 85 dBA, whereas an automobile traveling the same speed generates only 71 dBA. An increase of 10 dBA is usually perceived as a "doubling" of sound (FHWA 2011).

Roadways that generate the highest noise levels in the region are the interstate and state highways as they have the highest speed limits, the largest traffic volumes, and the most trucks. Figure 2.0-1, Regional Setting, shows the interstate and state highway network and significant arterials in the SANDAG region. Traffic typically generates 70–80 dBA CNEL at 50 to 100 feet of major highways. Heavily used commuter roadways, such as arterials and major streets, also generate significant levels of noise, typically 65–75 dBA CNEL at similar distances (FTA 2006). In the SANDAG region, there is a wide range of land uses located adjacent to highways and major streets, including residences, schools, churches, hospitals, shopping centers, industrial parks, agriculture, parks, and open space. A general rule for estimating noise reductions due to intervening structures in populated areas is to assume one row of buildings every 100 feet and apply -4.5 dBA for the first row and -1.5 dBA for every subsequent row, up to a maximum of -10 dBA attenuation (FTA 2006). Thus, traffic noise is not usually a serious problem for people who live more than 500 feet from heavily traveled freeways or more than 100 to 200 feet from lightly traveled roads (FHWA 1992).

Railroad Operations

The two basic types of railroad operations are freight trains and passenger rail operations, the latter consisting of commuter and intercity passenger trains and steel-wheel urban rail transit. Generally, freight operations occur at all hours of the day and night while passenger rail operations are concentrated within the daytime and evening periods. For example, the operating window for freight service on the San Diego Trolley Blue Line is from 2:00 a.m. to 4:00 a.m., Sunday through Friday. On Saturday, light rail service is operated throughout the 24-hour period with late night service at 30-minute intervals; freight service is not permitted.

Trains can generate high, relatively brief, intermittent noise events. Train noise is an environmental concern for sensitive uses located along rail lines and in the vicinities of switching yards. Locomotive engines and the interaction of steel wheels and rails generate the primary source of rail noise. The latter source creates three types of noise: (1) rolling noise due to continuous rolling contact; (2) impact noise when a wheel encounters a rail joint, turnout, or crossover; and (3) squeal generated by friction on tight curves. For very high-speed rail vehicles, air turbulence can be a significant source of noise. Railways carrying 5–10 trains per day at speeds of 30–40 mph typically generate 60—65 CNEL at 60–120 feet from the

center of the railway (FTA 2006). The sounding of train air horns and crossing gate bells also contributes to higher noise levels near rail/roadway grade crossings and can result in noise impacts within 1,200 feet of the crossing (FTA 2006). In the SANDAG region, there is a wide range of land uses located adjacent to railways, including residences, schools, churches, hospitals, shopping centers, industrial parks, agriculture, parks, and open space. The same general rule for estimating noise reductions due to intervening structures in populated areas is applicable to rail noise as well (FTA 2006). Based on these concepts, commuter rail is not usually an issue beyond 375 feet, while light rail is usually not a problem beyond 175 feet (FTA 2006).

Construction

Construction projects typically generate noise levels on the order of 84–89 dBA L_{eq} at 50 feet from the center of the activity during construction. Impacts to sensitive receptors resulting from these construction projects would depend on several factors, such as the type of project for the given area, land use of the given area, and duration of construction activities. Additionally, construction noise levels would fluctuate depending on construction phase, and equipment type and duration of use; distance between noise source and receptor; and presence or absence of barriers between noise source and receptor.

Potential noise impacts are assessed for the target years of 2020, 2035, and 2050 in the following sections.

N-1 EXPOSE PERSONS TO OR GENERATION OF NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES

Noise levels generated by construction and operation activities associated with 2050 RTP/SCS implementation would be considered significant if they exceeded established standards of Caltrans or local jurisdictions. Transportation noise sources to be considered within the SANDAG region include airports, freeways, arterial roadways, seaports, and railroads.

Short-term noise impacts associated with construction of 2050 RTP/SCS projects could expose persons to, or generate noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Please see Impact N-4, below, for a detailed analysis of construction noise.

2020

Regional Growth/Land Use Change

By 2020, population within the region is expected to increase by 310,568 people; housing by 113,062 units; and employment by 118,535 jobs. The 2050 RTP/SCS describes a land use pattern for the region to accommodate growth as well as protecting sensitive habitats and resource areas while providing transportation network improvements necessary to serve the mobility needs of the growing population. To accomplish this, the 2050 RTP/SCS land use pattern focuses housing and jobs growth in existing urbanized areas, protects sensitive habitat and open space, and invests in a transportation network that provides residents and workers with alternatives to driving. Under the 2050 RTP/SCS new development by 2020 would be more compact and more accessible to public transit.

When comparing existing land use as shown in Figure 4.11-1 and 2020 land use as shown in Figure 4.11-3, there are no substantial differences in the land use patterns, types, or areas of development. Similarly, when comparing existing population and employment as shown in Figures 4.13-1 and 4.13-3,

respectively, with the 2020 population and employment patterns as shown in Figure 4.13-5 and 4.13-6, respectively, there are no substantial differences in the population levels or employment centers. The figures show that the land use changes, and population and employment patterns that would occur throughout the SANDAG region within the next 10 years would not create substantial changes to the existing regional land use patterns or developed areas. Some locations that would experience the most extensive growth and land use change by 2020 would include areas such as eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 corridor; City of San Diego coastal and bay communities south of I-8 including Ocean Beach and the Peninsula planning areas; portions of northern Santee; areas north and south of the SR 56 corridor in the San Diego planning areas of Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, and Torrey Highlands; the San Marcos area near both the SR 78 and I-15 corridors; and within unincorporated County communities such as Fallbrook, Pala-Pauma Valley, and Valley Center along the I-15 and SR 76 corridors.

While development patterns indicate there are no substantial differences in regional land use patterns, types, or areas of development, the increase in population, housing, and employment development expected by 2020 would result in impacts to noise through conflicts in land use, such as placing residential uses next to commercial or industrial uses or locating noise-sensitive land uses within the 60–65 dBA CNEL contour of airports or roadways. Thus, depending on the project specifics, stationary noise sources associated with future development projects may impact adjacent land uses, and noise-sensitive land uses could be located in incompatible noise environments. While development projects would be required to comply with all applicable noise regulations, which would limit noise impact between land uses and promote land use compatibility, there is no guarantee that noise impacts would be less than significant for all projects. Thus, while adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that adherence would reduce these impacts to a less than significant level. The 2050 RTP/SCS is a program-level document; detailed, site-specific information is not available to predict either the site-specific noise impacts of future land use changes, or the effectiveness of existing laws, regulations, and programs in reducing any such site-specific impacts. This is a significant impact.

Transportation Network Improvements

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Year 2020 highway improvement projects are identified in Table 2.0-5 and shown in Figure 2.0-15. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Trolley Green Line would be extended to downtown San Diego. Year 2020 transit projects are identified in Table 2.0-5, and the locations are shown in 2.0-11.

The noise impacts of the transportation improvements described in the 2050 RTP/SCS would generally be adverse as the improvements would increase noise levels adjacent to transportation network improvements. This is primarily the result of predicted regional population and employment growth and

the associated increases in the number of trucks, buses, and trains operating under the 2050 RTC/SCS, which generate greater noise per vehicle than automobiles (Caltrans 2009).

In addition, decreasing congestion, a goal of the 2050 RTP/SCS, would in general allow vehicular traffic on freeways and major arterials to move faster, so that fewer vehicles using a corridor could potentially increase the noise produced by traffic along a given corridor as an increase of 10 mph is required to achieve a 3 dBA increase. Additionally, increases in average daily traffic volumes would have little effect on loudest hour noise levels as the greatest noise occurs when a roadway or freeway is operating at a maximum level of service (LOS C). LOS is characterized by the maximum number of vehicles operating on a roadway or freeway while traveling at the maximum allowable speed. For a freeway with limited access this value is typically 1,900 vehicles per lane per hour; surface streets and highways are generally closer to 1,000 to 1,500 vehicles per lane per hour due to the presence of traffic signals and vehicles entering and exiting the thoroughfare. Thus, while the loudest hour is unlikely to change substantially, the overall exposure to noise levels equal to the loudest hour would increase, which would increase the CNEL in proximity to freeways and major arterials.

Additionally, while expanded transit services in 2020 are expected to accommodate greater ridership in the future, this would have little effect relative to traffic on freeways and major arterials due to increases in the overall increase in population, which would result in an increase in overall vehicle miles traveled (VMT) of approximately 8,169, or 10.5 percent (2050 RTC/SCS Appendix B). VMT has a direct correlation to increases in traffic volumes; therefore, the 10.5 percent increase would not likely result in a significant increase in noise levels from the freeways or major arterials. As indicated, increases in traffic volumes are not expected to result in significant increases in noise levels along heavily traveled corridors, such as the I-5, I-805, and I-15, as a doubling of vehicle volumes would be required to generate a 3 dBA increase on existing alignments (Caltrans 2009). While, reductions in traffic congestion could lead to slight increases in noise as peak-hour traffic speeds increase, these would be barely perceivable, i.e., 3 dBA or less. Thus, the forecasted 2020 improvements are unlikely to result in a substantial increase in ambient noise levels from increases in traffic volumes or changes in traffic speeds. However, the proposed transportation network improvements could potentially move traffic closer to local receptors or change existing shielding, or result in higher truck percentages, which would result in a substantial increase in noise levels at local noise-sensitive receptors.

Improvements and extension of transit corridors, specifically associated with rail activity, could expose existing and future noise-sensitive land uses to the higher levels of noise generated by high-volume transit corridors. Noise levels would increase along rail corridors where speeds are increased, trains are double-tracked, or in new rail corridors where there were previously no trains. Increased noise levels would only be relevant where adjacent sensitive receivers are located along existing or proposed rail corridors. Rail crossings also use audible warning signals that could impact nearby residents. Increases in rail traffic could also lead to more train horns or whistles at crossings near residential areas, which can be a source of annoyance, especially at night or in early morning or evening.

The 2050 RTP/SCS includes actions that encourage more efficient intermodal transportation of goods. The number of freight trains currently operating each day in the SANDAG region is dependent upon the demands of the industries using rail services and can vary greatly from day to day. Currently, BN&SF and the San Diego and Imperial Valley (SDIV) railroads transport rail freight in the SANDAG region. Under an agreement made as a part of the purchase of 82 miles of BN&SF right-of-way within the SANDAG region, BN&SF maintains a freight easement over the 62 miles of coastal mainline and the 20-mile branch line between Escondido and Oceanside. The BN&SF also interchanges freight with the SDIV and with the U.S. Navy. Currently, the BN&SF runs approximately four freight trains per day between San Diego and the Greater Los Angeles area (two in each direction). The 2050 RTP/SCS includes proposed rail capacity improvements to reduce current passenger/freight rail bottlenecks and increase capacity for

existing port- and border-related freight. While increases in rail transit tonnage would increase the number of freight trains, these trains would likely operate on an as-needed basis and would not have a fixed schedule. Therefore, noise levels and frequency of passbys would continue to vary greatly from day to day. On some days there may be no increase in freight train activity. Specific 2020 improvements call for double-tracking COASTER routes and other extensions of commuter rail service that would be impacted by intermodal rail operations. Overall, however, an increase in train traffic would yield a consequent increase in noise and vibration in areas adjacent to rail corridors.

At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected to exceed the significance criteria or result in a substantial noise level increase when they occur in proximity to noise-sensitive receptors. Table 4.12-7 summarizes proposed new and expanded facilities with potential noise impacts, including highway, freeway, rail transit, tollway, truck lanes, and freeway interchange projects. Table 2.0-5 lists specific year 2020 transit improvements and Tables 2.0-6 and 2.0-7 list specific year 2020 roadway projects under the 2050 RTP/SCS.

Construction noise, analyzed in detail in Impact N-4, is also regulated by local noise ordinances. Nonetheless, construction of transportation network improvements in the 2050 RTP/SCS could exceed noise level limits of local noise ordinances. Thus, construction noise from transportation network improvements is considered a significant impact.

Based on the preceding analysis, potential noise impacts due to proposed transportation improvements would occur; however, potential impacts would be site specific and the required precision of information to determine site-specific impacts and mitigation is greater than available at this time. Thus, each of the projects included in the 2050 RTP/SCS would require independent evaluation at the project level. As the 2050 RTP/SCS is a program-level document, detailed, site-specific information is not available to predict either the site-specific noise impacts of future land use changes, or the effectiveness of future measures in reducing any such site-specific impacts. Thus, while project-level analysis would be required and site-specific measures to reduce noise impacts would be required upon implementation of the 2050 RTP/SCS, there is no assurance that the noise impacts would be reduced to a less than significant level. Therefore, this is a significant impact.

Conclusion

By 2020, land use changes associated with growth forecasted in the 2050 RTP/SCS could locate noise-sensitive land uses in areas with noise levels in excess of local standards.

Transportation network improvements involving simple capacity expansions or extension of transit services along existing alignments are not anticipated to substantially increase noise levels over the existing condition, but some improvements would expose adjacent land uses to noise levels in excess of local or Caltrans standards due to the movement of traffic closer to receivers. The development of new transit facilities where none currently exist would likely result in substantial noise level increases and could expose noise-sensitive receptors to noise levels in excess of local standards.

Therefore, the 2050 RTP/SCS would result in significant noise impacts in 2020 because both growth/land use changes and transportation network improvements would expose persons to or generate noise levels in excess of local or Caltrans standards. This is a significant impact for which mitigation measures are described in Section 4.2.5.

Table 4.12-7
2050 RTP/SCS - 2020, 2035, and 2050 Improvements and Associated Noise Impacts

Corridor/Improvement Type	Noise Sources	$L_{eq(h)}$ Noise Level at 100 feet[1]	Potential Impacts
Freeway/Highway/ Roadways	Motor Vehicles	65–75 dB (Highways/Roadways) 70–80 dB (Freeways)	Noise levels from roadways (especially interstates) already exceed local standards in most locations in the SANDAG region (SANDAG 2007). Transportation improvements would not generate traffic directly; however, traffic is generated from increased population of which improvements can have positive, negative, or no effect on how that population uses motor vehicles. While the project includes some improvements to move motor vehicle traffic onto transit sources, the expansion of roadways for additional standard and managed lanes would potentially result in increases in traffic volumes and resulting increases in noise levels in proximity to the corridors where improvements occur. Additionally, some of the improvements would move traffic closer to sensitive receptors, change existing shielding, or develop new transportation facilities in areas where none exist, which could result in substantial increases in noise levels at those locations when compared to baseline conditions. Maximum noise level increase associated with expansion projects would typically be 2 dBA, with the exception of projects that double the capacity of a roadway, such as the SR 76 expansion, or the development of new roadways where noise levels could be increased over existing noise levels by as much as 12 dBA.
Commuter Rail/ SPRINTER/COASTER	Trains	60–65 dB	The 2050 RTP/SCS proposes extending COASTER operations into downtown, extending SPRINTER operations into South Escondido and increasing COASTER and SPRINTER services through double-tracking during on- and off-peak hours to increase service reliability and speed. Any doubling of COASTER service would likely result in substantial increase in ambient noise in the surrounding area. In addition, it is likely that in many areas the COASTER is already close to, or exceeding noise standards.
Light Rail/ Trolley/Streetcar	Trains	60–63 dB	The 2050 RTP/SCS proposes increased light rail service for the Blue, Orange, and Green lines; and extending operations throughout the County. Any doubling of light rail service would likely result in substantial increase in ambient noise in the surrounding area. In addition, it is likely that in many areas the light rail system is already close to, or exceeding noise standards. -+
Bus Rapid Transit/Rapid	Buses	60 dB	The 2050 RTC/SCS proposes increased and expanded BRT services, adding bus-only interstate ramps and bus-only lanes along key downtown corridors. The increase of BRT service or the development of new services could result in substantial increases in ambient noise along any new or proposed Rapid/BRT routes. However, because Rapid/BRT routes would be along existing roadways, it is unlikely that doubling Rapid/BRT traffic would result in a substantial increase in traffic levels. For example, doubling the BRT levels on I-5 would not double the overall traffic levels on I-5, nor substantially alter the overall vehicle mix. It is therefore unlikely that an increase in traffic noise levels would occur from increasing BRT service. Thus, the proposed improvements in the 2050 RTP/SCS are not anticipated to result in noise levels in excess of local standards.

Corridor/Improvement Type	Noise Sources	$L_{eq(h)}$ Noise Level at 100 feet[1]	Potential Impacts
Local Bus/Downtown Circulator	Buses	50 dB	The 2050 RTP/SCS proposes increased local bus service and using higher capacity passenger buses. The increase in local bus service could result in substantial increase in ambient noise along any new or proposed routes from more frequent pass-bys, braking, and engine acceleration events. However, increasing local bus service would be unlikely to substantially increase the overall traffic level on surface roadways or substantially alter the traffic mix. It is therefore unlikely that a substantial increase in ambient noise levels would occur from increasing local bus service.
Enhanced Transit Transfer Locations	Transfer Points and Stations	65 dB	The 2050 RTP/SCS proposes development of typical transit stations and proposes placing them in integrated land uses or in areas that are not residential heavy. Additionally, transfer locations are proposed at several points along transit routes to avoid having locations of concentrated activity. Implementation of this strategy would reduce noise levels in noise-sensitive areas by relocating or redesigning stations so that noise-generating features are located in areas less sensitive to noise.
Bicycle Facilities	None	-	While improved bicycle facilities would offer safe alternatives to personal motor vehicle use, these facilities would not substantially affect traffic volumes. Thus, transportation-related noise levels would not be substantially changed as a result of improved bicycle lanes and facilities.
Pedestrian Facilities	None	-	As with bicycles, improving pedestrian corridors would offer alternatives to personal motor vehicle use. However, pedestrian facilities would not have a significant effect on traffic volumes. Thus, transportation-related noise levels would not change substantially as a result of improved pedestrian open space, thoroughfares, and interconnected land uses.

dB = decibels; $L_{eq}(h)$ = average hourly noise level

[1] Noise levels presented are based on standard reference noise levels as recommended in the FTA Transit Noise and Vibration Impact Assessment Manual. Actual noise levels would vary depending on actual volumes, speeds, vehicle models, and other day-to-day variances.

Sources: FTA 2006

2035

Regional Growth/Land Use Change

By 2035, the population of the region is expected to increase by 801,699 people; housing by 268,094 units; and employment by 312,292 jobs over existing 2010 conditions. As shown in Figures 4.11-4, 4.13-8, and 4.13-9, regional land use and growth changes are evident by 2035. Some locations that would experience the most extensive land use change and development by 2035 would include continued growth in eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 and SR 125 corridors: northeast of the SR 94 corridor in the unincorporated County planning areas of Jamul/Dulzura, Tecate, and Potrero; eastern Poway along the SR 67 corridor; the County planning area of Ramona along the SR 67 and SR 78 corridors; County planning areas of Lakeside and Alpine and the Crest, Granite Hills, Dehesa, Harbison Canyon subregion; and multiple north County planning areas along the 1-15 and SR 76 corridors such as Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, and Hidden Valley.

Based on the increased density seen when comparing the existing housing density to the 2035 housing density, as shown in Figures 4.13-2 and 4.13-8, respectively, areas of increased density by 2035 would be apparent in some coastal cities such as Oceanside and Encinitas, and City of San Diego coastal communities; in more inland areas along the I-8 corridor through Mission Valley, College Area, and into the City of La Mesa, as well as eastern Chula Vista along the SR 125 corridor; and along the SR 78 corridor, from Escondido to I-5. The regional growth pattern in this portion of the region occurs along existing transportation corridors. Consistent with the goals of the 2050 RTP/SCS, the anticipated growth would be denser within existing urban centers providing high accessibility to transit. However, as discussed under the 2020 analysis, the pattern of denser land uses and the development along existing transportation corridors along with the proposed improvements, could expose noise-sensitive land uses to noise levels in excess of local standards.

In the northern and eastern portions of the region, land use changes to accommodate growth in 2035 in the form of spaced rural residential development would occur along the I-15 corridor north of Escondido toward the northern county line and in more eastern areas along I-8, SR 67, SR 78, and SR 94. While not the dense and compact type of development planned for urban centers, spaced rural residential in this area would still potentially result in the placement of future land uses within incompatible noise environments, such as locating residential next to agricultural, commercial, or industrial uses or within the 60–65 CNEL contour of an airport or roadway. This would result in placement of noise-sensitive land uses near, and/or within, incompatible noise environments, which could result in exposure of noise-sensitive land uses to noise levels in excess of applicable regulations and policies.

Based on the preceding analysis, the increase in population, housing, and employment development expected by 2035 would result in impacts to noise through the placement of noise-sensitive land uses near, and/or within, incompatible noise environments, which could result in exposure of noise-sensitive land uses to noise levels in excess of applicable regulations and policies. As the 2050 RTP/SCS is a program-level document, detailed, site-specific information is not available to predict either the site-specific noise impacts of future land use changes, or the effectiveness of existing laws, regulations, and programs in reducing any such site-specific impacts. Thus, while adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that adherence would reduce these impacts to a less than significant level. This is a significant impact.

Transportation Network Improvements

As with the 2020 analysis, the proposed transportation network improvements would expose more people to the higher levels of noise generated by high-traffic or train volumes. At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected when they occur in proximity to noise-sensitive receptors.

Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER services, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Trolley Blue Line would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon; the Orange Line would be extended to Lindbergh Field; and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTER rail line through the cities of Oceanside, Vista, San Marcos, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor. As improvements forecasted in 2035 would be similar in type and scope as improvements in 2020, the magnitude and type of noise impacts identified in Table 4.12-7 would occur under 2035 transportation network improvements as well. Thus, as with the 2020 analysis, future development would result in the development of more intense residential land uses along existing transportation corridors, which would expose more people to higher levels of noise levels. While adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that adherence would reduce these impacts to a less than significant level. This is a significant impact.

While expanded transit services in 2035 are expected to accommodate greater ridership in the future, this would have little effect relative to traffic on freeways and major arterials due to increases in the overall increase in population, which would result in an increase in overall VMT of approximately 25,444, or 32.6 percent (2050 RTC/SCS Appendix B). VMT has a direct correlation to increases in traffic noise. Therefore, the 32.6 percent increase would not result in a substantial increase in noise levels from the freeways or major arterials. Additionally, as with the 2020 analysis, increases in average daily traffic volumes by 2035 would have little effect on loudest hour noise levels as the greatest noise occurs when a roadway or freeway is operating at a maximum LOS C. Therefore, while the loudest hour is unlikely to change substantially, the overall exposure to noise levels equal to the loudest hour would increase, which would increase the CNEL in proximity to freeways and major arterials. As such, proposed improvements in 2035 are not expected to make major differences in noise levels along heavily traveled corridors due to traffic volumes.

The transit improvements forecasted for 2035 under the 2050 RTP/SCS could affect the region's noise environment through the expansion of the transit system to areas currently not being served, increased travel speeds and frequency of bus and rail services, and new rail and BRT/rapid bus lines. The location of proposed transit improvements in 2035 are shown in Figure 2.0-12. The majority of the impacts from these improvements would likely be in areas where new corridors (extended or realigned roadways/tracks) have been constructed. Since it takes a doubling or more of traffic or rail trips to cause a noticeable increase in ambient noise levels, it is less likely that increases in service along existing routes (e.g. expanded BRT, local, shuttle service) would result in substantial noise increases or exposure of local noise receptors to levels in excess of local and Caltrans standards.

Noise level increases would occur along rail corridors as speeds are increased, trains are double-tracked, and in corridors where new rails are developed where there were previously no transit facilities. The increase in rail crossings with audible warning signals would also potentially impact nearby residents. Increases in rail traffic could also lead to more train horns or whistles at crossings near residential areas, which can be a source of annoyance, especially at night or in early morning or evening.

The 2035 components of the 2050 RTP/SCS would continue actions that encourage more efficient intermodal transportation of goods. Locally, increases in rail transit tonnage would increase the number of freight trains. However, these trains would likely operate on an as-needed basis and would not have a fixed schedule. Therefore, noise levels and frequency of passbys would continue to vary greatly from day to day. On some days there may be no increase in freight train activity. Specific 2035 improvements call for further increases in COASTER operations and other extensions of commuter rail service that would be affected by intermodal rail operations. Overall, however, an increase in train traffic would yield a consequent increase in noise and vibration in areas adjacent to rail corridors.

Construction noise, analyzed in detail in Impact N-4, is also regulated by local noise ordinances. Nonetheless, construction of transportation network improvements in the 2050 RTP/SCS could exceed noise level limits of local noise ordinances. Thus, construction noise from transportation network improvements is considered a significant impact.

Based on the preceding analysis, potential noise impacts in 2035 would occur due to proposed transportation improvements; however, impacts would most likely occur due to site-specific changes, and the required precision of information to determine site-specific impacts and mitigation is greater than available. Thus, each of the projects included in the 2050 RTP/SCS would require independent evaluation during the project-level environmental assessment and review process. As the 2050 RTP/SCS is a program-level document, detailed, site-specific information is not available to predict either the site-specific noise impacts of future land use changes, or the effectiveness of future measures in reducing any such site-specific impacts. Thus, while project-level analysis would be required and site-specific measures to reduce noise impacts would be required upon implementation of the 2050 RTP/SCS, there is no assurance that the noise impacts would be reduced to a less than significant level. Therefore, this is a significant impact.

Conclusion

By 2035, land use changes associated with growth forecasted in the 2050 RTP/SCS could locate noise-sensitive land uses in areas with noise levels in excess of local standards.

Transportation network improvements involving simple capacity expansions or extension of transit services along existing alignments are not anticipated to substantially increase noise levels over the existing condition, but some improvements would expose adjacent land uses to noise levels in excess of local or Caltrans standards due to the movement of traffic closer to receivers. The development of new transit facilities where none currently exist would likely result in substantial noise level increases and could expose noise-sensitive receptors to noise levels in excess of local standards.

Therefore, the 2050 RTP/SCS would result in significant noise impacts in 2035 because both growth/land use changes and transportation network improvements would expose persons to or generate noise levels in excess of local or Caltrans standards. This is a significant impact for which mitigation measures are described in Section 4.2.5.

2050

Regional Growth/Land Use Change

By 2050, the population of the region is forecast to increase by 1,160,435 people; housing by 379,664 units; and employment by 501,958 jobs over existing conditions. As shown in Figure 4.11-5, new growth and land use changes in 2050 per the 2050 RTP/SCS are apparent throughout the region. Areas of substantial land use change and development, beyond that described in 2035, would include significant industrial development in the County's Otay planning area and San Diego Otay Mesa community surrounding the East Otay Mesa POE; throughout County planning areas located along the international border including Tecate, Potrero, Campo/Lake Morena, Boulevard, and Jacumba; throughout the Ramona and Julian planning areas in the unincorporated County; throughout other northeastern County planning areas including North Mountain, Desert, and Borrego Springs; and continued development throughout County planning areas located north and east of Escondido extending to the northern border with Riverside County including Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, Hidden Valley, Twin Oaks Valley, and North County Metro. As with the 2020 and 2035 analyses, future development would result in the development of more intense residential land uses along existing transportation corridors, which would expose more people to the higher levels of noise levels. Table 4.12-7 lists potential impacts associated with forecasted new and expanded facilities in 2050, including highway, freeway, rail transit, tollway, truck lanes, and freeway interchange projects. While adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that adherence would reduce these impacts to a less than significant level. This is a significant impact.

Increased population density from 2010 through 2050 can be seen when comparing Figures 4.13-1 and 4.13-10, respectively. Increased density is most apparent in City of San Diego communities near the downtown area near I-5 and I-805 and along the I-8 corridor to the east. Additionally, urban centers in the western third of the SANDAG region would have most available land developed with single- and multi-family uses, commercial and office uses, and industrial uses. Consistent with the goals of the 2050 RTP/SCS, the dense growth within existing urban centers with high accessibility to transit options allows for the creation of communities that are more sustainable, walkable, transit-oriented, and compact. Substantial dense growth within the urban centers corresponds with major transportation corridors such as I-5, I-8, I-15, and I-805 and these are also alignments that would have extensive transit opportunities. As discussed under the 2020 and 2035 analyses, the pattern of denser land uses, along with the transit improvements, would lead to more complex land use combinations that would potentially expose noise-sensitive land uses to noise levels in excess of local standards. While adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that it would reduce these impacts to a less than significant level. This is a significant impact

Similar to the description in the 2035 analysis, growth would continue in more eastern locations of the region, such as east of I-15 in the northern area, east of SR 67 through the middle portion of the region, and east of SR 94 in the southern area. However, by 2050, spaced rural residential development would have expanded beyond areas along existing transportation corridors and established rural communities and into areas with very minimal development at present. As shown in Figure 4.11-5, some of these areas include northeast of Escondido to SR 76, areas east of Camp Pendleton, and areas north and south of the SR 78 corridor. Large pockets of land currently used for agricultural purposes would be developed with spaced rural residential uses (as discussed in Section 4.2) and this would diminish the rural character of the areas. The extension of residential uses into large areas outside of the established communities and transportation corridors and into areas that are currently undeveloped would potentially result in locating noise-sensitive land uses within incompatible noise environments, such as locating residential next to

agricultural or industrial uses or within the 60–65 CNEL contour of an airport or roadway. While adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that adherence would reduce these impacts to a less than significant level. This is a significant impact.

As shown in Figure 4.11-5, by 2050, a substantial pocket of industrial development would be located along the planned SR 905 corridor in conjunction with the new Otay Mesa East POE at the international border with Mexico. This is a newly developing area that is planned for mainly industrial use and is highly dependent upon the planned construction of SR 11, SR 905, and the Otay Mesa East POE. The intense industrial development in this location to facilitate the transport of goods throughout the region, as designated in the 2050 RTP/SCS, would potentially lead to conflicts in land use compatibility if noise-sensitive land uses were located in or adjacent to this area. While adherence to the existing laws, regulations, and programs discussed in Section 4.12.2 would reduce noise impacts upon implementation of the 2050 RTP/SCS, there is no assurance that adherence would reduce these impacts to a less than significant level. This is a significant impact.

Transportation Network Improvements

As with the 2020 and 2035 analyses, the proposed transportation network improvements would expose more people to the higher levels of noise generated by high-traffic or train volumes. At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected when they occur in proximity to noise-sensitive receptors.

By 2050, most of the highway, transit, and active transportation (bicycle and pedestrian) improvements, along with other infrastructure projects, would be in place and operational in accordance with the 2050 RTP/SCS. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-805, I-5, I-15, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Trolley Green Line would be extended to Downtown-Bayside; a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed; and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established.

While expanded transit services in 2050 are expected to accommodate greater ridership in the future, this would have little effect relative to traffic on freeways and major arterials due to the overall increase in population, which is would result in an increase in overall VMT of approximately 40,152, or 51.4 percent (2050 RTC/SCS Appendix B). VMT has a direct correlation to increases in traffic volumes; therefore, the 51.4 percent increase would likely increase noise levels from the freeways or major arterials. Thus, as in the 2020 and 2035 analyses, the expanded transit services would not make major differences in noise levels along heavily traveled corridors due to increases in traffic volumes.

Increases in public transit by 2050 would increase noise levels along rail corridors as speeds are increased, trains are double-tracked, and new rail corridors are developed where there were previously no transit facilities. The increase in rail crossings with audible warning signals would also potentially impact nearby residents. Increases in rail traffic could also lead to more train horns or whistles at crossings near residential areas, which can be a source of annoyance, especially at night or in early morning or evening.

Construction noise, analyzed in detail in Impact N-4, is also regulated by local noise ordinances. Nonetheless, construction of transportation network improvements in the 2050 RTP/SCS could exceed noise level limits of local noise ordinances. Thus, construction noise from transportation network improvements is considered a significant impact.

Based on the preceding analysis, potential noise impacts due to proposed transportation improvements would occur; however, potential impacts would be site specific and the required precision of information to determine site-specific impacts and mitigation is greater than available at this time. Thus, each of the projects included in the 2050 RTP/SCS would require independent evaluation at the project level. As the 2050 RTP/SCS is a program-level document, detailed, site-specific information is not available to predict either the site-specific noise impacts of future land use changes, or the effectiveness of future measures in reducing any such site-specific impacts. Thus, while project-level analysis would be required and site-specific measures to reduce noise impacts would be required upon implementation of the 2050 RTP/SCS, there is no assurance that the noise impacts would be reduced to a less than significant level. This is a significant impact.

Conclusion

By 2050, land use changes associated with growth forecasted in the 2050 RTP/SCS could locate noise-sensitive land uses in areas with noise levels in excess of local standards.

Transportation network improvements involving simple capacity expansions or extension of transit services along existing alignments are not anticipated to substantially increase noise levels over the existing condition, but some improvements would expose adjacent land uses to noise levels in excess of local or Caltrans standards due to the movement of traffic closer to receivers. The development of new transit facilities where none currently exist would likely result in substantial noise level increases and could expose noise-sensitive receptors to noise levels in excess of local standards.

Therefore, the 2050 RTP/SCS would result in significant noise impacts in 2050 because both growth/land use changes and transportation network improvements would expose persons to or generate noise levels in excess of local or Caltrans standards. This is a significant impact for which mitigation measures are described in Section 4.2.5.

N-2 EXPOSE PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS

Similar to noise, vibration levels can be generated from project construction and operation. If vibration amplitudes are high enough, ground vibration has the potential to damage structures, cause cosmetic damage (e.g., crack plaster), or disrupt the operation of vibration sensitive equipment. Ground vibration and groundborne noise can also be a source of annoyance to individuals who live or work close to vibration-generating activities.

Heavy construction operations can cause substantial groundborne vibration in close proximity to the source. The highest impact or heaviest equipment, such as pile drivers or large bulldozers, can generate vibrations of 1.518 to 0.089 inches per second peak particle velocity (in/sec ppv) at a distance of 25 feet, see Table 4.12-8.

The primary vibration sources associated with transportation system operations include heavy truck and bus traffic along roadways and train traffic along rail lines. However, according to Caltrans Transportation- and Construction-induced Vibration Guidance Manual, June 2004, vehicle traffic,

Table 4.12-8
Vibration Source Amplitudes for Construction Equipment

Equipment		PPV at 25 Feet (in/sec)	Approximate VdB at 25 Feet
Crack-and-seat operations[1]		2.4	116
Pile driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile driver (sonic)	upper range	0.734	105
	typical	0.170	93
Vibratory roller		0.210	95
Clam shovel drop (slurry wall)		0.202	94
Hydro mill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: FTA 2006
[1] Caltrans 2002a

including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage, except in some cases, heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents, which typically can be resolved by smoothing the roadway surface. Freight trains, mass-transit trains, and light-rail trains can also be sources of ground vibration.

2020

Regional Growth/Land Use Change

By 2020, population within the region is expected to increase by 310,568 people; housing by 113,062 units; and employment by 118,535 jobs. When comparing existing land use as shown in Figure 4.11-1 and 2020 land use as shown in Figure 4.11-3, there are not substantial differences in the land use patterns, types, or areas of development. Some locations that would experience the most extensive land use change and development by 2020 would include areas such as eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 corridor; City of San Diego coastal and bay communities south of I-8 including Ocean Beach and the Peninsula planning areas; portions of northern Santee; areas north and south of the SR 56 corridor in the San Diego planning areas of Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, and Torrey Highlands; the San Marcos area near both the SR 78 and I-15 corridors; and within unincorporated County communities such as Fallbrook, Pala-Pauma Valley, and Valley Center along the I-15 and SR 76 corridors.

As the 2050 RTP/SCS envisions much of the new development and redevelopment through 2020 would be located in existing developed area, new development would occur adjacent to existing structures. Construction activities regardless of location would be similar and may include demolition of existing buildings/structures, site preparation work, excavation, foundation work, building construction, and paving. Demolition for an individual site may last several weeks to months and may produce substantial vibration. Additionally, piles or drilled caissons may also be used to support building or bridge foundations.

Typical project construction activities, such as the use of jackhammers, other high-power or vibratory tools, compactors, and tracked equipment, may also potentially generate substantial vibration (i.e. greater

than 0.2 in/sec ppv) in the immediate vicinity, typically within 15 feet of the equipment. However, typical building construction does not typically have these larger sources of vibration and is therefore not anticipated to be a source of substantial vibration. By use of administrative controls, such as scheduling, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and not result in human annoyance or structural damage.

Some specific construction activities result in higher levels of vibration. Pile driving has the potential to generate the highest groundborne vibration levels and is the primary concern for structural damage when it occurs within 50 feet of structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods, and equipment used. Pile driving activities generate vibrations at various frequencies. The dominant frequency of propagating waves from impact sources ranges mostly between 3 Hz and 60 Hz (Svinkin 1992). Using the middle range for illustration purposes, equipment operating at a frequency range of 30 Hz would exceed the perceptible range at approximately 100 feet and may result in short-term annoyance. Depending on the proximity of existing structures to each construction site, the structural soundness of the affected buildings, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to be perceptible within 100 feet and may be high enough to damage existing structures within 50 feet. Thus pile driving vibration is considered a significant impact on local vibration sensitive receptors.

Light industrial and commercial operations have, on occasion, been known to utilize equipment or processes in the manufacture and distribution of materials that have a potential to generate groundborne vibration. However, vibrations found to be excessive for human exposure that are the result of a manufacturing process or industrial machinery are generally addressed from an occupational health and safety perspective. The residual vibrations from industrial processes or machinery are typically of such low amplitude that they quickly dissipate into the surrounding soil and are rarely perceivable at the surrounding land uses. This would be a less than significant impact.

Distribution of materials to and from industrial and commercial land uses can have the potential to generate more substantial levels of groundborne vibration than that of the mechanical equipment. Heavy trucks used for delivery and distribution of materials to and from industrial and commercial sites generally operate at very low speeds while on the industrial or commercial site. Therefore, the groundborne vibration induced by heavy truck traffic at industrial or commercial land uses is not anticipated to be perceptible at distances greater than 25 feet (typical distance from roadway centerline to edge of roadway right-of-way for a single-lane road). This would be a less than significant impact.

Transportation Network Improvements

Construction vibration impacts resulting from the proposed transportation network improvements by 2020 would be similar to that described under the regional growth/land use change analysis resulting in a less than significant impact, except for pile driving. Pile driving or other foundation work would represent a significant impact on local vibration sensitive receptors.

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT

routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Trolley Green Line would be extended to downtown San Diego.

Development of new or expanded transportation systems, such as roadways and railways, would potentially locate vibration sources in proximity to vibration sensitive receptors. Caltrans conducted several transportation related vibration analyses. These studies included assessments of traffic vibrations, rail vibrations, and roadway construction vibrations (Caltrans 2002a). Traffic rarely generates vibration amplitudes high enough to cause structural or cosmetic damage (Caltrans 2004). Based on vibration measurements throughout California, worst case traffic vibrations would drop below the threshold of perception at distances of 150 feet or greater. While Caltrans in not usually involved in rail projects, on occasion the effects of train activity on a Caltrans facility must be evaluated. Thus, Caltrans conducted several measurements of train activity throughout the State and measured a peak vibration level of 0.36 in/sec ppv at 10 feet from the track. Based on this reference vibration level, vibrations from train activity would drop below the threshold of perception at distances greater than 250 feet.

The 2050 RTP/SCS includes the development of additional railways along existing railways by 2020. Thus, the number of daily events would increase, and the highest peak vibration level would be increased relative to the existing condition. In general, additional trains passing at the same point would show up as higher peaks that may expose local sensitive receptors to vibration levels in excess of 80 VdB or to a substantial increase in vibration levels relative to the existing condition. Thus, vibration associated with new railways is considered a significant impact.

Conclusion

By 2020, construction and operation of development projects implementing 2050 RTP/SCS growth/land use changes would expose existing and new development to groundborne vibration impacts. Of the various potential impacts, only groundborne vibration levels associated with pile driving are considered significant. Similarly, pile driving or other foundation work associated with transportation network improvements would represent a significant impact on local vibration sensitive receivers. Also, vibrations from increased train activity would be significant at distances less than 250 feet Therefore, in 2020, the 2050 RTP/SCS growth/and use changes and transportation network improvements would both have significant vibration impacts because they would expose persons to or generate excessive groundborne vibration. This is a significant impact for which mitigation measures are described in Section 4.2.5.

2035

Regional Growth/Land Use Change

By 2035, the population of the region is expected to increase by 801,699 people; housing by 268,094 units; and employment by 312,292 jobs over existing 2010 conditions. As shown in Figures 4.11-4, 4.13-8, and 4.13-9, regional land use and growth changes are evident by 2035. Some locations that would experience the most extensive land use change and development by 2035 would include continued growth in eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 and SR 125 corridors: northeast of the SR 94 corridor in the unincorporated County planning areas of Jamul/Dulzura, Tecate, and Potrero; eastern Poway along the SR 67 corridor; the County planning area of Ramona along the SR 67 and SR 78 corridors; County planning areas of Lakeside and Alpine and the Crest, Granite Hills, Dehesa, Harbison Canyon subregion;

multiple north County planning areas along the 1-15 and SR 76 corridors such as Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, and Hidden Valley.

As in 2020, construction associated with development and redevelopment by 2035 envisioned in the 2050 RTP/SCS would be located adjacent to existing structures. Construction activities would likely include demolition of existing structures, site preparation work, excavation, foundation work, building construction, and paving. Piles or drilled caissons may also be used to support building or bridge foundations. As vibration levels caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to be perceptible within 100 feet and may be high enough to damage existing structures within 50 feet. This would represent a significant impact on local vibration sensitive receptors.

As with the 2020 analysis, typical building construction is not anticipated to be a source of substantial vibration. By use of administrative controls, such as scheduling, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and, as such, typical construction activities would result in a less than significant impact.

Based on the operational characteristics of mechanical equipment and distribution methods used for general light industrial and commercial land uses, it is not anticipated that light industrial or commercial operations would result in groundborne vibration levels that approach or exceed applicable vibration-level standards. This would be a less than-significant-impact.

Transportation Network Improvements

Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER services, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Trolley Blue Line would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon, the Orange Line would be extended to Lindbergh Field, and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTER rail line through the cities of Oceanside, Vista, San Marcos, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor.

Construction vibration impacts resulting from the proposed transportation network improvements would be similar to those described under the regional growth/land use change analysis resulting in a less than significant impact, except for pile driving. Pile driving or other foundation work would represent a significant impact on local vibration sensitive receptors.

As identified in the previous analysis at distances greater than 250 feet train vibrations would drop below the level of perception. As the 2050 RTP/SCS includes the development of additional railways along existing railways, the number of daily events would increase and the highest peak vibration level would be higher than the existing condition. In general, the increase in events will result in higher peak levels (Caltrans 2002a). Thus, proposed rail improvements in 2035 could expose local sensitive receptors to vibration levels in excess of 80 VdB or to a substantial increase in vibration levels. Thus, vibration associated with new railways is considered a significant impact.

Conclusion

By 2035, construction and operation of development projects implementing 2050 RTP/SCS growth/land use changes would expose existing and new development to groundborne vibration impacts. Of the various potential impacts, only groundborne vibration levels associated with pile driving and foundation work are considered significant. Similarly, pile driving or other foundation work associated with transportation network improvements would represent a significant impact on local vibration sensitive receivers. Also, vibrations from increased train activity would be significant at distances less than 250 feet Therefore, in 2035, the 2050 RTP/SCS growth/and use changes and transportation network improvements would both have significant vibration impacts because they would expose persons to or generate excessive groundborne vibration. This is a significant impact for which mitigation measures are described in Section 4.2.5. (The mitigation measures described in Section 4.12.5 are not "required" until CEQA findings are adopted. At this point, they are potentially feasible mitigation measures.)

By 2050, implementation of the 2050 RTP/SCS would result in land uses changes and the construction of transportation network improvements that would cause a substantial adverse change in the significance of a cultural resource. This is a significant impact for which mitigation measures are described in Section 4.2.5.

2050

Regional Growth/Land Use Change

By 2050, the population of the region is forecast to increase by 1,160,435 people; housing by 379,664 units; and employment by 501,958 jobs over existing conditions. As shown in Figure 4.11-5, new growth and land use changes in 2050 per the 2050 RTP/SCS are apparent throughout the region. Areas of substantial land use change and development, beyond that described in 2035, would include significant industrial development in the County's Otay planning area and San Diego Otay Mesa community surrounding the East Otay Mesa POE; throughout County planning areas located along the international border including Tecate, Potrero, Campo/Lake Morena, Boulevard, and Jacumba; throughout the Ramona and Julian planning areas in the unincorporated County; throughout other northeastern County planning areas including North Mountain, Desert, and Borrego Springs; and continued development throughout County planning areas located north and east of Escondido extending to the northern border with Riverside County including Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, Hidden Valley, Twin Oaks Valley, and North County Metro.

As with the 2020 and 2035, by 2050, land use pattern changes on a regionwide basis could include new development or redevelopment adjacent to or in close proximity to existing land uses increasing the likelihood of groundborne vibration impacts from construction and operation of certain land uses. Typical construction groundborne vibrations are localized and would be less than significant. Groundborne vibration levels associated with pile driving are much greater and would be considered significant. Based on the operational characteristics of mechanical equipment and distribution methods used for general light industrial and commercial land uses, it is not anticipated that light industrial or commercial operations would result in groundborne vibration levels that approach or exceed applicable vibration-level standards. This would be a less than significant impact. Thus, groundborne vibrations associated with the development of new development and new development would be less than significant.

As with the 2035 analysis, construction vibration impacts resulting from proposed transportation network improvements by 2050 would result in a less than significant impact. However, pile driving or other foundation work would represent a significant impact on local vibration sensitive receivers due to the more intense nature of the activity. Traffic vibration associated with 2050 transportation network improvements would be less than significant. However, vibrations from train activity would be significant at distances less than 250 feet, which may increase due to two trains passing at the same moment or result

in exposure of existing receivers to a substantial increase in vibrations. Thus, train vibration is considered a significant impact.

Transportation Network Improvements

By 2050, most of the highway, transit, and active transportation (bicycle and pedestrian) improvements, along with other infrastructure projects, would be in place and operational in accordance with the 2050 RTP/SCS. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-805, I-5, I-15, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Trolley Green Line would be extended to Downtown-Bayside, a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed, and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established.

Construction vibration impacts resulting from the proposed transportation network improvements would be similar to those described under the regional growth/land use change analysis resulting in a less than significant impact, except pile driving. Pile driving or other foundation work would represent a significant impact on local vibration sensitive receptors.

Based on the previous analysis, vibrations from train activity would drop below the threshold of perception at distances greater than 250 feet. The 2050 RTP/SCS does not include the development of additional railways along existing railway corridors and in 2050 does not propose improvements to major commuter or freight railways only light rail facilities. Thus, it can be assumed that while the number of daily events would be similar as in 2035. In general, while no projects in 2050 are anticipated to result in new substantial vibration sources, the vibration increases in 2020 and 2035 would continue in 2050 to exceed applicable thresholds at distances of less than 250 feet from railways. Thus, proposed rail improvements in 2035 could expose local sensitive receptors to vibration levels in excess of 80 VdB or to a substantial increase in vibration levels. Thus, vibration associated with new railways is considered a significant impact.

Conclusion

By 2050, construction and operation of development projects implementing 2050 RTP/SCS growth/land use changes would expose existing and new development to groundborne vibration impacts. Of the various potential impacts, only groundborne vibration levels associated with pile driving and foundation work are considered significant. Similarly, pile driving or other foundation work associated with transportation network improvements would represent a significant impact on local vibration sensitive receivers. Also, vibrations from increased train activity would be significant at distances less than 250 feet Therefore, in 2050, the 2050 RTP/SCS growth/and use changes and transportation network improvements would both have significant vibration impacts because they would expose persons to or generate excessive groundborne vibration. This is a significant impact for which mitigation measures are described in Section 4.2.5.

N-3 CAUSE A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE EXISTING LEVELS

Analysis Methodology

Generally, transportation-related noise sources characterize the ambient noise environment of an area. The operation of transportation projects could result in a permanent increase in ambient noise levels in the vicinity of project's forecasted in the SANDAG 2050 RTP due to increased traffic traveling along the project route and adjacent routes.

Noise associated with highway traffic is dependent on traffic volume, speed, fleet mix (cars, trucks, etc.), and the proximity of noise-sensitive receptors. According to the Federal Highway Administration (FHWA), noise impacts occur when predicted noise levels increase substantially when compared to existing levels, or when noise levels approach or exceed the FHWA's noise abatement criteria (NAC).

Different agencies have established various definitions for what is considered a substantial increase in ambient noise level. A substantial permanent increase is defined for the purposes of this analysis as an increase of +5 dBA as recommended by the FTA for existing noise levels ranging from 60 to 65 dBA L_{dn} (FTA 2006).

2020

Regional Growth/Land Use Change

By 2020, population within the region is expected to increase by 310,568 people; housing by 113,062 units; and employment by 118,535 jobs. When comparing existing land use as shown in Figure 4.11-1 and 2020 land use as shown in Figure 4.11-3, there are not substantial differences in the land use patterns, types, or areas of development. Some locations that would experience the most extensive land use change and development by 2020 would include areas such as eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 corridor; City of San Diego coastal and bay communities south of I-8 including Ocean Beach and the Peninsula planning areas; portions of northern Santee; areas north and south of the SR 56 corridor in the San Diego planning areas of Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, and Torrey Highlands; the San Marcos area near both the SR 78 and I-15 corridors; and within unincorporated County communities such as Fallbrook, Pala-Pauma Valley, and Valley Center along the I-15 and SR 76 corridors.

As stated in Impact N-1, the increase in population, housing, and employment development expected by 2020 would result in increases in ambient noise levels through conflicts in land use, such as placing residential uses next to commercial or industrial uses, and expansion of existing development or transportation corridors. Development projects would be required to comply with all applicable noise regulations, which would limit noise impacts between land uses, but there is no guarantee that noise level increases, even when absolute noise levels comply with local standards, would be less than significant for all projects.

Under the 2050 RTP/SCS land use development intensity is anticipated to be greater, see Figures 4.13-1 and 4.13-4, which would place receptors in proximity to more or potentially louder noise sources. This would be likely to result in substantial noise level increases of 5 dBA over existing conditions. While, compliance with the existing policies and regulations included in Section 4.12.2 would limit noise levels between land uses in the SANDAG region, compliance cannot guarantee that all future project-level impacts would be avoided or below a significant level. Thus, this would be considered a significant impact.

Transportation Network Improvements

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Trolley Green Line would be extended to downtown San Diego.

The noise impacts of the transportation improvements described in the 2050 RTP/SCS would generally be adverse as the improvements would increase noise levels adjacent to transportation network improvements (see Table 4.12-7 for a list of proposed improvements and potential noise impacts). Noise level increases associated with transportation network improvements would primarily result from predicted regional population growth of 310,568 and the associated increases in the number of trucks, buses, and trains operating forecasted under the 2050 RTC/SCS, which generate greater noise per vehicle than automobiles (Caltrans 2009).

At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected to increase noise levels when they occur in proximity to noise-sensitive receptors. Tables 2.0-5, 2.0-6, and 2.0-7 list proposed new and expanded facilities with potential, including highway, freeway, rail transit, tollway, truck lanes, and freeway interchange projects. The location of proposed transit and highway improvements are shown in figures 2.0-11 and 2.0-19. Increases in public transit would also increase noise levels along rail corridors where speeds are increased, trains are double-tracked, or in new rail corridors where there were previously no trains. Increased noise levels would only be relevant where adjacent sensitive receivers are located along existing or proposed rail corridors. Rail crossings also utilize audible warning signals that could impact nearby residents. Increases in rail traffic could also lead to more train horns or whistles at crossings near residential areas, which can be a source of annoyance, especially at night or in early morning or evening. Noise would impact those sensitive receptors located in areas that are exposed to new transportation noise (from/expanded increased service or new service) exceeding ambient noise levels by 5 dBA. The majority of these impacts would likely be in areas where new corridors (extended or realigned roadways/tracks) have been constructed. Since it takes a doubling or more of traffic or rail trips to cause a noticeable increase in ambient noise levels, it is less likely that increases in service along existing routes (e.g. expanded BRT, local, Shuttle service) would cause noise impacts.

While expanded transit services in 2020 are expected to accommodate greater ridership in the future, this would have little effect relative to traffic on freeways and major arterials due to the overall increase in population, which is would result in an increase in overall VMT of approximately 8,169, or 10.5 percent (2050 RTC/SCS Appendix B). VMT has a direct correlation to increases in traffic volumes; therefore, the 10.5 percent increase would likely increase noise levels from the freeways or major arterials. In addition, reductions in traffic congestion could lead to slight increases in noise as traffic speeds increase. None of these factors are expected to result in significant increases in noise levels along heavily traveled corridors, such as the I-5, I-805, and I-15. As a doubling of vehicle volumes would be required to make a 3 dB increase on existing alignments (CalTrans 2009), the forecasted 2020 improvements are unlikely to result

in a substantial increase in ambient noise levels from increases in traffic volumes. However, the proposed transportation network improvements could potentially move traffic closer to local receptors or change existing shielding, which would result in a substantial increase in noise levels at local noise-sensitive receptors.

Based on the preceding analysis, potential noise impacts would occur due to proposed transportation network improvements. As the proposed improvements could expose noise-sensitive land uses to substantial noise level increases, operation of these improvements would result in a significant noise impact.

Conclusion

By 2020, land use changes associated with growth forecasted in the 2050 RTP/SCS could locate noise-sensitive land uses in areas with where noise levels could increase substantial amounts above existing conditions. Transportation network improvements would generally not substantially increase noise levels over the existing condition, but some improvements could increase ambient noise levels by 5 or more dBA from the movement of traffic closer to receivers or development of new facilities where none currently exist. Therefore, the 2050 RTP/SCS would result in significant noise impacts in 2020 because it would cause a substantial permanent increase in ambient noise levels. This is a significant impact for which mitigation measures are described in Section 4.2.5.

2035

Regional Growth/Land Use Change

By 2035, the population of the region is expected to increase by 801,699 people; housing by 268,094 units; and employment by 312,292 jobs over existing 2010 conditions. As shown in Figures 4.11-4, 4.13-8, and 4.13-9, regional land use and growth changes are evident by 2035. Some locations that would experience the most extensive land use change and development by 2035 would include continued growth in eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 and SR 125 corridors: northeast of the SR 94 corridor in the unincorporated County planning areas of Jamul/Dulzura, Tecate, and Potrero; eastern Poway along the SR 67 corridor; the County planning area of Ramona along the SR 67 and SR 78 corridors; County planning areas of Lakeside and Alpine and the Crest, Granite Hills, Dehesa, Harbison Canyon subregion; and multiple north County planning areas along the 1-15 and SR 76 corridors such as Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, and Hidden Valley.

Based on the increased density seen when comparing the existing housing density to the 2035 housing density, as shown in Figures 4.13-2 and 4.13-8, respectively, areas of increased density by 2035 would be apparent in some coastal cities such as Oceanside and Encinitas, and City of San Diego coastal communities; in more inland areas along the I-8 corridor through Mission Valley, College Area, and into the City of La Mesa, as well as eastern Chula Vista along the SR 125 corridor; and along the SR 78 corridor, from Escondido to I-5. The regional growth pattern in this portion of the region occurs along existing transportation corridors. Consistent with the goals of the 2050 RTP/SCS, the anticipated growth would be denser within existing urban centers providing high accessibility to transit.

In the northern and eastern portions of the region, land use changes to accommodate growth in 2035 in the form of spaced rural residential development would occur along the I-15 corridor north of Escondido toward the northern county line and in more eastern areas along I-8, SR 67, SR 78, and SR 94. The development envisioned in these areas would be less dense than development planned for urban centers.

The increase in population, housing, and employment development expected by 2035 would result in a permanent increase in noise levels due to operation of stationary noise sources and operations associated with commercial and industrial land uses. Under the 2050 RTP/SCS land use development, intensity is anticipated to be greater, which would place receptors in proximity to more or potentially louder noise sources. This would result in potentially substantial noise level increases of 5 dBA or more.

Based on the preceding analysis of regional growth and land use change, potential noise impacts would occur due to proposed intensification of development. As the proposed development could expose noise-sensitive land uses to substantial noise level increases, operation of these improvements would result in a significant noise impact. While compliance with the existing policies and regulations included in Section 4.12.2 would limit noise levels between land uses in the SANDAG region, compliance cannot guarantee that all future project-level impacts would be avoided or below a significant level. Thus, this would be considered a significant impact.

Transportation Network Improvements

Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER service, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Trolley Blue Line would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon; the Orange Line would be extended to Lindbergh Field; and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTER rail line through the cities of Oceanside, Vista, San Marcos, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor.

As with the 2020 analysis, the noise impacts of the transportation improvements by 2035 described in the 2050 RTP/SCS would generally be adverse as the improvements would increase noise levels adjacent to transportation network improvements (see Table 4.12-7 for a list of proposed improvements and potential noise impacts). At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected when they occur in proximity to noise-sensitive receptors.

The 2050 RTP/SCS includes major transit improvements designed to improve and expand services and increase ridership. The transit improvements forecasted for 2035 under the 2050 RTP/SCS could affect the region's noise environment through the expansion of the transit system to areas currently not being served, increased travel speeds and frequency of bus and rail services, and new rail and BRT/rapid bus lines. Tables 2.0-5, 2.0-6 and 2.0-7 list the forecasted 2035 projects under the 2050 RTP/SCS. Noise would impact those sensitive receptors located in areas that are exposed to new transportation noise (from increased service or new service). The majority of these impacts would likely be in areas where new corridors (extended or realigned roadways/tracks) have been constructed. Since it takes a doubling or more of traffic or rail trips to cause a noticeable increase in ambient noise levels, it is less likely that increases in service along existing routes (e.g., expanded BRT, local, shuttle service) would cause noise impacts. Proposed transit improvements in 2035 are shown in Figure 2.0-12.

While expanded transit services in 2035 are expected to accommodate greater ridership in the future, this would have little effect relative to traffic on freeways and major arterials due to the overall increase in population, which would result in an increase in overall VMT of approximately 25,444, or 32.6 percent (2050 RTC/SCS Appendix B). VMT has a direct correlation to increases in traffic volumes; therefore, the

32.6 percent increase would likely increase noise levels from the freeways or major arterials. In addition, reductions in traffic congestion could lead to slight increases in noise as traffic speeds increase. Thus, as in the 2020 analysis, the expanded transit services would not reduce traffic on freeways and major arterials. As such, proposed improvements in 2035 are not expected to make major differences in noise levels along heavily traveled corridors due to increases in traffic volumes. However, the proposed transportation network improvements could potentially move traffic closer to local receptors or change existing shielding, which would result in a substantial increase in noise levels at local noise-sensitive receptors.

Based on the preceding analysis, potential noise impacts would occur due to proposed transportation network improvements. As the proposed transportation network improvements could expose noise-sensitive land uses to substantial noise level increases, operation of these improvements would result in a significant noise impact.

Conclusion

As with the 2020 analysis, the increase in population, housing, and employment development expected by 2035 would result in substantial noise level increases of 5 dBA or more. While, compliance with the existing policies and regulations included would limit noise levels between land uses in the SANDAG region, compliance cannot guarantee that all future project-level impacts would be avoided or reduced below a significant level. Thus, this would be considered a significant impact. At the regional scale, by 2035, the noise impacts of new highways, highway widening, new HOV/managed lanes, new transit corridors, and increased activity along existing transit corridors are generally expected to result in a significant permanent increase in noise levels at noise-sensitive receptors in proximity to major transportation corridors. This is a significant impact for which mitigation measures are described in Section 4.2.5.

2050

Regional Growth/Land Use Change

By 2050, the population of the region is forecast to increase by 1,160,435 people; housing by 379,664 units; and employment by 501,958 jobs over existing conditions. As shown in Figure 4.11-5, new growth and land use changes in 2050 per the 2050 RTP/SCS are apparent throughout the region. Areas of substantial land use change and development, beyond that described in 2035, would include significant industrial development in the County's Otay planning area and San Diego Otay Mesa community surrounding the East Otay Mesa POE; throughout County planning areas located along the international border including Tecate, Potrero, Campo/Lake Morena, Boulevard, and Jacumba; throughout the Ramona and Julian planning areas in the unincorporated County; throughout other northeastern County planning areas including North Mountain, Desert, and Borrego Springs; and continued development throughout County planning areas located north and east of Escondido extending to the northern border with Riverside County including Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, Hidden Valley, Twin Oaks Valley, and North County Metro

As with the 2020 and 2035 scenarios, growth and development are expected to continue to increase within the region by 2050. As with 2035, land use patterns outlined in the 2050 RTP/SCS focus increase densities in existing urban centers, in coastal cities and cities along the major transportation corridors. However, in 2050, additional growth would continue in more eastern locations of the region, such as east of I-15 in the northern area, east of SR-67 through the central portion of the region, and east of SR-94 in the southern portion. Based on the projected 2050 scenario, spaced rural residential development would have expanded beyond areas along existing transportation corridors and established rural communities and into areas with very minimal development at present. Additionally, a substantial pocket of industrial

development would be located along the planned SR-905 corridor in conjunction with the new Otay Mesa East POE at the international border with Mexico. This is a newly developing area that is planned for mainly industrial use and is highly dependent upon the planned construction of SR-11, SR-905, and the Otay Mesa East POE. The project growth would result in more residential development near, and/or within, high noise environments, which could result in an increase in ambient noise levels by 5 or more dBA. Impacts from these types of projects and development would cause noise impacts in areas of the County that would not be impacted under 2020 and 2035 conditions. This is considered a significant impact. Tables 2.0-5, 2.0-6, and 2.0-7 outline the transit projects and locations as shown in Figures 2.0-13 and 2.0-17 slated for development by the year 2050. As in the 2020 and 2035 analyses, existing policies and regulations included in Section 4.12.2 would reduce, but not completely abate, the noise impacts.

Based on the preceding analysis of regional growth and land use change, potential noise impacts would occur due to proposed intensification of development. As the development could expose noise-sensitive land uses to substantial noise level increases, operation of these improvements would result in a significant noise impact. While, compliance with the existing policies and regulations included in Section 4.12.2 would limit noise levels between land uses in the SANDAG region, compliance cannot guarantee that all future project-level impacts would be avoided or below a significant level. Thus, this would be considered a significant impact.

Transportation Network Improvements

By 2050, most of the highway, transit, and active transportation (bicycle and pedestrian) improvements, along with other infrastructure projects, would be in place and operational in accordance with the 2050 RTP/SCS. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-805, I-5, I-15, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Trolley Green Line would be extended to Downtown-Bayside; a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed; and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established.

As with the 2020 and 2035 analyses, the expanded transportation corridors could expose more people to the higher levels of noise generated by high-traffic and train volumes along these corridors. At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected to increase ambient noise levels above existing conditions. Table 4.12-7 lists potential impacts associated with proposed new and expanded facilities in 2050, including highway, freeway, rail transit, tollway, truck lanes, and freeway interchange projects.

Tables 2.0-5, 2.0-6, and 2.0-7 list the forecasted 2050 projects under the 2050 RTP/SCS. Noise would impact those sensitive receptors that are exposed to new transportation noise (from expanded/increased service or new service) that would increase a substantial amount (+5 dBA). The majority of these impacts would likely be in areas where new corridors (extended or realigned roadways/tracks) have been constructed. Since it takes a doubling or more of traffic or rail trips to cause a noticeable increase in ambient noise levels, it is less likely that increases in service along existing routes (e.g. expanded BRT, local, Shuttle service) would cause noise impacts.

While expanded transit services in 2050 are expected to accommodate greater ridership in the future, this would have little effect relative to traffic on freeways and major arterials due to the overall increase in

population, which would result in an increase in overall VMT of approximately 40,152, or 51.4 percent (2050 RTC/SCS Appendix B). VMT has a direct correlation to increases in traffic volumes; therefore, the 51.4 percent increase would likely increase noise levels from the freeways or major arterials. In addition, reductions in traffic congestion could lead to slight increases in noise as traffic speeds increase. Thus, as in the 2020 and 2035 analyses, the expanded transit services would not reduce traffic on freeways and major arterials. As such, forecasted improvements in 2050 are not expected to make major differences in noise levels along heavily traveled corridors due to increases in traffic volumes.

Based on the preceding analysis, potential noise impacts would occur due to forecasted 2050 transportation network improvements. As the proposed transportation network improvements could expose noise-sensitive land uses to substantial noise level increases, operation of these improvements would result in a significant noise impact.

Conclusion

As with the 2020 and 2035 analyses, the increase in population, housing, and employment development expected by 2050 would result in substantial noise level increases of 5 dBA or more. While, compliance with the existing policies and regulations included would limit noise levels between land uses in the SANDAG region, compliance cannot guarantee that all future project-level impacts would be avoided or below a significant level. At the regional scale, by 2050, the noise impacts of new highways, highway widening, new HOV/managed lanes, new transit corridors, and increased frequency along existing transit corridors are generally expected to result in a significant permanent increase in noise levels at noise-sensitive receptors in proximity to major transportation corridors. This is a significant impact for which mitigation measures are described in Section 4.2.5.

N-4 CAUSE A SUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE EXISTING LEVELS

Analysis Methodology

Construction activities associated with the 2050 RTP/SCS would result in temporary or periodic increases in ambient noise levels at nearby sensitive receptors. Noise impacts to sensitive receptors would depend on the type of construction proposed, the land use, and duration of construction activities. Additionally, construction noise levels would vary depending on construction phase, equipment type, and duration of use; distance between noise source and receptor; and presence or absence of barriers between noise source and receptor. While, construction-related noise impacts would be short term and localized in nature, impacts and noise controls on construction would be similar throughout the San Diego region.

Construction noise impact criteria are based on local and FTA Transit Noise and Vibration Impact Assessment Manual criteria. Most local jurisdictions identify a noise level limit of 75 dBA L_{eq} for construction noise. FTA recommends construction noise impact criteria of 90 dBA hourly L_{eq} for programmatic analysis and considers a noise level increase of 10 dBA above ambient noise levels a substantial temporary increase in noise levels.

2020

Regional Growth/Land Use Change

By 2020, population within the region is expected to increase by 310,568 people; housing by 113,062 units; and employment by 118,535 jobs. However, when comparing existing land use as shown in Figure 4.11-1 and 2020 land use as shown in Figure 4.11-3, there are no substantial differences in the land use

patterns, types, or areas of development. Locations that would experience the most extensive land use change and development by 2020 would include areas such as eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 corridor; City of San Diego coastal and bay communities south of I-8 including Ocean Beach and the Peninsula planning areas; portions of northern Santee; areas north and south of the SR 56 corridor in the San Diego planning areas of Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, and Torrey Highlands; the San Marcos area near both the SR 78 and I-15 corridors; and within unincorporated County communities such as Fallbrook, Pala-Pauma Valley, and Valley Center along the I-15 and SR 76 corridors.

Construction can result in a significant, although typically short-term, increase in noise levels. Construction is most significant when it takes place near sensitive land uses or occurs at night or in early morning hours. Construction noise can also affect nearby wildlife by interfering with the ability to establish territory, vocalize, or successfully reproduce. Additional discussion of noise impacts to wildlife is provided in Section 4.4, Biological Resources. As under Impact N-1, local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards, implementation of general plan policies, and imposition of conditions of approval for building or grading permits. Table 4.12-9 shows typical exterior noise levels at various phases of commercial construction.

Table 4.12-9
Typical Commercial Construction Noise Levels

Construction Phase	Noise Level (dBA, L_{eq})[1]
Ground Clearing	84
Excavation	89
Pile Driving	100
Foundations	78
Erection	85
Finishing	89

[1] Average noise levels 50 feet from the noisiest source and 200 feet from the rest of the equipment associated with a given construction phase. Noise levels correspond to commercial projects in a typical urban ambient noise environment.
Source: USEPA 1971

Construction activities associated with 2050 RTP/SCS growth/land use changes would result in temporary noise increases at nearby sensitive receptors. Impacts to sensitive receptors resulting from development projects would depend on several factors, such as the type of development, surrounding land uses in a given area, and duration of proposed construction activities. Additionally, construction noise levels would fluctuate depending on equipment type and duration of use; distance between noise source and receptor; and presence or absence of barriers between noise source and receptor. Typically, construction noise would attenuate to less than 60 dBA L_{eq} at distances of 500 feet or greater and would attenuate to 75 dBA L_{eq} or less at distances of 160 feet or greater. While noise levels along existing corridors can be assumed to range from 60 to 75 dBA depending on proximity, construction could still result in substantial temporary increase at these receptors. Additionally, temporary noise level increases exceeding 10 dBA above ambient noise levels along routes with low existing activity or along new routes would be considered substantial. While, construction-related noise impacts would be short term and localized in nature, construction of development projects implementing the 2050 RTP/SCS could result in a substantial increase in short-term noise; thus, this impact would be significant.

Transportation Network Improvements

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Trolley Green Line would be extended to downtown San Diego.

Construction of the 2050 RTP/SCS transportation network improvements would result in similar noise impacts as identified under the regional growth/land use change discussion. Thus, while typical construction noise would attenuate to less than 60 dBA L_{eq} at distances of 500 feet or greater and would attenuate to 75 dBA L_{eq} or less at distances of 160 feet or greater, construction could still result in substantial temporary increase at nearby receptors of greater than 10 dBA. Therefore, construction of projects associated with the transportation network improvements in the 2050 RTP/SCS could result in a substantial increase in short-term noise; thus, this impact would be significant.

Conclusion

By 2020, construction of development projects implementing 2050 RTP/SCS growth/land use changes, and construction of transportation network improvements, would likely expose sensitive receptors to temporary increases in ambient noise levels exceeding 10 dBA above ambient noise levels. Therefore, this is a significant impact for which mitigation measures are described in Section 4.2.5.

2035

Regional Growth/Land Use Change

By 2035, the population of the region is expected to increase by 801,699 people; housing by 268,094 units; and employment by 312,292 jobs over existing 2010 conditions. As shown in Figures 4.11-4, 4.13-8, and 4.13-9, regional land use and growth changes are evident by 2035. Some locations that would experience the most extensive land use change and development by 2035 would include continued growth in eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 and SR 125 corridors: northeast of the SR 94 corridor in the unincorporated County planning areas of Jamul/Dulzura, Tecate, and Potrero; eastern Poway along the SR 67 corridor; the County planning area of Ramona along the SR 67 and SR 78 corridors; County planning areas of Lakeside and Alpine and the Crest, Granite Hills, Dehesa, Harbison Canyon subregion; and multiple north County planning areas along the 1-15 and SR 76 corridors such as Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, and Hidden Valley.

As with the 2020 analysis, construction activities by 2035 associated with the 2050 RTP/SCS would result in temporary noise increases at nearby sensitive receptors. Impacts to sensitive receptors resulting from these proposed improvements would depend on several factors, such as the type of improvement, surrounding land uses in a given area, and duration of proposed construction activities. Additionally, construction noise levels would fluctuate depending on equipment type and duration of use; distance between noise source and receptor; and presence or absence of barriers between noise source and receptor. Typically, construction noise would attenuate to less than 60 dBA L_{eq} at distances of 500 feet or

greater and would attenuate to 75 dBA L_{eq} or less at distances of 160 feet or greater. While noise levels along existing corridors can be assumed to range from 60 to 75 dBA depending on proximity, construction could still result in substantial temporary increase at these receptors. Additionally, noise level increases exceeding 10 dBA above ambient noise levels along routes with low existing activity or along new routes would be considered substantial. While, construction-related noise impacts would be short term and localized in nature, construction of development projects implementing the 2050 RTP/SCS could result in a substantial increase in short-term noise; thus, this impact would be significant.

Transportation Network Improvements

Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER service, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Trolley Blue Line would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon; the Orange Line would be extended to Lindbergh Field; and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTER rail line through the cities of Oceanside, Vista, San Marcos, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor.

Construction of the transportation network improvements would result in similar noise level impacts as identified under the regional growth/land use change discussion.

Conclusion

By 2035, construction of development projects implementing 2050 RTP/SCS growth/land use changes, and construction of transportation network improvements, would likely expose sensitive receptors to temporary increases in ambient noise levels exceeding 10 dBA above ambient noise levels. Therefore, this is a significant impact for which mitigation measures are described in Section 4.2.5.

2050

Regional Growth/Land Use Change

By 2050, the population of the region is forecast to increase by 1,160,435 people; housing by 379,664 units; and employment by 501,958 jobs over existing conditions. As shown in Figure 4.11-5, new growth and land use changes in 2050 per the 2050 RTP/SCS are apparent throughout the region. Areas of substantial land use change and development, beyond that described in 2035, would include significant industrial development in the County's Otay planning area and San Diego Otay Mesa community surrounding the East Otay Mesa POE; throughout County planning areas located along the international border including Tecate, Potrero, Campo/Lake Morena, Boulevard, and Jacumba; throughout the Ramona and Julian planning areas in the unincorporated County; throughout other northeastern County planning areas including North Mountain, Desert, and Borrego Springs; and continued development throughout County planning areas located north and east of Escondido extending to the northern border with Riverside County including Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, Hidden Valley, Twin Oaks Valley, and North County Metro.

As with the 2020 and 2035 analyses, construction activities by 2050 associated with the 2050 RTP/SCS would result in temporary noise increases at nearby sensitive receptors. Impacts to sensitive receptors resulting from these proposed improvements would depend on several factors, such as the type of

improvement, surrounding land uses in a given area, and duration of proposed construction activities. Additionally, construction noise levels would fluctuate depending on equipment type and duration of use; distance between noise source and receptor; and presence or absence of barriers between noise source and receptor. Typically, construction noise would attenuate to less than 60 dBA L_{eq} at distances of 500 feet or greater and would attenuate to 90 dBA L_{eq} or less at distances of 30 feet or greater. While noise levels along existing corridors can be assumed to range from 60 to 75 dBA depending on proximity, construction could still result in substantial temporary increase at these receptors. Additionally, noise level increases exceeding 10 dBA above ambient noise levels along routes with low existing activity or along new routes would be considered substantial. While, construction-related noise impacts would be short term and localized in nature, construction of development projects implementing the 2050 RTP/SCS could result in a substantial increase in short-term noise; thus, this impact would be significant.

(The mitigation measures described in Section 4.12.5 are not "required" until CEQA findings are adopted. At this point, they are potentially feasible mitigation measures.)

Transportation Network Improvements

By 2050, most of the highway, transit, and active transportation (bicycle and pedestrian) improvements, along with other infrastructure projects, would be in place and operational in accordance with the 2050 RTP/SCS. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-805, I-5, I-15, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Trolley Green Line would be extended to Downtown-Bayside; a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed; and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established.

Construction of the transportation network improvements would result in similar noise level impacts as identified under the regional growth/land use change discussion.

Conclusion

As with the 2020 and 2035 analyses, construction related to the increase in population, housing, and employment development expected by 2050 could result in substantial temporary noise level increases greater than 10 dBA at nearby sensitive receptors. While, compliance with the existing policies and regulations included in mitigation would limit noise levels from construction activities in the SANDAG region, compliance cannot guarantee that all future project-level impacts would be avoided or below a significant level. Therefore, this is a significant impact for which mitigation measures are described in Section 4.2.5.

N-5 FOR A PROJECT LOCATED WITHIN AN AIRPORT LAND USE PLAN OR WHERE SUCH A PLAN HAS NOT BEEN ADOPTED WITHIN 2 MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS

With limited exception, California law requires preparation of an Airport Land Use Compatibility Plan (ALUCP) for each public use airport in the state. As stated, there are 16 public use and military airports within the San Diego region. SDIA and McClellan-Palomar accommodate commercial, general aviation,

and corporate air services. Brown Field Municipal, Gillespie Field, Montgomery Field, and Ramona airports are capable of accommodating corporate services as well as general aviation, while the remaining airports are general aviation only. Each of the 12 public airports has an adopted ALUCP. The ALUCP includes an analysis of the existing aircraft noise contours and an analysis of future aircraft noise contours (+20 years) to assist local agencies in developing land use plans for areas surrounding the airport.

2020

Regional Growth/Land Use Change

By 2020, population within the region is expected to increase by 310,568 people; housing by 113,062 units; and employment by 118,535 jobs. However, when comparing existing land use as shown in Figure 4.11-1 and 2020 land use as shown in Figure 4.11-3, there are no substantial differences in the land use patterns, types, or areas of development. Locations that would experience the most extensive land use change and development by 2020 would include areas such as eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 corridor; City of San Diego coastal and bay communities south of I-8 including Ocean Beach and the Peninsula planning areas; portions of northern Santee; areas north and south of the SR 56 corridor in the San Diego planning areas of Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, and Torrey Highlands; the San Marcos area near both the SR 78 and I-15 corridors; and within unincorporated County communities such as Fallbrook, Pala-Pauma Valley, and Valley Center along the I-15 and SR 76 corridors.

Regional growth/land use change would potentially increase aircraft activity in the region. Regional growth/land use change envisioned under the 2050 RTP/SCS by 2020 would potentially increase activity regional airports access points; however, the 2050 RTC/SCS would not result in any operational changes (e.g., changes in flight patterns) to San Diego County airports.

To prevent incompatible uses in areas with higher aircraft noise levels, the ALUC has adopted ALUCPs with land use policies and criteria in the interest of aircraft noise and land use compatibility. As described in Sections 4.9.1 and 4.9.2, the SDCRAA, which is the ALUC for the SANDAG region, is required to assist local agencies in ensuring compatible land uses in the vicinity of existing or proposed airports; to coordinate planning at state, regional, and local levels; to prepare and adopt an airport land use plan as required by PRC Section 21675; to review plans or regulations submitted by local agencies; and to review and make recommendations regarding the land uses, building heights, and other issues relating to air navigation safety and promotion of air commerce. However, the recommendations of the ALUC are only advisory. Thus, the primary responsibility for integrating airport considerations into the local land use planning process rests with local governments.

ALUCPs include noise contours in 5 dBA increments typically ranging from 75 dBA CNEL to 60 dBA CNEL. The noise contours reflect the anticipated growth of the airport for at least the next 20 years and include potential development planning. ALUCPs and CLUPs differentiate allowed and prohibited land uses according to a noise and land use compatibility guideline similar to that in shown Table 4.12-1. The Department of Defense requires military airfields to adopt Air Installation Compatible Use Zone (AICUZ) studies, which assess compatible land uses in the vicinity of a military air station in a way equivalent to ALUCPs. These contour maps are included in the noise element of each jurisdiction affected by public use and military airports and is considered in the development of land use plans at the local level.

Regional growth/land use change by 2020 would potentially increase aircraft activity and development near public use or military airports in the region. However, existing procedures ALUCPs, and AICUZ

studies ensure compatibility between land uses and airports and reduce the potential for aircraft noise impacts. Additionally, the 2050 RTC/SCS is not anticipated to result in any operational changes (e.g., changes in flight patterns) to San Diego County airports; however, if a project would affect the operation of an airport, the project would be evaluated per FAA requirements. Furthermore, the 2050 RTP/SCS would not directly locate any noise-sensitive land uses in areas exposed to excessive aircraft noise levels. Therefore, regional growth/land use change associated with the 2050 RTP/SCS would not expose residents or employees to excessive noise levels from airports.

Transportation Network Improvements

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Trolley Green Line would be extended to downtown San Diego.

The 2050 RTP/SCS includes a multimodal strategy to improve airport access for cars, shuttles, trucks and other surface transportation. Senate Bill 10 of 2007 (SB 10) requires airport multimodal planning to be conducted and coordinated by SANDAG and the SDCRAA. The main planning provisions of SB 10 include the development of a Regional Aviation Strategic Plan (RASP) and an Airport Multimodal Accessibility Plan (AMAP). The 2050 RTP/SCS incorporates both the RASP and the AMAP.

A key component of RASP is Destination Lindbergh, an integrated regional surface and air transportation planning effort centered on SDIA completed in February 2009. The AMAP includes a strategy to expand and add surface transportation (automobile, rail, bus, and future high-speed rail) to improve access to and from airports both within the SANDAG region and between neighboring regions. The RASP identifies strategies to improve the performance of the San Diego County regional airport system, with a focus on SDIA and McClellan-Palomar Airport, and providing cross-border service to Tijuana International Airport.

Many transportation improvements developed by 2020 would be located near public airports, particularly those identified in the RASP and the AMAP. Improvements to highways, rail lines, and arterials included in the 2050 RTP/SCS would not interfere with air traffic and cause an increase in exposure to aircraft noise on the ground. This impact is less than significant.

Conclusion

In 2020, development projects implementing the 2050 RP/SCS growth/land use changes could occur near public use or military airports; however, existing regulations, procedures, ALUCPs, and AICUZ studies would ensure compatibility between uses and reduce the potential for aircraft noise impacts. The proposed transportation network improvements would not involve changes in operations at public use or military airports and would not develop noise-sensitive land uses or employment centers; thus, proposed transportation projects would not expose future noise-sensitive land uses to excessive noise levels due to airport noise. Therefore, the 2050 RTP/SCS would not expose residents or employees to excessive airport noise levels, and this impact is less than significant.

2035

Regional Growth/Land Use Change

By 2035, the population of the region is expected to increase by 801,699 people; housing by 268,094 units; and employment by 312,292 jobs over existing 2010 conditions. As shown in Figures 4.11-4, 4.13-8, and 4.13-9, regional land use and growth changes are evident by 2035. Some locations that would experience the most extensive land use change and development by 2035 would include continued growth in eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 and SR 125 corridors: northeast of the SR 94 corridor in the unincorporated County planning areas of Jamul/Dulzura, Tecate, and Potrero; eastern Poway along the SR 67 corridor; the County planning area of Ramona along the SR 67 and SR 78 corridors; County planning areas of Lakeside and Alpine and the Crest, Granite Hills, Dehesa, Harbison Canyon subregion; and multiple north County planning areas along the 1-15 and SR 76 corridors such as Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, and Hidden Valley.

Regional growth/land use change by 2035 would potentially increase aircraft activity and development near public use or military airports in the region. However, existing procedures ALUCPs, and AICUZ studies ensure compatibility between land uses and airports and reduce the potential for aircraft noise impacts. Additionally, the 2050 RTC/SCS is not anticipated to result in any operational changes (e.g., changes in flight patterns) to San Diego County airports; however, if a project would affect the operation of an airport, the project would be evaluated per FAA requirements. Furthermore, the 2050 RTP/SCS would not directly locate any noise-sensitive land uses in areas exposed to excessive aircraft noise levels. Therefore, regional growth/land use change associated with the 2050 RTP/SCS would not expose residents or employees to excessive noise levels from airports.

Transportation Network Improvements

Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER service, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Trolley Blue Line would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon; the Orange Line would be extended to Lindbergh Field; and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTER rail line through the cities of Oceanside, Vista, San Marcos, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor.

Additional transportation improvements would be constructed by 2035, including improvements that are part of the RASP and AMAP, such as an extension of the Trolley Orange Line to SDIA. As discussed in the 2020 analysis, transportation improvements included in the 2050 RTP/SCS would not develop noise-sensitive land uses or employment centers and would not interfere with air traffic or result in operational changes at public use or military airports. Therefore, transportation network improvements would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant without mitigation.

Conclusion

In 2035, development projects implementing the 2050 RTP/SCS growth/land use changes could occur near public use or military airports; however, existing regulations, procedures, ALUCPs, and AICUZ studies would ensure compatibility between uses and reduce the potential for aircraft noise impacts. The proposed transportation network improvements would not involve changes in operations at public use or military airports and would not develop noise-sensitive land uses or employment centers; thus, proposed transportation projects would not expose future noise-sensitive land uses to excessive noise levels due to airport noise. Therefore, the 2050 RTP/SCS would not expose residents or employees to excessive airport noise levels, and this impact is less than significant.

2050

Regional Growth/Land Use Change

By 2050, the population of the region is forecast to increase by 1,160,435 people; housing by 379,664 units; and employment by 501,958 jobs over existing conditions. As shown in Figure 4.11-5, new growth and land use changes in 2050 per the 2050 RTP/SCS are apparent throughout the region. Areas of substantial land use change and development, beyond that described in 2035, would include significant industrial development in the County's Otay planning area and San Diego Otay Mesa community surrounding the East Otay Mesa POE; throughout County planning areas located along the international border including Tecate, Potrero, Campo/Lake Morena, Boulevard, and Jacumba; throughout the Ramona and Julian planning areas in the unincorporated County; throughout other northeastern County planning areas including North Mountain, Desert, and Borrego Springs; and continued development throughout County planning areas located north and east of Escondido extending to the northern border with Riverside County including Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, Hidden Valley, Twin Oaks Valley, and North County Metro.

While regional growth/land use change by 2050 would potentially increase aircraft activity and development near public use or military airports in the region, existing procedures ALUCPs, and AICUZ studies ensure compatibility between land uses and airports and reduce the potential for aircraft noise impacts. Additionally, the 2050 RTC/SCS is not anticipated to result in any operational changes (e.g., changes in flight patterns) to San Diego County airports. However, if a project would affect the operation of an airport, the project would be evaluated per local noise compatibility requirements and per FAA requirements. Therefore, regional growth/land use change associated with the 2050 RTP/SCS would not expose residents or employees to excessive noise levels from airports.

Transportation Network Improvements

By 2050, most of the highway, transit, and active transportation (bicycle and pedestrian) improvements, along with other infrastructure projects, would be in place and operational in accordance with the 2050 RTP/SCS. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-805, I-5, I-15, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Trolley Green Line would be extended to Downtown-Bayside; a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed; and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established.

As discussed in the 2020 and 2035 analyses, transportation improvements included in the 2050 RTP/SCS would not develop noise-sensitive land uses or employment centers and would not interfere with air

traffic or result in operational changes at public use or military airports. Therefore, transportation network improvements would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant without mitigation.

Conclusion

In 2050, development projects implementing the 2050 RTP/SCS growth/land use changes could occur near public use or military airports; however, existing regulations, procedures, ALUCPs, and AICUZ studies would ensure compatibility between uses and reduce the potential for aircraft noise impacts. The proposed transportation network improvements would not involve changes in operations at public use or military airports and would not develop noise-sensitive land uses or employment centers; thus, proposed transportation projects would not expose future noise-sensitive land uses to excessive noise levels due to airport noise. Therefore, the 2050 RTP/SCS would not expose residents or employees to excessive airport noise levels, and this impact is less than significant.

N-6 FOR A PROJECT WITHIN THE VICINITY OF A PRIVATE AIRSTRIP, EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS

Approximately 33 private airstrips/helipads are located within San Diego County. Noise-related impacts at private and special-use airports are substantially less because of lower activity levels compared to public use and military airports. Users of these private airstrips include medical facilities, law enforcement, corporations, and private individuals. Land use controls differ substantially between public airports and private airports. First, there are no AIA identified around these airports and land use restrictions are much less defined than with public airports. Private airstrips are not required to adopt an ALUCP. Second, Caltrans' Division of Aeronautics controls private and special-use airports through a permitting process, and is also responsible for regulating operational activities at these airports.

2020

Regional Growth/Land Use Change

By 2020, population within the region is expected to increase by 310,568 people; housing by 113,062 units; and employment by 118,535 jobs. However, when comparing existing land use as shown in Figure 4.11-1 and 2020 land use as shown in Figure 4.11-3, there are no substantial differences in the land use patterns, types, or areas of development. Locations that would experience the most extensive land use change and development by 2020 would include areas such as eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 corridor; City of San Diego coastal and bay communities south of I-8 including Ocean Beach and the Peninsula planning areas; portions of northern Santee; areas north and south of the SR 56 corridor in the San Diego planning areas of Carmel Valley, Del Mar Mesa, Pacific Highlands Ranch, and Torrey Highlands; the San Marcos area near both the SR 78 and I-15 corridors; and within unincorporated County communities such as Fallbrook, Pala-Pauma Valley, and Valley Center along the I-15 and SR 76 corridors.

A high rate of residential or commercial development is not projected to occur in rural areas of the region, where there are several private airstrips. However, regional growth is forecasted to occur near other private or special-use airstrips or helipads, such as hospitals and police stations. As required for safety zones, appropriate separation between private airports and land use development is identified in accordance with the California Airport Land Use Planning Handbook and FAA standards. Appropriate separation between project development and the airstrip or helipad would be identified in accordance with existing regulatory mechanisms. The existing regulations and FAA procedures would ensure

compatibility between land uses and airports. Additionally, regional growth envisioned under the 2050 RTP/SCS is not anticipated to increase activity or access to private airstrips or result in any operational changes (e.g., changes in flight patterns) at any private airstrips. Therefore, regional growth developed by 2020 would not expose residents or employees to excessive noise levels from private airports. Impacts would be less than significant.

Transportation Network Improvements

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Trolley Green Line would be extended to downtown San Diego.

Transportation improvements developed by 2020 would be located near private or special-use airports or helipads, particularly if they are located in the western portion of the region. Improvements to highways, rail lines, and arterials included in the 2050 RTP/SCS are unlikely to interfere with air traffic or result in aircraft noise impacts. If the location or other characteristics of a transportation project would potentially pose an impact on aircraft operations, the project would be evaluated per local compatibility and FAA requirements. Therefore, with adherence to regulations, regional growth developed by 2020 would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant.

Conclusion

Increased development and construction of transportation network improvements by 2020 would occur near private airstrips or helipads. However, the 2050 RTC/SCS would not result in any operational changes (e.g., changes in flight patterns) to private airstrips in San Diego County. If a project would affect the operation of an airport, the project would be evaluated per local compatibility and FAA requirements. With adherence to FAA and Caltrans regulations, noise impacts associated with airports would be reduced to less than significant. No mitigation is required.

2035

Regional Growth/Land Use Change

By 2035, the population of the region is expected to increase by 801,699 people; housing by 268,094 units; and employment by 312,292 jobs over existing 2010 conditions. As shown in Figures 4.11-4, 4.13-8, and 4.13-9, regional land use and growth changes are evident by 2035. Some locations that would experience the most extensive land use change and development by 2035 would include continued growth in eastern Chula Vista along the SR 125 and I-805 corridors; San Diego community planning areas of San Ysidro and Otay Mesa along the SR 905 and SR 125 corridors: northeast of the SR 94 corridor in the unincorporated County planning areas of Jamul/Dulzura, Tecate, and Potrero; eastern Poway along the SR 67 corridor; the County planning area of Ramona along the SR 67 and SR 78 corridors; County planning areas of Lakeside and Alpine and the Crest, Granite Hills, Dehesa, Harbison Canyon subregion;

and multiple north County planning areas along the 1-15 and SR 76 corridors such as Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, and Hidden Valley.

By 2035, additional regional growth is forecasted to occur near private or special-use airstrips or helipads, particularly in the urbanized areas of the region. As described above, appropriate separation between project development and the airstrip or helipad would be identified in accordance with existing regulatory mechanisms. The FAA may condition certain requirements for project sites to ensure compatibility with air safety. Existing regulations and FAA procedures would ensure compatibility between land uses and airports and reduce the potential for aircraft noise impacts. Therefore, regional growth developed by 2035 would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant.

Transportation Network Improvements

Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER service, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Trolley Blue Line would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon; the Orange Line would be extended to Lindbergh Field; and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTER rail line through the cities of Oceanside, Vista, San Marcos, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor.

Transportation improvements developed by 2035 would be located near private or special-use airports or helipads, particularly if they are located in the western portion of the region. As discussed in the 2020 analysis, improvements to highways, rail lines, and arterials included in the 2050 RTP/SCS do not include noise-sensitive land uses or employment center and would not interfere with airport operations. Therefore, regional growth developed by 2035 would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant.

Conclusion

By 2035, increased development and construction of transportation network improvements would occur near private airstrips or helipads. However, as with the 2020 analysis, the 2050 RTC/SCS would not result in any operational changes to private airstrips in San Diego County. If a project would affect the operation of an airport, the project would be evaluated per local compatibility and FAA requirements. Noise impacts associated with airports would less than significant. No mitigation is required.

2050

Regional Growth/Land Use Change

By 2050, the population of the region is forecast to increase by 1,160,435 people; housing by 379,664 units; and employment by 501,958 jobs over existing conditions. As shown in Figure 4.11-5, new growth and land use changes in 2050 per the 2050 RTP/SCS are apparent throughout the region. Areas of substantial land use change and development, beyond that described in 2035, would include significant industrial development in the County's Otay planning area and San Diego Otay Mesa community surrounding the East Otay Mesa POE; throughout County planning areas located along the international border including Tecate, Potrero, Campo/Lake Morena, Boulevard, and Jacumba; throughout the Ramona

and Julian planning areas in the unincorporated County; throughout other northeastern County planning areas including North Mountain, Desert, and Borrego Springs; and continued development throughout County planning areas located north and east of Escondido extending to the northern border with Riverside County including Rainbow, Fallbrook, Bonsall, Pala-Pauma Valley, Valley Center, Hidden Valley, Twin Oaks Valley, and North County Metro.

By 2050, the additional regional growth forecasted would occur near private or special-use airstrips or helipads, particularly in the urbanized areas of the region. As described in the 2020 analysis, appropriate separation between project development and the airstrip or helipad would be identified in accordance with existing regulatory mechanisms. The FAA may condition certain requirements for project sites to avoid or reduce incompatibilities with surrounding land uses. Existing regulations and FAA procedures would ensure compatibility between land uses and airports. Therefore, with adherence to the regulations above, regional growth developed by 2050 would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant.

Transportation Network Improvements

By 2050, most of the highway, transit, and active transportation (bicycle and pedestrian) improvements, along with other infrastructure projects, would be in place and operational in accordance with the 2050 RTP/SCS. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-805, I-5, I-15, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Trolley Green Line would be extended to Downtown-Bayside; a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed; and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established.

Some of the transportation improvements developed by 2050 would be located near private or special-use airports or helipads, particularly if they are located in the western portion of the region. As discussed in the 2020 and 2035 analyses, improvements to highways, rail lines, and arterials included in the 2050 RTP/SCS do not include noise-sensitive land uses or employment center and would not interfere with airport operations. Therefore, regional growth developed by 2035 would not expose residents or employees to excessive noise levels from airports. Impacts would be less than significant.

Conclusion

By 2050, increased development and construction of transportation network improvements would occur near private airstrips or helipads. However, as with the 2020 and 2035 analyses, the 2050 RTC/SCS would not result in any operational changes (e.g., changes in flight patterns) to private airstrips in San Diego County. If a project would affect the operation of an airport, the project would be evaluated per local compatibility and FAA requirements. Thus, the 2050 RTP/SCS would not expose any residents or workers to excessive noise levels associated with private airports. No mitigation is required.

4.12.5 MITIGATION MEASURES

Implementation of the 2050 RTP/SCS would result in significant noise and vibration impacts in 2020, 2035, and 2050. The mitigation measures below aim to reduce these impacts. These mitigation measures are general and programmatic in nature, and would be refined in project-specific CEQA documents.

N-1 EXPOSURE OF PERSONS TO OR GENERATION OF NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES.

2020, 2035, 2050

NOI-A

SANDAG shall and other implementing agencies responsible for design and operation of individual projects that would generate operational source noise from infrastructure changes (such as transit stations, electrical substations, etc.) can and should implement the following design features, in locations that are near noise-sensitive receptors:

- New and expanded permanent noise sources, such as transit stations, will receive a full project-level environmental acoustical analysis to ensure that noise level increases are within acceptable limits.
- Noise reduction components such as buffer zones, barriers, site design, and grade separation will be implemented as determined by project-level analysis to ensure that noise level increases are within acceptable limits.

Local governments can and should use any land use design practices such as buffer zones, barriers, site design, and grade separation techniques to ensure that noise levels are reduced to the extent feasible.

NOI-B

SANDAG shall and other implementing agencies responsible for design and operation of individual projects that would generate transportation noise (i.e., transportation network improvements and other changes in service or changes to routes or infrastructure related to rail or motor vehicles) should implement the following design features, in locations that are near noise-sensitive receptors:

- New and expanded transit corridors and features such as new rail tracks, double-tracking, interstate ramps, transit stations, and transit-only lanes will receive a full project-level environmental acoustical analysis to ensure that noise level increases are within acceptable limits.
- Noise reduction components such as buffer zones, barriers, corridor routing, site design, grade separation, and electric-powered vehicles will be implemented as determined by project-level analysis to ensure that noise level increases are within acceptable limits.
- For all new at-grade rail crossings, Federal Rail Administration Quiet Zones requirements will be met and approved, as funding is available. Quiet Zones are at grade rail crossings that have met specific Federal Rail Administration safety criteria for reducing or eliminating the requirement for locomotives to blast their horns.

NOI-C

SANDAG shall and other implementing agencies responsible for approval of or construction individual projects (both development projects and transportation network improvements) should implement the following mitigation measures to reduce noise levels generated by on-site construction-equipment:

- Where feasible, project construction and related activities shall occur during permitted hours in accordance with local jurisdiction regulations.

- Construction equipment will be properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). All impact tools will be shrouded or shielded and all intake and exhaust ports on power equipment will be muffled or shielded.
- Construction equipment will not be idled for extended periods of time in the vicinity of noise-sensitive receptors.
- Fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) will be located as far as possible from noise-sensitive receptors.
- Provided that pile driving would be necessary for construction due to geological conditions, pile holes will be predrilled to the maximum feasible depth. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.

N-2 EXPOSURE OR PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS

Implementation of the 2050 RTP/SCS would result in significant noise exposure or persons to or generation of excessive groundborne vibration or groundborne noise levels in 2020, 2035, and 2050. In addition to implementation of Mitigation Measures NOI-A and NOI-B above, Mitigation Measure NOI-D would be required to reduce these impacts.

NOI-D

SANDAG shall and other implementing agencies should implement the following mitigation measures to reduce groundborne vibration and noise levels generated by on-site construction-equipment:

- When construction activity must take place within 45 feet of a sensitive receptor, smaller rubber-tired equipment will be used.
- If pile driving would be necessary for construction due to geological conditions within 290 feet of any sensitive receptor, pile holes will be predrilled to the maximum feasible depth. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground reducing pile diving vibration to a smaller area.

N-3 CAUSE A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE EXISTING LEVELS.

Implementation of the 2050 RTP/SCS would cause a substantial permanent increase in ambient noise levels in the project vicinity above existing levels in 2020, 2035, and 2050. Implementation of Mitigation Measures NOI-A NOI-B, and NOI-C above would be required to reduce these impacts.

N-4 CAUSE A SUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE EXISTING LEVELS

Implementation of the 2050 RTP/SCS would cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels in 2020, 2035, and 2050. Implementation of Mitigation NOI-C above would be required to reduce these impacts.

4.12.6 SIGNIFICANCE AFTER MITIGATION

N-1 EXPOSURE OF PERSONS TO OR GENERATION OF NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES.

While implementation of Mitigation Measures NOI-A, NOI-B, and NOI-C would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in local general plans or noise ordinances, no project-level site plans or implementation programs have been considered as part of the environmental review of the 2050 RTP. Without detailed operational data it cannot be ensured that the proposed mitigation would reduce all impacts to a less than significant level. The mitigation outlined provides a framework for future project design to ensure that the maximum noise abatement can be implemented at the project level. However, because of the variability of transportation noise sources and the high population density and proximity to major proposed noise sources in San Diego County, Mitigation Measures NOI-A, NOI-B, and NOI-C still cannot guarantee that all new and expanded routes, services, and roadways would meet varying local noise standards. Therefore, direct and indirect impacts related to the generation of noise levels in excess of standards established in local general plans or noise ordinances would remain **significant and unavoidable.**

N-2 EXPOSURE OR PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS

While implementation of Mitigation Measure NOI-D would reduce direct and indirect impacts associated with the generation of construction vibration levels and Mitigation Measures NOI-A and NOI-B would reduce direct and indirect impacts associated with the generation of operation vibration levels in excess of standards established in local general plans or noise ordinances, no project-level site plans or implementation programs have been considered as part of the environmental review of the 2050 RTP. Without detailed construction and operations data it cannot be ensured that the proposed mitigation would reduce all vibration impacts to a less than significant level. The mitigation outlined provides a framework for future construction activities to ensure that the maximum noise abatement can be implemented at the project level. However, because of the variability of vibration sources and the high population density and proximity to major proposed construction areas in San Diego County, Mitigation Measures NOI-A, NOI-B, and NOI-D still cannot guarantee that all construction and operation activities would meet applicable vibration standards. Therefore, direct and indirect impacts related to the generation of vibration levels in excess of applicable standards remain **significant and unavoidable.**

N-3 CAUSE A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE EXISTING LEVELS

While implementation of Mitigation Measures NOI-A, NOI-B, and NOI-C would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in local general plans or noise ordinances, no project-level site plans or implementation programs have been considered as part of the environmental review of the 2050 RTP. Without detailed operational data it cannot be ensured that the proposed mitigation would reduce all impacts to a less than significant level. The mitigation outlined provides a framework for future project design to ensure that the maximum noise abatement can be implemented at the project level. However, because of the variability of transportation noise sources and the high population density and proximity to major proposed noise sources in San Diego County, Mitigation Measures NOI-A, NOI-B, and NOI-C still cannot guarantee that all new and expanded routes, services, and roadways would meet varying local noise standards. Therefore, direct and indirect impacts related to the generation of noise levels in excess of standards established in local general plans or noise ordinances would remain **significant and unavoidable.**

N-4 CAUSE A SUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE EXISTING LEVELS

While implementation of Mitigation Measure NOI-C would reduce direct and indirect impacts associated with a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels, no project-level site plans or implementation programs have been considered as part of the environmental review of the 2050 RTP. Without detailed construction data it cannot be ensured that the proposed mitigation would reduce all impacts to a less than significant level. The mitigation outlined provides a framework for future construction activities to ensure that the maximum noise abatement can be implemented at the project level. However, because of the variability of construction noise sources and the high population density and proximity to major proposed construction areas in San Diego County, Mitigation Measure NOI-C still cannot guarantee that all construction actions would meet varying local noise standards. Therefore, direct and indirect impacts related to the generation of noise levels in excess of standards established in local general plans or noise ordinances would remain **significant and unavoidable.**