Agenda

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 3, 2022

9:00 a.m.

Meeting will be held via webinar

To request an agenda in an alternative format or to request accommodations to facilitate meeting participation, please email the Clerk of the Board, ClerkoftheBoard@sdmts.com at least two working days prior to the meeting. Meeting webinar/teleconference instructions can be accessed under 'Meeting Link and Webinar Instructions .' Click the following link to access the meeting: https://zoom.us/j/94562188418

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		ACTION RECOMMENDED
1.	ROLL CALL	
2.	APPROVAL OF MINUTES - JANUARY 13, 2022	Approve
3.	PUBLIC COMMENTS	
COMMITTEE DISCUSSION ITEMS		
4.	COVID-19 Update (Sharon Cooney)	Informational
5.	Ridership Recovery Action Plan Update (Mark Olson)	Informational
6.	Trolley to Airport Update (Heather Furey and Brent Boyd) That the San Diego Metropolitan Transit System (MTS) Executive Committee receive an update on Trolley to Airport.	Receive

7. CLOSED SESSION - CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION
INITIATION OF LITIGATION PURSUANT TO PARAGRAPH (4) OF SUBDIVISION (D) OF SECTION 54956.9: (1 POTENTIAL CASE) — Possible Action

OTHER ITEMS

8. REVIEW OF DRAFT MARCH 10, 2022 MTS BOARD AGENDA

9. OTHER STAFF COMMUNICATIONS AND BUSINESS

10. COMMITTEE MEMBER COMMUNICATIONS AND OTHER BUSINESS

11. NEXT MEETING DATE: APRIL 7, 2022

12. ADJOURNMENT

DRAFT MINUTES

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

January 13, 2022

[Clerk's note: Except where noted, public, staff and board member comments are paraphrased. Note that the meeting was conducted via webinar to comply with public health orders].

1. Roll Call

Vice Chair Sotelo-Solis called the Executive Committee meeting to order at 9:03 a.m. A roll call sheet listing Executive Committee member attendance is attached.

2. Approval of Minutes

Board Member Hall moved to approve the minutes of the November 4, 2021, MTS Executive Committee meeting. Board Member Sandke seconded the motion, and the vote was 6 to 0 in favor with Chair Fletcher absent.

3. Public Comments

Nate Fairman – Representing the IBEW 465 made a verbal statement to the Board during the meeting. Fairman expressed his support for Chair Fletcher's family.

Jack Shu – Representing the City of La Mesa made a verbal statement to the Board during the meeting. He introduced himself as an onboarding member of the Board. Board Member Shu extended his best wishes to Chair Fletcher.

COMMITTEE DISCUSSION ITEMS

4. Affordable Housing Transit Oriented Developments – Review of Affirmed Housing Proposals for Beyer Boulevard and Rancho Bernardo Transit Centers (Karen Landers)

Karen Landers, MTS General Counsel, presented on affordable housing transit-oriented developments (TOD) and review of Affirmed Housing proposals for Beyer Boulevard and Rancho Bernardo Transit Centers. She outlined the following items: status of TOD proposals, TOD proposals – next steps, Beyer Boulevard trolley station, Beyer Blvd, Trolley Village, Beyer Blvd. Trolley Village Schedule, Rancho Bernardo (RB) Transit Center, RB Transit Village, Rancho Bernardo Transit Village schedule, TOD Proposals and next steps.

Vice Chair Sotelo-Solis acknowledged the importance of due diligence for transit-oriented development projects to address the needs of the community and encouraged the use of public transportation.

Board Member Sandke thanked MTS staff for integrating a secondary parking option in the Rancho Bernardo project. He praised Affirmed Housing for meeting the needs of the agency while being financially innovative.

Board Member Elo-Rivera thanked Affirmed Housing and staff for providing affordable housing. He reminded the Board about the need for the agency to develop a parking policy to create consistency, transparency and include stakeholders such as developers and riders.

Sharon Cooney, MTS Chief Executive Officer, added that data continues to be gathered for the parking policy recommendation.

Ms. Landers added that operational staff and the development team now meet when the agency receives a Notice of Interest submittal. This procedure allows the agency to have early and clear channels of communication for project proposals.

Board Member Elo-Rivera clarified the Board's responsibility to provide clear direction through policy and goals.

Vice Chair Sotelo-Solis agreed with Board Member Elo-Rivera and advocated for public restroom access to be incorporated in the design of the project.

Action Taken

Board Member Hall moved to bring a formal Disposition and Development Agreement to the Board of Directors for approval in March/April 2022. Board Member Montgomery Steppe seconded the motion, and the vote was 6 to 0 in favor with Chair Fletcher absent.

5. Real Estate and Joint Development Program Status Update (Karen Landers)

Karen Landers, MTS General Counsel, provided a status update on the real estate and joint development program. She outlined the following information: City of San Diego Transit Oriented Development (TOD) sites; Grantville Trolley station; Greystar: Union Grantville Market Rate Housing Project; Affirmed Housing ShoreLINE Project: 100% affordable housing; 12th & Imperial Transit Center: Triangle Parcels; Palm Avenue station; Palm City Village Development approval: October 2021; South Bay TOD sites; East County TOD sites; Spring Street station; Spring Street Developer Interest; other pending real estate transactions; and other pending real estate transactions.

Ms. Cooney mentioned that the agency's new Real Estate Manager would be joining the agency at the end of the month. She highlighted the Spring Street project in the City of La Mesa since two developers and the City of La Mesa have expressed interest to develop TOD housing. She encouraged the Board to provide feedback for the location. Ms. Cooney added that the agency has previously participated as a member of the study group with the City of La Mesa. She stated that recent legislative changes had yet to be incorporated in to the draft study. She confirmed that Spring Street development was a viable option for the agency to pursue and listed various reasons. She was hopeful the proposal from a developer could align with the City of La Mesa's vision. She acknowledged that as part of Policy 18, the agency would solicit a Request for Proposal (RFP) which could delay the project. The Board has the authority to waive the requirement. She listed benefits to waiving or following the solicitation process for the Board.

Vice Chair Sotelo-Solis deferred to City of La Mesa representatives, but believed the project did not require immediate attention.

Board Member Hall made the agency aware that the Cuyamaca and Prospect sites were undergoing joint construction.

Ms. Landers clarified that the agency is currently reviewing several appraisals which will be evaluated and then brought back to the Board.

Board Member Sandke asked staff to report on the La Mesa TOD study timeline.

Ms. Cooney stated that public comment closed in February 2022.

Board Member Sandke agreed that the project did not need to be accelerated. He was not in support of the RFP process since he believed that would slow down the process.

Ms. Cooney noted that the cost of the study would normally be the agency's expense however, unsolicited proposals cover initial analysis that remove the associated cost for MTS.

Board Member Elo-Rivera asked about the maximum number of homes the agency would be able to build. He asked for the information for the Board to understand limits for future developments. Ms. Cooney stated that each location has different constraints and that a fixed formula could not be provided. She continued to list various obstacles as examples.

Board Member Elo-Rivera asked if staff capacity was a barrier to the projects. Ms. Cooney explained that the agency works with consultants to augment staff capacity. She assured the Board that the agency was experiencing a temporary demand increase and that the current resources would be sufficient.

Board Member Elo-Rivera cited the potential acquisition of an El Cajon property. Ms. Cooney acknowledged the referenced property was in El Cajon and was still under consideration. She specified that the El Cajon Bus Maintenance Facility had recently been renovated and expanded, and the adjacent property has become available.

Board Member Elo-Rivera asked about the possibility of creating affordable housing at the location. Ms. Cooney pointed out that the site was zoned in an industrial area and that the site was not in a transit accessible area.

Board Member Montgomery Steppe thanked Affirmed Housing for the presentation. She asked staff to provide her office an in-depth update on the Woodman Ave sale timeline. Ms. Cooney explained that the property was purchased for the Orange Line renewal project. She acknowledged that the agency acquired surplus land which is why this property is being sold. Ms. Landers clarified the Woodman parcel was not a Disposition and Development Agreement (DDA) or a long-term land lease, but rather the property is currently in a purchase and sale agreement with the developer, in the escrow phase of the purchase. She clarified that the agency needs to coordinate with HCD to prove compliance with Assembly Bill 1486 but was confident it would pass. She stated that the timeline would be determined by the developer's schedule.

PUBLIC COMMENT

Jesse O' Sullivan – Representing Circulate San Diego made a verbal statement to the Board during the meeting. O'Sullivan was encouraged by the amount of Joint Development projects. O'Sullivan was also in support of a policy revision to Joint Development and cited a letter the organization sent to MTS in support of a revision. O'Sullivan emphasized that the agency should not prioritize parking.

Action Taken

Informational item only. No action taken.

OTHER ITEMS

6. REVIEW OF DRAFT January 20, 2022 BOARD AGENDA

Recommended Consent Items

6. Authorization of Remote Teleconferenced Meetings
Action would authorize remote teleconferenced meetings for any public meetings held by MTS, including all Brown Act committees, for the next thirty (30) days pursuant to Assembly Bill (AB) 361 and make the following findings: 1) The MTS Board has considered the current circumstances of the COVID-19 pandemic and its impact in San Diego County; and 2) State or local officials continue to recommend measures to promote social distancing. On September 23, 2021, County of San Diego Public Health Officer, Wilma J. Wooten, M.D., M.P.H., issued a recommendation supporting the use of teleconferencing for attendance at public meetings as "a social distancing measure that may help control transmission of the SARS-CoV-2 virus."

7. Semiannual Uniform Report of Disadvantaged Business Enterprise (DBE) Awards and Payments

8. Revisions to San Diego Metropolitan Transit System (MTS) Ordinance No. 11
Action would 1) Adopt the proposed amendments to MTS Ordinance No. 11, "An Ordinance Providing for the Licensing and the Regulating of Transportation Services within the City and the County by the Adoption of a Uniform Paratransit Ordinance"; and 2) Upon adoption of the proposed amendments, grant the Chief Executive Officer (CEO) the discretion to enforce MTS Ordinance No. 11 in its amended form.

9. Purchase Four (4) Industrial Battery Powered Scrubbers – Contract Award
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1611.0-22, with Maintex Inc., for the purchase of four (4) industrial battery powered scrubbers as detailed in the scope of work, in the amount of $110,939.40.

10. Creative Marketing Branding Services – Contract Amendment
Action would 1) Ratify Amendment No. 3 to MTS Doc. No. G2053.3-18 with Civilian, Inc., a Small Business (Civilian) in the amount of $99,000.00; and 2) Authorize the Chief Executive Officer (CEO) to execute Amendment No. 4 to MTS Doc. No. G2053.4-18, with Civilian to add additional funds of $600,000.00 for on-call creatives services and media buy/ad placement.

11. First Responder Network Authority (FIRSTNET) Services for Five (5) Years – Amendment No. 2
Action would authorize the Chief Executive Officer (CEO) to execute an amendment(s) to MTS Doc. G2377.0-20, with AT&T Corp., in amount of $647,058.20 for an additional three hundred thirty-five (335) devices that will require FirstNet Services through June 30, 2025, for a new spending authority of $2,911,348.00.

12. Purchase and Delivery of Production Switch Tamper – Contract Award
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. L1604.0-22 with Harsco Metro Rail, LLC, in the amount of $1,456,010.79 for the purchase and delivery of a production switch tamper.

13. Massachusetts Upper Parking Lot Paving – Work Order
Action would authorize the Chief Executive Officer (CEO) to execute Work Order MTSJOC275-26 under Job Order Contract (JOC) to MTS Doc. No. PWG275.0-19, with ABC General Contractor, Inc. (ABCGC), in the amount of $98,656.68 for the mill and overlay of asphalt at the upper Massachusetts Trolley Station parking lot.

14. On-Call Communication and Low Voltage Wiring Services – Contract Award
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWG339.0-22, with Communication Wiring Specialist (CWS), Inc., a Small Business (SB), for On Call Communication and Low Voltage Wiring Service for a five (5) years base term in the amount of $303,860.00.

15. Zero-Emission Bus (ZEB) Procurement Project: 60-Foot Low-Floor Electric Buses – Contract Amendment (New Flyer)
Action would 1) Ratify Amendment No. 1 (Attachment A) to MTS Doc. No. B0722.0-21 with New Flyer for a credit in the amount of ($728,347.95); and 2)Authorize the Chief Executive Officer (CEO) to execute Amendment No. 2 to MTS Doc. No. B0722.0-21 (insubstantially the same format as Attachment B) with New Flyer, in the amount of $822,188.27 per technical specification changes for the twelve (12) 60-foot low-floor electric battery-powered buses.

16. Rail Replacement - America Plaza and Kettner Grade Crossing - Work Order
Action would 1) Execute Change Order MTS JOC 269-11.04 under Job Order Contract (JOC) to MTS Doc. No. PWG269.0-19, with Herzog Contracting Corp. (Herzog), in the amount of $92,758.90 for additional labor to notch the rubber rail interface to fit over the direct fixation fasteners; and 2) Execute Change Order MTS JOC 269-11.05 under JOC to MTS Doc. No. PWG269.0-19, with Herzog, in the amount of $31,180.04 for additional contractor administration overhead due to a two-week delay on owner furnished material.

17. Provision of HPE Configure to Order (CTO) Servers and Support for Closed-Circuit Television (CCTV) Video Storage of San Diego Metropolitan Transit System (MTS) Server Refresh and Mid-Coast Trolley Project – Purchase Order
Action would authorize the Chief Executive Officer (CEO) to execute a Purchase Order with Nth Generation Computing Inc. for the provision of HPE CTO Servers and ongoing support services for CCTV Video Storage of MTS Server Refresh and Mid-Coast Trolley Extension Project in the amount of $256,048.91.

18. Establish Automated Clearing House (ACH) Debit Bank Checking Account for Workers' Compensation Third Party Administration Services
Action would 1) Authorize the Chief Executive Officer (CEO) to amend the Workers' Compensation Third Party Administrator Contract with CorVel Enterprise Comp, Inc. to set up a separate bank checking account to pay workers' compensation related expenses (CorVel Account); and 2) Waive the application of Board Policy 41 (Signature Authority) for payments made from the CorVel Account.

Ms. Cooney provided the committee a synopsis of Discussion and Report items slated for the January 20, 2022 Board of Director's meeting.

Ms. Landers added that a contract award for Billboard Consulting Services would also be added to the agenda.

7. Committee Member Communications and Other Business

There was no Committee Member Communications and Other Business discussion.

8. Next Meeting Date

The next Executive Committee meeting is scheduled for February 3, 2022, at 9:00 a.m. (*Clerk's Note: the February 3, 2022 Executive Committee meeting was subsequently cancelled. The next Executive Committee meeting is scheduled for March 3, 2022 at 9:00 a.m.).

9. Adjournment

Vice Chair Sotelo-Solis adjourned the meeting at 10:17 a.m.

_____

Chairperson
San Diego Metropolitan Transit System

Attachment: Roll Call Sheet

SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

ROLL CALL

MEETING OF (DATE):	January 13, 2022	CALL TO ORDER (TIME):	9:03am
RECESS:		RECONVENE:	
CLOSED SESSION:		RECONVENE:	
PUBLIC HEARING:		RECONVENE:	
ORDINANCES ADOPTED:		ADJOURN:	10:18am

REPRESENTATIVE	BOARD MEMBER		(Alternate)		PRESENT (TIME ARRIVED)	ABSENT (TIME LEFT)
County	FLETCHER (Chair)	☐	(Vargas)	☐		
Vice Chair	SOTELO-SOLIS	☒	(no alternate)	☐	9:03am	10:18am
City of San Diego	ELO-RIVERA	☒	(Montgomery Steppe)	☐	9:03am	10:18am
East County	HALL	☒	(Frank)	☐	9:03am	10:18am
SANDAG Transportation Committee	MONTGOMERY STEPPE	☒	(Aguirre)	☐	9:03am	10:18am
Chair Pro Tem	SALAS	☒	(no alternate)	☐	9:03am	10:18am
South Bay	SANDKE	☒	(Aguirre)	☐	9:03am	10:18am

SIGNED BY THE CLERK OF THE BOARD: /S/ Dalia Gonzalez

Agenda Item No. 4

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 3, 2022

SUBJECT:

COVID-19 UPDATE (SHARON COONEY)

INFORMATIONAL ONLY

Budget Impact

None

DISCUSSION:

Staff will provide the Committee with updates on ridership, staffing, workforce wellness, and other topics related to the effects of the COVID-19 pandemic on MTS operations.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Metropolitan Transit System

Agenda Item No. 5

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 3, 2022

SUBJECT:

RIDERSHIP RECOVERY ACTION PLAN UPDATE (MARK OLSON)

INFORMATIONAL ONLY

Budget Impact

The funding source for Ridership Recovery marketing and communications efforts is in the approved FY 2022 Marketing & Communications Department budget and FY 2023 proposed budget.

DISCUSSION:

MTS staff will present an overview of the marketing initiatives recently executed and planned for the Ridership Recovery Action Plan. The report will include a briefing on the marketing and community engagement efforts around the UC San Diego Blue Line extension opening, the Youth Ride Free with PRONTO rollout, and the upcoming summertime Summer Escapes campaign. The report will also cover how the COVID-19 pandemic surge from December – February impacted ridership.

Since the last report in October, ridership recovery outreach has been focused primarily on cross-border transit riders, South Bay residents, hard-to-reach communities, healthcare/life science employers, and UC San Diego. With summer fast approaching, staff will discuss the pivot to new target audiences – San Diego families and tourists.

A high-level timeline of activities includes:

November/December 2021: Event celebrations, earned and paid media strategies launch, stakeholder outreach/speakers bureau, paid advertising, MTS rider outreach/tabling at transit centers, holiday rider appreciation events, free rides on New Year's Eve promotion.

January-March 2022: Employer outreach, Try Transit promotion, paid advertising push targeting commuters.

April-August 2022: Youth Ride Free with PRONTO launch, Summer Escapes campaign for families and tourists, San Diego Padres partnership, targeted digital advertising, ongoing Try Transit promotion.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Agenda Item No. 6

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
EXECUTIVE COMMITTEE

March 3, 2022

SUBJECT:

TROLLEY TO AIRPORT UPDATE (HEATHER FUREY AND BRENT BOYD)

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Executive Committee receive an update on Trolley to Airport.

Budget Impact

None. Funding for further analysis would be based on receipt of grant awards.

DISCUSSION:

There is significant public interest in extending the Trolley network to San Diego International Airport. This was the highest-ranked item in the Elevate SD outreach efforts that MTS undertook in 2019 and early 2020.

This project is an update to an initial feasibility plan completed for Elevate SD. For this update, MTS has contracted with Mott MacDonald to provide a feasibility analysis and rough order of magnitude of costs of an underground connection from the current Trolley alignment in Little Italy to airport property.

Preliminary findings were presented at the December 16, 2021 (AI 31) Board of Directors meeting. At that time, the Board of Directors directed staff to add “Trolley to the Airport” to the Capital Improvement Plan as an unfunded project, actively pursue federal and state grants for further analysis, and continue outreach with stakeholders. MTS staff will provide an update on the project.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Draft Agenda

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

9:00 a.m.

Meeting will be held via webinar

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		ACTION RECOMMENDED
1.	Roll Call	
2.	Approval of Minutes - February 10, 2022	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.	

CONSENT ITEMS

6.	Authorization of Remote Teleconferenced Meetings Action would authorize remote teleconferenced meetings for any public meetings held by MTS, including all Brown Act committees, for the next thirty (30) days pursuant to Assembly Bill (AB) 361 and make the following findings: 1) The MTS Board has considered the current circumstances of the COVID-19 pandemic and its impact in San Diego County; and 2) State or local officials continue to recommend measures to promote social distancing. On September 23, 2021, County of San Diego Public Health Officer, Wilma J. Wooten, M.D., M.P.H., issued a recommendation supporting the use of teleconferencing for attendance at public meetings as "a social distancing measure that may help control transmission of the SARS-CoV-2 virus."	Approve
7.	On-Call Card Access Reader Services – Contract Award Action would uthorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWG340.0-22 (in substantially the same format as Attachment A) with Electro Specialty Systems (ESS), a Small Business (SB), for $318,956.00, for the provision of on-call card access reader services for three (3) base years from April 1, 2022 through March 31, 2025, and three option years from April 1, 2026 through March 31, 2028.	Approve
8.	San Diego Metropolitan Transit System (MTS) Transit Asset Management (TAM) Plan – Annual Update	Informational
9.	Zero Emission Bus (ZEB) and Iris Rapid Projects Construction Management (CM) Services – Award Work Order Amendment Action would authorize the Chief Executive Officer (CEO) to execute Work Order Amendment No. WOA2501-CM01.1 under MTS Doc. No. G2501.0-21 (in substantially the same format as Attachment A), with TRC Engineers, Inc. totaling $574,202.74 for CM services for the Iris Rapid Project.	Approve
10.	Cisco Voice Over Internet Protocol (VOIP) Licenses Three (3) Year Maintenance Renewal Action would authorize the Chief Executive Officer (CEO) to execute a Purchase Order (PO) to Axelliant, LLC, a Minority Owned Business Enterprise (MBE) and a Small Business (SB), for the renewal of the CISCO VOIP licenses for three (3) years that includes technical support and software updates through March 26, 2025 for a total of $227,890.30.	Approve
11.	Zero-Emission Bus (ZEB) Procurement Project: 60-Foot Low-Floor Electric Buses – Contract Amendment (New Flyer) Action would authorize the Chief Executive Officer (CEO) to execute Amendment No. 3 to MTS Doc. No. B0722.0-21 (insubstantially the same format as Attachment A) with New Flyer, in the amount of $155,428.49 per technical specification changes for the twelve (12) 60-foot low-floor electric battery-powered buses.	Approve

12. Cost Segregation Services – Mid-Coast Project – Contract Award — Approve
Action would authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. G2582.0-22 (in substantially the same format as Attachment A) with HCA Asset Management LLC (HCA) for Cost Segregation Services for the Mid-Coast Project for a two (2) year base period for $143,250.00.

13. Fiscal Year (FY) 2021-2022 Low Carbon Transit Operations Program (LCTOP) Funding — Approve
Action would adopt Resolution No. 22-02 in order to: 1) Agree to comply with all conditions and requirements set forth in the Certification and Assurances Document, and applicable statutes, regulations, and guidelines for all LCTOP funded transit projects; and 2) Authorize the Chief Executive Officer (CEO), or designated representative, to execute all required documents of the LCTOP and any amendments thereto with the California Department of Transportation; and 3) Authorize the allocation of $8,103,037 in Fiscal Year (FY) 2021-2022 LCTOP funding for the procurement of Battery Electric Buses (BEB's). A total of $12,426,859 will be funded and programmed in the FY 2024 Capital Improvement Program (CIP), which will reduce greenhouse gas emissions and improve mobility with a priority on serving Disadvantaged Communities (DAC); and 4) Certify that at least 50% of the total LCTOP funds received will be spent on projects or services that will benefit DACs identified in Section 39711 of the Health and Safety Code.

14. New Transit Facility, Conceptual Layout and Report – Work Order — Approve
Action would authorize the Chief Executive Officer (CEO) to execute Work Order MTS Doc No. WOA2075-AE-73 to MTS Doc. No. G2075.0-18 (in substantially the same format as Attachment A) with Dokken Engineering (Dokken) in the amount of $206,043.16 to provide planning services for the Division 6 conceptual layout and report.

15. Property Insurance Renewal — Approve

CLOSED SESSION

24.

NOTICED PUBLIC HEARINGS

25. None.

DISCUSSION ITEMS/FINANCE WORKSHOP ITEMS

30. Fiscal Year (FY) 2022 Operating Budget Midyear Amendment (Mike Thompson) — Receive
Action would receive a report regarding FY 2023 operating budget development and provide guidance on budgetary issues.

31.	Fiscal Year (FY) 2023 Operating Budget (Mike Thompson) Action would receive a report regarding FY 2023 operating budget development and provide guidance on budgetary issues.	Receive

REPORT ITEMS

45.	MTS Safety Performance Annual Review (David Bagley and Jared Garcia)	Informational
46.	Fiscal Year (FY) 2022 Mid-Year Performance Monitoring Report (Denis Desmond)	Informational

OTHER ITEMS

60.	Chair Report	Informational
61.	Chief Executive Officer's Report	Informational
62.	Board Member Communications	Informational
63.	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.	
64.	Next Meeting Date: April 14, 2022.	
65.	Adjournment	

Metropolitan Transit System

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/3/2022

Agenda Item No. 6

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

AUTHORIZATION OF REMOTE TELECONFERENCED MEETINGS

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize remote teleconferenced meetings for any public meetings held by MTS, including all Brown Act committees, for the next thirty (30) days pursuant to Assembly Bill (AB) 361 and make the following findings:

1) The MTS Board has considered the current circumstances of the COVID-19 pandemic and its impact in San Diego County; and

2) State or local officials continue to recommend measures to promote social distancing. On September 23, 2021, County of San Diego Public Health Officer, Wilma J. Wooten, M.D., M.P.H., issued a recommendation supporting the use of teleconferencing for attendance at public meetings as “a social distancing measure that may help control transmission of the SARS-CoV-2 virus.” (Attachment A)

Budget Impact

None with this action.

DISCUSSION:

On March 17, 2020, Governor Newsom issued Executive Order N-29-20, suspending the teleconferencing rules set forth under the Ralph M. Brown Act (Brown Act), Government Code Section 54950 et seq. On June 11, 2021, Governor Newsom issued Executive Order N-08-21, clarifying the suspension of the teleconferencing rules set forth in the Brown Act, noting that those provisions would remain suspended through September 30, 2021. On September 16, 2021, Governor Newsom signed AB 361, which allows legislative bodies subject to the Brown Act to continue meeting by teleconference, provided they make certain findings, including that meeting in person would present imminent risks to the health or safety of attendees. AB 361 requires that certain findings be made by the legislative body every 30 days.

The purpose of this agenda item is for the MTS Board of Directors to make findings supporting the continuation of a teleconference option for Board or committee members and for teleconference attendance by members of the public at MTS Board and committee meetings consistent with the requirements of AB 361.

AB 361 added subdivision (e) to Government Code section 54953 (emphasis added), providing for streamlined teleconference attendance at public meetings subject to the Brown Act, subject to the governing board making specified findings:

> **(e) (1) A local agency may use teleconferencing without complying with the requirements of paragraph (3) of subdivision (b) if the legislative body complies with the requirements of paragraph (2) of this subdivision in any of the following circumstances:**
>
> **(A) The legislative body holds a meeting during a proclaimed state of emergency, and state or local officials have imposed or recommended measures to promote social distancing.**
>
> **(B) The legislative body holds a meeting during a proclaimed state of emergency for the purpose of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.**
>
> **(C) The legislative body holds a meeting during a proclaimed state of emergency and has determined, by majority vote, pursuant to subparagraph (B), that, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.**
>
> (2) A legislative body that holds a meeting pursuant to this subdivision shall do all of the following:
>
> (A) The legislative body shall give notice of the meeting and post agendas as otherwise required by this chapter.
>
> (B) The legislative body shall allow members of the public to access the meeting and the agenda shall provide an opportunity for members of the public to address the legislative body directly pursuant to Section 54954.3. In each instance in which notice of the time of the teleconferenced meeting is otherwise given or the agenda for the meeting is otherwise posted, the legislative body shall also give notice of the means by which members of the public may access the meeting and offer public comment. The agenda shall identify and include an opportunity for all persons to attend via a call-in option or an internet-based service option. This subparagraph shall not be construed to require the legislative body to provide a physical location from which the public may attend or comment.
>
> (C) The legislative body shall conduct teleconference meetings in a manner that protects the statutory and constitutional rights of the parties and the public appearing before the legislative body of a local agency.

(D) In the event of a disruption which prevents the public agency from broadcasting the meeting to members of the public using the call-in option or internet-based service option, or in the event of a disruption within the local agency's control which prevents members of the public from offering public comments using the call-in option or internet-based service option, the body shall take no further action on items appearing on the meeting agenda until public access to the meeting via the call-in option or internet-based service option is restored. Actions taken on agenda items during a disruption which prevents the public agency from broadcasting the meeting may be challenged pursuant to Section 54960.1.

(E) The legislative body shall not require public comments to be submitted in advance of the meeting and must provide an opportunity for the public to address the legislative body and offer comment in real time. This subparagraph shall not be construed to require the legislative body to provide a physical location from which the public may attend or comment.

(F) Notwithstanding Section 54953.3, an individual desiring to provide public comment through the use of an internet website, or other online platform, not under the control of the local legislative body, that requires registration to log in to a teleconference may be required to register as required by the third-party internet website or online platform to participate.

(G) (i) A legislative body that provides a timed public comment period for each agenda item shall not close the public comment period for the agenda item, or the opportunity to register, pursuant to subparagraph (F), to provide public comment until that timed public comment period has elapsed.

(ii) A legislative body that does not provide a timed public comment period, but takes public comment separately on each agenda item, shall allow a reasonable amount of time per agenda item to allow public members the opportunity to provide public comment, including time for members of the public to register pursuant to subparagraph (F), or otherwise be recognized for the purpose of providing public comment.

(iii) A legislative body that provides a timed general public comment period that does not correspond to a specific agenda item shall not close the public comment period or the opportunity to register, pursuant to subparagraph (F), until the timed general public comment period has elapsed.

(3) If a state of emergency remains active, or state or local officials have imposed or recommended measures to promote social distancing, in order to continue to teleconference without compliance with paragraph (3) of subdivision (b), the legislative body shall, not later than 30 days after teleconferencing for the first time pursuant to subparagraph (A), (B), or (C) of paragraph (1), and every 30 days thereafter, make the following findings by majority vote:

(A) The legislative body has reconsidered the circumstances of the state of emergency.

(B) Any of the following circumstances exist:

(i) The state of emergency continues to directly impact the ability of the members to meet safely in person.

(ii) State or local officials continue to impose or recommend measures to promote social distancing.

(4) For the purposes of this subdivision, "state of emergency" means a state of emergency proclaimed pursuant to Section 8625 of the California Emergency Services Act (Article 1 (commencing with Section 8550) of Chapter 7 of Division 1 of Title 2).

***

The circumstances set forth in Government Code section 54953(e)(1)(A) and (e)(3) still apply and support the continuation of a teleconference option for Board or committee members and for teleconference attendance by members of the public at MTS Board and committee meetings for the upcoming 30-day period. Staff recommends that the Board make the following findings:

1) The MTS Board has considered the current circumstances of the COVID-19 pandemic and its impact in San Diego County; and

2) State or local officials continue to recommend measures to promote social distancing. On September 23, 2021, County of San Diego Public Health Officer, Wilma J. Wooten, M.D., M.P.H., issued a recommendation supporting the use of teleconferencing for attendance at public meetings as "a social distancing measure that may help control transmission of the SARS-CoV-2 virus." (Attachment A) That recommendation remains in effect.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachment: A. September 23, 2021 County of San Diego Health Officer Teleconferencing Recommendation

County of San Diego

NICK MACCHIONE, FACHE
AGENCY DIRECTOR

HEALTH AND HUMAN SERVICES AGENCY
PUBLIC HEALTH SERVICES

WILMA J. WOOTEN, M.D.
PUBLIC HEALTH OFFICER

HEALTH OFFICER TELECONFERENCING RECOMMENDATION

COVID-19 disease prevention measures, endorsed by the Centers for Disease Control and Prevention, include vaccinations, facial coverings, increased indoor ventilation, handwashing, and physical distancing (particularly indoors).

Since March 2020, local legislative bodies—such as commissions, committees, boards, and councils—have successfully held public meetings with teleconferencing as authorized by Executive Orders issued by the Governor. Using technology to allow for virtual participation in public meetings is a social distancing measure that may help control transmission of the SARS-CoV-2 virus. Public meetings bring together many individuals (both vaccinated and potentially unvaccinated), from multiple households, in a single indoor space for an extended time. For those at increased risk for infection, or subject to an isolation or quarantine order, teleconferencing allows for full participation in public meetings, while protecting themselves and others from the COVID-19 virus.

Utilizing teleconferencing options for public meetings is an effective and recommended social distancing measure to facilitate participation in public affairs and encourage participants to protect themselves and others from the COVID-19 disease. This recommendation is further intended to satisfy the requirement of the Brown Act (specifically Gov't Code Section 54953(e)(1)(A)), which allows local legislative bodies in the County of San Diego to use certain available teleconferencing options set forth in the Brown Act.

September 23, 2021

Wilma J. Wooten, MD

Wilma J. Wooten, M.D., M.P.H
Public Health Officer
County of San Diego

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 7

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

ON-CALL CARD ACCESS READER SERVICES – CONTRACT AWARD

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. PWG340.0-22 (in substantially the same format as Attachment A) with Electro Specialty Systems (ESS), a Small Business (SB), for $318,956.00, for the provision of on-call card access reader services for three (3) base years from April 1, 2022 through March 31, 2025, and three option years from April 1, 2026 through March 31, 2028.

Budget Impact

The total budget for this project shall not exceed $318,956.00. This project will be funded by Information Technology (IT) Operations Budget 661010-571250 budget account.

DISCUSSION:

MTS has approximately 240 card readers with controllers at various locations throughout San Diego County. Each card assigned to an employee or contractor has an internal chip that allows the individual to pass through doors or gates. When swiped, the card readers relay the information from the card to MTS's card access system that triggers a signal to open the door or gate. Maintaining these card readers allows MTS to secure all access.

On an on-call basis, Contractor shall provide all labor and materials required to provide card reader services including installation, maintenance, troubleshooting and repair per the Scope of Work (Attachment B).

On October 19, 2021, MTS issued an Invitation for Bids (IFB) for the services. By November 5, 2021, MTS received a single bid from ESS for $334,508.00.

To ascertain that the solicitation was not restrictive, MTS emailed a survey to all the firms that had downloaded the IFB on PlanetBids, asking them their reason/s for not bidding. The results indicated that neither the IFB nor MTS's procurement processes played a role in their decision not to respond.

On January 10, 2022, MTS contacted ESS to negotiate the costs.

On January 11, 2022 ESS submitted a Best and Final Offer (BAFO) at $318,956.00 (Attachment C), a savings to MTS of $15,552.00.

In comparison to MTS's Independent Cost Estimate (ICE) at $331,906.38, staff deems the BAFO to be fair and reasonable.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute MTS Doc. No. PWG340.0-22 (in substantially the same format as Attachment A) with ESS, a SB, for $318,956.00, for the provision of on-call card access reader services for three (3) base years from April 1, 2022 through March 31, 2025, and three option years from April 1, 2026 through March 31, 2028.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachments: A. Draft Agreement MTS Doc. No. PWG340.0-22
B. Scope of Work
C. Cost Form

Metropolitan Transit System

STANDARD AGREEMENT

FOR

MTS DOC. NO. PWG340.0-22

ON-CALL CARD ACCESS READER SERVICES

THIS AGREEMENT is entered into this _____ day of _____, 2022 in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: Electro Specialty Systems (ESS) Address: 7940 Convoy Court

San Diego CA 92111
City State Zip

Form of Business: Corporation
(Corporation, Partnership, Sole Proprietor, etc.)

Email: dan@ess4.net

Telephone: (619)871-4363

Authorized person to sign contracts Daniel Brault President
Name Title

The Contractor agrees to provide services as specified in the conformed Scope of Work (Exhibit A), Contractor's Cost/Pricing Form (Exhibit B), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit C), Federal Requirements (Exhibit D) and signed MTS Forms (Exhibit E).

The contract term is for up to three (3) base years and three (3) option years, exercisable at MTS's sole discretion, for a total of six (6) years. Base period shall be effective April 1, 2022 through March 31, 2025, and option years shall be effective April 1, 2026 through March 31, 2028, if exercised by MTS.

Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed $154,948.00 for the base years and $164,008.00 for the option years, for a contract total not to exceed $318,956.00 without the express written consent of MTS.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM	ELECTRO SPECIALTY SYSTEMS
By: _____ Sharon Cooney, Chief Executive Officer	By _____
Approved as to form:	
By: _____ Karen Landers, General Counsel	Title: _____

1. SCOPE OF WORK/TECHNICAL SPECIFICATIONS

1.1. PURPOSE

The Contractor shall provide the following card access reader system services:

a. Routine and emergency maintenance and repair services and enhancements
b. New installations as may be requested by MTS

Contractor shall provide all technical resources including all supervision and labor; perform services such as card reader installation, maintenance, troubleshooting, repair, configuration, programming and testing; install related software and provide parts and tools necessary to perform the work. Repairs of all types of failures and damages are covered under the agreement. Services may be requested 24 hours a day, seven (7) days a week including holidays.

MTS has Avigilon hardware that includes approximately 240 readers with controllers and uses Avigilon Access Control Manager Application 5.12.0 (Sr2) software. Contractor shall maintain Avigilon Access Control Manager Application 5.12.0 (Sr2) during the contract. When new or existing locations have the need for equipment installed or repaired, the MTS Project Manager (PM) will provide Contractor with installation information such as location and any materials/supplies required. Any installations or new enhancements above $3,000 (all-inclusive) will require Contractor to submit a fixed cost proposal to the MTS PM for approval in writing before services are performed. It shall be the Contractor's responsibility to examine the location/s, acquaint itself with the existing conditions and submit a proposal based on rates and prices in this agreement. Such services will require a one (1) week burning period for testing before any acceptance can be made. MTS reserves the right to supplement, downsize, upgrade, eliminate, and/or otherwise modify in any way its card access systems at any time, at its sole and absolute discretion.

For software upgrades and programming Contractor shall provide the latest software versions, install per manufacturer specifications, provide all required licenses and programming support. Contractor shall coordinate closely with MTS Information Technology (IT), Security and Human Resources personnel for best times to load and install upgrades and new software, so as not to disrupt the normal security functions of the existing system.

Contractor shall only be paid for time spent on the premises performing the services required under the contract. Travel time or related expenses will not be reimbursed. Contractor shall not count travel time as part of billable hours.

Contractor shall sign and adhere to the following MTS policies: Third Party Vendor/Consultant Network Access Request and Technology Resources Policy (Internet, Computer, Data Security) under Section 6, Attachment 2.

1.2. SERVICES

A. When services are needed, the MTS PM will call or otherwise submit an online service ticket to the Contractors portal (if applicable) and MTS PM will provide an MTS Track-IT reference number, full description of the issue, location, required response time and the number of pre-authorized hours of service, if work will exceed one hour. If necessary MTS will perform the job walk with the Contractor.

B. Prior to the Contractor going out to the locations/starting work, Contractor must notify MTS IT and Security personnel via email of the exact location, type of work and estimated start time. The contact list will be provided to the awarded Contractor. The Contractor is responsible for requesting flaggers as needed (see section 5.6).

C. Contractor shall visit the location and perform the requested work. If over the pre-authorized hours of service Contractor shall provide a verbal quote and written quote/proposal, including estimated hours and any materials/supplies required. MTS PM shall review the Contractor's quote to ensure the costs are reasonable and match the job at hand. Once approved, the MTS PM will inform the Contractor to proceed. All the notifications above may be by email. No additional work shall be performed without written authorization from the MTS PM. Additional work performed outside the scope of the work order is prohibited and if done Contractor shall solely bear all risks and costs.

D. Note: Due to the nature and sometimes urgency of the services to be performed, written notifications (e.g. submission of work orders or authorization to begin work) may not be always possible. As such, verbal communication will be used followed by the detailed quote/proposal. MTS expects Contractor to abide by all service requirements identified in this contract. Verbal communication will then be documented by both parties in the form of a work order/service ticket. Should MTS determine that verbal notices at any level of service are not in its best interest, MTS will inform the Contractor and the notice/s in question from that time forward will begin to be in writing (email).

E. All repairs must be made at the time of the service call. Upon completion of work, unless prior arrangements are made, a visual inspection shall be made by Contractor and MTS PM for acceptance of work. Contractor shall re-do any work not accepted or fails under warranty at no additional charge to MTS. Contractor shall always notify MTS PM once the service is complete. If a job requires Contractor to return at a different day/time Contractor shall notify MTS PM.

F. Contractor must exercise great caution when performing work. Workmanship throughout the project shall conform to the highest standard of commercially accepted practice for the class of work, and shall result in a neat and finished appearance.

G. Contractor will be required to document all service calls and/or work orders received from MTS including the following and all required documentation shall be provided to MTS PM immediately following each service call.

   i. Track-IT reference number (MTS Personnel will be providing this reference)
   ii. Requesting MTS staff person's name
   iii. Name, location, and door number of each device
   iv. Services performed during each service call
   v. Amount of time spent and the parts used for each service call including $ amounts
   vi. Name of technician(s) performing work

H. All equipment removed or salvaged in conjunction with replacements (other than cabling and wires) must be returned to MTS Storeroom within five (5) days, along with a packaging slip describing where the parts were taken from, who replaced them under what work order number(s), parts description, manufacturer, model numbers, quantity, condition, etc. MTS

parts clerk must receive and sign off on all packing slips. Upon award MTS will inform the Contractor the MTS Storeroom location, provide a returns template form and contact information for the returns.

I. All parts furnished shall be new. Contractor shall enforce any applicable warranty on all parts, components and software provided by the original equipment manufacturer. At a minimum, Contractor shall provide a one-year warranty after date of acceptance on all material and equipment or as per manufacturer's warranty terms, whichever is longer. Workmanship shall be guaranteed for at least one year after date of acceptance.

1.3. STANDARD SERVICE (Non-Emergency)

A. MTS requestor must get an acknowledgement of the trouble call within thirty (30) minutes of receipt of service call. Once communication is made, Contractor is responsible for arriving at MTS site within four (4) hours of initial findings or trouble call. MTS expects the Contractor to give "priority" to service requests. While response times may vary from job to job, MTS PM will notify Contractor the response times.

B. The standard service calls shall be provided Monday through Friday, 8:00 am and 5:00 pm excluding MTS holidays each service year which are:

New Year's Day	Martin Luther King Day	President's Day
Cesar Chavez Day	Memorial Day	Independence Day
Labor Day	Veterans Day	Thanksgiving Day
Christmas Day		

1.4. EMERGENCY SERVICE

A. Emergency services shall be defined as services after standard business hours in Section 5.3 above (including MTS holidays), on weekends or holidays.

B. MTS requestor must get an acknowledgement of the trouble call within thirty (30) minutes of receipt of emergency call. Once communication is made, Contractor shall arrive to MTS site within 2 hours. In the event that there are more requests than can be responded within 2 hours, the Contractor shall coordinate with the MTS PM on how such emergency calls may be prioritized.

C. For any calls considered emergency by the MTS PM, Contractor must treat them as such and commit to the response time given by the MTS PM. For purposes of this contract, an emergency situation is any condition that requires immediate action to eliminate life or serious injury hazards to personnel, prevent loss or damage to MTS property, or restore essential services. Contractor shall make emergency service call repairs within 4 hours of initial trouble call unless otherwise agreed upon with the MTS PM who placed the call.

1.5. RISK OF LOSS OR DAMAGE

Contractor shall be solely responsible for all materials and supplies purchased from procurement, delivery, storage and installation until the service is tested and accepted by the MTS PM.

Contractor shall exercise great caution to ensure there is no damage to MTS property during delivery/installation and shall be responsible for repair or replacements of any damages caused.

1.6. REQUIREMENTS FOR WORK ADJACENT TO RAILROAD FACILITIES

A. Prior to entering the MTS railroad operating corridor, all workers of Contractor, sub-Contractors, and others working on MTS property shall have taken and passed a "Railroad Workers Protection" training course. The Contractor shall include all costs associated with making necessary arrangements and training workers as part of the cost for the work. Additional information can be found online at: http://www.sdmts.com/Business/RAILSAFETYTRAINING.htm

B. Contractor shall follow all MTS safety procedures regarding work near or on station platforms and rails. Any work that involves men or equipment within 15 feet of active trolley track will require an MTS flagger with a minimum 72 hours advance notice, at no additional cost to the Contractor. A Flagger Request form must be filled out and submitted to FlagRequest@sdmts.com. The Contractor shall provide location and scheduling information so that access to MTS facilities can be arranged and all necessary staff members are present to flag and inspect the work.

C. Catenary power can only be removed between 1:45 am and 3:45 am on Sunday night through Friday night. A Red Tag Request form must be filled out and submitted at least 72 hours in advance to RedTagRequest@sdmts.com for approval for any power down on the catenary.

D. Contractor shall adhere to safety standards required by MTS when working within the right-of-way. Trolley operations are generally from the hours of 4:00 a.m. of one day to 2:00 a.m. of the following day. SD&IV freight trains operate during non-Trolley hours.

E. Contractor shall not store equipment, tools, and materials within 15 feet from the centerline of any operable track.

F. No vehicular crossing over tracks shall be installed or used by the Contractor without prior written permission of MTS.

1.7. CONTRACTOR QUALIFICATIONS

A. Contractor and all Subcontractors must be registered and qualified by the Department of Industrial Relations (DIR) to perform a public work project pursuant to Labor Code, 1725.5. (Labor Code, 1771.1 subd. (a)). Contractor is directed to the Public Work section for additional information.

B. Contractor must be licensed in the State of California. All services are to be performed according to all Federal, State, County and City regulations.

C. Contractor shall maintain Avigilon Access Control Manager Application 5.12.0 (Sr2) during the duration of the contract.

1.8. CONTRACTOR'S PERSONNEL

Contractor's service personnel shall be certified in the maintenance and repair services. Personnel shall wear clothing bearing the company name with proper identification/badges while on MTS premises, present a neat appearance and be easily recognized.

A. Contract Manager: Contractor shall designate one (1) management level employee to serve as the liaison to MTS regarding any performance and contractual issues and shall provide MTS PM with sufficient contact information including, but not limited to, cell phone number and email address.

B. Lead and Back-Up Technician: Contractor shall designate a lead and a back-up lead technician who shall serve as the primary contacts to MTS and shall be available to MTS twenty-four (24) hours per day, seven (7) days per week. Contractor shall provide MTS PM with sufficient contact information for both, including but not limited to, cell phone numbers and email addresses.

1.9. SAFETY/HEALTH RESPONSIBILITY

Contractor employees shall observe all safety and security regulations established by OSHA and government regulations. All work shall comply with applicable federal, state, county and city regulations and MTS policies and procedures. Where there is a conflict between applicable regulations, the most stringent shall apply. Contractor shall assume full responsibility and liability for compliance with all applicable regulations pertaining to the health and safety of its personnel during the execution of work under this contract and shall hold MTS harmless in any action on the part of its employees or sub-Contractors which results in illness, injury, or death.

1.10. PROJECT TERM

The contract is estimated to be for three (3) base years from April 1, 2022 through March 31, 2025 with three (3) 1 year-options from April 1, 2026 through March 31, 2028.

1.11. COST PROPOSAL

The MTS Project Manager will be the contact lead for the services and request. It is anticipated that MTS staff will work side-by-side with the selected consultant and any sub-contractors proposed staff throughout the project duration.

Under the cost proposal attached as Exhibit B, MTS has provided an estimated service hours per year and estimated material cost. These hours and material estimates are to be used for proposal purposes and what MTS estimates may be required per year. Contractor should note that the actual hours and materials used may be more or less than estimated.

Under the cost proposal labor rates, Contractor has provided the all-inclusive billing cost per hour of service.

1.12. INVOICING

Payment shall be made only on work that is completed and duly accepted by the MTS PM. Progress payments are not allowed, therefore incomplete jobs that roll-over to the next month shall not be billed until they are accepted.

Each month, Contractor shall submit invoices to the designated MTS contact for all work performed and accepted that month. MTS will provide the contact information upon contract award.

Contractor shall submit one (1) invoice monthly to the MTS PM for all work performed and accepted that month. MTS will process the payment of each invoice within thirty (30) days from invoice date.

All invoices must always reference the following;

- Contract or Purchase Order (PO) number
- MTS Track-IT Ticket Reference number
- Location
- Work performed
- Period of performance

Contractor shall be required to submit with its invoices, documentation evidencing the actual costs of material and supplies paid (if any) for the completed work. Additional compensation will be allowed as per Contractor's markup percentage specified under Cost Proposal Form.

Contractor must include the original receipt/s for all materials, supplies and new replacements with its invoices.

Invoices shall be emailed to AP@sdmts.com.

All invoices must have, include and clearly displayed details of charges to ensure timely payment. MTS will not pay on packing slips, receiving documents, delivery documents, or other similar documents.

ON-CALL CARD ACCESS READER SERVICES
MTS DOC. NO. PWG340.0-22

Base Years		
Year 1	$	50,336.00
Year 2	$	52,016.00
Year 3	$	52,596.00
Total	**$**	**154,948.00**
Option Years		
Year 4	$	53,736.00
Year 5	$	54,856.00
Year 6	$	55,416.00
Total	**$**	**164,008.00**
Overall Contract Total (6 Years)	**$**	**318,956.00**

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 8

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

SAN DIEGO METROPOLITAN TRANSIT SYSTEM (MTS) TRANSIT ASSET MANAGEMENT (TAM) PLAN – ANNUAL UPDATE

INFORMATIONAL ONLY

Budget Impact

None.

DISCUSSION:

On July 26, 2016, Federal Transit Administration (FTA) published the TAM Final Rule (49 CFR 625 & 49 CFR 630), which defines the term state of good repair (SGR) and establishes minimum Federal requirements for TAM that will apply to all recipients and subrecipients of chapter 53 funds that own, operate, or manage public transportation capital assets.

TAM is a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces transit assets to manage their performance, risks, and costs over their lifecycle to provide cost-effective, reliable, and safe service to current and future customers. The goal of TAM is to keep all organizational assets in a state of good repair, which is defined by the FTA as the condition in which a transit or capital asset is able to safely operate at a full level of performance.

On September 20, 2018, the MTS Board of Directors adopted MTS Board Policy No. 65, “TAM Policy” and approved the TAM plan for fiscal year (FY) 2019. This policy and plan document the procedures in place for MTS to effectively manage its transit assets and maintaining its system in a state of good repair to support safe, efficient, and reliable transit services across the organization. The TAM plan was updated in January 2022 to include up-to-date asset inventory, owners, condition, and performance information as reported to the National Transit

Database (NTD) for FY 2021. The five-year constrained and unconstrained capital needs were also updated in accordance with the FY 2022 Capital Improvement Program (CIP). All other aspects of the TAM plan remain unchanged.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachments: A. Transit Asset Management Plan – FY 2022
B. Transit Asset Management Plan – FY 2022 (Redlined Version)

TRANSIT ASSET MANAGEMENT PLAN

JANUARY 2022

MTS
Metropolitan Transit System

Document Control History:

Version	Date	Comments
1.0	5/15/2018	Preliminary Draft
1.1	8/3/2018	Draft presented to Operations
1.2	8/27/2018	Draft post Operational Review
1.5	9/22/2018	2018 Draft to MTS Board
1.6	1/7/2022	Fiscal Year 2022 Update

Transit Asset Management Plan

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Approvals

Transit asset management plans are required for all Federal Transit Administration grantees per federal legislation. The benefits from enhanced asset management practice include improved system safety and reliability, reduced costs, better customer service, and optimized resource allocation. This Transit Asset Management Plan outlines the agency's policy, approach and specific actions to improve its asset management practices over the next five years.

Accountable Executive

Sharon Conney	Chief Executive Officer	
Name	**Title**	**Signature**

Original Board Policy adoption date: 9/20/2018

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Executive Summary

On July 6, 2012, a new two year transportation reauthorization bill was signed into law, the Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 mandated new National Transit Database (NTD) reporting requirements for asset management. These Transit asset management (TAM) regulations were finalized in July 2016 with the revisions through the Federal Registry (The Final Rule) detailing the expected responsibilities for transit agencies.

TAM is a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces transit assets to manage their performance, risks, and costs over their lifecycle to provide cost-effective, reliable, and safe service to current and future customers. The goal of TAM is to keep all organizational assets in a state of good repair (SGR), which is defined by the Federal Transit Administration (FTA) as the condition in which a transit or capital asset is able to safely operate at a full level of performance.

MTS established Board Policy No. 65, "MTS Transit Asset Management" (the "Policy") as guidelines for the management of the agency's organizational assets. This TAM Policy complies with the requirements of MAP-21.

MTS has always been committed to effectively manage its transit assets and maintain its system in a SGR to support safe, efficient, and reliable transit services across the organization. No procedures are changing operationally as MTS has always been required to comply with applicable maintenance regulations of the FTA, Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC). This policy and attached TAM plan consolidate the many standard operating procedures that have been in place at MTS in each maintenance department into one formalized and unified framework. These documents will help MTS standardize maintenance practices across the agency, and also comply with the new regulations.

With this policy, MTS commits to:

- Maintain an asset inventory that includes vehicles, facilities, and facility equipment used in the delivery of transit service; and
- Identify safety-critical assets within the asset inventory and prioritize efforts to maintain those safety-critical assets in a SGR; and
- Clearly define ownership, control, accountability, and reporting requirements for assets, including leased and third-party assets; and
- Set asset performance targets and measure, monitor, and report on progress towards meeting those targets; and
- Base capital project prioritization and other asset management decisions on asset criticality, condition, performance, available funding, safety considerations, and on the evaluation of alternatives that consider full lifecycle benefits, costs, and risks; and
- Maintain an agency-wide TAM Plan that complies with current Federal Transit Administration requirements, Board Policies, Fleet and Facilities Maintenance Plans, Standard Operating Procedures and Transit Asset Management best practices; and
- Provide tools to communicate forecasted performance metrics outlined in MTS Board Policy 42.

TAM Plan

Per FTA's TAM Final Rule and as mentioned above, MTS must maintain an agency-wide TAM plan. This plan will include the following elements:

- Inventory of assets – A register of capital assets and information about those assets. The FTA defines these assets as all capital assets a provider owns, except equipment with an acquisition value under $50,000 that is not a service vehicle.
- Condition assessment – A rating of the assets' physical state.
- Decision support tool – Analytic process/ tool to assist in capital asset investment prioritization needs.
- Prioritized list of investments – A prioritized list of projects or programs to manage or improve the SGR of capital assets.
- TAM and SGR policy – Executive-level direction regarding expectations for TAM.
- Implementation strategy – Operational actions to achieve agency TAM goals and policies.
- Key annual activities – Describe the key TAM annual activities.
- Identification of resources – List resources needed to carry out the TAM Plan.
- Evaluation plan – Monitor and update to support continuous TAM improvement.

It is anticipated that the TAM Plan strategy will evolve in response to internal and external changes or challenges faced by MTS. Therefore, the TAM Plan will be considered a "living document" that will be reviewed, and revised as necessary, on an annual basis. Any and all process changes within SOPs or FMPs will be reviewed and impacts to the overall TAM plan will be revised accordingly. The figures included in the five-year plan will also be updated each year at the completion of the CIP process. The updated TAM plan will be published to the MTS Board of Directors each year.

Asset Reporting

The Final Rule sets the minimum asset management practices for transit providers. Beginning in Report Year 2018, agencies that receive or benefit from Chapter 53 funds from the Federal Transit Administration are required to report asset inventory, condition, and performance information to the NTD.

The NTD program's Asset Inventory Module (AIM) is designed to collect basic information on assets and infrastructure used by U.S. transit agencies to deliver service. The purpose of assembling a nationwide inventory is to improve the FTA's ability to project capital costs for the future replacement (and necessary capital renewal activities) of existing transit assets. This information supports the FTA biennial report to the U.S. Congress regarding cost estimates of transit capital. These estimates directly influence the FTA annual budget request submitted for the Federal fiscal year

The Asset Inventory Module data elements are contained within the following forms and will be submitted annually:

- Transit Asset Management Performance Measure Targets (A-90), plus the year-end narrative of progress against those targets
- Transit Asset Management Facilities Inventory (A-15)
- Transit Way Mileage (A-20)
- Revenue Vehicle Inventory (A-30)
- Service Vehicle Inventory (A-35)

In 2016 MTS implemented two new SAP systems, the Enterprise Resource Planning (ERP) system and the Enterprise Asset Management (EAM) system, to help facilitate TAM reporting. The SAP EAM system is utilized to manage each individual maintenance plan and entire lifecycle for all MTS assets. MTS uses its SAP EAM system to track all inspections, preventive maintenance, and unscheduled repairs for each individual asset. The SAP ERP system is utilized to track all financial transactions, and these costs can be traced back to the underlying assets within EAM. All of this information enables the data-driven approach to maintenance that is essential to identify performance issues, deploy maintenance resources efficiently, and improve maintenance procedures with objective decision-making.

Introduction

Overview of MTS

The San Diego Metropolitan Transit System was created to provide the policy setting and overall management coordination of the public transportation system in the San Diego metropolitan service area. This service area encompasses approximately 3 million people residing in a 570 square mile area of San Diego County, including the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, Santee, San Diego and the unincorporated area of the County of San Diego. A number of fixed-route operating entities provide the service and have banded together to form a federation of transit service providers called the Metropolitan Transit System (MTS). The purpose of MTS is to provide coordinated routes, fares, and transfers among the different operating entities.

Bus Operations

MTS Bus Operations are a consolidation of services operated by San Diego Transit Corporation (SDTC) and MTS Contracted Services. These entities operate and maintain a fleet of 753 buses, all of which are environmentally friendly compressed natural gas bus or battery electric bus. In fiscal year (FY) 20121, MTS bus services operated a total of 97 fixed routes, including traditional urban shuttle-type, express and bus rapid transit routes, plus paratransit services. These bus services will log over 2.5 million revenue hours while traveling over 32 million revenue miles across San Diego County.

Bus operations are supported by five bus maintenance facilities: Imperial Avenue, Kearny Mesa, South Bay, East County and Copley Park. Each facility includes a maintenance building, administrative building, cleaning and fueling facilities, storage yard, and maintenance equipment which is used to support overall operations.

Rail Operations

MTS Rail Operations (SDTI) operate and maintain a fleet of 173 light rail vehicles (LRVs) to provide transit service over three separate operating line segments. The Blue Line operates from the US/Mexico border through downtown San Diego and terminates at the University Town Center Transit Center. The Orange Line serves the East County communities from El Cajon through downtown San Diego and terminates at the new County Courthouse Station. The Green Line operates from Santee along Mission Valley and serves the campus of SDSU through a short tunnel section before continuing to the Imperial Avenue Station, via the Bayside Corridor. The entire system encompasses 65 total miles (126 total track miles) of light rail transit (LRT) to 62 transit centers. Regular LRT service is provided around the clock with a 22-hour service window and 509 daily scheduled train trips (many more during special events). The entire system (all three line segments) provides low-floor service where on-time performance and service efficiencies continue to enhance the ridership experience.

The general operating environment includes a combination of open stations at-grade with standard railroad crossing protection, downtown mixed street traffic operation, elevated guideways with aerial stations, open-cut sub-grade tracks, one 4,100-ft long tunnel and underground station at San Diego State University.

Rail Operations are supported by the maintenance facility in Downtown San Diego. This facility includes three buildings for maintenance activities, paint booth, vehicle wash and a large storage yard.

Management

California law establishes the San Diego Association of Governments (SANDAG) as the planning agency for San Diego County. The responsibility and decision-making for all transportation-related planning, programming and development activities occurs within SANDAG's nine-member Transportation Committee. Approved transportation plans and programs are subsequently executed by SANDAG staff. Within this structure, MTS and the North County Transit District (NCTD) focus primarily on operating activities.

The MTS Board of Directors (Board) has the policy-setting responsibility for the operation and development of MTS's transit operations as well as for the planning and approval of capital expenditures. The Board is comprised of 15 members with four appointed from the San Diego City Council, one appointed from the San Diego County Board of Supervisors, two appointed from the city council of Chula Vista, one appointed from each Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, and Santee. One of the appointed members is then elected by other Board members to serve as Chairman.

The day-to-day operating functions, labor matters and maintenance of facilities are managed by the individual transit operators. MTS has centralized and consolidated Security, Planning, Human Resources, Finance, Information Technology, Stores, and Purchasing for all MTS operations.

MTS's mission statement, adopted by the Board, is to enhance the personal mobility of San Diego metropolitan area residents and visitors by:

- Obtaining maximum benefit for every dollar spent.
- Being the community's major public transportation advocate.
- Increasing public transportation usage per capita.
- Taking a customer-oriented approach.
- Implementing capital projects on schedule and within budget.
- Offering high-quality public transportation services.
- Responding to the community's socioeconomic interests.

The long-term goal of MTS is to fund operations solely with recurring revenues. MTS recognizes that this requires a delicate balance between funding the operating budget and also funding the Capital Improvement Program (CIP). In many cases, adequately funding the CIP enables savings within the operating budget. This lifecycle management planning is intended to drive successful service delivery and financial performance by minimizing the cost to procure, operate, maintain, rehabilitate, dispose of, and replace an asset while meeting or exceeding established service and reliability commitments for both the asset and the transit system as a whole.

Over the last decade, MTS has made funding the CIP a priority to bring the system up to a State of Good Repair (SGR), with over $2.8 billion of funding spent on Capital. MTS and SANDAG completed the Mid-Coast extension, rehabilitation of the Blue Line, also replaced both the East County and South Bay bus facilities. Our annual bus fleet replacement plan has been adjusted to keep the number of buses replaced to a manageable figure each year. The U2 LRV fleet has been replaced and we are in the process of replacing the SD100 LRVs as they approach the end of their useful lives. MTS has committed $125 million for CIP in FY22, funding 48 projects focused on fleet replacement and state of good repair.

Transit Asset Management Plan Purpose

Transit assets cost money to build, maintain, operate, and use. Transit asset management (TAM) is defined as a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces its transit assets to manage their performance, risks, and costs

over their lifecycle to provide safe, cost-effective, and reliable service to current and future customers. The core of this plan is to understand and minimize the total cost of ownership of an asset while maximizing its performance. TAM integrates activities across departments within a transit agency to optimize resource allocation by providing quality information and well-defined business objectives to support decision making within and between classes of assets.

Transit assets include both fixed long-life infrastructure assets (including, structures, tunnels, facilities, and maintenance of way) and equipment (bus, rail, and paratransit revenue vehicles or rolling stock). This guide provides a transit specific asset management framework for managing assets individually and as a portfolio of assets that comprise an integrated system. In this guide, transit assets include physical infrastructure elements, equipment, and systems. Our definition of assets does not include "human capital" (the skills, training, goodwill and institutional memory of employees), financial assets, data/information, or intangible assets (for example, reputation, culture, and intellectual property).

Asset management is most successful when it is integrated into an agency's existing management processes for establishing policy, strategy, and business plans, as well as connected to an agency's performance management and risk management processes. As SGR has long been a focus of this agency, this TAM plan is largely built upon existing procedures. These procedures are documented in the Fleet and Facilities Maintenance Plans (FMP) of the MTS Operators. The purpose of these FMPs is to not only ensure that our assets are maintained in a SGR based on original equipment manufacturer (OEM) standards, but also help to enhance our operations by providing safe, frequent and reliable service. These FMPs are used to monitor and manage assets to achieve these standards, improve safety and increase reliability and performance. On the Rail side, MTS must also comply with regulations of the Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC).

Asset management supports and enables the following elements of transit agency management:

- Performance management focus: Asset management integrates management activities across the agency's various functional areas to address customer level of service and performance outcomes.
- Optimization of resources: Asset management aligns investment decisions associated with operations and maintenance budgeting and capital programming to achieve levels of service that meet agency goals.
- Fact-based management: Asset management is data-driven and transparent.
- Performance culture: Asset management is outcome-based, establishes metric-driven management, and provides tools to adopt a "predict and prevent" or "reliability" culture as opposed to a "find and fix" culture.

The TAM Plan is a key management document for tying the agency's strategic goals and outcomes, or performance measures to the maintenance and capital programs that it delivers. The management cycle is completed by having more detailed, lower-level performance measures to both determine the effectiveness of the agency's programs in achieving the outcomes (e.g., safety, asset condition, travel times, etc.) and its efficiency in completing the programs (e.g., output measures such as lane-miles resurfaced, projects completed on time and on budget, etc.).

Emphasis on managing assets through their life cycles, which vary by asset class and can stretch to decades, helps staff, management, and stakeholders to realize that the assets are being managed for the long term, and that the concept of ownership ("it is ours to do with what we like") is able to be substituted with stewardship ("at the moment it is ours to care for and pass on to our grandchildren").

MTS is committed to effectively managing its transit assets and maintaining its system in a SGR to support safe, efficient, and reliable transit across the organization. An Asset Management Policy (No. 65) will be approved by the Board apart from developing this TAM Plan.

This TAM Plan outlines the overall asset management approach in a manner consistent with that policy and current federal regulations, and sets the direction for establishing and maintaining transit asset management strategies and plans that are achievable with available funds.

This TAM Plan complies with the Federal Requirements of the Moving Ahead for Progress in the 21st Century Act (MAP-21), which mandated new National Transit Database (NTD) reporting requirements for asset management. These regulations were finalized in July 2016 with the revisions through the Federal Registry (The Final Rule) detailing the expected responsibilities for transit agencies. This included responsibilities mandate that transit agencies have TAM and SGR procedures in place. Accordingly, MTS commits to:

- Maintain an asset inventory that includes vehicles, facilities, and facility equipment used in the delivery of transit service; and
- Identify safety-critical assets within the asset inventory and prioritize efforts to maintain those safety-critical assets in a SGR; and
- Clearly define ownership, control, accountability, and reporting requirements for assets, including leased and third-party assets; and
- Set asset performance targets to measure, monitor, and report on progress towards meeting those targets; and
- Base capital project prioritization and other asset management decisions on asset criticality, condition, performance, available funding, safety considerations, and on the evaluation of alternatives that consider full lifecycle benefits, costs, and risks; and
- Maintain an agency-wide TAM Plan current with Federal Transit Administration (FTA) requirements, Board Policies, Fleet and Facilities Maintenance Plans, SOPs, and Transit Asset Management best practices.

Plan Contents

The FTA regulation defines MTS as a Tier I agency and, as such, MTS has implemented a TAM Plan that includes the following nine (9) TAM Elements listed and described in the Board-approved Asset Management Policy No. 65.

- Inventory of assets – A register of capital assets and information about those assets.
- Condition assessment – A rating of the assets' physical state.
- Decision support tool – Analytic process/ tool to assist in capital asset investment prioritization needs.
- Prioritized list of investments – A prioritized list of projects or programs to manage or improve the SGR of capital assets.
- TAM and SGR policy – Executive-level direction regarding expectations for transit asset management.
- Implementation strategy – Operational actions to achieve agency TAM goals and policies.
- Key annual activities – Describe the key TAM annual activities.
- Identification of resources – List resources needed to carry out the TAM Plan.
- Evaluation plan – Monitor and update to support continuous TAM improvement.

Implementation strategy

MTS's core business is to provide safe, reliable and sustainable transportation options to the communities it serves. To accomplish this, MTS must continually improve its management of fleet and facilities. When executed properly, TAM improves coordination of all departments across all phases of an asset's lifecycle to manage assets and required resources more efficiently.

This Plan sets forth MTS's approach to improving its TAM capabilities in compliance with federal requirements. This master document sets agency-wide objectives and strategies for delivering all commitments in its TAM Policy and its mission. This TAM Plan will:

- Specify the lifecycle management activities outlined in the FMPs for each department that is responsible for the operations and/or maintenance of a given asset class.
- Outline the personnel and technology resources that will be utilized to optimize the costs, risks, and performance of the transit system.
- Identify priority projects to improve TAM capabilities across the agency, as well as the funding for these projects.
- Provide structure for an ongoing planning effort.
- Create an ongoing performance monitoring and evaluation plan.
- Define the reporting framework to communicate with the FTA, the Board and the public about the results of these asset management activities, the benefits of investing in the transit system and the consequences of underinvestment.

Federal Requirements

The TAM rule (49 CFR part 625) is a set of federal regulations that set out minimum asset management practices for transit providers. Beginning in Report Year (RY) 2018, agencies that receive or benefit from Chapter 53 funds from the FTA are required to report asset inventory, condition and performance information to the NTD. The FTA defines these assets as all capital assets a provider owns, except equipment with an acquisition value under $50,000 that is not a service vehicle.

The NTD program's Asset Inventory Module (AIM) is designed to collect basic information on assets and infrastructure used by U.S. transit agencies to deliver service. The purpose of assembling a nationwide inventory is to improve the FTA's ability to project capital costs for the future replacement (and necessary capital renewal activities) of existing transit assets. This information supports the FTA biennial report to the U.S. Congress regarding cost estimates of transit capital. These estimates directly influence the FTA annual budget request submitted for the Federal fiscal year (FFY).

Asset Inventory

The asset inventory is structured to include a hierarchy of asset categories that comprise a specific asset class. The asset inventory and the associated asset hierarchy can provide the common basis for integrating this information and using it for multiple purposes across the agency.

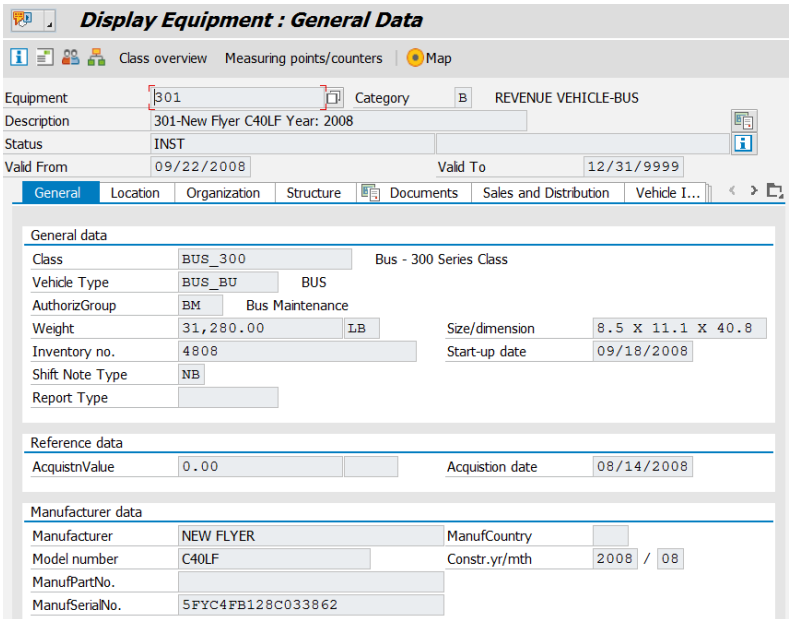
Asset categories/hierarchy

A detailed asset inventory is maintained in the SAP Enterprise Asset Management (EAM) System. The table below summarizes the asset classes and asset categories used by MTS:

Classes:	Vehicles	Facilities & Stations	Fixed Guideway	Systems
Categories:	**Revenue Vehicles:** **-Bus** **-Rail** **Non-Revenue Vehicles:** **-Operations** **-Maintenance** **-Administrative**	**Maintenance Facilities:** **-Bus** **-Rail** **Stations:** **-Transit Centers** **-Benches/shelters** **Administrative Buildings**	**Track:** **-Rail/Ties** **-Grade Crossings** **-Special Trackwork** **Right of Way:** **-Bridges** **-Elevated Track** **-Signaling** **Electrification**	**Software:** **-Financial** **-Maintenance** **-Operational** **Hardware**

During asset procurement and receipt or acceptance, specific asset identification, useful life, warranty and maintenance interval information [data] is collected from the OEM. This practice ensures the asset data is properly recorded into the EAM for effective and efficient lifecycle management.

SAP EAM Asset Inventory:



Vehicles

MTS vehicle inventory divides the vehicles into two categories: revenue vehicles and non-revenue vehicles. Revenue vehicles are the vehicles available to operate transit services provided by the agency. For MTS, this includes both buses and LRVs. Revenue vehicles tend to have maintenance priority among all transit assets, not only because of their critical role, but also because they must meet regulatory requirements and acceptable safety and reliability levels to provide passenger service.

MTS vehicle inventory:

Category	Sub-category	Count
Bus Revenue Vehicles	40-Foot Bus	464
	60-Foot Articulated Bus	113
	ADA Minibus	115
	Fixed Route Minibus	37
	Commuter Express Bus	24
Rail Revenue Vehicles	Vintage/SD100 High Floor Vehicle	52
	SD7 Low Floor Vehicle	11
	SD8 Low Floor Vehicle	65
	SD9 Low Floor Vehicle	45
Non-Revenue Vehicles	Automobiles	2
	Trucks and other Rubber Tire Vehicles	22

As seen above, bus revenue vehicles come in a number of different sizes. MTS categorizes the buses by size and propulsion system, and then groups them in to series by the year they were put in service.

- **Heavy duty buses** – This asset category includes both the 40 foot buses and the 60 foot articulated buses, which comprise the majority of the bus fleet. MTS primarily purchases from New Flyer and Gillig: the 60 foot contract is with New Flyer through 2022, and the 40 foot contract is with Gillig through 2022. Most of the heavy duty buses currently run on compressed natural gas (CNG), with the exception of 8 new zero emission buses.
- **Minibuses** – This asset category includes both minibuses used for ADA paratransit service as well as the less traveled fixed route services. These buses are propane powered.
- **Commuter Express buses** – This asset category consists of the over-the-road coach style bus used for MTS's Interstate 15 premium express service. All 24 buses run on compressed natural gas (CNG).

On the rail side, the LRVs have been purchased from Siemens. For these vehicles, they are grouped by series based on the same build cycle. The 2000 series SD100 high floor vehicles have been in service since the mid-1990s, and are in the process of being replaced by the new low floor SD10 fleet by 2025. The 3000 series SD7 LRVs went into service in 2005, the 4000 series SD8 LRVs went into service between 2011 and 2013, and the 5000 series SD9 LRVs went into service between 2019 and 2021.

Non-revenue vehicles are the vehicles utilized by support staff of the agency. 160 of these vehicles are leased through Enterprise, an arrangement MTS started almost 10 years ago which has proven to provide a lower cost of ownership versus owning these vehicles outright. (Per FTA instructions, these

leased vehicles are not included in the table above nor are they reported to the NTD.) These vehicles include:

- Supervisory and pool vehicles
- Maintenance vehicles
- Security vehicles
- Other administrative vehicles

MTS also has specialized maintenance vehicles across the agency. These vehicles typically have a longer useful life, and due to their specialized nature, make direct purchase a lower cost of ownership. These vehicles include:

- Bus service trucks
- Flatbed trucks

Facilities

Facilities refer to the structures that enclose or support maintenance, operations, administrative, and spaces for passengers. Facilities also house specialized equipment that supports the operations and maintenance of the vehicles (for example, fueling and wash facilities). Maintenance work spaces must accommodate vehicle movement within and around buildings, industrial workflow, and storage. Service facilities may include industrial workspaces similar to maintenance facilities, storage areas, and office spaces. Passenger facilities are usually focused around spaces for pedestrian movement or waiting areas. Stations provide shelter for employees and customers, and facilities provide shelter for employees, revenue vehicles, and power systems. Stations and passenger facilities are particularly important because they directly impact the customer experience.

MTS facility inventory:

Category	Sub-category	Count
Maintenance Facilities	Maintenance Facility (Service and Inspection)	8
	General Purpose Maintenance Facility/Depot	2
	Heavy Maintenance & Overhaul (Back shop)	1
	Other, Administrative & Maintenance	1
Stations	LRV At-Grade Fixed Guideway	49
	Elevated Fixed Guideway	4
	Underground Fixed Guideway	1
	Bus At-Grade Fixed Guideway	5
	Bus Transfer Center	14
	Surface Parking Lot	28
	Parking Structure	1
Administrative Offices	Administrative office/sales office	4
	Combined Administrative office	3

Each of these facilities is owned by MTS. These facility types are described in greater detail below:

- **General Purpose Maintenance Facility/Depot** – This asset category refers to the five bus maintenance facilities: Imperial Avenue, Kearny Mesa, South Bay, East County and Copley Park. These include the structures used to maintain bus revenue vehicles (for example, heavy duty buses, over-the-road coaches, and paratransit buses), plus operations offices, administrative facilities, operations central control, and central warehouses. Each of these facilities also includes a large yard to store the vehicles when not in service.
- **Maintenance Facility (Service and Inspection)** – This asset category refers to the maintenance facility in Downtown San Diego. It includes the structures used for maintaining LRVs, maintenance-of-way, buildings, grounds field crew, operations offices, administrative facilities, operations central control, and central warehouses. This facility also includes a large rail yard to store the LRVs when not in service.
- **Vehicle Fueling Facility** – This asset category refers to specialized fueling stations at the bus maintenance facilities for each fuel type utilized at MTS.
- **Stations** – This asset category refers to structures intended primarily for passengers' use, including bus transfer facilities, rail stations (both elevated and at grade), and customer service facilities. MTS also has one underground station at San Diego State University.
- **Administrative Offices** – This asset category refers to stand-alone administrative facilities. This includes the MTS corporate offices in the Mills Building, and the Taxicab Administration building.

Each facility type listed above also encompasses a wide variety of subsystems required for that facility to function appropriately. These subsystems or sub-categories include assets such as:

- Substructure
- Shell
- Interiors
- Conveyance (Elevators and Escalators)
- Plumbing
- HVAC
- Fire Protection
- Electrical
- Site
- Equipment (for Administrative and Maintenance Facilities)
- Fare Collection (for Passenger and Parking Facilities)

MTS tracks assets at this subsystem level to ensure the entire facility is kept in a state of good repair.

Fixed Guideway

Fixed guideway elements refer to the structural elements that allow for the movement of MTS's LRVs. These assets are broadly categorized into track elements, guideway elements comprising the track right-of-way, grade crossings, and the electrical infrastructure. Failure to maintain minimum condition standards in any of these assets increases the risk of slow, unreliable, potentially unsafe, or inoperable service.

MTS fixed guideway inventory:

Category	Sub-category	Count/ Linear Feet
Track	Tangent – Revenue Service	53 miles
	Curve – Revenue Service	51 miles
	Non-Revenue Service	7 miles
Special Trackwork	Double Diamond Crossover	7
	Single Crossover	61
	Single Turnout	28
Guideway	At-Grade/Ballast (including expressway)	83 miles
	At-Grade/In-Street/Embedded	7 miles
	Elevated/Concrete	9 miles
	Below-Grade/Retained Cut	1 mile
	Below-Grade/Cut-and-Cover Tunnel	3 miles
	Below-Grade/Bored or Blasted Tunnel	1 mile
Grade Crossings		96
Electrification	Substation Building	62
	Overhead Catenary System	104 miles

The guideway asset categories are described in greater detail below:

- **Track** – This asset category refers to the guide structure directly under the wheels of the transit vehicle that distributes vehicle dynamic loads to its supporting infrastructure both above and below ground.
- **Special Trackwork** – This asset category consists of trackwork structures, trackwork components or apparatus that are normally fabricated in whole or in part from regular rail sections. This includes items such as crossovers and turnouts.
- **Guideway** – This asset category consists of the right-of-way elements upon which the track resides. The majority of MTS's system is run on at-grade ballast, but there are significant portions that are on elevated bridges.
- **Grade Crossings** – This asset category refers to specific points along the track line where the track is embedded in the street and shares right-of-way with general automobile or pedestrian traffic.

- **Electrification** – This asset category provides supply and distribution of propulsion power for MTS's electric-powered LRVs and includes alternating current (AC) and direct current (DC) systems. Subsystems include overhead catenary system, distribution, and substations.

Like with facilities, there are a number of ancillary structures not detailed above that are required to physically support the safe and efficient operation of a transit system. These structures can include culverts, retaining walls, pedestrian walkways, utilities conduits, communications towers, light poles, safety fencing, signal cases, traffic gates, and vehicular signage.

MTS's light rail service does not operate on an exclusive guideway, meaning the right-of-way is shared with other traffic or services. Portions of the trolley line share right-of-way with general automobile or pedestrian traffic, and other portions share right-of-way with overnight freight services. However, MTS is financially responsible for the entire rail line, even the portions that are shared.

Systems

The systems asset class includes a diverse set of systems that support core operational functions. In today's technology dependent world, practically everything is dependent on its own specialized system. All of these systems are critical to transit operations, providing financial information, communications, network connectivity, revenue collection, security, customer service, and safety controls.

Major MTS systems inventory:

Technology	Description	Owner
SAP ERP	Enterprise Resource Planning System – management information system that integrates accounting, budgeting, purchasing, inventory and asset management.	Information Technology (IT)
SAP EAM	Integrated module of SAP ERP, to manage Enterprise Asset Management System for Fleet and Facilities management. Software solution that improves planning, scheduling, routing, preventative and corrective maintenance, and completing work orders based on miles, condition, priority, resources and assets.	IT
SAP CRM	SAP Customer Relationship Management System, to manage customers' Lost & Found, complaints and compliment cases, integrated with Hastus for incidents, and Risk Department.	IT
ADP	Human Resources Information Systems that manages all employees benefit data and payroll operations.	IT/ Human Resources
ARINC	Centralized Train Control (CTC) refers to the wayside and onboard equipment responsible for safe train operation and traffic control	IT/ Operations
CAD/AVL	The CAD/AVL system connects our vehicles seamlessly with our back office scheduling and dispatching software. It automatically collects vital data used by dispatchers such as bus GPS locations, schedule adherence status, breakdowns and emergencies	IT/ Operations
Pronto	Revenue Collection systems used to collect transit revenues, and to collect data, including ridership and service performance data	IT/ Operations
Hastus	Scheduling & Dispatch – provides improved planning, scheduling, operations, passenger information and analysis.	IT/ Planning
S&A Systems FleetWatch	Fluid Management – provides real-time control and data acquisition for fluids and tank monitor systems to monitor fluid usage, schedule preventive maintenance, and reconcile fluids.	IT/ Operations
Multiple Vendors	Security provides protection for customers and employees from threats and vulnerabilities, both internal and external to the system. It comprises both monitoring and control systems	IT/ Security

This asset class also includes all of the hardware utilized by the systems listed above. This includes servers, computers, cameras, and other specialized devices.

Useful life

The Useful life (UL) is the estimated lifespan of a fixed asset, during which it can be expected to contribute to agency operations. MTS has developed UL assumptions for all assets based on FTA guidelines and Generally Accepted Accounting Principles. Due to their specialized nature, many transit assets are not specifically listed in FTA guidelines or accounting rule. In these situations, staff will rely on manufacturer recommendations in order to determine the UL of these types of assets. MTS manages the asset lifecycles based on these ULs.

The Useful Life Benchmark (ULB) is the expected lifecycle of a capital asset for reporting to the NTD only. FTA has outlined default useful life benchmarks for vehicle types, using average age-based equivalent of a 2.5 rating on the FTA Transit Economic Requirements Model (TERM) scale. The FTA default ULB for each vehicle class is listed in the table below. As you can see, MTS's established UL is different from the FTA ULB. MTS will measure against these ULB for NTD reporting purposes.

Code	Vehicle Type	UL	ULB
AB	Articulated bus	12	14
AO	Automobile	7	8
BR	Over-the-road bus	12	14
BU	Bus	12	14
CU	Cutaway bus	7	10
LR	Light rail vehicle	25	31
MB	Minibus	7	10
MV	Minivan	7	8
SV	Sport utility vehicle	7	8
VN	Van	7	8

Condition assessments

Condition assessment is the process of inspecting the asset to collect data that is used to measure condition and performance. The condition assessment process involves regular inspections that evaluate an asset's visual and physical condition (for example, structural issues, and faulty components). This process addresses risk, ensures the asset can meet its level-of-service requirements, and provides information from which assets can be managed across their lifecycle.

The TAM Rule requires the inclusion of condition assessments in an agency's TAM Plan. Specific requirements include:

- A condition assessment of those inventoried assets for which a provider has direct capital responsibility.
- A condition assessment must generate information in a level of detail sufficient to monitor and predict the performance of the assets.
- A condition assessment must generate information in a level of detail sufficient to inform the investment prioritization.

Each asset class has different requirements for condition inspection and monitoring that depend on their performance characteristics, the risks, and the impacts of failure. In some cases, these requirements are specified by state and federal regulations. Gathering condition and performance data can be costly as it is a strictly manual process. However, these conditions and performance measures can be used to improve reliability and proactively plan for the investments required to maintain good performance on the most critical assets.

The following is a high-level summary of MTS's procedures for data collection:

- Data collection frequency – This addresses how often the inspections should occur. Triggers for a condition inspection may be based on a time or mileage interval, criticality or risk assessment, or it may be based on a performance trigger (for example, a bus with a skyrocketing mean time between failure metric).
- Inspection approach – For many asset classes, condition inspections can require appropriately trained and credentialed staff. Additionally, there is increasing interest and the ability to substitute a visual or manual inspection with technology-enabled monitoring. Examples include using sensors to monitor structural conditions and switch performance. Moreover, some inspection data may be collected through day-to-day operating and maintenance processes.
- Quality assurance process – These are the processes used to verify the data and ensure quality. Quality assurance processes may require random data checks or formal audits.
- Training – This is an important part of quality assurance for condition assessment and ensures that the condition is being measured consistently and accurately.

In order to determine an asset's condition, the FTA's Transit Economic Requirements Model (TERM) scale is being used, listed in the table below, with condition rating ranges from (5) Excellent to (1) Poor.

Rating	Condition	Description
5	Excellent	No visible defects, new or near new condition, may still be under warranty if applicable
4	Good	Good condition, but no longer new, maybe slightly defective or deteriorated, but is overall functional
3	Adequate	Moderately deteriorated or defective, but has not exceeded useful life
2	Marginal	Defective or deteriorated in need of replacement; exceeded useful life
1	Poor	Critically damaged or in need of immediate repair; well past useful life

Per the FTA TAM Final Rule, assets with a condition rating score of 3.0 and above are in a state of good repair. Assets with a condition score lower than 2.9 are not in a state of good repair, and may require prioritization during capital programming to ensure safe, efficient, and reliable transit service.

Facilities and Facility Equipment Condition Assessment:

For Facilities assets, condition assessments are scheduled and completed using in-house staff along with regular scheduled intervals. To determine the overall condition of a facility, MTS will inspect and assess the assets at the individual asset level. The FTA defines these assets as all capital assets a provider owns, except equipment with an acquisition value under $50,000, as a general rule the condition assessments will follow this guideline, but there may be instances where condition assessments are done on assets with an acquisition value under $50,000. Those individual assets will then be grouped into the following subcategories for each facility:

- Substructure

- Shell
- Interiors
- Conveyance (Elevators and Escalators)
- Plumbing
- HVAC
- Fire Protection
- Electrical
- Site
- Equipment (for Administrative and Maintenance Facilities)
- Fare Collection (for Passenger and Parking Facilities)

Each of these subcategories will encompass a number of individual assets. These results on an asset level are compiled into the Condition Assessment Report for a master asset which will aggregate (roll-up) the individual asset condition assessments to the subcategory levels listed above. Those subcategory scores will then aggregate (roll-up) for the master asset condition rating, which will be included in the NTD reports.

Fixed Guideway Condition Assessment:

MTS fixed guideway assets are subject to regulation by the FRA and the CPUC. As such, there are clearly defined inspection schedules per state and federal regulations. The data generated by these inspections allows MTS to track performance and proactively plan the required investments to keep the assets in a state of good repair.

Unlike facility assets, condition ratings for this asset class do not utilize the TERM scale. NTD requires a metric of the percentage of track segments that have performance restrictions. Performance restrictions are reported by mode and type of service as an average length of directional route mileage (DRM) operating under performance restriction. The NTD definition of DRM is the mileage in each direction over which public transportation vehicles travel while in revenue service

A performance restriction is defined to exist on a segment of a fixed guideway when the maximum permissible speed of transit vehicles is set to a value that is below the guideway's design speed. Generally, the design speed for a section will be the same as the maximum allowable speed established for the section at the time of system opening. The performance restriction can be communicated through operating instructions, route signage, flaggers, or an agency's dispatch system. Performance restrictions may result from a variety of causes, including defects, signaling issues, construction zones, maintenance work, or other causes.

To determine this measure, agencies are required to calculate the DRM (measured to the nearest hundredth of a mile) under performance restrictions as a result of all causes at the same time each month: 9:00 AM local time on the first Wednesday of each month. The total impacted DRM for that month is divided by the overall length of track, generating the performance restriction metric for that month. This process is repeated each month, and is then averaged to produce the required annual metric for the NTD.

Vehicle Condition Assessment:

Condition ratings for vehicles are expressed in terms of the percentage of assets that are at or beyond the Useful Life Benchmark (ULB). At the end of each year, the age of each asset in each vehicle type is compared to the ULB for that vehicle type. The number of assets that exceed the ULB is divided by the total number of assets in that vehicle type, generating the ULB percentage metric that is reported to the NTD.

Asset Lifecycle Management

Asset management is most successful when it is integrated into an agency's existing management processes for establishing policy, strategy, and business plans, as well as connected to an agency's performance management and risk management processes. As SGR has long been a focus of this agency, this TAM plan is largely built upon existing procedures. Asset management supports and enables the following elements of transit agency management:

- Performance management focus: Asset management integrates management activities across the agency's various functional areas to address customer level of service and performance outcomes.
- Optimization of resources: Asset management aligns investment decisions associated with operations and maintenance budgeting and capital programming to achieve levels of service that meet agency goals.
- Fact-based management: Asset management is data-driven and transparent.
- Performance culture: Asset management is outcome-based, establishes metric-driven management, and provides tools to adopt a "predict and prevent" or "reliability" culture as opposed to a "find and fix" culture.

The TAM Plan is a key management document for tying the agency's strategic goals and outcomes, or performance measures, to the maintenance and capital programs that it delivers. The management cycle is completed by having more detailed, lower-level performance measures to both determine the effectiveness of the agency's programs in achieving the outcomes (e.g., safety, asset condition, travel times, etc.) and its efficiency in completing the programs (e.g., output measures such as lane-miles resurfaced, projects completed on time and on budget, etc.).

Emphasis on managing assets through their life cycles, which vary by asset class and can stretch to decades, helps staff, management, and stakeholders to realize that the assets are being managed for the long term, and that the concept of ownership ("it is ours to do with what we like") is able to be substituted with stewardship ("at the moment it is ours to care for and pass on to our grandchildren").

Asset Lifecycle

Lifecycle management enables agencies to make better investment decisions across the lifecycle using management processes and data specific to each asset as a basis for predicting remaining useful life (including age, condition, historic performance, and level of usage). Transit asset management involves processes for managing and maximizing the performance of an asset while minimizing its costs throughout the course of its lifecycle. Lifecycle activities include the following:

- **Design/Procure** – If creating, this includes planning, design, and construction of the asset. If acquiring, this includes the scoping of the development and procurement of the asset. The asset management perspective involves considering the level of service requirements and total cost of ownership in this initial step.
- **Use/Operate** – This involves the use (or operation) of the asset. Asset management ensures that the asset is available in the specified condition to be used, or operates reliably to deliver the planned level of service.
- **Maintain/Monitor** – This involves all the predictive, preventive, corrective, and reactive activities required to maintain the asset in the condition required to deliver the planned level of service.
- **Rehabilitate** – Rehabilitation is the planned capital expenditures required to replace, refurbish, or reconstruct an asset partially, in-kind, or with an upgrade to optimize service and minimize

lifecycle costs. Examples might include reconstruction work on a bridge structure that replaces critical elements and thereby extends the bridge's life or a rail vehicle overhaul.

- **Dispose/Reconstruct/Replace** – When an asset can no longer perform at its intended level of service, the agency has the choice to dispose, reconstruct, or replace the asset. Typically at this stage, it is no longer cost-effective to renew the asset or it is functionally obsolete, and the agency must determine whether the asset must be replaced, whether the function of the asset remains necessary, and whether its function can be met more economically or efficiently by being replaced outright.

While these activities follow an asset through its lifecycle, the majority of the TAM activities and investment covers the operation, maintenance, and rehabilitation activities.

Maintenance Plans

Maintenance is managed with a multi-year time horizon to improve the reliability of all of its assets. The maintenance procedures are documented in the Fleet and Facilities Maintenance Plans (FMP) of the MTS Operators. The purpose of these FMPs is to not only ensure that the assets are maintained in a state of good repair based on original equipment manufacturer (OEM) standards, but also help to enhance operations by providing safe, frequent, and reliable service. These FMPs are used to monitor and manage assets to achieve these standards, improve safety and increase reliability and performance. On the Rail side, MTS must also comply with regulations of the Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC).

The purpose of each FMP is to provide an overview of each department's resources, structure, asset management, and maintenance programs. These FMPs are also supported by the Standard Operating Procedures (SOPs) used to guide day-to-day activities.

Vehicle Maintenance Plans

Vehicle asset management focuses primarily on vehicle procurement, the structuring of the vehicle maintenance program, the identification of and response to specific maintenance issues, the planning of system and component replacements, and the management of the spare fleet and inventory. Manufacturers provide guidelines for preventive maintenance and replacement, and maintenance practices are broadly shared across the industry.

For all operating revenue and non-revenue fleet assets, the FMP addresses:

- Organization Structure
- Maintenance Program Schedules
- Quality Control
- Training
- Preventive Maintenance
- Inspections
- Records
- Service and Cleaning Activities
- Warranty Program
- Goals and statistics

The FMP is also supported by the departmental Standard Operating Procedures (SOPs) used to guide employee day to day functions.

MTS utilizes a number of Key Performance Indicators (KPI) to oversee its maintenance activities. These KPIs are utilized across the industry, generating reliable benchmarks to compare against. MTS will also set annual goals and track performance against those goals. Among these KPIs are:

- Mean distance between failure (MDBF)
- % of PMs performed on time
- California Highway Patrol (CHP) Inspection Defects
- Accidents
- Injuries
- Maintenance cost per mile

Additionally, MTS utilizes a Quality Assurance (QA) department to perform quality control measures to ensure that vehicle maintenance staff is adhering to business processes and properly completing inspections, maintenance, and rehabilitation activities. MTS staff also performs quarterly inspections and more frequent informal on-site walk-throughs and inspections of the vehicles at the contractor facilities to check fleet maintenance data. Daily operations reports are also reviewed to examine the operational status of ADA equipment on vehicles in revenue service. Finally, monthly oversight reports are produced for both the in-house and contracted service operations that monitor performance in the same KPIs.

As part of the annual CIP process, MTS will update its Fleet Replacement Plan. This plan will forecast the replacement needs of the agency over 15 year horizon based on the useful lives of each vehicle type, attempting to normalize the year-by-year replacement needs as much as possible, and also estimating the funding requirements.

MTS has additional standardized procedures for accepting new buses delivered each year, as well as decommissioning and disposal of vehicles that have reached the end of their useful life.

Facilities Maintenance Plans

Because of the unique functional requirements for most transit facilities, transit agencies tend to manage most of their facilities throughout the entire facility lifecycle rather than acquire and dispose of them as needed. Therefore, agencies are typically involved in the facility design, operation, maintenance, renewal, and replacement. All MTS transit facilities and stations are owned by the agency. However, the functions within two bus maintenance facilities have to be outsourced, including the maintenance of the facility. For both directly operated and contracted services, the lifecycle management is documented within the facilities management plans maintained by each relevant department to monitor and manage all assets to achieve and maintain a state of good repair, improve safety and increase reliability and performance.

Inspections are often the most cost-effective method to assess the condition of and identify issues related to facility structures including defects, deterioration, and damage. Each FMP will have precise procedures for both higher-frequency routine inspections and more-detailed structural inspections. Third-party maintenance agreements are in place for many of MTS's specialized facility assets to allow for the greater expertise required for those inspections (for example, for the compressed natural gas fueling stations).

MTS Contract Services staff monitors the facilities and vehicles maintained by contractors via frequent informal on-site walk-throughs and inspections as well as reviews of monthly facility inspection reports and monthly fleet maintenance data. Staff also conducts formal quarterly inspections of the maintenance records of the contractors to ensure compliance with the maintenance requirements.

For all operations and support facilities, the FMP addresses:

- Organization Structure
- Maintenance Program Schedules
- Quality Control
- Preventive Maintenance,
- Inspections
- Service and Cleaning Activities
- Warranty Program

As part of the annual CIP process, MTS will utilize the annual CIP 20 Year Projection file to review the near term and long term rehabilitation and replacement needs for each facility. This plan will forecast the needs of the agency over a 20 year horizon based on the useful lives of each asset type and also estimate the funding requirements.

Fixed Guideway Maintenance Plans

Most fixed guideway elements are required by FRA and CPUC regulations to have regular condition inspections and assessments since they are safety-critical. For these assets, there are preventive maintenance activities that will be performed to minimize the risk of failures and to ensure the asset reaches (or even exceeds) its design life.

The longevity of guideway structures means that there may be a relatively high level of financial uncertainty and risk over the course of the asset's useful life. Guideway assets typically represent some of the largest capital assets of a transit agency, and without timely and effective maintenance, these assets may require additional or more costly rehabilitation to reach their full design life. Track elements require significant maintenance and investment over time to maintain performance and allow revenue vehicles to move at authorized speeds with minimal vehicle wear and maximum comfort.

The guideway asset owner should specify the requirements associated with the asset lifecycles—including design requirements, preventive maintenance activities, expected rehabilitation needs, and lifecycle costs—and incorporate this information into the lifecycle management plans for track, tunnels, and bridges. In addition, MTS is staffed for ongoing engineering support to modify the maintenance approach based on ongoing condition assessments and address unforeseen technical issues as they arise.

Track inspections are a critical quality control measure to assess both the quality and effectiveness of maintenance procedures, as well as to comply with FRA as well as CPUC regulations. As stated previously, MTS monitors the directional route mileage (DRM) operating under performance restriction by mode and type of service as another measure of the quality and effectiveness of maintenance procedures.

The assets will be evaluated relative to their remaining life to avoid the failure of the components in a timeframe that would not allow for repair or replacement. As part of the annual CIP process, MTS will review the near-term and long-term rehabilitation and replacement needs for these assets. The annual CIP 20 Year Projection file will forecast the needs of the agency over a 20 year horizon based on the useful lives of each asset type and also estimate the funding requirements.

Identification of Resources

Personnel Resources

Asset owners are responsible for the planning and implementation of lifecycle management. An asset owner is a transit agency manager who is usually in charge of an asset class's maintenance and, ideally, is also involved in asset design and procurement. The asset owner is responsible for lifecycle

management planning, for developing and implementing the lifecycle management plan, and for facilitating asset management activities. The asset owner also participates in the annual operating and capital budgeting cycles, where they act as advocates for the necessary funding resources to keep their assets in a state of good repair. The table below lists the asset owners and their specific areas of responsibility:

Asset Owner	Title	Area of Responsibility
Thomas Pascarella	Director of Fleet & Facility Maintenance	Bus Revenue Vehicles, Bus Facilities
Michael Daney	Manager of Contract Operations & Passenger Facilities	Bus Transit Centers, Contracted Bus Facilities
Jay Washburn	Manager of Paratransit & Mini Bus	ADA/Mini Bus Facility
Israel Maldonado	Fare Systems Administrator	Fare Collection Equipment
Fred Byle	Superintendent Wayside Maintenance	Rail Fixed Guideway and Electrification
Andy Goddard	Superintendent of LRV Maintenance	Rail Revenue Vehicles
Rolando Montes	Superintendent of Facilities	Rail Facilities and Transit Stations
Emily Outlaw	Chief Information Officer	Information Technology
Thang Nguyen	Sr. Project Manager (Rail)	Facility CCTV Equipment
Jeremiah Johnson	Security Systems Administrator	Security Equipment

The FMPs and SOPs described previously provide a foundation asset owners can use to increase the effectiveness of these lifecycle management activities and thereby drive improved lifecycle management and optimize asset performance. The FMPs also describe the resources available to each asset owner for their applicable asset class.

Technology Resources

Information technology is a critical asset management enabler. Enterprise wide lifecycle management for individual asset classes is data driven and requires the application of innovative and creative information technologies. This data-driven approach to maintenance is essential to identify performance issues, deploy maintenance resources efficiently, and improve maintenance procedures. Also, appropriate levels of preventive maintenance for each asset category can decrease long-term costs and potentially avoid the need for additional costly rehabilitations.

Enterprise Asset Management Software

MTS utilizes SAP for both its Enterprise Resource Planning (ERP) and Enterprise Asset Management (EAM) systems.

The SAP EAM system is utilized to manage each individual maintenance plan and entire lifecycle for all MTS assets. MTS uses its SAP EAM system to track all inspections, preventive maintenance, and

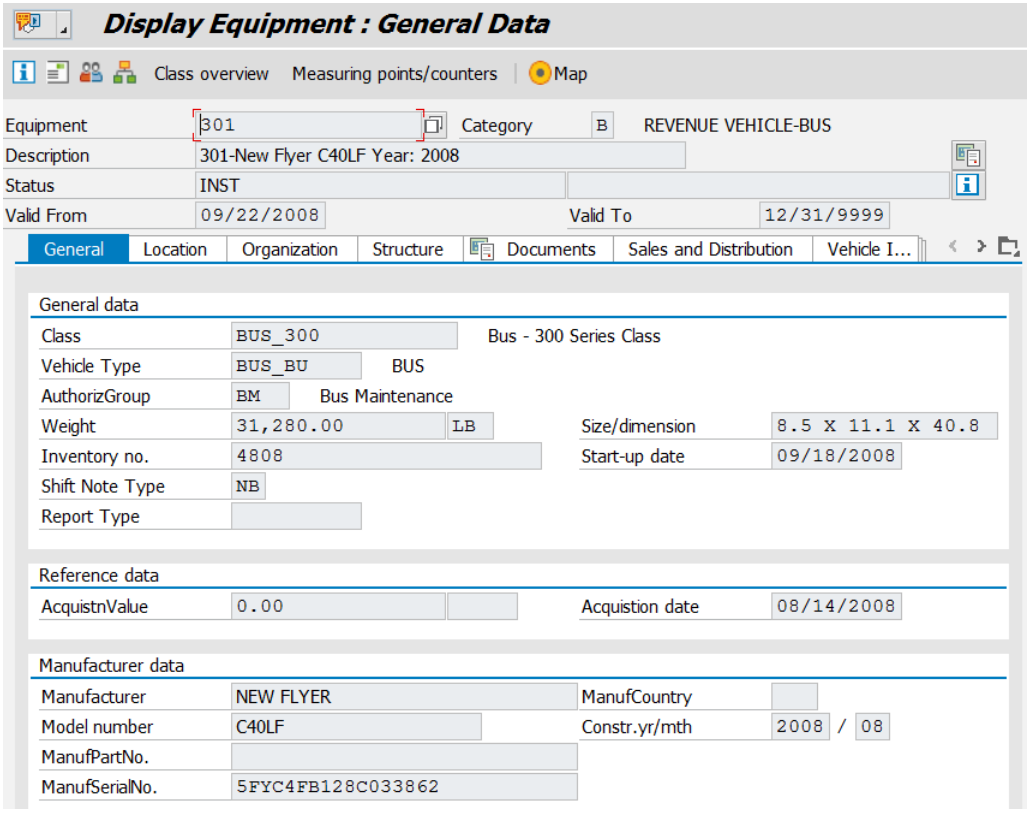
unscheduled repairs for each individual asset. The system also tracks completion timelines and overall PM compliance.

The process begins with the asset inventory. During asset procurement and receipt or acceptance, specific asset identification, useful life, warranty, and maintenance interval information [data] is collected from the original equipment manufacturer (OEM). This practice ensures the asset data is properly recorded into the EAM for effective and efficient lifecycle management.

This asset database allows MTS to track things such as:

- Asset class and an overall hierarchy of assets
- Individual asset number
- Asset owner
- Type
- Location
- Manufacturer
- Serial numbers
- Metadata statistics (like mileage data, condition ratings, etc.)
- All maintenance done on that asset

SAP EAM Asset Inventory:

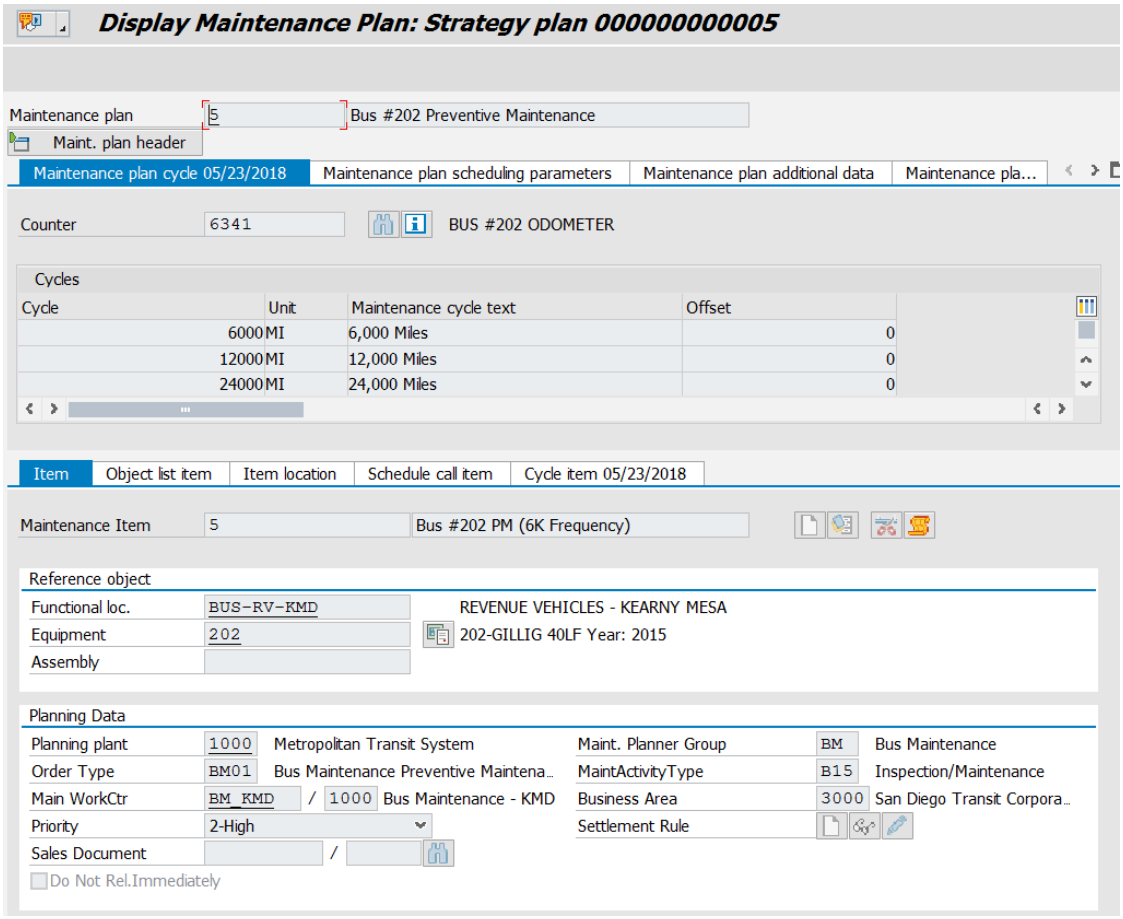


The OEM recommended preventive maintenance plan is also entered in the system, and these plans are assigned to each individual asset as appropriate. This allows the creation of an unlimited number of maintenance plans, differentiating things such as:

- Time or mileage interval
- Type of inspections
- Data to be recorded
- Maintenance required, if applicable

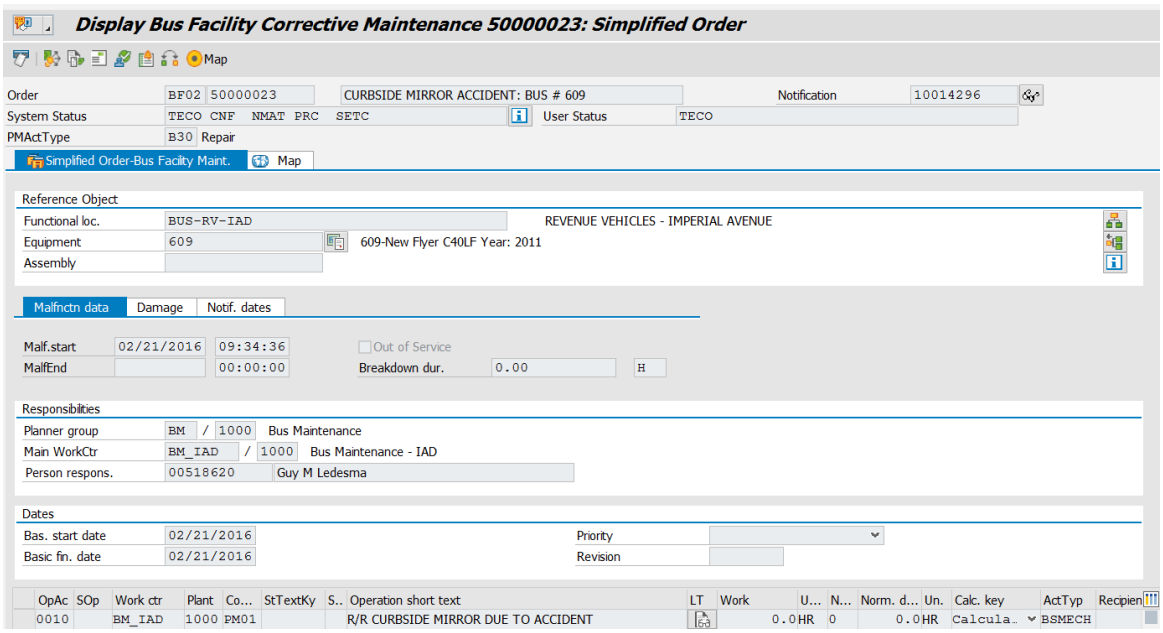
These individualized plans ensure the each asset is maintained according to OEM requirements and optimizes the lifecycle of each asset.

SAP EAM Maintenance Plan:



The EAM uses the asset and plan data to generate a specific work order for any inspection or maintenance event. The system also enables the assignment of the work order to a mechanic/technician, plus the tracking of who completed the work and when. If one or more materials are used and added to a work order, the system integrates with the stock and non-stock items, and includes that cost to the maintenance order.

SAP EAM Work Order:



Coupled with the financial data of the ERP, the system also calculates the overall cost of each work order. Over time, this information can be totaled and trended across individual assets, or summarized across a similar series of assets or asset categories.

All of this information enables the data-driven approach to maintenance that is essential to identify performance issues, deploy maintenance resources efficiently, and improve maintenance procedures with objective decision-making. This data is used for performance analysis, trend identification, lifecycle costing, as well as budget development. It can also flag outlier assets that require more attention than similar assets, helping replacement planning decisions.

List of Key Annual Activities

Key annual activities supporting the TAM Plan and asset lifecycle management are detailed within Board Policies, Fleet and Facilities Maintenance Plans, Standard Operating Procedures, and the Capital Improvement Program (CIP). These activities align with the agency's business goals and objectives and included both the tactical, day-to-day operational aspects, as well as longer-term strategic planning activities.

A high-level sample of these activities includes:

- Operational
  - Preventive Maintenance compliance
  - Goal setting and performance measurement against those goals
  - Costing/trending analysis
  - Annual NTD Asset Inventory Module reporting
- Planning
  - Annual CIP process to review SRG needs and plan the near term investments that need to take place
  - Vehicle fleet replacement plans
  - 20 year CIP to review longer-term SGR needs
  - Incorporate all changes identified into the updated TAM Plan

Capital Planning and Funding

The creation of the annual capital and operating budgets involve a multitude of decisions that impact transit asset management and the agency's ability to keep these assets in a state of good repair. This requires a delicate balance between funding capital and operations in order to effectively and efficiently provides transit services for the San Diego region.

The capital budget is used to fund the planning, design, acquisition, replacement, and capital maintenance of all MTS assets. The capital budget can also include major rehabilitations that extend the useful life of an existing asset.

The operating budget is used to fund service delivery as well as asset maintenance, including employee wages, spare parts, consumables, energy, and a variety of support services used throughout the organization. This also includes payments to third-party contractors responsible for a portion of the fixed-route bus services, the ADA Paratransit services, as well as general consulting and maintenance activities.

Both budgets are required for the service on the street and to keep that service in a state of good repair. The following sections detail how MTS makes these important decisions.

Capital and Operating Funding

Funding Sources

One of the primary funding sources for MTS is the fares it receives from its passenger. Typically, around 40% of the operating budget is funded by these fares for using the transit services provided to the region.

MTS receives a variety of operating revenues that are not received directly from passenger fares. The sources of these revenues are advertising, interest, rental income, land management revenue, energy credits, and other miscellaneous revenues.

MTS also receives a variety of non-operating revenues that primarily consist of federal, state, and local subsidy funds. The major subsidy sources of funding are described in more detail below.

Federal Transit Administration (FTA)

On December 4, 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act, reauthorizing surface transportation programs through the Federal fiscal year 2020. FAST establishes the legal authority to commence and continue FTA programs. Each reauthorization amends the Federal Transit Laws codified in 49 USC Chapter 53 and provides for the following funding streams MTS commonly receives:

- 5307 Urban Area Formula Grants for capital improvements and preventive maintenance
- 5311 Formula Grants for Rural Areas for capital improvements and to supplement operating costs
- 5337 State of Good Repair Funding for capital improvements and preventive maintenance
- 5339 Bus and Bus Facilities Funding for capital improvements

Transportation Development Act (TDA)

TDA provides funding for public transit operators. This state fund is one-quarter of a percent of the 7.75 percent sales tax assessed in the region. SANDAG is responsible for apportionment of these funds within the San Diego region.

State Transit Assistance (STA)

STA funding comes from the Public Transportation Act, which derives its revenue from the state sales tax on diesel fuel.

TransNet

In November of 2004, area voters approved a 40-year extension of the one-half-cent sales tax original ordinance that was set to expire in 2008 (TransNet II) and funded transportation needs throughout the San Diego region. This approval had two impacts; first, it assured and slightly improved the original TransNet funding beyond 2008; second, the Bus Rapid Transit (BRT) and Superloop Programs will receive most of its funding from TransNet II. SANDAG is responsible for the apportionment of these funds within the region.

Funding Plan

Each year, the Finance department generates a projected funding plan of revenues that will be available for both the operating and capital budgets. This funding plan incorporates regional revenue forecasts from SANDAG with short-term revenue assumptions for other MTS subsides, creating the five-year estimate of available subsidy funding. Assumptions are also created for all operating revenues over a five-year horizon.

Capital Budget Development Process

The CIP process begins each October with a call for projects by the MTS Finance department. All asset owners review the state of their asset inventory and put together project requests for all rehabilitation, reconstruction, and replacement needs to cover the following five fiscal years. The project requests are submitted through the SAP Budgeting and Planning (SBP) online module and each request will include the following:

- Scope of Work (SOW)
- Independent Cost Estimate (ICE)
- Project Manager
- Department
- Completion time frame
- Regional project ranking criteria
- Department priority

Once submissions are received, Finance conducts a review meeting of all projects for each department. After the reviews are complete, the list of all projects is consolidated into the five-year, unconstrained need for the MTS operators.

The consolidated priority list of projects will be reviewed by the Capital Project Review Committee (CPRC) according to available funding and the investment prioritization process described below. This secondary prioritization becomes the five-year, constrained CIP.

The constrained five-year CIP is then forwarded to the MTS Board of Directors and Budget Development Committee (BDC) for approval. Once approved, the projects are then added to the Regional Transportation Improvement Program (RTIP), which first goes to SANDAG for approval before ultimately being approved as part of the FTA's comprehensive national Transportation Improvement Program (TIP).

The prioritized list of projects is also subject to an analysis based on social equity principles. This process assures that the benefits and burdens of transit investment are shared equitably throughout the MTS service area. A series of maps are used to detail the results of this analysis.

Operating Budget Development Process

MTS uses a zero-based budgeting process that begins in December each year. In MTS's process, every line item budget is approved each year. Department managers complete budget templates using the SBP online module, in which they propose amounts for each line item, submitted with the appropriate supporting details for each assumption. (In contrast, with a traditional historic budgeting process, managers only justify variances versus prior year budget; the assumption is that the baseline is automatically approved.)

Meetings are held with each department to validate their assumptions, review proposals versus existing spending trends, and review any new initiatives. Personnel headcount assumptions are also reviewed at this meeting. This collaborative process results in the consolidated MTS assumptions that are then presented to and reviewed by senior management.

Beginning in late February through April, staff will meet with the Board and BDC to review the budget development progress. Staff presents the major revenue and expense assumptions that are included in the budget, and ultimately will present a balanced budget where revenues match expenses. Staff will also present a five-year forecast of operating revenue and expenses in order to give the Board a strategic view of the financial condition of the agency to help the decision-making process.

In May each year, a public hearing is held by the Board to approve the overall capital and operating budgets for the next fiscal year. That fiscal year begins on July 1 and ends on June 30.

Investment Prioritization

MTS uses an existing capital project prioritization process that considers asset condition or age along with investment categorization. The basic unit of the prioritization process is the project request. As described previously, project requests are created by asset owners and have a set of required fields to assist in the prioritization process.

Asset owners are asked to pay special attention to their departmental prioritizations. Issues involving safety should always be given the highest priority. Capital items needed to replace critical components on the system that have reached the end of their useful life should also be given a high priority so the agency can maintain our state of good repair. Additionally, capital investment projects that yield a solid return on investment, decrease operating costs, or provide improved customer service will be strong contenders for funding.

Once submissions are received, Finance conducts a review meeting of all projects for each department. The asset inventory and condition assessment will be reviewed in this step to validate project requests based on the asset age or condition (as applicable to that asset class) for rehabilitation or replacement of the assets that are indicated within the CIP period. SAP reports showing the scheduled and unscheduled maintenance costs by assets will also be used to validate project requests and foster a fact-based decision-making process.

The five-year unconstrained project list will also be compared against the longer-term 20-year CIP forecast. This 20-year forecast is an overarching strategic look at asset management, and helps staff encapsulate the immediate decisions within the long-term plans to keep the system in a state of good repair.

The consolidated priority list of projects will be reviewed by the Capital Project Review Committee (CPRC). The CPRC is comprised of representatives from MTS Bus, MTS Rail, MTS Administration, and SANDAG. Each CPRC member was responsible for submitting the capital requests for its division, agency, or city. The CPRC reviews and approves the prioritization of the list of projects, subject to funding availability. Typically, revenue vehicle replacements are funded first, and the remaining

submitted projects compete for the balance of available funding. Based on these funding constraints, the CPRC reviewed the projects in the context of their impact on operations and determined the most critical projects to fund by year. The remaining unfunded projects are deferred; however, it is recognized that the continued deferral of some projects could have negative impacts on system infrastructure in future years.

The constrained five-year CIP determined by the CPRC is then forwarded to BDC for review. The BDC is a five-member subcommittee of the Board. The BDC will review the recommended prioritization from staff, and then forward its own recommendation of the constrained five-year CIP to the Board for ultimate approval.

Five year investment plan

For fiscal year 2022, the CIP process has produced the following unconstrained and constrained funding plans for the next five years. MTS plans to invest $510.1 million in its Capital Improvement Program to improve the overall state of good repair of MTS assets. Through this plan, MTS is able to fund 61% of the overall capital need. There still remains a five-year unfunded balance of $330.1 million, and MTS does recognize that the continued deferral of some projects could have negative impacts on system infrastructure in future years.

Unconstrained Capital Needs ($000s)

Asset Class	FY22	FY23	FY24	FY25	FY26	Total
Vehicle	$70,725	$73,659	$86,531	$48,180	$92,166	$371,261
Facilities & Stations	46,107	83,214	74,199	77,385	88818.4	$369,725
Fixed Guideway	14,940	29,486	30,198	11,935	6,200	$92,759
Systems	6,460	0	0	0	0	$6,460
Total	**$138,232**	**$186,359**	**$190,928**	**$137,500**	**$187,184**	**$840,205**

Constrained Capital Plan ($000s)

Asset Class	FY22	FY23	FY24	FY25	FY26	Total
Vehicle	$70,725	$73,659	$86,531	$48,180	$92,166	$371,261
Facilities & Stations	34,991	27,957	9,522	27,623	18985	$119,078
Fixed Guideway	14,440	0	0	0	0	$14,440
Systems	5,330	0	0	0	0	$5,330
Total	**$125,486**	**$101,616**	**$96,053**	**$75,803**	**$111,151**	**$510,109**

Evaluation and Reporting

Asset lifecycle management is an ever-changing environment with advances in technology, changes in regulation, funding availability and asset management best practices. Therefore, the TAM Plan will be considered a "living document" that will be reviewed, and revised as necessary, on an annual basis. Any and all process changes within SOPs or FMPs will reviewed and any impacts to the overall TAM plan will be revised accordingly. The figures included in the five-year plan will also be updated each year at the completion of the CIP process. In general, the revisions to the TAM plan will originate from the MTS Finance department with inputs from various internal and external stakeholders. The updated TAM plan will then be published to the MTS Board each year.

Continuous improvement is a core feature of asset management implementation, embodied in the self-assessment, monitoring, and measuring required to ensure there is a feedback loop. Ongoing evaluation of MTS asset maintenance activities will be detailed covering three distinct areas:

- Budget monitoring of both CIP projects and the operating budget to ensure the implementation of the projects deemed necessary to improve the state of good repair of the agency.
- Performance monitoring across the agency used to reinforce the feedback loop required in a continuous improvement culture.
- Tracking the agency's actual results against FTA required performance measures.

Budget Monitoring

Each year, the capital and operating budgets identify a number of projects that urgently require funding in order to keep MTS assets in a state of good repair. Once funding is achieved, the management teams at MTS are tasked with implementing these projects in a timely manner. The help ensure the implementation of these projects, MTS routinely monitors the actual financial performance against what was submitted during the budgeting process.

Budget to Actual Monitoring

Budgets are entered into the SAP ERP system for each project (as well as each operating department) at a detailed line item level. The system records the actual expenses, pre-encumbrances and encumbrances at the same level of detail. But in order for a budget to be considered useful, it needs to be used as a comparison tool when the actual business results take place. The ERP provides useful reports for finance personnel and Project Managers to view the real-time actual performance against the budget, and also to quickly access the underlying source documents for those situations that require further analysis.

While a budget versus actual variance analysis might not provide all the answers, it gives finance personnel and the Project Managers an indication of where they can look for possible material issues and provide further investigation of each of those items as necessary. This practice will ensure both parties have a detailed understanding of the overall project and help achieve a successful outcome. In some instances, cost overruns can occur. Common reasons for cost overruns include higher than estimated costs versus the engineering plans and specifications, late additions to the overall scope of the project that were not included in the original budget, or even project delays. When projects incur cost overruns, recovery plan options are discussed between the finance and the Project Managers, before being approved by the CEO and Board if necessary.

Capital Project Status Updates

Project schedules, budgets and performance objectives are monitored through monthly meetings under the Project Management Department at MTS, as well as through quarterly status reports provided by the Project Managers. During the quarterly project status meeting, the project milestones are discussed

with the Project Manager to ensure the project is completed on time. Senior Management receives a system generated monthly Capital Project Budget Executive Summary report and also has access to the Capital Project Monitoring report so they can also keep tabs on the projects to ensure continued progress.

Operating Budget Status Updates

Consolidated reviews of the actual performance versus the operating budget are prepared and presented monthly to the CEO, Senior Management and the Board. The Finance department prepares these budgets versus actuals reviews at the department level, which are then summarized and consolidated for presentation purposes. Major assumptions are presented to the Board during the budget development process, covering items such as passenger levels, operating revenue, subsidy revenue, service levels, personnel assumptions, energy rates and other expense assumptions. These key assumptions are also reviewed with the Board throughout the year as part of the operating budget results presentations.

Performance monitoring

Performance monitoring across the agency is used to reinforce the feedback loop required in a continuous improvement culture. Monitoring of outcomes covers both their agency's performance and that of the assets, and helps ensure the outcomes that are listed in strategies, programs, and plans are in fact being delivered. Goals are determined, typically at the beginning of the fiscal year, and progress is benchmarked against the goals on a recurring basis.

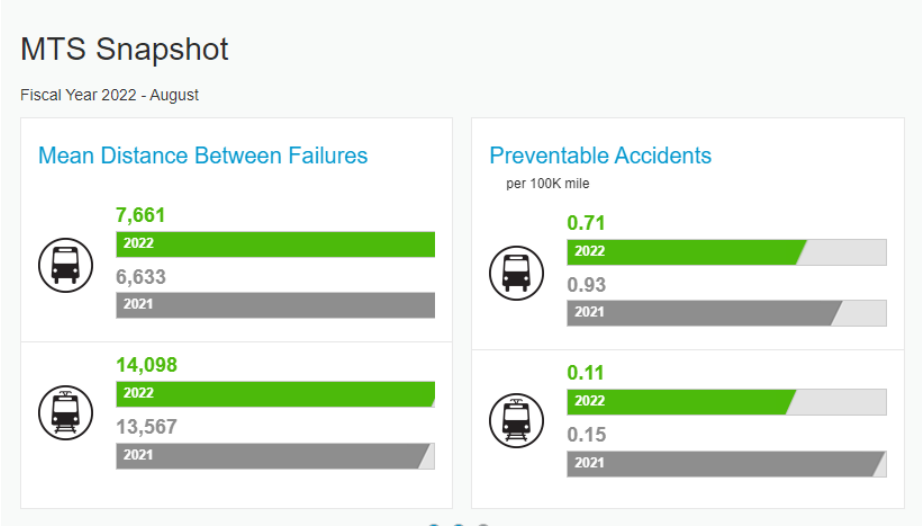
The agency also does a number of benchmarking efforts against other transit agencies as an effort to measure the performance of the agency. Whether using industry standard metrics or data of peer agencies as reported to the NTD, these benchmark comparisons are another point of feedback that can be used to measure the efficiency and effectiveness of the agency.

Key Performance Indicators

Another useful tool is the creation of Key Performance Indicators (KPI), which are standardized metrics that are routinely tracked. Certain KPIs are reported to the Board twice a year as part of overall performance monitoring. MTS Board Policy No. 42, "Transit Service Evaluation and Adjustment", establishes a process for evaluating existing transit services to achieve the objective of developing a customer-focused, competitive, integrated, and sustainable system. Additionally, federal Title VI guidance requires that certain performance measures be evaluated and reported to the Board periodically. Staff presents a summary of system performance, including the metrics outlined in Policy 42 and Title VI-required standards, including service efficiency, utilization, as well as safety and maintenance performance. The semi-annual nature of these reports allows the decision makers to see the trends in overall performance and use this information for fact based decision making.

KPIs are a great tool to communicate performance of the agency to a broad base of employees and provide the feedback required for a continuous improvement culture. Previously, maintenance focused KPIs were discussed, and every department has their individual KPIs they track and measure against. Most of these KPIs are department specific, used by managers to measure the effectiveness of their specific processes. However, MTS also has a number of agency-wide KPIs that are published on the landing page of the agency's intranet, visible to each employee every time they open a web browser.

Sample of MTS Intranet KPI report:



Highlighted below are the definitions for seven Key Performance Indicators (KPI) describing how they are measured and why. This is essential to understanding what changes can be made in order to improve performance.

- **Monthly Ridership** - Ridership is one of the most common measurements for transportation performance. Monthly ridership is measured by the number of passengers who take a single trip on a bus or Trolley. Tracking ridership is important because it helps MTS understand trends in transportation so we can make the best system adjustments.
- **Passengers Per Revenue Hour** - Passengers per revenue hour measures the average number of passenger boardings on an MTS bus or Trolley for every hour of service that a vehicle is on the rail or road. The measurement allows MTS to gauge the productivity and effectiveness of our service by providing a good comparison across routes (or modes) of differing levels of service. It also helps us adjust the frequency of service to match demand.
- **Farebox Recovery** - Farebox Recovery is the percent of total operating costs recovered through fare revenue paid by passengers. It is calculated by dividing total cash fares and pass sales revenue by the total operating expenses. This measurement is popular with decision-makers because it highlights a transit system's ability to maximize ridership while being efficient in other areas like maintenance, procurement of goods and services, grant acquisitions and customer service. The higher the farebox recovery rate, the less an agency has to depend on other sources of funding to keep us in business. MTS has one of the highest farebox recovery rates in the nation.
- **On-Time Performance** - On-Time Performance (OTP) refers to the level of success of the bus and Trolley remaining on the published schedule. OTP is a reflection of the dependability of our system to meet the needs of our passengers. If MTS is not timely with our delivery of services, riders will look for other options to get where they need to go.

- **Complaints per 100K Passengers** - Complaints Per 100K Passengers count the number of customer complaints received about MTS Bus or Trolley service per 100,000 passenger trips. Tracking complaints allows us to understand how MTS employees and customers are interacting and how our services are performing. It is important to identify the reasons for complaints against MTS employees and MTS services so we can realize the circumstances and use each situation as a learning tool to improve.
- **Mean Distance Between Failures** - Mean Distance Between Failures is the average distance between mechanical failures of an MTS Bus or Trolley. Measuring the distance between failures is important because it helps us understand the health of our vehicle fleet. The goal of our maintenance departments is to increase the distance between failures so that our reliability of service is the highest possible. Any time our in-service vehicles have maintenance issues it has a ripple effect throughout the entire system, and impacts other KPIs such as Complaints per 100K Passengers and On-Time Performance.
- **Preventable Accidents per 100K Miles** - A preventable accident can be defined as one in which the operator failed to do everything that he/she reasonably could have done to avoid the accident. Additionally, a preventable accident is one in which the operator has some responsibility for failing to prevent, contributing to, or causing an accident. Safety is the number one priority at MTS and preventable accidents are taken very seriously. We measure the number of preventable accidents to better understand why accidents happen and how we can prevent them in the future. Learning from these accidents helps us improve operator training methods, alter bus routes, and also help us find the safest routes to take. MTS operators are professional drivers, therefore we are held to a higher standard than non-professional drivers. A professional driver is expected to take all reasonable actions to prevent accidents and overcome the mistakes of other drivers.

Performance Improvement Plan

From a short term and operational perspective, MTS completes an annual Performance Improvement Plan (PIP). The plan is broken into two parts, performance measures with annual targets for improvement, and performance goals consisting of key projects that need to be completed over a one to two year horizon.

Every year, MTS leadership defines goals they hope to meet before the end of the next fiscal year (June 30) and breaks these goals down by department. These goals are "stretch goals," tasks that are in many cases above-and-beyond normal daily operations, designed to encourage MTS employees to push the envelope and accomplish things a little beyond their normal responsibilities. It's all in an effort to make MTS one of the most efficient, innovative and safest systems in the country.

The goals for the agency, listed by department, are posted on the agency's intranet. Results of each goal are tabulated and reported after the fiscal year end.

Performance measures

To comply with the FTA requirements associated with SGR, performance measures for capital assets have been established for each asset class along with performance targets. The measure targets are set at the beginning of each fiscal year. The description of these measures by asset class is as follows:

- **Rolling Stock** - Condition ratings for vehicles are expressed in terms of the percentage of assets that are at or beyond the Useful Life Benchmark (ULB), therefore the ideal situation is to be less than the target. At the end of each year, the age of each asset in each vehicle type is compared to the ULB for that vehicle type. The number of assets that exceed the ULB is divided by the

total number of assets in that vehicle type, generating the ULB percentage metric that is reported to the NTD.

- **Equipment (Automobiles/Trucks)** - Same as the above.
- **Infrastructure** - To determine this measure, agencies are required to calculate the DRM (measured to the nearest hundredth of a mile) under performance restrictions as a result of all causes at the same time each month: 9:00 AM local time on the first Wednesday of each month. The total impacted DRM for that month is divided by the overall length of track, generating the performance restriction metric for that month. This process is repeated each month, and is then averaged to produce the required annual metric for the NTD.
- **Facilities** - Targets for facilities are expressed in terms of percentage of assets that are rated below the benchmark condition score, therefore the ideal situation is to be less than the target. Each of these subcategories will encompass a number of individual assets. These results on an asset level are compiled into the Condition Assessment Report for a master asset which will aggregate (roll-up) the individual asset condition assessments to the subcategory levels listed above. Those subcategory scores will then aggregate (roll-up) for the master asset condition rating, which will be included in the NTD reports.

There is no penalty for missing a target and there is no reward for attaining a target. At the end of each year, a narrative report will be compiled and submitted that describes conditions in the prior year that led to overall target attainment results. Transit Asset Management Plan Performance Metrics and Targets for FY22 are reflected below:

No.	Performance Measure	FY2022 Target (%)	Annual Performance
1	**Rolling Stock - Percentage of revenue vehicles that have met or exceeded their ULB benchmark**		
	AB - Articulated bus	0%	
	BR - Over-the-road bus	0%	
	BU - Bus	0%	
	CU - Cutaway Bus	0%	
	LR - Light rail vehicle	0%	
	VT - Vintage trolley / streetcar	100%	
	Total Fleet Count		
2	**Equipment - Percentage of service vehicles that have either met or exceeded their ULB benchmark**		
	Automobiles	100%	
	Trucks and other Rubber Tire Vehicles	20%	
3	**Facility - Percentage of facilities rated below 3 on the condition scale**		
	Maintenance Facilities	0%	
	Administrative Facilities	0%	
	Passenger Facilities	0%	
	Passenger Parking Facilities	0%	
4	**Infrastructure - Percentage of track segments with performance restrictions**		
	LR - Light Rail	2.0%	

Communication Strategy

Clear communication, to both internal and external stakeholders, will be needed to demonstrate the progress being made in implementing asset management and the benefits to be gained from continuing the effort. It will also help provide an accurate understanding of the vision for and value of asset management and the challenges the agency faces.

NTD reporting

The Transit Asset Management (TAM) rule (49 CFR part 625) set the minimum asset management practices for transit providers. Beginning in Report Year (RY) 2018, agencies that receive or benefit from Chapter 53 funds from the Federal Transit Administration are required to report asset inventory, condition and performance information to the National Transit Database (NTD).

The NTD program's Asset Inventory Module (AIM) is designed to collect basic information on assets and infrastructure used by U.S. transit agencies to deliver service. The purpose of assembling a nationwide inventory is to improve the Federal Transit Administration's (FTA's) ability to project capital costs for the future replacement (and necessary capital renewal activities) of existing transit assets. This information supports the FTA biennial report to the U.S. Congress regarding cost estimates of transit capital. These estimates directly influence the FTA annual budget request submitted for the Federal fiscal year (FFY).

The Asset Inventory Module data elements are contained within the following forms:

- Transit Asset Management Performance Measure Targets (A-90), plus the year-end narrative of progress against those targets
- Transit Asset Management Facilities Inventory (A-15)
- Transit Way Mileage (A-20)
- Revenue Vehicle Inventory (A-30)
- Service Vehicle Inventory (A-35)

Reporting to the MTS Board

In spirit of transparency and effective communication, staff routinely presents a number of monitoring reports to the MTS Board. Many of these reports have already been discussed, including:

- Budget development reporting
- Operating budget status reports
- MTS Board Policy No. 42, "Transit Service Evaluation and Adjustment", performance monitoring report
- Annual TAM plan update

Through these routine reports, staff will continue to identify the challenges faced by the agency as well the progress made. This habit of transparency, to both the elected officials of the Board and the greater public in general, serves to reinforce the benefits of a sustained investment in transit asset management and transit in general.

Appendix

Key Definitions

AIM: Asset Inventory Module for NTD reporting to the FTA

Asset Category: Refers to a grouping of asset classes. The categories used at MTS include: Vehicles, Facilities, Guideway Elements, and Systems

Asset Class: Refers to the sub-groups within an asset category. For example, “Vehicles” is the asset category for three asset classes: “Bus Revenue Vehicles,” “Rail Revenue Vehicles,” and “Non-Revenue Vehicles.”

Asset Hierarchy: Refers to segmenting assets into appropriate classifications, based upon asset function, asset type or a combination of the two.

BDC: Budget Development Committee; a five-member subcommittee of the MTS Board of Directors.

CBM: Condition based maintenance

CIP: Capital improvement program

CNG: Compressed natural gas

CPRC: Capital Projects Review Committee

DRM: Directional route mileage

EAM: Enterprise asset management system

FMP: Fleet, facility, and equipment maintenance plans

FTA: Federal Transit Administration

ICE: Independent Cost Estimate

KPI: Key performance indicator

Level of Service: Level of service is the defined service quality that the agency and its assets are expected to deliver and be measured against. Levels of service usually relate to the quality, quantity, reliability, responsiveness, sustainability, cost, and cost efficiency of service. It applies at the enterprise level and for asset classes (for example, buses and elevators). Generally, level of service should be driven by what is important to the customer.

LRV: Light rail vehicle

MDBF: Mean distance between failure

NTD: National Transit Database

OEM: Original equipment manufacturer

PM: Preventive maintenance

QA: Quality assurance

RTIP: Regional Transportation Improvement Program

SAP: Systems, Applications and Products software

SBP: SAP Budgeting and Planning module

SOP: Standard operating procedure

SOW: Statement of Work

State Of Good Repair (SGR): Defined by 49 U.S.C. Chapter 53 as the "condition in which a [transit asset or] capital asset is able to [safely] operate at a full level of performance." The State of Good Repair is further defined by an asset's Useful Life Benchmark (for rolling stock and equipment) or physical condition (for facilities). Assets are considered in a State of Good Repair when they do not meet or exceed their ULB or physical condition threshold. Vehicle and equipment assets, for example, are considered in a State of Good Repair, when rated as a 2.5 or above on the FTA's TERM Lite scale, where 2.5 is equivalent to the ULB set for an asset class. Additionally, facilities are considered in a State of Good Repair when rated as a 3 or above on FTA's TERM scale. Also see definition for Useful Life Benchmark.

TERM Scale: The five category rating system used in the FTA's Transit Economic Requirements Model (TERM) to describe the condition of an asset, where 5 is excellent condition and 1 is poor condition.

Tier I Transit Provider: An entity that receives Federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a sub recipient, that owns, operates, or manages either (1) one hundred and one (101) or more vehicles in revenue service during peak regular service across all fixed route modes or in any one non-fixed route mode, or (2) rail transit.

TIP: Transportation Improvement Program

Transit Asset Management (TAM): Defined by 49 U.S.C. Chapter 53 as "the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation."

Total Cost of Ownership: Reflects the total estimated capital and Operations and Maintenance costs associated with an asset throughout its lifecycle (including the cost to design/procure, use/operate, maintain/monitor, rehabilitate, and dispose/reconstruct/replace.

Transit Asset Management Plan (TAM Plan): This document, which describes: the capital asset inventory; condition of inventoried assets; TAM performance measures, targets, and prioritization of investments aligned with the agency's TAM and SGR policy, strategic goals and objectives; as well as the strategies, activities, and resources required for delivering this Plan (including decision support tools and processes); and other agency-wide approaches to continually improve TAM practices.

Useful Life: Defined by 49 U.S.C. Chapter 53 as "either the expected life cycle of a capital asset or the acceptable period of use in service determined by FTA." It generally defines the minimum eligibility for retirement, replacement, or disposal of an asset.

Useful Life Benchmark (ULB): Defined by 49 U.S.C. Chapter 53 as "the expected life cycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA." The ULB is the realistic expectation for when an asset would be disposed or replaced based on operating environment and procurement timelines. It is not the same as "Useful Life" in FTA grant programs, is reported by age (in years), and usually only pertains to rolling stock or equipment. It is a single number shared for or within specified asset classes, although may vary across different asset classes and providers.

Asset Listing

The tables below summarize the AIM data submitted to the NTD for the current reporting year.

Transit Asset Management Facilities Inventory (A-15)

Facility ID	Name	Primary Mode	Secondary Mode	Facility Type	Section of Larger Facility?	Condition Assessment	Year Built or Reconstructed as New	Transit Agency Capital Responsibility (%)
6498	Mills Building	MB - Bus	LR	Administrative Office / Sales Office	No	4	1988	27
18582	Taxi Administration Bldg	DR-Demand Response		Administrative Office / Sales Office	No	2.4	1973	100
6493	MTS Rail - Building A	LR - Light Rail		General Purpose Maintenance Facility/Depot	Yes	4	1981	100
6494	MTS Rail - Building B	LR - Light Rail		General Purpose Maintenance Facility/Depot	Yes	4	1989	100
6495	MTS Rail - Building C	LR - Light Rail		Heavy Maintenance & Overhaul (Backshop)	Yes	4	1990	100
6497	MTS Rail - Paint Both	LR - Light Rail		Maintenance Facility (Service and Inspection)	Yes	3	2000	100
6496	MTS Rail - Yard Tower	LR - Light Rail		Other, Administrative & Maintenance (describe in No	Yes	3	2000	100
6481	Imperial Avenue Division (IAD)	MB - Bus		Combined Administrative and Maintenance Facility (d	No	4	1972	100
6482	Administrative Offices (IAD)	MB - Bus		Administrative Office / Sales Office	Yes	4	1972	100
6483	Maintenance Bldg (IAD)	MB - Bus		Maintenance Facility (Service and Inspection)	Yes	4	2000	100
6484	Kearny Mesa Division (KMD)	MB - Bus		Maintenance Facility (Service and Inspection)	No	4	1989	100
6485	East County Bus Maintenance Facility	MB - Bus	CB	Maintenance Facility (Service and Inspection)	No	5	2017	100
6490	Old Administrative Bldg (SB)	MB - Bus		Combined Administrative and Maintenance Facility (d	Yes	4	1985	100
6486	South Bay Bus Maintenance Facility	MB - Bus		Combined Administrative and Maintenance Facility (d	No	5	2015	100
6487	Administrative Offices (SB)	MB - Bus		Administrative Office / Sales Office	Yes	5	2015	100
6488	Maintenance Bldg (SB)	MB - Bus		Maintenance Facility (Service and Inspection)	Yes	5	2015	100
6489	Old Maintenance Bldg (SB)	MB - Bus		Maintenance Facility (Service and Inspection)	Yes	4	1960	100
6491	Copley Park Division	DR - Demand Response		Maintenance Facility (Service and Inspection)	Yes	3	1995	100
6492	Copley Park Division	DR - Demand Response		Maintenance Facility (Service and Inspection)	Yes	3	2005	100

Transit Way Mileage (A-20)

Rail/Non-Rail Guideway

Select a guideway to update its information

	Mode	Type of Service	Rail/Non-Rail	Total Miles	Total Crossings
Edit	LR	DO	Rail	110.70	96.00
Edit	MB	DO	Non-Rail	22.2	N/A
Edit	MB	PT	Non-Rail	11.4	N/A
Edit	CB	PT	Non-Rail	15.9	N/A

Update LR DO (Rail Mode)

GUIDEWAY | POWER AND SIGNAL | TRACK

| Basic |

Track Elements	N/A	Count	Track Miles	Expected Service Years When New	Percent Agency Capital Responsibility (%)	Agency with Shared Responsibility	Notes
15. Tangent – Revenue Service	☐		53.00	30	100.0	-- Select One --	
16. Curve – Revenue Service	☐		51.00	30	100.0	-- Select One --	
17. Non-Revenue Service	☐		6.70	30	100.0	-- Select One --	
18. Revenue Track – No Capital Replacement Responsibility	☑						

Totals

Total Track Miles Under Performance Restriction

1.57

Total Track Miles 110.70

Revenue Vehicle Inventory (A-30)

Revenue Vehicle Inventory (A-30) - LR DO

90026 - San Diego Metropolitan Transit System (Full Reporter: Operating) - RY21 Revision 5 (In Review)

There are currently no open issues on this form.

Fleet Totals

Total Vehicles	Active Fleet Vehicles	ADA Accessible Vehicles	Emergency Contingency Vehicles	A
176	176	176	0	1

Fleets

Energy Consumption

Type	Amount
Propulsion Power	55597140 Kilowatt Hours

Search RVI ID | Agency Fleet ID | --- Vehicle Type(s) ---

Cl

ADD NEW FLEET

RVI ID	Agency Fleet ID	Total Vehicles	Active Fleet Vehicles	Vehicle Type	Manufacturer	Model	Year Manufactured	Useful Life Remaining (Years)	Miles This Year	Average Lifetime Miles	Status
25812	2000	52	52	LR	SDU - Siemens Mass Transit Division	SD100	1995	5	683,603	1,456,753	Active
25813	3000	11	11	LR	SDU - Siemens Mass Transit Division	S70	2005	15	219,114	1,054,817	Active
43778	529	1	1	VT	SLC - St. Louis Car Company	PCC	1946	-17	1	19,772	Active
49044	4000	65	65	LR	SDU - Siemens Mass Transit Division	S70US	2011	21	5,694,686	711,396	Active
347023	530	1	1	VT	SLC - St. Louis Car Company	PCC	1946	-17	10	682,490	Active
376580	5000	45	45	LR	SDU - Siemens Mass Transit Division	S70US	2019	29	3,855,218	127,794	Active
382272	1000	1	1	LR	SDU - Siemens Mass Transit Division	U2	1980	-10	122	628,905	Active

Service Vehicle Inventory (A-35)

Service Vehicle Inventory (A-35)

90026 - San Diego Metropolitan Transit System (Full Reporter: Operating) - RY21 Revision 5 (In Review)

There are currently no open issues on this form.

›Filters

Service Fleets

ADD NEW | EDIT SELECTED | DELETE SELECTED

ID	Agency Fleet Id	Fleet Name	Vehicle Type	Primary Mode	Year Manufactured	Estimated Cost	Status
8702	600	2006 Chevrolet Colorado	Trucks and other Rubber Tire Vehicles	LR - Light Rail	2006	$13,711.54	Active
8709	2223	2007 Dodge Caliber SXT	Automobiles	MB - Bus	2007	$4,745.59	Active
8710	2224	2007 Dodge Caliber SXT	Automobiles	MB - Bus	2007	$8,000.00	Active
8711	9663	1988 Ford Flat Bed Truck	Trucks and other Rubber Tire Vehicles	MB - Bus	1998	$24,363.98	Active
8713	9002	2004 Ford E150 Van	Trucks and other Rubber Tire Vehicles	MB - Bus	2004	$17,424.93	Active
8717	9667	2007 Ford F250 SuperDuty	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$16,855.46	Active
8723	M10	2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$86,000.00	Active
8724	9405	2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$86,000.00	Active
8725	9406	2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$86,000.00	Active
21331	M-11	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21332	M-12	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21333	M-14	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21334	M-15	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21335	M-16	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21336	9407	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$47,836.69	Active
22682	437	2003 Ford F550 w/Boom	Trucks and other Rubber Tire Vehicles	LR - Light Rail	2003	$50,000.00	Active
22683	504	2010 Hi-Rail Vehicle	Trucks and other Rubber Tire Vehicles	LR - Light Rail	2010	$151,777.40	Active

TRANSIT ASSET MANAGEMENT PLAN

~~OCTOBER~~ JANUARY 201~~8~~22

MTS
Metropolitan Transit System

Document Control History:

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1.0	5/15/2018	Preliminary Draft
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1.5	9/22/2018	2018 Draft to MTS Board
1.6	1/7/2022	Fiscal Year 20211~~2~~ Update~~d~~

Transit Asset Management Plan

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Service Vehicle Inventory (A-35) ..... 60~~49~~

Approvals

Transit asset management plans are required for all Federal Transit Administration grantees per federal legislation. The benefits from enhanced asset management practice include improved system safety and reliability, reduced costs, better customer service, and optimized resource allocation. This Transit Asset Management Plan outlines the agency's policy, approach and specific actions to improve its asset management practices over the next five years.

Accountable Executive

~~Paul Jablonski~~Sharon Conney	Chief Executive Officer	
Name	**Title**	**Signature**

Original Board Policy adoption date: 9/20/2018

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Executive Summary

On July 6, 2012, a new two year transportation reauthorization bill was signed into law, the Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 mandated new National Transit Database (NTD) reporting requirements for asset management. These Transit asset management (TAM) regulations were finalized in July 2016 with the revisions through the Federal Registry (The Final Rule) detailing the expected responsibilities for transit agencies.

TAM is a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces transit assets to manage their performance, risks, and costs over their lifecycle to provide cost-effective, reliable, and safe service to current and future customers. The goal of TAM is to keep all organizational assets in a state of good repair (SGR), which is defined by the Federal Transit Administration (FTA) as the condition in which a transit or capital asset is able to safely operate at a full level of performance.

MTS established Board Policy No. 65, "MTS Transit Asset Management" (the "Policy") as guidelines for the management of the agency's organizational assets. This TAM Policy complies with the requirements of MAP-21.

MTS has always been committed to effectively manage its transit assets and maintain its system in a SGR to support safe, efficient, and reliable transit services across the organization. No procedures are changing operationally as MTS has always been required to comply with applicable maintenance regulations of the FTA, Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC). This policy and attached TAM plan consolidate the many standard operating procedures that have been in place at MTS in each maintenance department into one formalized and unified framework. These documents will help MTS standardize maintenance practices across the agency, and also comply with the new regulations.

With this policy, MTS commits to:

- Maintain an asset inventory that includes vehicles, facilities, and facility equipment used in the delivery of transit service; and
- Identify safety-critical assets within the asset inventory and prioritize efforts to maintain those safety-critical assets in a SGR; and
- Clearly define ownership, control, accountability, and reporting requirements for assets, including leased and third-party assets; and
- Set asset performance targets and measure, monitor, and report on progress towards meeting those targets; and
- Base capital project prioritization and other asset management decisions on asset criticality, condition, performance, available funding, safety considerations, and on the evaluation of alternatives that consider full lifecycle benefits, costs, and risks; and
- Maintain an agency-wide TAM Plan that complies with current Federal Transit Administration requirements, Board Policies, Fleet and Facilities Maintenance Plans, Standard Operating Procedures and Transit Asset Management best practices; and
- Provide tools to communicate forecasted performance metrics outlined in MTS Board Policy 42.

TAM Plan

Per FTA's TAM Final Rule and as mentioned above, MTS must maintain an agency-wide TAM plan. This plan will include the following elements:

- Inventory of assets – A register of capital assets and information about those assets. The FTA defines these assets as all capital assets a provider owns, except equipment with an acquisition value under $50,000 that is not a service vehicle.
- Condition assessment – A rating of the assets' physical state.
- Decision support tool – Analytic process/ tool to assist in capital asset investment prioritization needs.
- Prioritized list of investments – A prioritized list of projects or programs to manage or improve the SGR of capital assets.
- TAM and SGR policy – Executive-level direction regarding expectations for TAM.
- Implementation strategy – Operational actions to achieve agency TAM goals and policies.
- Key annual activities – Describe the key TAM annual activities.
- Identification of resources – List resources needed to carry out the TAM Plan.
- Evaluation plan – Monitor and update to support continuous TAM improvement.

It is anticipated that the TAM Plan strategy will evolve in response to internal and external changes or challenges faced by MTS. Therefore, the TAM Plan will be considered a "living document" that will be reviewed, and revised as necessary, on an annual basis. Any and all process changes within SOPs or FMPs will be reviewed and impacts to the overall TAM plan will be revised accordingly. The figures included in the five-year plan will also be updated each year at the completion of the CIP process. The updated TAM plan will be published to the MTS Board of Directors each year.

Asset Reporting

The Final Rule ~~set~~ sets the minimum asset management practices for transit providers. Beginning in Report Year 2018, agencies that receive or benefit from Chapter 53 funds from the Federal Transit Administration are required to report asset inventory, condition, and performance information to the NTD.

The NTD program's Asset Inventory Module (AIM) is designed to collect basic information on assets and infrastructure used by U.S. transit agencies to deliver service. The purpose of assembling a nationwide inventory is to improve the FTA's ability to project capital costs for the future replacement (and necessary capital renewal activities) of existing transit assets. This information supports the FTA biennial report to the U.S. Congress regarding cost estimates of transit capital. These estimates directly influence the FTA annual budget request submitted for the Federal fiscal year

The Asset Inventory Module data elements are contained within the following forms and will be submitted annually:

- Transit Asset Management Performance Measure Targets (A-90), plus the year-end narrative of progress against those targets
- Transit Asset Management Facilities Inventory (A-15)
- Transit Way Mileage (A-20)
- Revenue Vehicle Inventory (A-30)
- Service Vehicle Inventory (A-35)

In 2016 MTS implemented two new SAP systems, the Enterprise Resource Planning (ERP) system and the Enterprise Asset Management (EAM) system, to help facilitate TAM reporting. The SAP EAM system is utilized to manage each individual maintenance plan and entire lifecycle for all ~~of~~ MTS assets. MTS uses its SAP EAM system to track all inspections, preventive maintenance, and unscheduled repairs for each individual asset. The SAP ERP system is utilized to track all financial transactions, and these costs can be traced back to the underlying assets within EAM. All of this information enables the data-driven approach to maintenance that is essential to identify performance issues, deploy maintenance resources efficiently, and improve maintenance procedures with objective ~~decision making~~decision-making.

Introduction

Overview of MTS

The San Diego Metropolitan Transit System was created to provide the policy setting and overall management coordination of the public transportation system in the San Diego metropolitan service area. This service area encompasses approximately 3 million people residing in a 570 square mile area of San Diego County, including the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, Santee, San Diego and the unincorporated area of the County of San Diego. A number of fixed-route operating entities provide the service and have banded together to form a federation of transit service providers called the Metropolitan Transit System (MTS). The purpose of MTS is to provide coordinated routes, fares, and transfers among the different operating entities.

Bus Operations

MTS Bus Operations are a consolidation of services operated by San Diego Transit Corporation (SDTC) and MTS Contracted Services. These entities operate and maintain a fleet of 753~~814~~ buses, all~~95%~~ of which are ~~powered by~~ environmentally friendly compressed natural gas bus or battery electric bus. In fiscal year (FY) 2012~~18~~, MTS bus services operated a total of 97~~100~~ fixed routes, including traditional urban shuttle-type, express and bus rapid transit routes, plus paratransit services. These bus services will log over 2.5 million revenue hours while traveling over 32~~25~~ million revenue miles across San Diego County.

Bus operations are supported by five bus maintenance facilities: Imperial Avenue, Kearny Mesa, South Bay, East County and Copley Park. Each facility includes a maintenance building, administrative building, cleaning and fueling facilities, storage yard, and maintenance equipment which is used to support overall operations.

Rail Operations

MTS Rail Operations (SDTI) operate and maintain a fleet of 1732~~8~~ light rail vehicles (LRVs) to provide transit service over three separate operating line segments. The Blue Line operates from the US/Mexico border through downtown San Diego and terminates at the ~~America Plaza~~University Town Center Transit Center ~~Station~~. The Orange Line serves the East County communities from El Cajon through downtown San Diego and terminates at the new County Courthouse Station. The Green Line operates from Santee along Mission Valley and serves the campus of SDSU through a short tunnel section before continuing to the Imperial Avenue Station, via the Bayside Corridor. The entire system encompasses ~~54.3~~65 total miles (12~~07.~~6 total track miles) of light rail transit (LRT) to 62~~53~~ transit centers. Regular LRT service is provided around the clock with a 22-hour service window and 509 daily scheduled train trips (many more during special events). The entire system (all three line segments) provides low-floor service where on-time performance and service efficiencies continue to enhance the ridership experience.

The general operating environment includes a combination of open stations at-grade with standard railroad crossing protection, downtown mixed street traffic operation, elevated guideways with aerial stations, open-cut sub-grade tracks, one 4,100-ft long tunnel and underground station at San Diego State University.

Rail Operations are supported by the maintenance facility in Downtown San Diego. This facility includes three buildings for maintenance activities, paint booth, vehicle wash and a large storage yard.

Management

California law establishes the San Diego Association of Governments (SANDAG) as the planning agency for San Diego County. The responsibility and decision-making for all transportation-related planning, programming and development activities occurs within SANDAG's nine-member Transportation Committee. Approved transportation plans and programs are subsequently executed by SANDAG staff. Within this structure, MTS and the North County Transit District (NCTD) focus primarily on operating activities.

The MTS Board of Directors (Board) has the policy-setting responsibility for the operation and development of MTS's transit operations as well as for the planning and approval of capital expenditures. The Board is comprised of 15 members with four appointed from the San Diego City Council, one appointed from the San Diego County Board of Supervisors, two appointed from the city council of Chula Vista, one appointed from each Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, and Santee. One of the appointed members is then elected by other Board members to serve as Chairman.

The day-to-day operating functions, labor matters and maintenance of facilities are managed by the individual transit operators. MTS has centralized and consolidated Security, Planning, Human Resources, Finance, Information Technology, Stores, and Purchasing for all MTS operations.

MTS's mission statement, adopted by the Board, is to enhance the personal mobility of San Diego metropolitan area residents and visitors by:

- Obtaining maximum benefit for every dollar spent.
- Being the community's major public transportation advocate.
- Increasing public transportation usage per capita.
- Taking a customer-oriented approach.
- Implementing capital projects on schedule and within budget.
- Offering high-quality public transportation services.
- Responding to the community's socioeconomic interests.

The long-term goal of MTS is to fund operations solely with recurring revenues. MTS recognizes that this requires a delicate balance between funding the operating budget and also funding the Capital Improvement Program (CIP). In many cases, adequately funding the CIP enables savings within the operating budget. This lifecycle management planning is intended to drive successful service delivery and financial performance by minimizing the cost to procure, operate, maintain, rehabilitate, dispose of, and replace an asset while meeting or exceeding established service and reliability commitments for both the asset and the transit system as a whole.

Over the last decade, MTS has made funding the CIP a priority to bring the system up to a State of Good Repair (SGR), with over $2.8~~800 million~~billion of funding spent on Capital. MTS and SANDAG completed the Mid-Coast extension, ~~the~~ rehabilitation of the Blue Line, also replaced both the East County and South Bay bus facilities. Our annual ~~The~~ bus fleet replacement plan has been adjusted to keep the number of buses replaced to a manageable figure each year. The U2 LRV fleet has been replaced and we are in the process of replacing ~~$48M has already been saved towards~~the SD100 LRVs as they approach the end of their useful lives. MTS has committed $125~~82~~ million for CIP in FY22~~19~~, funding ~~40~~48 projects focused on fleet replacement and state of good repair~~., among them a number of rehabilitation projects along the Orange Line.~~

Transit Asset Management Plan Purpose

Transit assets cost money to build, maintain, operate, and use. Transit asset management (TAM) is defined as a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces its transit assets to manage their performance, risks, and costs over their lifecycle to provide safe, cost-effective, and reliable service to current and future customers. The core of this plan is to understand and minimize the total cost of ownership of an asset while maximizing its performance. TAM integrates activities across departments within a transit agency to optimize resource allocation by providing quality information and well-defined business objectives to support decision making within and between classes of assets.

Transit assets include both fixed long-life infrastructure assets (including, structures, tunnels, facilities, and maintenance of way) and equipment (bus, rail, and paratransit revenue vehicles or rolling stock). This guide provides a transit specific asset management framework for managing assets individually and as a portfolio of assets that comprise an integrated system. In this guide, transit assets include physical infrastructure elements, equipment, and systems. Our definition of assets does not include "human capital" (the skills, training, goodwill and institutional memory of employees), financial assets, data/information, or intangible assets (for example, reputation, culture, and intellectual property).

Asset management is most successful when it is integrated into an agency's existing management processes for establishing policy, strategy, and business plans, as well as connected to an agency's performance management and risk management processes. As SGR has long been a focus of this agency, this TAM plan is largely built upon existing procedures. These procedures are documented in the Fleet and Facilities Maintenance Plans (FMP) of the MTS Operators. The purpose of these FMPs is to not only ensure that our assets are maintained in a SGR based on original equipment manufacturer (OEM) standards, but also help to enhance our operations by providing safe, frequent and reliable service. These FMPs are used to monitor and manage assets to achieve these standards, improve safety and increase reliability and performance. On the Rail side, MTS must also comply with regulations of the Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC).

Asset management supports and enables the following elements of transit agency management:

- Performance management focus: Asset management integrates management activities across the agency's various functional areas to address customer level of service and performance outcomes.
- Optimization of resources: Asset management aligns investment decisions associated with operations and maintenance budgeting and capital programming to achieve levels of service that meet agency goals.
- Fact-based management: Asset management is data-driven and transparent.
- Performance culture: Asset management is outcome-based, establishes metric-driven management, and provides tools to adopt a "predict and prevent" or "reliability" culture as opposed to a "find and fix" culture.

The TAM Plan is a key management document for tying the agency's strategic goals and outcomes, or performance measures to the maintenance and capital programs that it delivers. The management cycle is completed by having more detailed, ~~lower-level~~lower-level performance measures to both determine the effectiveness of the agency's programs in achieving the outcomes (e.g., safety, asset condition, travel times, etc.) and its efficiency in completing the programs (e.g., output measures such as lane-miles resurfaced, projects completed on time and on budget, etc.).

Emphasis on managing assets through their life cycles, which vary by asset class and can stretch to decades, helps staff, management, and stakeholders to realize that the assets are being managed for

the long term, and that the concept of ownership ("it is ours to do with what we like") is able to be substituted with stewardship ("at the moment it is ours to care for and pass on to our grandchildren").

MTS is committed to effectively managing its transit assets and maintaining its system in a SGR to support safe, efficient, and reliable transit across the organization. An Asset Management Policy (No. 65) will be approved by the Board apart from developing this TAM Plan.

This TAM Plan outlines the overall asset management approach in a manner consistent with that policy and current federal regulations, and sets the direction for establishing and maintaining transit asset management strategies and plans that are achievable with available funds.

This TAM Plan complies with the Federal Requirements of the Moving Ahead for Progress in the 21st Century Act (MAP-21), which mandated new National Transit Database (NTD) reporting requirements for asset management. These regulations were finalized in July 2016 with the revisions through the Federal Registry (The Final Rule) detailing the expected responsibilities for transit agencies. This included responsibilities mandate that transit agencies have TAM and SGR procedures in place. Accordingly, MTS commits to:

- Maintain an asset inventory that includes vehicles, facilities, and facility equipment used in the delivery of transit service; and
- Identify safety-critical assets within the asset inventory and prioritize efforts to maintain those safety-critical assets in a SGR; and
- Clearly define ownership, control, accountability, and reporting requirements for assets, including leased and third-party assets; and
- Set asset performance targets to measure, monitor, and report on progress towards meeting those targets; and
- Base capital project prioritization and other asset management decisions on asset criticality, condition, performance, available funding, safety considerations, and on the evaluation of alternatives that consider full lifecycle benefits, costs, and risks; and
- Maintain an agency-wide TAM Plan current with Federal Transit Administration (FTA) requirements, Board Policies, Fleet and Facilities Maintenance Plans, SOPs, and Transit Asset Management best practices.

Plan Contents

The FTA regulation defines MTS as a Tier I agency and, as such, MTS has implemented a TAM Plan that includes the following nine (9) TAM Elements listed and described in the ~~Board approved~~ Board-approved Asset Management Policy No. 65.

- Inventory of assets – A register of capital assets and information about those assets.
- Condition assessment – A rating of the assets' physical state.
- Decision support tool – Analytic process/ tool to assist in capital asset investment prioritization needs.
- Prioritized list of investments – A prioritized list of projects or programs to manage or improve the SGR of capital assets.
- TAM and SGR policy – Executive-level direction regarding expectations for transit asset management.
- Implementation strategy – Operational actions to achieve agency TAM goals and policies.
- Key annual activities – Describe the key TAM annual activities.
- Identification of resources – List resources needed to carry out the TAM Plan.
- Evaluation plan – Monitor and update to support continuous TAM improvement.

Implementation strategy

MTS's core business is to provide safe, reliable and sustainable transportation options to the communities it serves. To accomplish this, MTS must continually improve its management of fleet and facilities. When executed properly, TAM improves coordination of all departments across all phases of an asset's lifecycle to manage assets and required resources more efficiently.

This Plan sets forth MTS's approach to improving its TAM capabilities in compliance with federal requirements. This master document sets agency-wide objectives and strategies for delivering all commitments in its TAM Policy and its mission. This TAM Plan will:

- Specify the lifecycle management activities outlined in the FMPs for each department that is responsible for the operations and/or maintenance of a given asset class.
- Outline the personnel and technology resources that will be utilized to optimize the costs, risks, and performance of the transit system.
- Identify priority projects to improve TAM capabilities across the agency, as well as the funding for these projects.
- Provide structure for an ongoing planning effort.
- Create an ongoing performance monitoring and evaluation plan.
- Define the reporting framework to communicate with the FTA, the Board and the public about the results of these asset management activities, the benefits of investing in the transit system and the consequences of underinvestment.

Federal Requirements

The TAM rule (49 CFR part 625) is a set of federal regulations that set out minimum asset management practices for transit providers. Beginning in Report Year (RY) 2018, agencies that receive or benefit from Chapter 53 funds from the FTA are required to report asset inventory, condition and performance information to the NTD. The FTA defines these assets as all capital assets a provider owns, except equipment with an acquisition value under $50,000 that is not a service vehicle.

The NTD program's Asset Inventory Module (AIM) is designed to collect basic information on assets and infrastructure used by U.S. transit agencies to deliver service. The purpose of assembling a nationwide inventory is to improve the FTA's ability to project capital costs for the future replacement (and necessary capital renewal activities) of existing transit assets. This information supports the FTA biennial report to the U.S. Congress regarding cost estimates of transit capital. These estimates directly influence the FTA annual budget request submitted for the Federal fiscal year (FFY).

Asset Inventory

The asset inventory is structured to include a hierarchy of asset categories that comprise a specific asset class. The asset inventory and the associated asset hierarchy can provide the common basis for integrating this information and using it for multiple purposes across the agency.

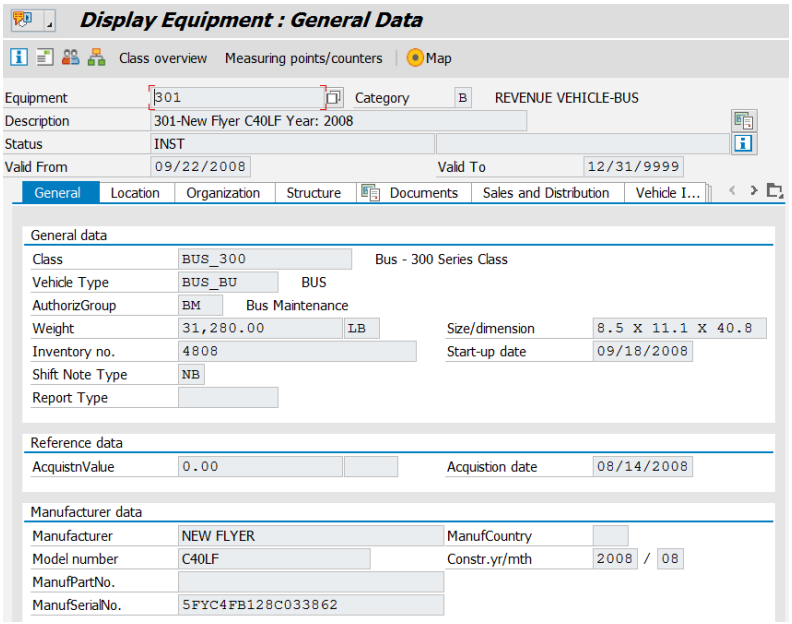
Asset categories/hierarchy

A detailed asset inventory is maintained in the SAP Enterprise Asset Management (EAM) System. The table below summarizes the asset classes and asset categories used by MTS:

Classes:	Vehicles	Facilities & Stations	Fixed Guideway	Systems
Categories:	**Revenue Vehicles:** **-Bus** **-Rail** **Non-Revenue Vehicles:** **-Operations** **-Maintenance** **-Administrative**	**Maintenance Facilities:** **-Bus** **-Rail** **Stations:** **-Transit Centers** **-Benches/shelters** **Administrative Buildings**	**Track:** **-Rail/Ties** **-Grade Crossings** **-Special Trackwork** **Right of Way:** **-Bridges** **-Elevated Track** **-Signaling** **Electrification**	**Software:** **-Financial** **-Maintenance** **-Operational** **Hardware**

During asset procurement and receipt or acceptance, specific asset identification, useful life, warranty and maintenance interval information [data] is collected from the OEM. This practice ensures the asset data is properly recorded into the EAM for effective and efficient lifecycle management.

SAP EAM Asset Inventory:



Vehicles

MTS vehicle inventory divides the vehicles into two categories: revenue vehicles and non-revenue vehicles. Revenue vehicles are the vehicles available to operate transit services provided by the agency. For MTS, this includes both buses and LRVs. Revenue vehicles tend to have maintenance priority among all transit assets, not only because of their critical role, but also because they must meet regulatory requirements and acceptable safety and reliability levels to provide passenger service.

MTS vehicle inventory:

~~Category~~	~~Sub-category~~	~~Count~~
~~Bus Revenue Vehicles~~	~~40-Foot Bus~~	~~465~~
	~~60-Foot Articulated Bus~~	~~113~~
	~~ADA Minibus~~	~~175~~
	~~Fixed Route Minibus~~	~~37~~
	~~Commuter Express Bus~~	~~24~~
~~Rail Revenue Vehicles~~	~~SD100 High Floor Vehicle~~	~~52~~
	~~SD7 Low Floor Vehicle~~	~~11~~
	~~SD8 Low Floor Vehicle~~	~~65~~
~~Non-Revenue Vehicles~~	~~Automobiles~~	~~9~~
	~~Trucks and other Rubber Tire Vehicles~~	~~15~~

Category	Sub-category	Count
Bus Revenue Vehicles	40-Foot Bus	464
	60-Foot Articulated Bus	113
	ADA Minibus	115
	Fixed Route Minibus	37
	Commuter Express Bus	24
Rail Revenue Vehicles	Vintage/SD100 High Floor Vehicle	52
	SD7 Low Floor Vehicle	11
	SD8 Low Floor Vehicle	65
	SD9 Low Floor Vehicle	45
Non-Revenue Vehicles	Automobiles	2
	Trucks and other Rubber Tire Vehicles	22

As seen above, bus revenue vehicles come in a number of different sizes. MTS categorizes the buses by size and propulsion system, and then groups them in to series by the year they were put in service.

- **Heavy duty buses** – This asset category includes both the 40 foot buses and the 60 foot articulated buses, which comprise the majority of the bus fleet. MTS primarily purchases from New Flyer and Gillig: the 60 foot contract is with New Flyer through 2022, and the 40 foot

contract is with Gillig through 2022. Most~~All~~ of the heavy duty buses currently run on compressed natural gas (CNG), with the exception of 8 new zero emission buses.~~.~~

- **Minibuses** – This asset category includes both minibuses used for ADA paratransit service as well as the less traveled fixed route services. These buses are ~~are currently being transitioned from gasoline to~~ propane ~~, that conversion is approximately 65% complete and is scheduled to be 100% within the next three years.~~powered.
- **Commuter Express buses** – This asset category consists of the over-the-road coach style bus used for MTS's Interstate 15 premium express service. All 24 buses run on compressed natural gas (CNG).~~These are currently the last diesel buses in the fleet, and are expected to be replaced within the next couple of years.~~

On the rail side, the LRVs have been purchased from Siemens. For these vehicles, they are grouped by series based on the same build cycle. The 2000 series SD100 high floor vehicles have been in service since the mid-1990s, and ~~are expected to be replaced with low floor vehicles within the next five yea~~are in the process of being replaced by the new low floor SD10 fleet by 2025~~rs~~. The 3000 series SD7 LRVs went into service in 2005, ~~and~~ the 4000 series SD8 LRVs went into service between 2011 and 2013, and the 5000 series SD9 LRVs went into service ~~. MTS also has open order for 45 additional LRVs, which will be the SD9s. The first 9 will go into service in~~between 2019 and 202~~0~~1~~, with the remaining 36 LRVs to be delivered later in time for the opening of the Mid-Coast trolley extension~~.

Non-revenue vehicles are the vehicles utilized by support staff of the agency. 1~~31~~60 of these vehicles are leased through Enterprise, an arrangement MTS started almost 10 years ago which has proven to provide a lower cost of ownership versus owning these vehicles outright. (Per FTA instructions, these leased vehicles are not included in the table above nor are they reported to the NTD.) These vehicles include:

- Supervisory and pool vehicles
- Maintenance vehicles
- Security vehicles
- Other administrative vehicles

MTS also has specialized maintenance vehicles across the agency. These vehicles typically have a longer useful life, and due to their specialized nature, make direct purchase a lower cost of ownership. These vehicles include:

- Bus service trucks
- Flatbed trucks

Facilities

Facilities refer to the structures that enclose or support maintenance, operations, administrative, and spaces for passengers. Facilities also house specialized equipment that supports the operations and maintenance of the vehicles (for example, fueling and wash facilities). Maintenance work spaces must accommodate vehicle movement within and around buildings, industrial workflow, and storage~~.~~. Service facilities may include industrial workspaces similar to maintenance facilities, storage areas, and office spaces. Passenger facilities are usually focused around spaces for pedestrian movement or waiting areas. Stations provide shelter for employees and customers, and facilities provide shelter for employees, revenue vehicles, and power systems. Stations and passenger facilities are particularly important because they directly impact the customer experience.

MTS facility inventory:

~~Category~~	~~Sub-category~~	~~Count~~
~~Maintenance Facilities~~	~~General Purpose Maintenance Facility/Depot~~	~~2~~
	~~Maintenance Facility (Service and Inspection)~~	~~5~~
	~~Combined Administrative and Maintenance Facility~~	~~1~~
	~~Heavy Maintenance & Overhaul~~	~~1~~
	~~Other, Administrative & Maintenance~~	~~1~~
~~Stations~~	~~At-Grade Fixed Guideway Station~~	~~49~~
	~~Elevated Fixed Guideway Station~~	~~4~~
	~~Underground Fixed Guideway Station~~	~~1~~
	~~Bus Transfer Center~~	~~7~~
~~Administrative Offices~~		~~1~~

Category	Sub-category	Count
Maintenance Facilities	Maintenance Facility (Service and Inspection)	8
	General Purpose Maintenance Facility/Depot	2
	Heavy Maintenance & Overhaul (Back shop)	1
	Other, Administrative & Maintenance	1
Stations	LRV At-Grade Fixed Guideway	49
	Elevated Fixed Guideway	4
	Underground Fixed Guideway	1
	Bus At-Grade Fixed Guideway	5
	Bus Transfer Center	14
	Surface Parking Lot	28
	Parking Structure	1
Administrative Offices	Administrative office/sales office	4
	Combined Administrative office	3

Each of these facilities is owned by MTS. These facility types are described in greater detail below:

- **General Purpose Maintenance Facility/Depot** – This asset category refers to the five bus maintenance facilities: Imperial Avenue, Kearny Mesa, South Bay, East County and Copley Park. These include the structures used to maintain bus revenue vehicles (for example, heavy duty buses, over-the-road coaches, and paratransit buses), plus operations offices, administrative facilities, operations central control, and central warehouses. Each of these facilities also includes a large yard to store the vehicles when not in service.
- **Maintenance Facility (Service and Inspection)** – This asset category refers to the maintenance facility in Downtown San Diego. It includes the structures used for maintaining LRVs, maintenance-of-way, buildings, grounds field crew, operations offices, administrative facilities, operations central control, and central warehouses. This facility also includes a large rail yard to store the LRVs when not in service.
- **Vehicle Fueling Facility** – This asset category refers to specialized fueling stations at the bus maintenance facilities for each fuel type utilized at MTS.
- **Stations** – This asset category refers to structures intended primarily for passengers' use, including bus transfer facilities, rail stations (both elevated and at grade), and customer service facilities. MTS also has one underground station at San Diego State University.
- **Administrative Offices** – This asset category refers to stand-alone administrative facilities. This includes the MTS corporate offices in the Mills Building, and the Taxicab Administration building.

Each facility type listed above also encompasses a wide variety of subsystems required for that facility to function appropriately. These subsystems or sub-categories include assets such as:

- Substructure
- Shell
- Interiors
- Conveyance (Elevators and Escalators)
- Plumbing
- HVAC
- Fire Protection
- Electrical
- Site
- Equipment (for Administrative and Maintenance Facilities)
- Fare Collection (for Passenger and Parking Facilities)

MTS tracks assets at this subsystem level to ensure the entire facility is kept in a state of good repair.

Fixed Guideway

Fixed guideway elements refer to the structural elements that allow for the movement of MTS's LRVs. These assets are broadly categorized into track elements, guideway elements comprising the track right-of-way, grade crossings, and the electrical infrastructure. Failure to maintain minimum condition standards in any of these assets increases the risk of slow, unreliable, potentially unsafe, or inoperable service.

MTS fixed guideway inventory:

Category	Sub-category	Count/ Linear Feet
Track	Tangent – Revenue Service	53 miles
	Curve – Revenue Service	51 miles
	Non-Revenue Service	7 miles
Special Trackwork	Double Diamond Crossover	7
	Single Crossover	61
	Single Turnout	28
Guideway	At-Grade/Ballast (including expressway)	83 miles
	At-Grade/In-Street/Embedded	7 miles
	Elevated/Concrete	9 miles
	Below-Grade/Retained Cut	1 mile
	Below-Grade/Cut-and-Cover Tunnel	3 miles
	Below-Grade/Bored or Blasted Tunnel	1 mile
Grade Crossings		96
Electrification	Substation Building	62
	Overhead Catenary System	104 miles

The guideway asset categories are described in greater detail below:

- **Track** – This asset category refers to the guide structure directly under the wheels of the transit vehicle that distributes vehicle dynamic loads to its supporting infrastructure both above and below ground.
- **Special Trackwork** – This asset category consists of trackwork structures, trackwork components or apparatus that are normally fabricated in whole or in part from regular rail sections. This includes items such as crossovers and turnouts.
- **Guideway** – This asset category consists of the right-of-way elements upon which the track resides. The majority of MTS's system is run on at-grade ballast, but there are significant portions that are on elevated bridges.
- **Grade Crossings** – This asset category refers to specific points along the track line where the track is embedded in the street and shares right-of-way with general automobile or pedestrian traffic.

- **Electrification** – This asset category provides supply and distribution of propulsion power for MTS's electric-powered LRVs and includes alternating current (AC) and direct current (DC) systems. Subsystems include overhead catenary system, distribution, and substations.

Like with facilities, there are a number of ancillary structures not detailed above that are required to physically support the safe and efficient operation of a transit system. These structures can include culverts, retaining walls, pedestrian walkways, utilities conduits, communications towers, light poles, safety fencing, signal cases, traffic gates, and vehicular signage.

MTS's light rail service does not operate on an exclusive guideway, meaning the right-of-way is shared with other traffic or services. Portions of the trolley line share right-of-way with general automobile or pedestrian traffic, and other portions share right-of-way with overnight freight services. However, MTS is financially responsible for the entire rail line, even the portions that are shared.

Systems

The systems asset class includes a diverse set of systems that support core operational functions. In today's technology dependent world, practically everything is dependent on its own specialized system. All of these systems are critical to transit operations, providing financial information, communications, network connectivity, revenue collection, security, customer service, and safety controls.

Major MTS systems inventory:

Technology	Description	Owner
SAP ERP	Enterprise Resource Planning System – management information system that integrates accounting, budgeting, purchasing, inventory and asset management.	Information Technology (IT)
SAP EAM	Integrated module of SAP ERP, to manage Enterprise Asset Management System for Fleet and Facilities management. Software solution that improves planning, scheduling, routing, preventative and corrective maintenance, and completing work orders based on miles, condition, priority, resources and assets.	IT
SAP CRM	SAP Customer Relationship Management System, to manage customers' Lost & Found, complaints and compliment cases, integrated with Hastus for incidents, and Risk Department.	IT
ADP	Human Resources Information Systems that manages all employees benefit data and payroll operations.	IT/ Human Resources
ARINC	Centralized Train Control (CTC) refers to the wayside and onboard equipment responsible for safe train operation and traffic control	IT/ Operations
CAD/AVL	The CAD/AVL system connects our vehicles seamlessly with our back office scheduling and dispatching software. It automatically collects vital data used by dispatchers such as bus GPS locations, schedule adherence status, breakdowns and emergencies	IT/ Operations
Pronto~~Cubic~~	Revenue Collection systems used to collect transit revenues, and to collect data, including ridership and service performance data	IT/ Operations
Hastus	Scheduling & Dispatch – provides improved planning, scheduling, operations, passenger information and analysis.	IT/ Planning
S&A Systems FleetWatch	Fluid Management – provides real-time control and data acquisition for fluids and tank monitor systems to monitor fluid usage, schedule preventive maintenance, and reconcile fluids.	IT/ Operations
Multiple Vendors	Security provides protection for customers and employees from threats and vulnerabilities, both internal and external to the system. It comprises both monitoring and control systems	IT/ Security

This asset class also includes all of the hardware utilized by the systems listed above. This includes servers, computers, cameras, and other specialized devices.

Useful life

The Useful life (UL) is the estimated lifespan of a fixed asset, during which it can be expected to contribute to agency operations. MTS has developed UL assumptions for all assets based on FTA guidelines and Generally Accepted Accounting Principles. Due to their specialized nature, many transit assets are not specifically listed in FTA guidelines or accounting rule. In these situations, staff will rely on manufacturer recommendations in order to determine the UL of these types of assets. MTS manages the asset lifecycles based on these ULs.

The Useful Life Benchmark (ULB) is the expected lifecycle of a capital asset for reporting to the NTD only. FTA has outlined default useful life benchmarks for vehicle types, using average age-based equivalent of a 2.5 rating on the FTA Transit Economic Requirements Model (TERM) scale. The FTA default ULB for each vehicle class is listed in the table below. As you can see, MTS's established UL is different from the FTA ULB. MTS will measure against these ULB for NTD reporting purposes.

Code	Vehicle Type	UL	ULB
AB	Articulated bus	12	14
AO	Automobile	7	8
BR	Over-the-road bus	12	14
BU	Bus	12	14
CU	Cutaway bus	7	10
LR	Light rail vehicle	25	31
MB	Minibus	7	10
MV	Minivan	7	8
SV	Sport utility vehicle	7	8
VN	Van	7	8

Condition assessments

Condition assessment is the process of inspecting the asset to collect data that is used to measure condition and performance. The condition assessment process involves regular inspections that evaluate an asset's visual and physical condition (for example, structural issues, and faulty components). This process addresses risk, ensures the asset can meet its level-of-service requirements, and provides information from which assets can be managed across their lifecycle.

The TAM Rule requires the inclusion of condition assessments in an agency's TAM Plan. Specific requirements include:

- A condition assessment of those inventoried assets for which a provider has direct capital responsibility.
- A condition assessment must generate information in a level of detail sufficient to monitor and predict the performance of the assets.
- A condition assessment must generate information in a level of detail sufficient to inform the investment prioritization.

Each asset class has different requirements for condition inspection and monitoring that depend on their performance characteristics, the risks, and the impacts of failure. In some cases, these requirements are specified by state and federal regulations. Gathering condition and performance data can be costly as it is a strictly manual process. However, these ~~condition~~ conditions and performance measures can be used to improve reliability and proactively plan for the investments required to maintain good performance on the most critical assets.

The following is a ~~high level~~high-level summary of MTS's procedures for data collection:

- Data collection frequency – This addresses how often the inspections should occur. Triggers for a condition inspection may be based on a time or mileage interval, criticality or risk assessment, or it may be based on a performance trigger (for example, a bus with a skyrocketing mean time between failure metric).
- Inspection approach – For many asset classes, condition inspections can require appropriately trained and credentialed staff. Additionally, there is increasing interest and the ability to substitute a visual or manual inspection with technology-enabled monitoring. Examples include using sensors to monitor structural conditions and switch performance. Moreover, some inspection data may be collected through day-to-day operating and maintenance processes.
- Quality assurance process – These are the processes used to verify the data and ensure quality. Quality assurance processes may require random data checks or formal audits.
- Training – This is an important part of quality assurance for condition assessment and ensures that the condition is being measured consistently and accurately.

In order to determine an asset's condition, the FTA's Transit Economic Requirements Model (TERM) scale is being used, listed in the table below, with condition rating ranges from (5) Excellent to (1) Poor.

Rating	Condition	Description
5	Excellent	No visible defects, new or near new condition, may still be under warranty if applicable
4	Good	Good condition, but no longer new, ~~may be~~maybe slightly defective or deteriorated, but is overall functional
3	Adequate	Moderately deteriorated or defective~~;~~, but has not exceeded useful life
2	Marginal	Defective or deteriorated in need of replacement; exceeded useful life
1	Poor	Critically damaged or in need of immediate repair; well past useful life

Per the FTA TAM Final Rule, assets with a condition rating score of 3.0 and above are in a state of good repair. Assets with a condition score lower than 2.9 are not in a state of good repair, and may require prioritization during capital ~~programing~~ programming to ensure safe, efficient, and reliable transit service.

Facilities and Facility Equipment Condition Assessment:

For Facilities assets, condition assessments are scheduled and completed using in-house staff along with regular ~~schedule~~ scheduled intervals. To determine the overall condition of a facility, MTS will inspect and assess the assets at the individual asset level. The FTA defines these assets as all capital assets a provider owns, except equipment with an acquisition value under $50,000, as a general rule the condition assessments will follow this guideline, but there may be instances where condition assessments are done on assets with an acquisition value under $50,000. Those individual assets will then be grouped into the following subcategories for each facility:

- Substructure
- Shell
- Interiors
- Conveyance (Elevators and Escalators)
- Plumbing
- HVAC
- Fire Protection
- Electrical
- Site
- Equipment (for Administrative and Maintenance Facilities)
- Fare Collection (for Passenger and Parking Facilities)

Each of these subcategories will encompass a number of individual assets. These results on an asset level are compiled into the Condition Assessment Report for a master asset which will aggregate (roll-up) the individual asset condition assessments to the subcategory levels listed above. Those subcategory scores will then aggregate (roll-up) for the master asset condition rating, which will be included in the NTD reports.

Fixed Guideway Condition Assessment:

MTS fixed guideway assets are subject to regulation by the FRA and the CPUC. As such, there are clearly defined inspection schedules per state and federal regulations. The data generated by these inspections allows MTS to track performance and proactively plan the required investments to keep the assets in a state of good repair.

Unlike facility assets, condition ratings for this asset class do not utilize the TERM scale. NTD requires a metric of the percentage of track segments that have performance restrictions. Performance restrictions are reported by mode and type of service as an average length of directional route mileage (DRM) operating under performance restriction. The NTD definition of DRM is the mileage in each direction over which public transportation vehicles travel while in revenue service

A performance restriction is defined to exist on a segment of a fixed guideway when the maximum permissible speed of transit vehicles is set to a value that is below the guideway's design speed. Generally, the design speed for a section will be the same as the maximum allowable speed established for the section at the time of system opening. The performance restriction can be communicated through operating instructions, route signage, flaggers, or an agency's dispatch system. Performance restrictions may result from a variety of causes, including defects, signaling issues, construction zones, maintenance work, or other causes.

To determine this measure, agencies are required to calculate the DRM (measured to the nearest hundredth of a mile) under performance restrictions as a result of all causes at the same time each month: 9:00 AM local time on the first Wednesday of each month. The total impacted DRM for that month is divided by the overall length of track, generating the performance restriction metric for that month. This process is repeated each month, and is then averaged to produce the required annual metric for the NTD.

Vehicle Condition Assessment:

Condition ratings for vehicles are expressed in terms of the percentage of assets that are at or beyond the Useful Life Benchmark (ULB). At the end of each year, the age of each asset in each vehicle type is compared to the ULB for that vehicle type. The number of assets that exceed the ULB is divided by the

total number of assets in that vehicle type, generating the ULB percentage metric that is reported to the NTD.

Asset Lifecycle Management

Asset management is most successful when it is integrated into an agency's existing management processes for establishing policy, strategy, and business plans, as well as connected to an agency's performance management and risk management processes. As SGR has long been a focus of this agency, this TAM plan is largely built upon existing procedures. Asset management supports and enables the following elements of transit agency management:

- Performance management focus: Asset management integrates management activities across the agency's various functional areas to address customer level of service and performance outcomes.
- Optimization of resources: Asset management aligns investment decisions associated with operations and maintenance budgeting and capital programming to achieve levels of service that meet agency goals.
- Fact-based management: Asset management is data-driven and transparent.
- Performance culture: Asset management is outcome-based, establishes metric-driven management, and provides tools to adopt a "predict and prevent" or "reliability" culture as opposed to a "find and fix" culture.

The TAM Plan is a key management document for tying the agency's strategic goals and outcomes, or performance measures, to the maintenance and capital programs that it delivers. The management cycle is completed by having more detailed, ~~lower level~~lower-level performance measures to both determine the effectiveness of the agency's programs in achieving the outcomes (e.g., safety, asset condition, travel times, etc.) and its efficiency in completing the programs (e.g., output measures such as lane-miles resurfaced, projects completed on time and on budget, etc.).

Emphasis on managing assets through their life cycles, which vary by asset class and can stretch to decades, helps staff, management, and stakeholders to realize that the assets are being managed for the long term, and that the concept of ownership ("it is ours to do with what we like") is able to be substituted with stewardship ("at the moment it is ours to care for and pass on to our grandchildren").

Asset Lifecycle

Lifecycle management enables agencies to make better investment decisions across the lifecycle using management processes and data specific to each asset as a basis for predicting remaining useful life (including age, condition, historic performance, and level of usage). Transit asset management involves processes for managing and maximizing the performance of an asset while minimizing its costs throughout the course of its lifecycle. Lifecycle activities include the following:

- **Design/Procure** – If creating, this includes planning, design, and construction of the asset. If acquiring, this includes the scoping of the development and procurement of the asset. The asset management perspective involves considering the level of service requirements and total cost of ownership in this initial step.
- **Use/Operate** – This involves the use (or operation) of the asset. Asset management ensures that the asset is available in the specified condition to be used, or operates reliably to deliver the planned level of service.
- **Maintain/Monitor** – This involves all the predictive, preventive, corrective, and reactive activities required to maintain the asset in the condition required to deliver the planned level of service.

- **Rehabilitate** – Rehabilitation is the planned capital expenditures required to replace, refurbish, or reconstruct an asset partially, in-kind, or with an upgrade to optimize service and minimize lifecycle costs. Examples might include reconstruction work on a bridge structure that replaces critical elements and thereby extends the bridge's life or a rail vehicle overhaul.
- **Dispose/Reconstruct/Replace** – When an asset can no longer perform at its intended level of service, the agency has the choice to dispose, reconstruct, or replace the asset. Typically at this stage, it is no longer ~~cost effective~~cost-effective to renew the asset or it is functionally obsolete, and the agency must determine whether the asset must be replaced, whether the function of the asset remains necessary, and whether its function can be met more economically or efficiently by being replaced outright.

While these activities follow an asset through its lifecycle, the majority of the TAM activities and investment covers the operation, maintenance, and rehabilitation activities.

Maintenance Plans

Maintenance is managed with a multi-year time horizon to improve the reliability of all of its assets. The maintenance procedures are documented in the Fleet and Facilities Maintenance Plans (FMP) of the MTS Operators. The purpose of these FMPs is to not only ensure that the assets are maintained in a state of good repair based on original equipment manufacturer (OEM) standards, but also help to enhance operations by providing safe, frequent, and reliable service. These FMPs are used to monitor and manage assets to achieve these standards, improve safety and increase reliability and performance. On the Rail side, MTS must also comply with regulations of the Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC).

The purpose of each FMP is to provide an overview of each department's resources, structure, asset management, and maintenance programs. These FMPs are also supported by the Standard Operating Procedures (SOPs) used to guide ~~day to day~~day-to-day activities.

Vehicle Maintenance Plans

Vehicle asset management focuses primarily on vehicle procurement, the structuring of the vehicle maintenance program, the identification of and response to specific maintenance issues, the planning of system and component replacements, and the management of the spare fleet and inventory. Manufacturers provide guidelines for preventive maintenance and replacement, and maintenance practices are broadly shared across the industry.

For all operating revenue and non-revenue fleet assets, the FMP addresses:

- Organization Structure
- Maintenance Program Schedules
- Quality Control
- Training
- Preventive Maintenance
- Inspections
- Records
- Service and Cleaning Activities
- Warranty Program
- Goals and statistics

The FMP is also supported by the departmental Standard Operating Procedures (SOPs) used to guide employee day to day functions.

MTS utilizes a number of Key Performance Indicators (KPI) to oversee its maintenance activities. These KPIs are utilized across the industry, generating reliable benchmarks to compare against. MTS will also set annual goals and track performance against those goals. Among these KPIs are:

- Mean distance between failure (MDBF)
- % of PMs performed on time
- California Highway Patrol (CHP) Inspection Defects
- Accidents
- Injuries
- Maintenance cost per mile

Additionally, MTS utilizes a Quality Assurance (QA) department to perform quality control measures to ensure that vehicle maintenance staff is adhering to business processes and properly completing inspections, maintenance, and rehabilitation activities. MTS staff also performs quarterly inspections and more frequent informal on-site walk-throughs and inspections of the vehicles at the contractor facilities to check fleet maintenance data. Daily operations reports are also reviewed to examine the operational status of ADA equipment on vehicles in revenue service. Finally, monthly oversight reports are produced for both the in-house and contracted service operations that ~~monitors~~ monitor performance in the same KPIs.

As part of the annual CIP process, MTS will update its Fleet Replacement Plan. This plan will forecast the replacement needs of the agency over ~~20~~15 year horizon based on the useful lives of each vehicle type, attempting to normalize the ~~year by year~~year-by-year replacement needs as much as possible, and also estimating the funding requirements.

MTS has additional standardized procedures for accepting new buses delivered each year, as well as decommissioning and disposal of vehicles that have reached the end of their useful life.

Facilities Maintenance Plans

Because of the unique functional requirements for most transit facilities, transit agencies tend to manage most of their facilities throughout the entire facility lifecycle rather than acquire and dispose of them as needed. Therefore, agencies are typically involved in the facility design, operation, maintenance, renewal, and replacement. All MTS transit facilities and stations are owned by the agency. However, the functions within two bus maintenance facilities have to be outsourced, including the maintenance of the facility. For both directly operated and contracted services, the lifecycle management is documented within the facilities management plans maintained by each relevant department to monitor and manage all assets to achieve and maintain a state of good repair, improve safety and increase reliability and performance.

Inspections are often the most cost-effective method to assess the condition of and identify issues related to facility structures including defects, deterioration, and damage. Each FMP will have precise procedures for both higher-frequency routine inspections and more-detailed structural inspections. Third-party maintenance agreements are in place for many of MTS's specialized facility assets to allow for the greater expertise required for those inspections (for example, for the compressed natural gas fueling stations).

MTS Contract Services staff monitors the facilities and vehicles maintained by contractors via frequent informal on-site walk-throughs and inspections as well as reviews of monthly facility inspection reports and monthly fleet maintenance data. Staff also conducts formal quarterly inspections of the maintenance records of the contractors to ensure compliance with the maintenance requirements.

For all operations and support facilities, the FMP addresses:

- Organization Structure
- Maintenance Program Schedules
- Quality Control
- Preventive Maintenance,
- Inspections
- Service and Cleaning Activities
- Warranty Program

As part of the annual CIP process, MTS will utilize the annual CIP 20 Year Projection file to review the near term and long term rehabilitation and replacement needs for each facility. This plan will forecast the needs of the agency over a 20 year horizon based on the useful lives of each asset type and also estimate the funding requirements.

Fixed Guideway Maintenance Plans

Most fixed guideway elements are required by FRA and CPUC regulations to have regular condition inspections and assessments since they are safety-critical. For these assets, there are preventive maintenance activities that will be performed to minimize the risk of failures and to ensure the asset reaches (or even exceeds) its design life.

The longevity of guideway structures means that there may be a relatively high level of financial uncertainty and risk over the course of the ~~asset~~ asset's useful life. Guideway assets typically represent some of the largest capital assets of a transit agency, and without timely and effective maintenance, these assets may require additional or more costly ~~rehabilitations~~ rehabilitation to reach their full design life. Track elements require significant maintenance and investment over time to maintain performance and allow revenue vehicles to move at authorized speeds with minimal vehicle wear and maximum comfort.

The guideway asset owner should specify the requirements associated with the asset lifecycles—including design requirements, preventive maintenance activities, expected rehabilitation needs, and lifecycle costs—and incorporate this information into the lifecycle management plans for track, tunnels, and bridges. In addition, MTS is staffed for ongoing engineering support to modify the maintenance approach based on ongoing condition assessments and address unforeseen technical issues as they arise.

Track inspections are a critical quality control measure to assess both the quality and effectiveness of maintenance procedures, as well as to comply with FRA as well as CPUC regulations. ~~At~~ As stated previously, MTS monitors the directional route mileage (DRM) operating under performance restriction by mode and type of service as another measure of the quality and effectiveness of maintenance procedures.

The assets will be evaluated relative to their remaining life to avoid the failure of the components in a timeframe that would not allow for repair or replacement. As part of the annual CIP process, MTS will review the ~~near term~~near-term and ~~long term~~long-term rehabilitation and replacement needs for these assets. The annual CIP 20 Year Projection file~~is plan~~ will forecast the needs of the agency over a 20 year horizon based on the useful lives of each asset type and also estimate the funding requirements.

Identification of Resources

Personnel Resources

Asset owners are responsible for the planning and implementation of lifecycle management. An asset owner is a transit agency manager who is usually in charge of an asset class's maintenance and, ideally,

is also involved in asset design and procurement. The asset owner is responsible for lifecycle management planning, for developing and implementing the lifecycle management plan, and for facilitating asset management activities. The asset owner also participates in the annual operating and capital budgeting cycles, where they act as ~~advocate~~ advocates for the necessary funding resources to keep their assets in a state of good repair. The table below lists the asset owners and their specific areas of responsibility:

Asset Owner	Title	Area of Responsibility
~~Michael Wygant~~Thomas Pascarella	Director of Fleet & Facility Maintenance	Bus Revenue Vehicles, Bus Facilities
Michael Daney	Manager of Contract Operations & Passenger Facilities	Bus Transit Centers, Contracted Bus Facilities
Jay Washburn	Manager of Paratransit & Mini Bus	ADA/Mini Bus Facility
~~Kristine Villa~~Israel Maldonado	Fare Systems Administrator~~Revenue & Compass Services Manager~~	~~Bus~~ Fare Collection Equipment
Fred Byle	Superintendent Wayside Maintenance	Rail Fixed Guideway and Electrification
Andy Goddard	Superintendent of LRV Maintenance	Rail Revenue Vehicles
~~Scott Donnell~~	~~Revenue Manager~~	~~Rail Fare Collection Equipment~~
Rolando Montes	~~Facilities Manager~~Superintendent of Facilities	Rail Facilities and Transit Stations
~~Sandra Bobek~~Emily Outlaw	Chief Information Officer	Information Technology
Thang Nguyen	Sr. Project Manager~~Systems Engineer~~ (Rail)	Facility CCTV Equipment
~~Brian McKeever~~Jeremiah Johnson	Security Systems Administrator~~Manager of Operations Transit Enforcement~~	Security Equipment

The FMPs and SOPs described previously provide a foundation asset owners can use to increase the effectiveness of these lifecycle management activities and thereby drive improved lifecycle management and optimize asset performance. The FMPs also describe the resources available to each asset owner for their applicable asset class.

Technology Resources

Information technology is a critical asset management enabler. Enterprise wide lifecycle management for individual asset classes is data driven and requires the application of innovative and creative information technologies. This data-driven approach to maintenance is essential to identify performance

issues, deploy maintenance resources efficiently, and improve maintenance procedures. Also, appropriate levels of preventive maintenance for each asset category can decrease long-term costs and potentially avoid the need for additional costly rehabilitations.

Enterprise Asset Management Software

MTS utilizes SAP for both its Enterprise Resource Planning (ERP) and Enterprise Asset Management (EAM) systems.

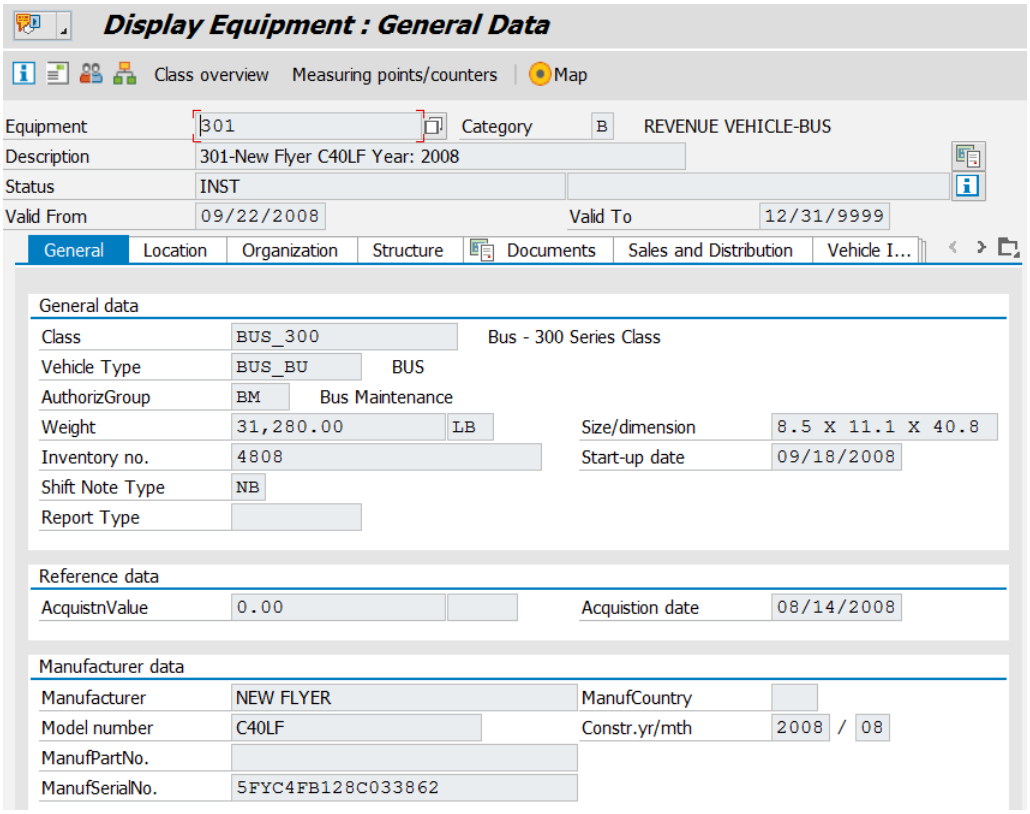
The SAP EAM system is utilized to manage each individual maintenance plan and entire lifecycle for all ~~of~~ MTS assets. MTS uses its SAP EAM system to track all inspections, preventive maintenance, and unscheduled repairs for each individual asset. The system also tracks completion timelines and overall PM compliance.

The process begins with the asset inventory. During asset procurement and receipt or acceptance, specific asset identification, useful life, warranty, and maintenance interval information [data] is collected from the original equipment manufacturer (OEM). This practice ensures the asset data is properly recorded into the EAM for effective and efficient lifecycle management.

This asset database allows MTS to track things such as:

- Asset class and an overall hierarchy of assets
- Individual asset number
- Asset owner
- Type
- Location
- Manufacturer
- Serial numbers
- Metadata statistics (like mileage data, condition ratings, etc.)
- All maintenance done on that asset

SAP EAM Asset Inventory:

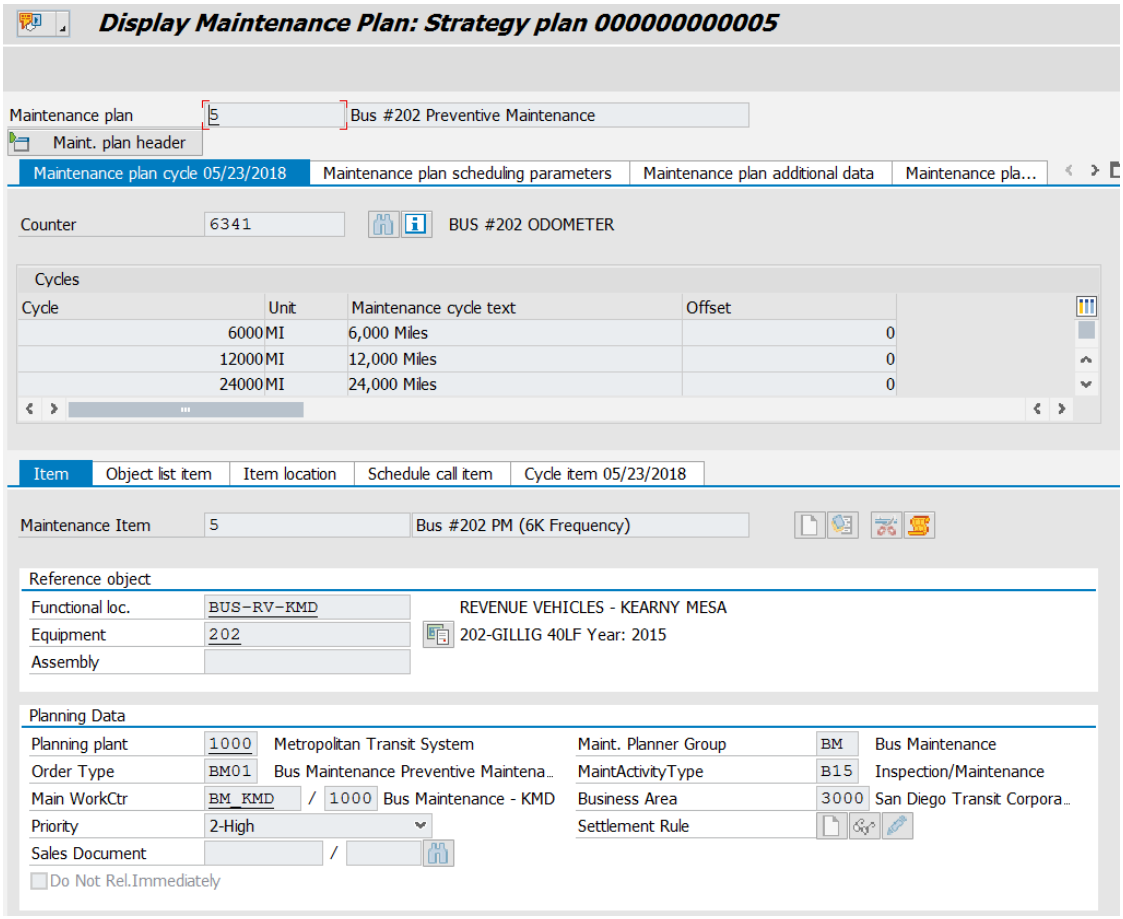

Display Equipment : General Data
Class overview
Measuring points/counters
Map
Equipment 301
Category B REVENUE VEHICLE-BUS
Description 301-New Flyer C40LF Year: 2008
Status INST
Valid From 09/22/2008
Valid To 12/31/9999
General
Location
Organization
Structure
Documents
Sales and Distribution
Vehicle I...
General data
Class BUS_300 Bus - 300 Series Class
Vehicle Type BUS_BU BUS
AuthorizGroup BM Bus Maintenance
Weight 31,280.00 LB
Size/dimension 8.5 X 11.1 X 40.8
Inventory no. 4808
Start-up date 09/18/2008
Shift Note Type NB
Report Type
Reference data
AcquistnValue 0.00
Acquistion date 08/14/2008
Manufacturer data
Manufacturer NEW FLYER
ManufCountry
Model number C40LF
Constr.yr/mth 2008 / 08
ManufPartNo.
ManufSerialNo. 5FYC4FB128C033862

The OEM recommended preventive maintenance plan is also entered in the system, and these plans are assigned to each individual asset as appropriate. This allows the creation of an unlimited number of maintenance plans, differentiating things such as:

- Time or mileage interval
- Type of inspections
- Data to be recorded
- Maintenance required, if applicable

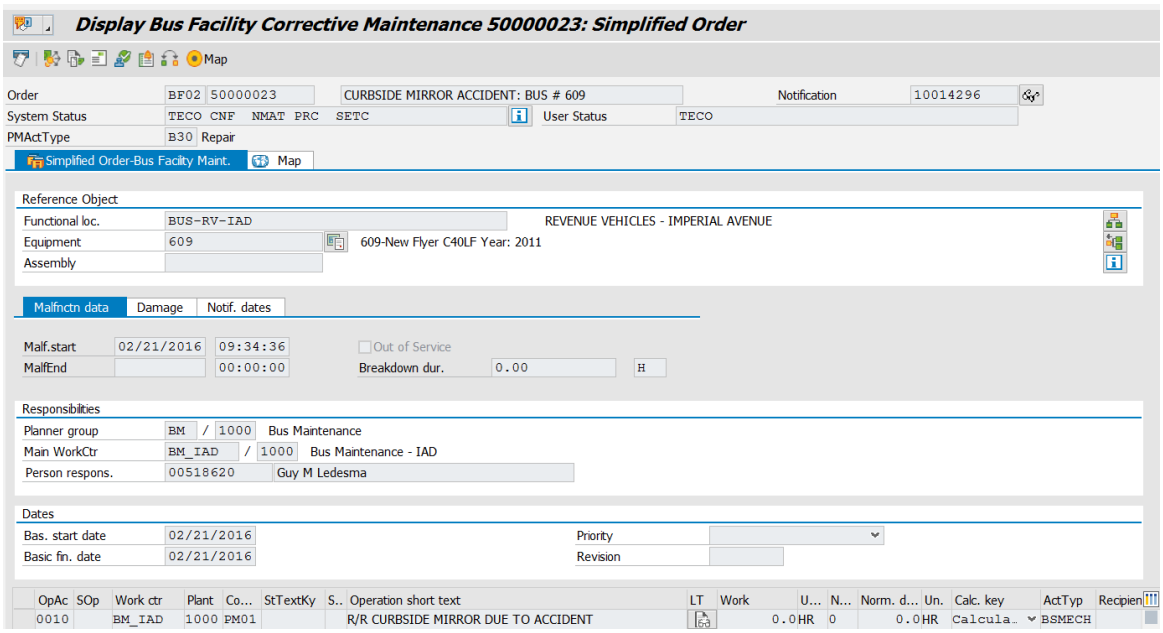
These individualized plans ensure the each asset is maintained according to OEM requirements and optimizes the lifecycle of each asset.

SAP EAM Maintenance Plan:



The EAM uses the asset and plan data to generate a specific work order for any inspection or maintenance event. The system also enables the assignment of the work order to a mechanic/technician, plus the tracking of who completed the work and when. If one or more materials are used and added to a work order, the system integrates with the stock and non-stock items, and includes that cost to the maintenance order.

SAP EAM Work Order:



Coupled with the financial data of the ERP, the system also calculates the overall cost of each work order. Over time, this information can be totaled and trended across individual assets, or summarized across a similar series of assets or asset categories.

All of this information enables the data-driven approach to maintenance that is essential to identify performance issues, deploy maintenance resources efficiently, and improve maintenance procedures with objective ~~decision-making~~decision-making. This data is used for performance analysis, trend identification, lifecycle costing, as well as budget development. It can also flag outlier assets ~~which~~ that require more attention than similar assets, helping replacement planning decisions.

List of Key Annual Activities

Key annual activities supporting the TAM Plan and asset lifecycle management are detailed within Board Policies, Fleet and Facilities Maintenance Plans, Standard Operating Procedures, and the Capital Improvement Program (CIP). These activities align with the agency's business goals and objectives and included both the tactical, ~~day to day~~day-to-day operational aspects, as well as ~~longer term~~longer-term strategic planning activities.

A ~~high level~~high-level sample of these activities includes:

- Operational
  - Preventive Maintenance compliance
  - Goal setting and performance measurement against those goals
  - Costing/trending analysis
  - Annual NTD Asset Inventory Module reporting
- Planning
  - Annual CIP process to review SRG needs and plan the near term investments that need to take place
  - Vehicle fleet replacement plans
  - 20 year CIP to review ~~longer term~~longer-term SGR needs
  - Incorporate all changes identified into the updated TAM Plan

Capital Planning and Funding

The creation of the annual capital and operating budgets involve a multitude of decisions that impact transit asset management and the agency's ability to keep these assets in a state of good repair. This requires a delicate balance between funding capital and operations in order to effectively and efficiently provides transit services for the San Diego region.

The capital budget is used to fund the planning, design, acquisition, replacement, and capital maintenance of all MTS assets. The capital budget can also include major rehabilitations that extend the useful life of an existing asset.

The operating budget is used to fund service delivery as well as asset maintenance, including employee wages, spare parts, consumables, energy, and a variety of support services used throughout the organization. This also includes payments to third-party contractors responsible for a portion of the ~~fixed route~~fixed-route bus services, the ADA Paratransit services, as well as general consulting and maintenance activities.

Both budgets are required for the service on the street and to keep that service in a state of good repair. The following sections detail how MTS makes these important decisions.

Capital and Operating Funding

Funding Sources

One of the primary funding sources for MTS is the fares it receives from its passenger. Typically, around 40% of the operating budget is ~~funding~~ funded by these fares for using the transit services provided to the region.

MTS receives a variety of operating revenues that are not received directly from passenger fares. The sources of these revenues are advertising, interest, rental income, land management revenue, energy credits, and other miscellaneous revenues.

MTS also receives a variety of non-operating revenues that primarily consist of federal, state, and local subsidy funds. The major subsidy sources of funding are described in more detail below.

Federal Transit Administration (FTA)

On December 4, 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act, reauthorizing surface transportation programs through the Federal fiscal year 2020. FAST establishes the legal authority to commence and continue FTA programs. Each reauthorization amends the Federal Transit Laws codified in 49 USC Chapter 53 and provides for the following funding streams MTS commonly receives:

- 5307 Urban Area Formula Grants for capital improvements and preventive maintenance
- 5311 Formula Grants for Rural Areas for capital improvements and to supplement operating costs
- 5337 State of Good Repair Funding for capital improvements and preventive maintenance
- 5339 Bus and Bus Facilities Funding for capital improvements

Transportation Development Act (TDA)

TDA provides funding for public transit operators. This state fund is one-quarter of a percent of the 7.75 percent sales tax assessed in the region. SANDAG is responsible for apportionment of these funds within the San Diego region.

State Transit Assistance (STA)

STA funding comes from the Public Transportation Act, which derives its revenue from the state sales tax on diesel fuel.

TransNet

In November of 2004, area voters approved a 40-year extension of the ~~one-half cent~~one-half-cent sales tax original ordinance that was set to expire in 2008 (TransNet II) and funded transportation needs throughout the San Diego region. This approval had two impacts; first, it assured and slightly improved the original TransNet funding beyond 2008; second, the Bus Rapid Transit (BRT) and Superloop Programs will receive most of its funding from TransNet II. SANDAG is responsible for the apportionment of these funds within the region.

Funding Plan

Each year, the Finance department generates a projected funding plan of revenues that will be available for both the operating and capital budgets. This funding plan incorporates regional revenue forecasts from SANDAG with ~~short term~~short-term revenue assumptions for other MTS subsides, creating the five-year estimate of available subsidy funding. Assumptions are also created for all operating revenues over a five-year horizon.

Capital Budget Development Process

The CIP process begins each October with a call for projects by the MTS Finance department. All asset owners review the state of their asset inventory and put together project requests for all rehabilitation, reconstruction, and replacement needs to cover the following five fiscal years. The project requests are submitted through the SAP Budgeting and Planning (SBP) online module and each request will include the following:

- Scope of Work (SOW)
- Independent Cost Estimate (ICE)
- Project Manager
- Department
- Completion time frame
- Regional project ranking criteria
- Department priority

Once submissions are received, Finance conducts a review meeting of all projects for each department. After the reviews are complete, the list of all projects is consolidated into the five-year, unconstrained need for the MTS operators.

The consolidated priority list of projects will be reviewed by the Capital Project Review Committee (CPRC) according to available funding and the investment prioritization process described below. This secondary prioritization becomes the five-year, constrained CIP.

The constrained five-year CIP is then forwarded to the MTS Board of Directors and Budget Development Committee (BDC) for approval. Once approved, the projects are then added to the Regional Transportation Improvement Program (RTIP), which first goes to SANDAG for approval before ultimately being approved as part of the FTA's comprehensive national Transportation Improvement Program (TIP).

The prioritized list of projects is also subject to an analysis based on social equity principles. This process assures that the benefits and burdens of transit investment are shared equitably throughout the MTS service area. A series of maps are used to detail the results of this analysis.

Operating Budget Development Process

MTS uses a ~~zero-based~~zero-based budgeting process that begins in December each year. In MTS's process, every line item budget is approved each year. Department managers complete budget templates using the SBP online module, in which they propose amounts for each line item, submitted with the appropriate supporting details for each assumption. (In contrast, with a traditional historic budgeting process, managers only justify variances versus prior year budget; the assumption is that the baseline is automatically approved.)

Meetings are held with each department to validate their assumptions, review proposals versus existing spending trends, and review any new initiatives. Personnel headcount assumptions are also reviewed at this meeting. This collaborative process results in the consolidated MTS assumptions that are then presented to and reviewed by senior management.

Beginning in late February through April, staff will meet with the Board and BDC to review the budget development progress. Staff presents the major revenue and expense assumptions that are included in the budget, and ultimately will present a balanced budget where revenues match expenses. Staff will also present a five-year forecast of operating revenue and expenses in order to give the Board a strategic view of the financial condition of the agency to help the ~~decision-making~~decision-making process.

In May each year, a public hearing is held by the Board to approve the overall capital and operating budgets for the next fiscal year. That fiscal year begins on July 1 and ends on June 30.

Investment Prioritization

MTS uses an existing capital project prioritization process ~~which~~ that considers asset condition or age along with investment categorization. The basic unit of the prioritization process is the project request. As described previously, project requests are created by asset owners and have a set of required fields to assist in the prioritization process.

Asset owners are asked to pay special attention to their departmental prioritizations. Issues involving safety should always be given the highest priority. Capital items needed to replace critical components on the system that have reached the end of their useful life should also be given a high priority so the agency can maintain our state of good repair. Additionally, capital investment projects that yield a solid return on investment, decrease operating costs, or provide improved customer service will be strong contenders for funding.

Once submissions are received, Finance conducts a review meeting of all projects for each department. The asset inventory and condition assessment will be reviewed in this step to validate project requests based on the asset age or condition (as applicable to that asset class) for rehabilitation or replacement of the assets that are indicated within the CIP period. SAP reports showing the scheduled and unscheduled maintenance costs by assets will also be used to validate project requests and foster a ~~fact-based~~fact-based ~~decision-making~~decision-making process.

The five-year unconstrained project list will also be compared against the ~~longer-term~~longer-term 20-year CIP forecast. This 20-year forecast is an overarching strategic look at asset management, and helps staff encapsulate the immediate decisions within the ~~long-term~~long-term plans to keep the system in a state of good repair.

The consolidated priority list of projects will be reviewed by the Capital Project Review Committee (CPRC). The CPRC is comprised of representatives from MTS Bus, MTS Rail, MTS Administration, and SANDAG. Each CPRC member was responsible for submitting the capital requests for its division, agency, or city. The CPRC reviews and approves the prioritization of the list of projects, subject to funding availability. Typically, revenue vehicle replacements are funded first, and the remaining submitted projects compete for the balance of available funding. Based on these funding constraints, the CPRC reviewed the projects in the context of their impact on operations and determined the most critical projects to fund by year. The remaining unfunded projects are deferred; however, it is recognized that the continued deferral of some projects could have negative impacts on system infrastructure in future years.

The constrained five-year CIP determined by the CPRC is then forwarded to BDC for review. The BDC is a ~~five member~~five-member subcommittee of the Board. The BDC will review the recommended prioritization from staff, and then forward its own recommendation of the constrained five-year CIP to the Board for ultimate approval.

Five year investment plan

For fiscal year 2022~~19~~, the CIP process has produced the following unconstrained and constrained funding plans for the next five years. MTS plans to invest $510~~466~~.~~0~~1 million in its Capital Improvement Program to improve the overall state of good repair of MTS assets. Through this plan, MTS is able to fund ~~75~~61% of the overall capital need. There still remains a five-year unfunded balance of $~~155.4~~330.1 million, and MTS does recognize that the continued deferral of some projects could have negative impacts on system infrastructure in future years.

Unconstrained Capital Needs ($000s)

Asset Class	FY22	FY23	FY24	FY25	FY26	Total
Vehicle	$70,725	$73,659	$86,531	$48,180	$92,166	$371,261
Facilities & Stations	46,107	83,214	74,199	77,385	88818.4	$369,725
Fixed Guideway	14,940	29,486	30,198	11,935	6,200	$92,759
Systems	6,460	0	0	0	0	$6,460
Total	**$138,232**	**$186,359**	**$190,928**	**$137,500**	**$187,184**	**$840,205**

~~Asset Class~~	~~Prior Funding~~	~~FY19~~	~~FY20~~	~~FY21~~	~~FY22~~	~~FY23~~	~~Total~~
~~Vehicle~~	~~$79,982~~	~~$48,529~~	~~$64,925~~	~~$66,867~~	~~$50,467~~	~~$56,633~~	~~$367,403~~
~~Facilities & Stations~~	~~11,805~~	~~16,679~~	~~26,305~~	~~26,010~~	~~22,810~~	~~225~~	~~103,834~~
~~Fixed Guideway~~	~~4,470~~	~~23,295~~	~~24,228~~	~~9,433~~	~~11,180~~	~~13,135~~	~~85,741~~
~~Systems~~	~~14,300~~	~~10,270~~	~~8,893~~	~~29,004~~	~~1,447~~	~~480~~	~~64,394~~
~~**Total**~~	~~**$110,557**~~	~~**$98,773**~~	~~**$124,351**~~	~~**$131,314**~~	~~**$85,904**~~	~~**$70,473**~~	~~**$621,372**~~

Constrained Capital Plan ($000s)

Asset Class	FY22	FY23	FY24	FY25	FY26	Total
Vehicle	$70,725	$73,659	$86,531	$48,180	$92,166	$371,261
Facilities & Stations	34,991	27,957	9,522	27,623	18985	$119,078
Fixed Guideway	14,440	0	0	0	0	$14,440
Systems	5,330	0	0	0	0	$5,330

Total	$125,486	$101,616	$96,053	$75,803	$111,151	$510,109	
~~Asset Class~~	~~Prior Funding~~	~~FY19~~	~~FY20~~	~~FY21~~	~~FY22~~	~~FY23~~	~~Total~~
~~Vehicle~~	~~$79,982~~	~~$48,529~~	~~$50,000~~	~~$49,618~~	~~$45,500~~	~~$56,300~~	~~$329,929~~
~~Facilities & Stations~~	~~11,805~~	~~11,724~~	~~18,447~~	~~18,829~~	~~19,829~~	~~225~~	~~80,859~~
~~Fixed Guideway~~	~~4,470~~	~~11,310~~	~~-~~	~~-~~	~~3,118~~	~~11,442~~	~~30,340~~
~~Systems~~	~~14,300~~	~~10,118~~	~~-~~	~~-~~	~~-~~	~~480~~	~~24,898~~
~~Total~~	~~$110,557~~	~~$81,681~~	~~$68,447~~	~~$68,447~~	~~$68,447~~	~~$68,447~~	~~$466,026~~

Evaluation and Reporting

Asset lifecycle management is an ever-changing environment with advances in technology, changes in regulation, funding availability and asset management best practices. Therefore, the TAM Plan will be considered a "living document" that will be reviewed, and revised as necessary, on an annual basis. Any and all process changes within SOPs or FMPs will reviewed and any impacts to the overall TAM plan will be revised accordingly. The figures included in the five-year plan will also be updated each year at the completion of the CIP process. In general, the revisions to the TAM plan will originate from the MTS Finance department with inputs from various internal and external stakeholders. The updated TAM plan will then be published to the MTS Board each year.

Continuous improvement is a core feature of asset management implementation, embodied in the self-assessment, monitoring, and measuring required to ensure there is a feedback loop. Ongoing evaluation of MTS asset maintenance activities will be detailed covering three distinct areas:

- Budget monitoring of both CIP projects and the operating budget to ensure the implementation of the projects deemed necessary to improve the state of good repair of the agency.
- Performance monitoring across the agency used to reinforce the feedback loop required in a continuous improvement culture.
- Tracking the agency's actual results against FTA required performance measures.

Budget Monitoring

Each year, the capital and operating budgets identify a number of projects that urgently require funding in order to keep MTS assets in a state of good repair. Once funding is achieved, the management teams at MTS are tasked with implementing these projects in a timely manner. The help ensure the implementation of these projects, MTS routinely monitors the actual financial performance against what was submitted during the budgeting process.

Budget to Actual Monitoring

Budgets are entered into the SAP ERP system for each project (as well as each operating department) at a detailed line item level. The system records the actual expenses, pre-encumbrances and encumbrances at the same level of detail. But in order for a budget to be considered useful, it needs to be used as a comparison tool when the actual business results take place. The ERP provides useful reports for finance personnel and Project Managers to view the real-time actual performance against the budget, and also to quickly access the underlying source documents for those situations that require further analysis.

While a budget versus actual variance analysis might not provide all the answers, it gives finance personnel and the Project Managers an indication of where they can look for possible material issues and provide further investigation of each of those items as necessary. This practice will ensure both parties have a detailed understanding of the overall project and help achieve a successful outcome. In some instances, cost overruns can occur. Common reasons for cost overruns include higher than estimated costs versus the engineering plans and specifications, late additions to the overall scope of the project that were not included in the original budget, or even project delays. When projects incur cost overruns, recovery plan options are discussed between the finance and the Project Managers, before being approved by the CEO and Board if necessary.

Capital Project Status Updates

Project schedules, budgets and performance objectives are monitored through monthly meetings under the Project Management Department at MTS~~between the Project Managers, Procurement staff and Finance~~, as well as through quarterly status reports provided by the Project Managers. During the quarterly project status meeting, the project milestones are discussed with the Project Manager to ensure the project is completed on time. Senior Management receives a system generated monthly Capital Project Budget Executive Summary report and also has access to the Capital Project Monitoring report so they can also keep tabs on the projects to ensure continued progress.

Operating Budget Status Updates

Consolidated reviews of the actual performance versus the operating budget are prepared and presented monthly to the CEO, Senior Management and the Board. The Finance department prepares these budgets versus actuals reviews at the department level, which are then summarized and consolidated for presentation purposes. Major assumptions are presented to the Board during the budget development process, covering items such as passenger levels, operating revenue, subsidy revenue, service levels, personnel assumptions, energy rates and other expense assumptions. These key assumptions are also reviewed with the Board throughout the year as part of the operating budget results presentations.

Performance monitoring

Performance monitoring across the agency is used to reinforce the feedback loop required in a continuous improvement culture. Monitoring of outcomes covers both their agency's performance and that of the assets, and helps ensure the outcomes that are listed in strategies, programs, and plans are in fact being delivered. Goals are determined, typically at the beginning of the fiscal year, and progress is benchmarked against the goals on a recurring basis.

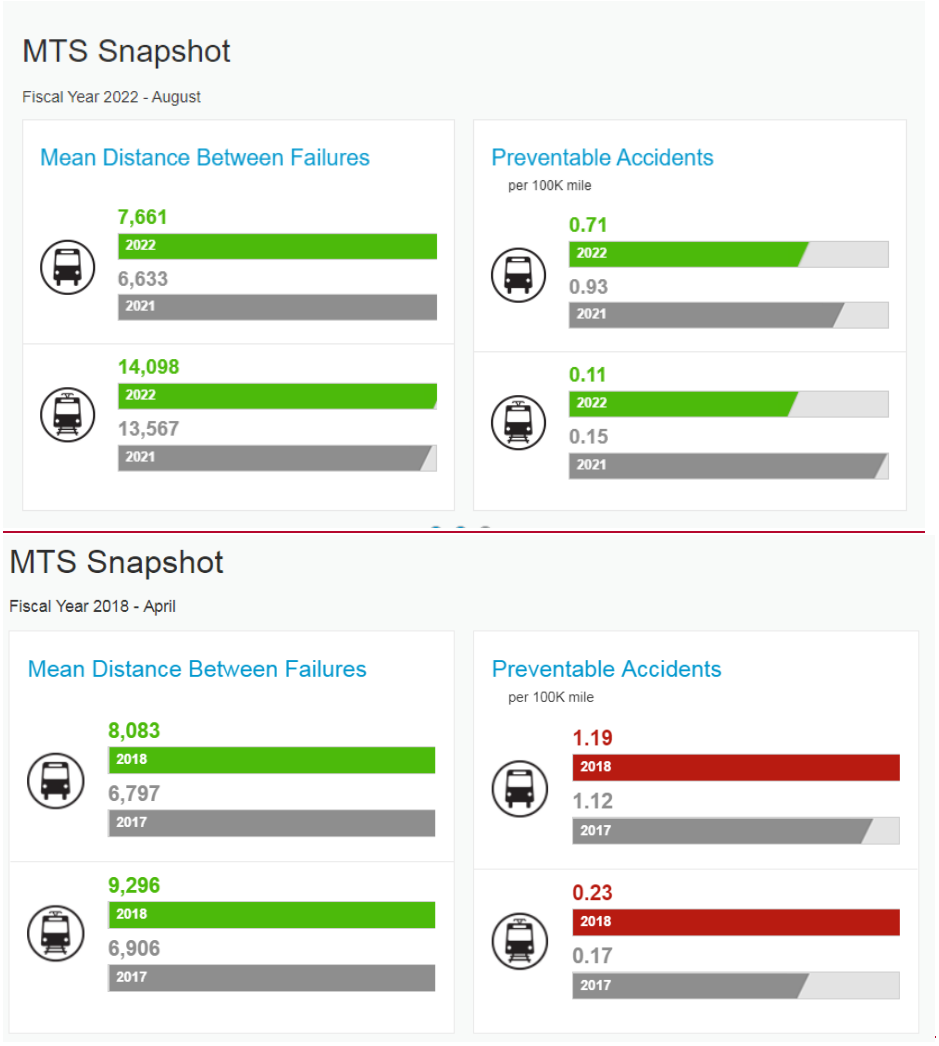
The agency also does a number of benchmarking efforts against other transit agencies as an effort to measure the performance of the agency. Whether using industry standard metrics or data of peer agencies as reported to the NTD, these benchmark comparisons are another point of feedback that can be used to measure the efficiency and effectiveness of the agency.

Key Performance Indicators

Another useful tool is the creation of Key Performance Indicators (KPI), which are standardized metrics that are routinely tracked. Certain KPIs are reported to the Board twice a year as part of overall performance monitoring. MTS Board Policy No. 42, "Transit Service Evaluation and Adjustment", establishes a process for evaluating existing transit services to achieve the objective of developing a customer-focused, competitive, integrated, and sustainable system. Additionally, federal Title VI guidance requires that certain performance measures be evaluated and reported to the Board periodically. Staff presents a summary of system performance, including the metrics outlined in Policy 42 and Title VI-required standards, including service efficiency, utilization, as well as safety and maintenance performance. The semi-annual nature of these reports allows the decision makers to see the trends in overall performance and use this information for fact based decision making.

KPIs are a great tool to communicate performance of the agency to a broad base of employees and provide the feedback required for a continuous improvement culture. Previously, maintenance focused KPIs were discussed, and every department has their individual KPIs they track and measure against. Most of these KPIs are department specific, used by managers to measure the effectiveness of their specific processes. However, MTS also has a number of agency-wide KPIs that are published on the landing page of the agency's intranet, visible to each employee every time they open a web browser.

Sample of MTS Intranet KPI report:



Highlighted below are the definitions for seven Key Performance Indicators (KPI) describing how they are measured and why. This is essential to understanding what changes can be made in order to improve performance.

- **Monthly Ridership** - Ridership is one of the most common measurements for transportation performance. Monthly ridership is measured by the number of passengers who take a single trip on a bus or Trolley. Tracking ridership is important because it helps MTS understand trends in transportation so we can make the best system adjustments.
- **Passengers Per Revenue Hour** - Passengers per revenue hour measures the average number of passenger boardings on an MTS bus or Trolley for every hour of service that a vehicle is on the rail or road. The measurement allows MTS to gauge the productivity and effectiveness of our

service by providing a good comparison across routes (or modes) of differing levels of service. It also helps us adjust the frequency of service to match demand.

- **Farebox Recovery** - Farebox Recovery is the percent of total operating costs recovered through fare revenue paid by passengers. It is calculated by dividing total cash fares and pass sales revenue by the total operating expenses. This measurement is popular with decision-makers because it highlights a transit system's ability to maximize ridership while being efficient in other areas like maintenance, procurement of goods and services, grant acquisitions and customer service. The higher the farebox recovery rate, the less an agency has to depend on other sources of funding to keep us in business. MTS has one of the highest farebox recovery rates in the nation.
- **On-Time Performance** - On-Time Performance (OTP) refers to the level of success of the bus and Trolley remaining on the published schedule. OTP is a reflection of the dependability of our system to meet the needs of our passengers. If MTS is not timely with our delivery of services, riders will look for other options to get where they need to go.
- **Complaints per 100K Passengers** - Complaints Per 100K Passengers count the number of customer complaints received about MTS Bus or Trolley service per 100,000 passenger trips. Tracking complaints allows us to understand how MTS employees and customers are interacting and how our services are performing. It is important to identify the reasons for complaints against MTS employees and MTS services so we can realize the circumstances and use each situation as a learning tool to improve.
- **Mean Distance Between Failures** - Mean Distance Between Failures is the average distance between mechanical failures of an MTS Bus or Trolley. Measuring the distance between failures is important because it helps us understand the health of our vehicle fleet. The goal of our maintenance departments is to increase the distance between failures so that our reliability of service is the highest possible. Any time our in-service vehicles have maintenance issues it has a ripple effect throughout the entire system, and impacts other KPIs such as Complaints per 100K Passengers and On-Time Performance.
- **Preventable Accidents per 100K Miles** - A preventable accident can be defined as one in which the operator failed to do everything that he/she reasonably could have done to avoid the accident. Additionally, a preventable accident is one in which the operator has some responsibility for failing to prevent, contributing to, or causing an accident. Safety is the number one priority at MTS and preventable accidents are taken very seriously. We measure the number of preventable accidents to better understand why accidents happen and how we can prevent them in the future. Learning from these accidents helps us improve operator training methods, alter bus routes, and also help us find the safest routes to take. MTS operators are professional drivers, therefore we are held to a higher standard than non-professional drivers. A professional driver is expected to take all reasonable actions to prevent accidents and overcome the mistakes of other drivers.

Performance Improvement Plan

From a short term and operational perspective, MTS completes an annual Performance Improvement Plan (PIP). The plan is broken into two parts, performance measures with annual targets for improvement, and performance goals consisting of key projects that need to be completed over a one to two year horizon.

Every year, MTS leadership defines goals they hope to meet before the end of the next fiscal year (June 30) and breaks these goals down by department. These goals are "stretch goals," tasks that are in many cases above-and-beyond normal daily operations, designed to encourage MTS employees to push the

envelope and accomplish things a little beyond their normal responsibilities. It's all in an effort to make MTS one of the most efficient, innovative and safest systems in the country.

The goals for the agency, listed by department, are posted on the agency's intranet. Results of each goal are tabulated and reported after the fiscal year end.

Performance measures

To comply with the FTA requirements associated with SGR, performance measures for capital assets have been established for each asset class along with performance targets. The measure targets are set at the beginning of each fiscal year. The description of these measures by asset class is as follows:

- ~~**Revenue vehicles**~~**Rolling Stock** - Condition ratings for vehicles are expressed in terms of the percentage of assets that are at or beyond the Useful Life Benchmark (ULB), therefore the ideal situation is to be less than the target. At the end of each year, the age of each asset in each vehicle type is compared to the ULB for that vehicle type. The number of assets that exceed the ULB is divided by the total number of assets in that vehicle type, generating the ULB percentage metric that is reported to the NTD.
- ~~**Non-revenue vehicles**~~**Equipment (Automobiles/Trucks)** - Same as the above.
- ~~**Fixed guideway**~~**Infrastructure** - To determine this measure, agencies are required to calculate the DRM (measured to the nearest hundredth of a mile) under performance restrictions as a result of all causes at the same time each month: 9:00 AM local time on the first Wednesday of each month. The total impacted DRM for that month is divided by the overall length of track, generating the performance restriction metric for that month. This process is repeated each month, and is then averaged to produce the required annual metric for the NTD.
- **Facilities** - Targets for facilities are expressed in terms of percentage of assets that are rated below the benchmark condition score, therefore the ideal situation is to be less than the target. Each of these subcategories will encompass a number of individual assets. These results on an asset level are compiled into the Condition Assessment Report for a master asset which will aggregate (roll-up) the individual asset condition assessments to the subcategory levels listed above. Those subcategory scores will then aggregate (roll-up) for the master asset condition rating, which will be included in the NTD reports.

There is no penalty for missing a target and there is no reward for attaining a target. At the end of each year, a narrative report will be compiled and submitted that describes conditions in the prior year that led to overall target attainment results. Transit Asset Management Plan Performance Metrics and Targets for FY22~~19~~ are reflected below:

No.	Performance Measure	FY2022 Target (%)	Annual Performance
1	**Rolling Stock - Percentage of revenue vehicles that have met or exceeded their ULB benchmark**		
	AB - Articulated bus	0%	
	BR - Over-the-road bus	0%	
	BU - Bus	0%	
	CU - Cutaway Bus	0%	
	LR - Light rail vehicle	0%	
	VT - Vintage trolley / streetcar	100%	
	Total Fleet Count		
2	**Equipment - Percentage of service vehicles that have either met or exceeded their ULB benchmark**		
	Automobiles	100%	
	Trucks and other Rubber Tire Vehicles	20%	
3	**Facility - Percentage of facilities rated below 3 on the condition scale**		
	Maintenance Facilities	0%	
	Administrative Facilities	0%	
	Passenger Facilities	0%	
	Passenger Parking Facilities	0%	
4	**Infrastructure - Percentage of track segments with performance restrictions**		
	LR - Light Rail	2.0%	

Line No.	Performance Measure	Annual Target	Annual Performance
1	**Percentage of revenue vehicles that have met or exceeded their useful life benchmark**		
	AB - Articulated bus	0.0%	
	BR - Over-the-road bus	0.0%	
	BU - Bus	3.0%	
	CU - Cutaway Bus	0.0%	
	LR - Light rail vehicle	0.0%	
	VT - Vintage trolley / streetcar	0.0%	
2	**Percentage of service vehicles that have either met or exceeded their useful life benchmark**		
	Automobiles	12.0%	
	Trucks and other Rubber Tire Vehicles	34.0%	
3	**Percentage of track segments, signals, and systems with performance restrictions (by mode)**		
	LR - Light Rail	2.0%	
4	**Percentage of Passenger and Maint. facilities rated below condition 3 on the condition scale**		
	Passenger Facilities	0.0%	
	Passenger Parking Facilities	0.0%	
	Maintenance Facilities	0.0%	
	Administrative Facilities	0.0%	

Communication Strategy

Clear communication, to both internal and external stakeholders, will be needed to demonstrate the progress being made in implementing asset management and the benefits to be gained from continuing the effort. It will also help provide an accurate understanding of the vision for and value of asset management and the challenges the agency faces.

NTD reporting

The Transit Asset Management (TAM) rule (49 CFR part 625) set the minimum asset management practices for transit providers. Beginning in Report Year (RY) 2018, agencies that receive or benefit from Chapter 53 funds from the Federal Transit Administration are required to report asset inventory, condition and performance information to the National Transit Database (NTD).

The NTD program's Asset Inventory Module (AIM) is designed to collect basic information on assets and infrastructure used by U.S. transit agencies to deliver service. The purpose of assembling a nationwide inventory is to improve the Federal Transit Administration's (FTA's) ability to project capital costs for the future replacement (and necessary capital renewal activities) of existing transit assets. This information supports the FTA biennial report to the U.S. Congress regarding cost estimates of transit capital. These estimates directly influence the FTA annual budget request submitted for the Federal fiscal year (FFY).

The Asset Inventory Module data elements are contained within the following forms:

- Transit Asset Management Performance Measure Targets (A-90), plus the year-end narrative of progress against those targets
- Transit Asset Management Facilities Inventory (A-15)
- Transit Way Mileage (A-20)
- Revenue Vehicle Inventory (A-30)
- Service Vehicle Inventory (A-35)

Reporting to the MTS Board

In spirit of transparency and effective communication, staff routinely presents a number of monitoring reports to the MTS Board. Many of these reports have already been discussed, including:

- Budget development reporting
- Operating budget status reports
- MTS Board Policy No. 42, "Transit Service Evaluation and Adjustment", performance monitoring report
- Annual TAM plan update

Through these routine reports, staff will continue to identify the challenges faced by the agency as well the progress made. This habit of transparency, to both the elected officials of the Board and the greater public in general, serves to reinforce the benefits of a sustained investment in transit asset management and transit in general.

Appendix

Key Definitions

AIM: Asset Inventory Module for NTD reporting to the FTA

Asset Category: Refers to a grouping of asset classes. The categories used at MTS include: Vehicles, Facilities, Guideway Elements, and Systems

Asset Class: Refers to the sub-groups within an asset category. For example, “Vehicles” is the asset category for three asset classes: “Bus Revenue Vehicles,” “Rail Revenue Vehicles,” and “Non-Revenue Vehicles.”

Asset Hierarchy: Refers to segmenting assets into appropriate classifications, based upon asset function, asset type or a combination of the two.

BDC: Budget Development Committee; a ~~five-member~~five-member subcommittee of the MTS Board of Directors.

CBM: Condition based maintenance

CIP: Capital improvement program

CNG: Compressed natural gas

CPRC: Capital Projects Review Committee

DRM: Directional route mileage

EAM: Enterprise asset management system

FMP: Fleet, facility, and equipment maintenance plans

FTA: Federal Transit Administration

ICE: Independent Cost Estimate

KPI: Key performance indicator

Level of Service: Level of service is the defined service quality that the agency and its assets are expected to deliver and be measured against. Levels of service usually relate to the quality, quantity, reliability, responsiveness, sustainability, cost, and cost efficiency of service. It applies at the enterprise level and for asset classes (for example, buses and elevators). Generally, level of service should be driven by what is important to the customer.

LRV: Light rail vehicle

MDBF: Mean distance between failure

NTD: National Transit Database

OEM: Original equipment manufacturer

PM: Preventive maintenance

QA: Quality assurance

RTIP: Regional Transportation Improvement Program

SAP: Systems, Applications and Products software

SBP: SAP Budgeting and Planning module

SOP: Standard operating procedure

SOW: Statement of Work

State Of Good Repair (SGR): Defined by 49 U.S.C. Chapter 53 as the "condition in which a [transit asset or] capital asset is able to [safely] operate at a full level of performance." The State of Good Repair is further defined by an asset's Useful Life Benchmark (for rolling stock and equipment) or physical condition (for facilities). Assets are considered in a State of Good Repair when they do not meet or exceed their ULB or physical condition threshold. Vehicle and equipment assets, for example, are considered in a State of Good Repair, when rated as a 2.5 or above on the FTA's TERM Lite scale, where 2.5 is equivalent to the ULB set for an asset class. Additionally, facilities are considered in a State of Good Repair when rated as a 3 or above on FTA's TERM scale. Also see definition for Useful Life Benchmark.

TERM Scale: The five category rating system used in the FTA's Transit Economic Requirements Model (TERM) to describe the condition of an asset, where 5 is excellent condition and 1 is poor condition.

Tier I Transit Provider: An entity that receives Federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a sub recipient, that owns, operates, or manages either (1) one hundred and one (101) or more vehicles in revenue service during peak regular service across all fixed route modes or in any one non-fixed route mode, or (2) rail transit.

TIP: Transportation Improvement Program

Transit Asset Management (TAM): Defined by 49 U.S.C. Chapter 53 as "the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation."

Total Cost of Ownership: Reflects the total estimated capital and Operations and Maintenance costs associated with an asset throughout its lifecycle (including the cost to design/procure, use/operate, maintain/monitor, rehabilitate, and dispose/reconstruct/replace.

Transit Asset Management Plan (TAM Plan): This document, which describes: the capital asset inventory; condition of inventoried assets; TAM performance measures, targets, and prioritization of investments aligned with the agency's TAM and SGR policy, strategic goals and objectives; as well as the strategies, activities, and resources required for delivering this Plan (including decision support tools and processes); and other agency-wide approaches to continually improve TAM practices.

Useful Life: Defined by 49 U.S.C. Chapter 53 as "either the expected life cycle of a capital asset or the acceptable period of use in service determined by FTA." It generally defines the minimum eligibility for retirement, replacement, or disposal of an asset.

Useful Life Benchmark (ULB): Defined by 49 U.S.C. Chapter 53 as "the expected life cycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA." The ULB is the realistic expectation for when an asset would be disposed or replaced based on operating environment and procurement timelines. It is not the same as "Useful Life" in FTA grant programs, is reported by age (in years), and usually only pertains to rolling stock or equipment. It is a single number shared for or within specified asset classes, although may vary across different asset classes and providers.

Asset Listing

The tables below summarize the AIM data submitted to the NTD for the current reporting year. ~~[These tables will be updated with final NTD submissions once they are complete.]~~

Transit Asset Management Facilities Inventory (A-15)

Facility ID	Name	Primary Mode	Secondary Mode	Facility Type	Section of Larger Facility?	Condition Assessment	Year Built or Reconstructed as New	Transit Agency Capital Responsibility (%)
6498	Mills Building	MB - Bus	LR	Administrative Office / Sales Office	No	4	1988	27
18582	Taxi Administration Bldg	DR-Demand Response		Administrative Office / Sales Office	No	2.4	1973	100
6493	MTS Rail - Building A	LR - Light Rail		General Purpose Maintenance Facility/Depot	Yes	4	1981	100
6494	MTS Rail - Building B	LR - Light Rail		General Purpose Maintenance Facility/Depot	Yes	4	1989	100
6495	MTS Rail - Building C	LR - Light Rail		Heavy Maintenance & Overhaul (Backshop)	Yes	4	1990	100
6497	MTS Rail - Paint Both	LR - Light Rail		Maintenance Facility (Service and Inspection)	Yes	3	2000	100
6496	MTS Rail - Yard Tower	LR - Light Rail		Other, Administrative & Maintenance (describe in No	Yes	3	2000	100
6481	Imperial Avenue Division (IAD)	MB - Bus		Combined Administrative and Maintenance Facility (d	No	4	1972	100
6482	Administrative Offices (IAD)	MB - Bus		Administrative Office / Sales Office	Yes	4	1972	100
6483	Maintenance Bldg (IAD)	MB - Bus		Maintenance Facility (Service and Inspection)	Yes	4	2000	100
6484	Kearny Mesa Division (KMD)	MB - Bus		Maintenance Facility (Service and Inspection)	No	4	1989	100
6485	East County Bus Maintenance Facility	MB - Bus	CB	Maintenance Facility (Service and Inspection)	No	5	2017	100
6490	Old Administrative Bldg (SB)	MB - Bus		Combined Administrative and Maintenance Facility (d	Yes	4	1985	100
6486	South Bay Bus Maintenance Facility	MB - Bus		Combined Administrative and Maintenance Facility (d	No	5	2015	100
6487	Administrative Offices (SB)	MB - Bus		Administrative Office / Sales Office	Yes	5	2015	100
6488	Maintenance Bldg (SB)	MB - Bus		Maintenance Facility (Service and Inspection)	Yes	5	2015	100
6489	Old Maintenance Bldg (SB)	MB - Bus		Maintenance Facility (Service and Inspection)	Yes	4	1960	100
6491	Copley Park Division	DR - Demand Response		Maintenance Facility (Service and Inspection)	Yes	3	1995	100
6492	Copley Park Division	DR - Demand Response		Maintenance Facility (Service and Inspection)	Yes	3	2005	100

Name	City	Condition Assessment	Primary Mode	Facility Type	Year Built or Reconstructed as New	Square Feet	Transit Agency Capital Responsibility (%)
12th & Imperial Transit Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2013	80,896	100.00
24th Street	National City		LR - Light Rail	At-Grade Fixed Guideway Station	2015	109,379	100.00
47th Street	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2013	112,815	100.00
70th Street	La Mesa		LR - Light Rail	At-Grade Fixed Guideway Station	2005	103,754	100.00
8th Street	National City		LR - Light Rail	At-Grade Fixed Guideway Station	2015	141,461	100.00
Alvarado Trolley Station	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2005	29,317	100.00
Amaya Drive	La Mesa		LR - Light Rail	At-Grade Fixed Guideway Station	1989	132,637	100.00
America Plaza	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	19,872	100.00
Arnele Avenue	El Cajon		LR - Light Rail	At-Grade Fixed Guideway Station	1995	58,179	100.00
Bayfront/E Street	Chula Vista		LR - Light Rail	At-Grade Fixed Guideway Station	2015	235,583	100.00
Beyer Blvd	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2015	105,141	100.00
El Cajon Transit Center	El Cajon		LR - Light Rail	At-Grade Fixed Guideway Station	1989	371,971	100.00
Encanto/ 62nd Street	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2013	30,749	100.00
Euclid Avenue Station	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2013	159,252	100.00
Gillespie Field	El Cajon		LR - Light Rail	At-Grade Fixed Guideway Station	1995	198,989	100.00
Grossmont Transit Center	La Mesa		LR - Light Rail	At-Grade Fixed Guideway Station	2013	32,887	100.00
H Street Transit Center	Chula Vista		LR - Light Rail	At-Grade Fixed Guideway Station	2015	182,982	100.00
Iris Avenue Station	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2015	177,660	100.00
Lemon Grove Depot	Lemon Grove		LR - Light Rail	At-Grade Fixed Guideway Station	2013	27,405	100.00
Massachusetts Avenue	Lemon Grove		LR - Light Rail	At-Grade Fixed Guideway Station	2013	184,251	100.00
Morena/Linda Vista Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	1997	115,314	100.00
Old Town Transit Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	1996	436,506	100.00
Palm Avenue Station	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2015	269,620	100.00
Palomar Street	Chula Vista		LR - Light Rail	At-Grade Fixed Guideway Station	2015	194,648	100.00
Santa Fe Depot	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	25,433	
Santee Town Center	Santee		LR - Light Rail	At-Grade Fixed Guideway Station	1995	37,017	100.00
San Ysidro Station	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	1981	60,708	
Smart Corner/City College Station	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	18,050	100.00
Spring Street	La Mesa		LR - Light Rail	At-Grade Fixed Guideway Station	2013	200,685	100.00
25th & Commercial	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2013	9,858	100.00
32nd & Commercial	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2013	36,363	100.00
Barrio Logan	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2015	33,623	100.00
Civic Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	15,038	100.00

Name	City	Condition Assessment	Primary Mode	Facility Type	Year Built or Reconstructed as New	Square Feet	Transit Agency Capital Responsibility (%)
Convention Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	16,135	100.00
County Center/Little Italy	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	14,901	100.00
Courthouse	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2017	9,249	100.00
Fenton Parkway	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2000	21,883	100.00
Fifth Avenue	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	13,463	100.00
Gaslamp Quarter	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	22,218	100.00
Harborside	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2015	31,714	100.00
Hazard Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	1997	22,281	100.00
La Mesa Boulevard	La Mesa		LR - Light Rail	At-Grade Fixed Guideway Station	2013	20,355	100.00
Middletown	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	16,769	100.00
Mission Valley Center	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	1997	19,553	100.00
Pacific Fleet	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2015	29,247	100.00
Park & Market	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	18,693	100.00
Rio Vista	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	1997	19,133	100.00
Seaport Village	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	31,026	100.00
Washington Street	San Diego		LR - Light Rail	At-Grade Fixed Guideway Station	2012	16,103	100.00
Fashion Valley Transit Center	San Diego		LR - Light Rail	Elevated Fixed Guideway Station	1997	115,844	100.00
Grantville Trolley Station	San Diego		LR - Light Rail	Elevated Fixed Guideway Station	2005	173,027	100.00
Mission San Diego	San Diego		LR - Light Rail	Elevated Fixed Guideway Station	1997	29,431	100.00
Qualcomm Stadium	San Diego		LR - Light Rail	Elevated Fixed Guideway Station	1997	55,271	100.00
SDSU Transit Center	San Diego		LR - Light Rail	Underground Fixed Guideway Station	2005	67,321	100.00
Del Lago Transit Station	Escondido		CB - Commuter Bus	Bus Transfer Center			100.00
Miramar College Transit Station	San Diego		CB - Commuter Bus	Bus Transfer Center			100.00
Rancho Bernardo Transit Station	San Diego		CB - Commuter Bus	Bus Transfer Center			100.00
Sabre Springs Transit Station	San Diego		CB - Commuter Bus	Bus Transfer Center			100.00
UTC Transit Center	San Diego		CB - Commuter Bus	Bus Transfer Center			
Virginia Ave Transit Center	San Diego		CB - Commuter Bus	Bus Transfer Center			
Gilman Transit Center	San Diego		CB - Commuter Bus	Bus Transfer Center			

Facility ID	Name	City	Condition Assessment	Primary Mode	Facility Type	Year Built or Reconstructed as New	Square Feet	Transit Agency Capital Responsibility (%)
	Imperial Avenue Division (IAD)	San Diego		CB - Commuter Bus	Combined Administrative and Maintenance Facility (describe in Notes)			100.00
	Mills Building	San Diego		CB - Commuter Bus	Administrative Office / Sales Office			27.00
	MTS Rail - Yard Tower	San Diego		LR - Light Rail	Other, Administrative & Maintenance (describe in Notes)		676	100.00
	MTS Rail - Building A	San Diego		LR - Light Rail	General Purpose Maintenance Facility/Depot	1981	28,911	100.00
	MTS Rail - Building B	San Diego		LR - Light Rail	General Purpose Maintenance Facility/Depot	1989	34,170	100.00
	MTS Rail - Building C	San Diego		LR - Light Rail	Heavy Maintenance & Overhaul (Backshop)	1990	88,000	100.00
	MTS Rail - Paint Both	San Diego		LR - Light Rail	Maintenance Facility (Service and Inspection)		6,386	100.00
	Kearny Mesa Division (KMD)	San Diego		CB - Commuter Bus	Maintenance Facility (Service and Inspection)			100.00
	East County Bus Maintenance Facility	El Cajon		CB - Commuter Bus	Maintenance Facility (Service and Inspection)			100.00
	South Bay Bus Maintenance Facility	Chula Vista		CB - Commuter Bus	Maintenance Facility (Service and Inspection)			100.00
	Copley Park Division	San Diego		DR - Demand Response	Maintenance Facility (Service and Inspection)			100.00

Transit Way Mileage (A-20)

Rail/Non-Rail Guideway

Select a guideway to update its information

	Mode	Type of Service	Rail/Non-Rail	Total Miles	Total Crossings
Edit	LR	DO	Rail	110.70	96.00
Edit	MB	DO	Non-Rail	22.2	N/A
Edit	MB	PT	Non-Rail	11.4	N/A
Edit	CB	PT	Non-Rail	15.9	N/A

Update LR DO (Rail Mode)

GUIDEWAY | POWER AND SIGNAL | TRACK

| Basic |

Track Elements	N/A	Count	Track Miles	Expected Service Years When New	Percent Agency Capital Responsibility (%)	Agency with Shared Responsibility	Notes
15. Tangent – Revenue Service	☐		53.00	30	100.0	-- Select One --	
16. Curve – Revenue Service	☐		51.00	30	100.0	-- Select One --	
17. Non-Revenue Service	☐		6.70	30	100.0	-- Select One --	
18. Revenue Track – No Capital Replacement Responsibility	☑						

Totals

Total Track Miles Under Performance Restriction

1.57

Total Track Miles 110.70

Mode	Service	Guideway Elements	Count	Track Miles	Expected Service Years When New	Percent Agency Capital Responsibility (%)	Allocation Unit	1980-1989	1990-1999	2000-2009	2010-2019
LR	DO	1. At-Grade/Ballast (including expressway)		84	30	100	TM	30	32	10	12
LR	DO	2. At-Grade/In-Street/Embedded		7	30	100	TM	5	2		
LR	DO	4. Elevated/Concrete		5	75	100	TM		3	2	
LR	DO	6. Below-Grade/Retained Cut		1	75	100	TM		1		
LR	DO	7. Below-Grade/Cut-and-Cover Tunnel		3	75	100	TM			3	
LR	DO	8. Below-Grade/Bored or Blasted Tunnel		1	75	100	TM			1	
LR	DO	10. Substation Building	60		30	100	TM	16	16	15	13
LR	DO	11. Substation Equipment			25	100					
LR	DO	13. Overhead Contact System/Power Distribution			30	100					
LR	DO	14. Train Control & Signaling			30	100					
LR	DO	15. Tangent – Revenue Service		53	30	100					
LR	DO	16. Curve – Revenue Service		51	30	100					
LR	DO	17. Non-Revenue Service		7	30	100					
LR	DO	19. Double Diamond Crossover	7		30	100					
LR	DO	20. Single Crossover	61		30	100					
LR	DO	22. Single Turnout	28		30	100					
LR	DO	23. Grade Crossings	96		30	100					

Revenue Vehicle Inventory (A-30)

Vehicle Type	Total Vehicles	Active Vehicles	Manufacturer	Model	Year Manufactured	Fuel Type	ADA Accessible Vehicles	Useful Life Benchmark	Miles This Year	Avg Lifetime Miles per Active Vehicle

Revenue Vehicle Inventory (A-30) - LR DO

90026 - San Diego Metropolitan Transit System (Full Reporter: Operating) - RY21 Revision 5 (In Review)

There are currently no open issues on this form.

Fleet Totals

Total Vehicles	Active Fleet Vehicles	ADA Accessible Vehicles	Emergency Contingency Vehicles	A
176	176	176	0	1

Fleets

Energy Consumption

Type	Amount
Propulsion Power	55597140 Kilowatt Hours

Search RVI ID | Agency Fleet ID | --- Vehicle Type(s) ---

Cl

ADD NEW FLEET

RVI ID	Agency Fleet ID	Total Vehicles	Active Fleet Vehicles	Vehicle Type	Manufacturer	Model	Year Manufactured	Useful Life Remaining (Years)	Miles This Year	Average Lifetime Miles	Status
25812	2000	52	52	LR	SDU - Siemens Mass Transit Division	SD100	1995	5	683,603	1,456,753	Active
25813	3000	11	11	LR	SDU - Siemens Mass Transit Division	S70	2005	15	219,114	1,054,817	Active
43778	529	1	1	VT	SLC - St. Louis Car Company	PCC	1946	-17	1	19,772	Active
49044	4000	65	65	LR	SDU - Siemens Mass Transit Division	S70US	2011	21	5,694,686	711,396	Active
347023	530	1	1	VT	SLC - St. Louis Car Company	PCC	1946	-17	10	682,490	Active
376580	5000	45	45	LR	SDU - Siemens Mass Transit Division	S70US	2019	29	3,855,218	127,794	Active
382272	1000	1	1	LR	SDU - Siemens Mass Transit Division	U2	1980	-10	122	628,905	Active

Service Vehicle Inventory (A-35)

Service Vehicle Inventory (A-35)

90026 - San Diego Metropolitan Transit System (Full Reporter: Operating) - RY21 Revision 5 (In Review)

There are currently no open issues on this form.

›Filters

Service Fleets

ADD NEW | EDIT SELECTED | DELETE SELECTED

ID	Agency Fleet Id	Fleet Name	Vehicle Type	Primary Mode	Year Manufactured	Estimated Cost	Status
8702	600	2006 Chevrolet Colorado	Trucks and other Rubber Tire Vehicles	LR - Light Rail	2006	$13,711.54	Active
8709	2223	2007 Dodge Caliber SXT	Automobiles	MB - Bus	2007	$4,745.59	Active
8710	2224	2007 Dodge Caliber SXT	Automobiles	MB - Bus	2007	$8,000.00	Active
8711	9663	1988 Ford Flat Bed Truck	Trucks and other Rubber Tire Vehicles	MB - Bus	1998	$24,363.98	Active
8713	9002	2004 Ford E150 Van	Trucks and other Rubber Tire Vehicles	MB - Bus	2004	$17,424.93	Active
8717	9667	2007 Ford F250 SuperDuty	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$16,855.46	Active
8723	M10	2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$86,000.00	Active
8724	9405	2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$86,000.00	Active
8725	9406	2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$86,000.00	Active
21331	M-11	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21332	M-12	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21333	M-14	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21334	M-15	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21335	M-16	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$107,014.34	Active
21336	9407	2019 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2018	$47,836.69	Active
22682	437	2003 Ford F550 w/Boom	Trucks and other Rubber Tire Vehicles	LR - Light Rail	2003	$50,000.00	Active
22683	504	2010 Hi-Rail Vehicle	Trucks and other Rubber Tire Vehicles	LR - Light Rail	2010	$151,777.40	Active

Fleet Name	Vehicle Type	Primary Mode	Year Manufactured	Estimated Cost	Useful Life Benchmark (Years)	Total Vehicles
2006 Chevy Kodiak	Automobiles	LR - Light Rail	2006	$ 47,857	8	1
2006 Chevrolet Colorado	Automobiles	LR - Light Rail	2006	$ 13,712	8	1
2014 John Deer Gator TE	Automobiles	LR - Light Rail	2014	$ 14,419	8	1
2002 Ford Windstar Silver	Automobiles	MB - Bus	2002	$ 21,978	8	1
2004 Honda Civic	Automobiles	MB - Bus	2004	$ 8,240	8	1
2007 Ford Ranger	Automobiles	MB - Bus	2007	$ 15,008	8	1
2007 Chevrlolet Malibu LS	Automobiles	MB - Bus	2007	$ 17,262	8	1
2007 Chevrlolet Malibu LS	Automobiles	MB - Bus	2007	$ 17,262	8	1
2007 Dodge Caliber SXT	Automobiles	MB - Bus	2007	$ 4,746	8	1
2007 Dodge Caliber SXT	Automobiles	MB - Bus	2007	$ 8,000	8	1
1988 Ford Flat Bed Truck	Trucks and other Rubber Tire Vehicles	MB - Bus	1998	$ 24,364	8	1
2000 Chevy Venture Van	Trucks and other Rubber Tire Vehicles	MB - Bus	2000	$ 24,051	8	1
2004 Ford E150 Van	Trucks and other Rubber Tire Vehicles	MB - Bus	2004	$ 17,425	8	1
2007 Ford F350	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$ 30,904	8	1
2007 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$ 67,799	8	1
2007 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$ 67,799	8	1
2007 Ford F250 SuperDuty	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$ 16,855	8	1
2007 Ford F450 SuperDuty	Trucks and other Rubber Tire Vehicles	MB - Bus	2007	$ 67,799	8	1
2008 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2008	$ 67,799	8	1
2010 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2010	$ 72,942	8	1
2010 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2010	$ 72,942	8	1
2011 Ford F-450	Trucks and other Rubber Tire Vehicles	MB - Bus	2011	$ 70,855	8	1
2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$ 86,000	8	1
2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$ 86,000	8	1
2017 Ford F450	Trucks and other Rubber Tire Vehicles	MB - Bus	2017	$ 86,000	8	1
2012 Ford Explorer	Automobiles	OR - Other Vehicles Operated	2012	$ 26,837	8	1

Metropolitan Transit System

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 9

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

ZERO EMISSION BUS (ZEB) AND IRIS RAPID PROJECTS CONSTRUCTION MANAGEMENT (CM) SERVICES – AWARD WORK ORDER AMENDMENT

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Work Order Amendment No. WOA2501-CM01.1 under MTS Doc. No. G2501.0-21 (in substantially the same format as Attachment A), with TRC Engineers, Inc. totaling $574,202.74 for CM services for the Iris Rapid Project.

Budget Impact

The total budget for this amendment shall not exceed $574,202.74. This project is funded by the MTS Capital Improvement Project (CIP) 1009113001– Iris Rapid – Route & Stations Infrastructure and CIP 1009113101- Iris Rapid – Charging Infrastructure at South Bay Maintenance Facility (SBMF).

Work Order No.	Purpose	Amount	Board Approval Date
WOA2501-CM01	CM Services for ZEB OH Infrastructure	$796,363.18	12/16/2021, Item 12
WOA2501-CM01.01	Amendment 1 – Add CM Services for Iris Rapid Route Construction	$574,202.74	Today's Proposed Action
	Total:	**$1,370,565.92**	

DISCUSSION:

On July 30, 2020 (AI 12), the MTS Board approved final design services for the Iris Rapid Route and Station Infrastructure Improvements projects. Currently, the design is complete and out to bid with an anticipated bid due date of March 8, 2022. On December 16, 2021 (AI 12), the MTS Board approved a Construction Management (CM) contract for the Iris Rapid Infrastructure and Route Construction projects which was inclusive of construction management services for the awarded SBMF ZEB Overhead Charging project. CM services for the Iris Rapid Route Construction were still under negotiations at this time. The purpose of this authorization request is to provide CM services to augment MTS staff oversight of the construction contractor. This project involves civil, structural, and electrical improvements to the new Iris Rapid corridor and Iris Transit Center. MTS requires CM services to assist staff with the coordination, control, and oversight of the construction contractor from beginning of the work through completion. The proposed Work Order for CM Services include Resident Engineering, Field Inspection, Office Engineering, Project Scheduling Analysis, Geotechnical Testing and Observations, Hazardous Materials Testing, and QA Source and Field Inspections.

On January 11, 2021, the San Diego Association of Governments (SANDAG) led and issued a joint procurement with MTS for On-Call CM services by Requesting Statements of Qualifications (RFSQ) from firms with expertise in a variety of CM and related consulting services.

The RFSQ resulted in the approval of six firms qualified to perform CM services. As an option, MTS can assign work orders through a direct award based on specialized qualifications and previous work on MTS's ZEB projects. TRC Engineers, Inc. was selected as the most qualified firm for Work Order WOA2501-CM01.1.

The price proposal prepared by TRC Engineering, Inc. was determined to be fair and reasonable as compared to the Independent Cost Estimate (ICE). TRC Engineering has designated one (1) subconsultant, Leighton Consulting, to perform an estimated $64,633.16 in work.

Therefore, staff recommends that the MTS Board authorize the CEO to execute Work Order Amendment No. WOA2501-CM01.1 under MTS Doc. No. G2501.0-21 (in substantially the same format as Attachment A), with TRC Engineers, Inc. totaling $574,202.74 for CM services for the Iris Rapid Construction.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachment: A. Draft MTS Doc. No. G2501.0-21 - WOA2501-CM01.1
B. Cost Form
C. Scope of Work

Metropolitan Transit System

March 10, 2022

MTS Doc. No. G2501.0-21
Work Order No. WOA2501-CM01.1

Agnes Weber
Project/Task Order Manager
TRC Engineers Inc.
4393 Viewridge Ave. Ste. A
San Diego, CA 92123

Dear Mr. Sterling:

Subject: MTS DOC. NO. G2501.0-21, WOA2501-CM01.1, ZERO EMISSION BUS (ZEB) OVERHEAD (OH) INFRASTRUCTURE CONSTRUCTION PROJECT, CONSTRUCTION MANAGEMENT (CM) SERVICES – WORK ORDER AGREEMENT AMENDMENT.

This letter shall serve as Amendment 1 to MTS Doc. No. G2501.0-21, WOA2501-CM01.1, for Construction Management services under the Construction Management Consultant Agreement, as further described below.

SCOPE OF SERVICES

This Amendment shall add additional CM Services for Iris Rapid in accordance with MTS and SANDAG policies and procedures. Please see Attachment A, Scope of Services, for a detailed summary of the services to be provided.

SCHEDULE

There shall be no change to the schedule.

PAYMENT

The total cost for all work under this Amendment shall not exceed $574,202.74, per Attachment B, Negotiated Fee Proposal, without prior written approval from MTS. The total value of this contract including this amendment shall not exceed $1,370,565.92.

Sincerely,

Sharon Cooney
Chief Executive Officer

Accepted:

_____
Agnes Weber
TRC Engineers Inc.

Date: _____

Attachments: A - Scope of Services
B - Negotiated Fee Proposal

Work Order Estimate Summary

MTS Doc. No.

Work Order No.

Attachment: B

Work Order Title: Iris Rapid Corridor and Station Construction

Project No:

Table 1 - Cost Codes Summary (Costs & Hours)

Item	Cost Codes	Cost Codes Description	Total Costs
1		Construction Management and Inspection Services	$574,202.74
2			
		Totals =	**$574,202.74**

Table 2 - TASKS/WBS Summary (Costs & Hours)

Item	TASKS/WBS	TASKS/WBS Description	Labor Hrs	Total Costs
1		Construction Management and Inspection Services	2,598.0	$574,202.74
2				
3				
4				
5				
		Totals =	**2,598.0**	**$574,202.74**

Table 3 - Consultant/Subconsultant Summary (Costs & Hours)

(If Applicable, Select One)				Consultant	Labor Hrs	Total Costs
DBE	DVBE	SBE	Other			
				TRC Engineers	2,314.0	$509,539.58
				Leighton Consulting	284.0	$64,663.16
				David Evans and Associates		
				Totals =	**2,598.0**	**$574,202.74**

Contract No.: TBD
Work Order No.: TBD
Attachment A

WORK ORDER TITLE: Iris Rapid Corridor and Station ~~Design~~ Construction
MTS Doc. No. TBD

I. PROJECT DESCRIPTION

This project entails the completion of a new 'Rapid' Bus Route between the Otay Mesa Transit Center, the Iris Transit Center and the Imperial Communities. Work encompasses new bus stops and shelters, visual messaging system (VMS) signs and pedestals, and associated appurtenances. ~~To be completed by MTS~~

II. EXPECTED RESULTS

Completion of the below scope of work~~To be completed by MTS~~

III. SCOPE OF WORK

The scope of work shall consist of the following tasks and deliverables:

Construction Management and Inspection Services

- Oversee and Monitor construction activities performed by the contractor per project plans and specifications, including periodic job site safety reviews.
    - Resident Engineering
        - Preconstruction Meeting and project set-up
        - RFI and Submittal Log coordination with Designer
        - CCOs
        - Weekly Progress Meetings
        - QA Inspection Oversight
        - Post Construction, Project close-out
    - Field Inspection
        - Civil
        - Electrical
        - Landscape
        - Stormwater
    - Office Engineering
    - Project Scheduling Analysis
    - Stormwater Permit Compliance Reporting
    - Geotechnical Testing and Observations
        - Compaction Testing of subgrade, aggregate base, and footing bottoms
        - Asphalt Concrete Compaction
        - Soil and Aggregate Laboratory Testing
        - Reinforced Concrete Inspection and Sampling (plus Sample Pickup)
    - QA Source Inspection
        - Steel Fabrication Audit
        - Welding Submittal Reviews (Shop Drawings, Welding Quality Control Plan)
        - QA CWI Inspections – Startup

        - QA CWI/NDT Inspections (Intermittent)
    - QA Field Inspection
        - Field Welding Submittal Reviews (Welding Quality Control Plan)
        - Field Welding Inspections (Intermittent)
        - Field Post-Installed Anchors

Staffing:

1. Resident Engineer
2. Assistant Resident Engineer/Office Engineer
3. Field Inspectors -Civil, Electrical, Landscape
4. QA Inspectors
5. Scheduler
6. Stormwater Compliance Specialist
7. Materials Testers/Engineers

IV. PERIOD OF PERFORMANCE

The period of performance shall be 245 calendar days (210 Construction Days and 35 Close-Out Days)

V. DELIVERABLES

Deliverables will consist of the work products produced under direct supervision by MTS management which include:

Deliverables will consist of the daily work products produced under direct supervision by MTS management which include:

1. Inspector's daily reports and photographs
2. Residents Engineers' daily or weekly status reports and updates.
3. A set of 11x17 size prints of the project marked on the front "RESIDENT ENGINEER COPY"
4. Correspondence files.
5. Geotechnical and Materials Testing Reports
6. Request for Information (RFIs) and Submittal Logs
7. Meeting Minutes
8. Contract Change Order Documentation
9. Other pertinent files established and maintained that would normally be required for a project of this scope, set up using the Caltrans numbering system.

VI. SCHEDULE OF SERVICES/MILESTONES/DELIVERABLES

A. Tasks Schedule

Task	Begin/End Dates
Construction Management Services	NTP plus 245 Calendar Days
Project Closeout and Final Records Transmittal	NTP plus 245 Calendar Days

VII. MATERIALS TO BE PROVIDED BY MTS AND/OR SANDAG

1. Project drawings, specifications, and other pertinent project documents.

2. Necessary forms for project flaggers.

3. Flagging personnel for work alongside the MTS right-of-way.

4. MTS Roadway Worker training (if not current) for personnel to be working on the project, at all sites, alongside the MTS right-of-way.

5. Access to all signal and highway grade crossing facilities as required.

VIII. SPECIAL CONDITIONS

Not Applicable.

IX. MTS ACCEPTANCE OF SERVICES:

Firm shall not be compensated at any time for unauthorized work outside of this Work Order. Firm shall provide notice to MTS' Project Manager upon 100% completion of this Work Order. Within five (5) business days from receipt of notice of Work Order completion, MTS' Project Manager shall review, for acceptance, the 100% completion notice. If Firm provides final service(s) or final work product(s) which are found to be unacceptable due to Firms and/or Firms subcontractors negligence and thus not 100% complete by MTS' Project Manager, Firm shall be required to make revisions to said service(s) and/or work product(s) within the Not to Exceed (NTE) Budget. MTS reserves the right to withhold payment associated with this Work Order until the Project Manager provides written acceptance for the 100% final completion notice. Moreover, 100% acceptance and final completion will be based on resolution of comments received to the draft documents and delivery of final documentation which shall incorporate all MTS revisions and comments.

Monthly progress payments shall be based on hours performed for each person/classification identified in the attached Fee Schedule and shall at no time exceed the NTE. Firm shall only be compensated for actual performance of services and at no time shall be compensated for services for which MTS does not have an accepted deliverable or written proof and MTS acceptance of services performed.

X. DEFICIENT WORK PRODUCT:

Throughout the design and/or implementation phases associated with the services rendered by the Firm, if MTS finds any work product provided by Firm to be deficient and the deficiently delays any portion of the project, Firm shall bear the full burden of their deficient work and shall be responsible for taking all corrective actions to remedy their deficient work product including but not limited to the following:

- Paying applicable delay fees,
- Revising provided documents,

At no time will MTS be required to correct any portion of the Firms deficient work product and shall bear no costs or burden associated with Firms deficient performance and/or work product.

XI. DELIVERABLE REQUIREMENTS

Firm will be required to submit any and all documentation required by the Scope of Work. The deliverables furnished shall be of a quality acceptable to MTS. The criteria for acceptance shall be a product of neat appearance, well-organized, and procedurally, technically and grammatically correct. MTS reserves the right to request a change in the format if it doesn't satisfy MTS's needs. All work products will become the property of MTS. MTS reserves the right to disclose any reports or material provided by the Firm to any third party.

Firm shall provide with each task, a work plan showing the deliverables schedule as well as other relevant date needed for Firm's work control, when and as requested by MTS.

Firm's computer data processing and work processing capabilities and data storage should be compatible with Windows compatible PC's, text files readable in Microsoft Word, and standard and customary electronic storage. Firm shall maintain backup copies of all data conveyed to MTS.

Firm shall provide MTS with hard copy or electronic versions of reports and/or other material as requested by MTS.

XII. ADDITIONAL INFORMATION

List additional information as applicable to the specific Work Order scope of services.

- Skilled and Trained Workforce requirements do not apply to consultant services
- QA Source and Specialty Inspections based on single fabricator local within Southern California.
- QA Source and Specialty Inspections based on an adequate Contractor Quality Control fabrication, testing and inspection program. If determined necessary and agreed upon by MTS, QA inspections may be increased.
- Scope and Costs based on 210 Calendar Days for Construction and 35 days for close-out. Contract time may be extended by weather or unforeseen delays that arise during construction. Costs may need to be re-visited should this occur.
- Assume SBMF and Iris Rapid Projects run concurrently.
- Services Not included in Scope of Work:
    - Submittal and Shop Drawing Reviews/Approvals (Performed by Designer)
    - Electrical System Start-Up, Commissioning and Acceptance Testing
    - Labor Compliance Monitoring
    - Quality Assurance Surveying

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/22

Agenda Item No. 10

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

CISCO VOICE OVER INTERNET PROTOCOL (VOIP) LICENSES THREE (3) YEAR MAINTENANCE RENEWAL

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute a Purchase Order (PO) to Axelliant, LLC, a Minority Owned Business Enterprise (MBE) and a Small Business (SB), for the renewal of the CISCO VOIP licenses for three (3) years that includes technical support and software updates through March 26, 2025 for a total of $227,890.30.

Budget Impact

The total cost of this project shall not exceed $227,890.30 for the license renewal. This project would be paid in annual payments with funds from the Information Technology (IT) Operating Budget 661010-571250 for Fiscal Years (FY) 2022 through 2025.

DISCUSSION:

Seven (7) years ago, MTS implemented CISCO VOIP. VOIP is a category of hardware and software that enables MTS to use the internet as the transmission medium for telephone calls by sending voice data in packets using Internet Protocol (IP) rather than by traditional circuit transmissions of the Public Switched Telephone Network (PSTN). VOIP calls carried over the Internet are cheaper and can save a lot of money especially for enterprises that have to handle a large number of calls on a daily basis.

The CISCO VOIP phone system is considered an integral part of MTS and VOIP systems are important to MTS.

On January 11, 2022, MTS issued a Request for Quotes (RFQ) to contractors with an existing Cooperative Purchasing Agreement to co-termed VOIP licenses for three (3) years that includes technical support and software updates. A total of seven (7) bids were received on the due date

of January 21, 2022. The apparent first (1st) lowest bidder was deemed non-responsive as they were unable to submit various required MTS forms. Therefore, their bid was not considered.

Below is a list of responsive and responsible bidders and total bid amounts.

Vendor	Certification	Bid Amount
Axelliant LLC	Minority Business Enterprise (MBE), Small Business (SB)	$227,890.30
Kambrian Corporation	Disadvantage Business Enterprise (DBE), Women Business Enterprise (WBE), MBE, SB	$230,006.40
Netxperts, Inc.	SB	$232,701.80
Converge One	N/A	$236,880.00
AT&T Corp.	N/A	$238,877.76
New Tech Solutions, Inc.	N/A	$310,009.40
MTS Independent Cost Estimate (ICE)		*$420,300.00*

MTS staff has deemed Axelliant, LLC the lowest responsive and responsible bidder and the bid submitted has been determined to be fair and reasonable by a comparison of bids received and MTS's ICE.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute a PO to Axelliant, LLC, a MBE and a SB, for the renewal of the CISCO VOIP licenses for three (3) years that includes technical support and software updates through March 26, 2025 for a total of $227,890.30.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachment: A. Bid Price Form

SAN DIEGO METROPOLITAN TRANSIT SYSTEM (MTS) BID FORM
CISCO VOIP LICENSES
MTS DOC. NO G2530.0-22

Cooperative Purchasing Program reference number: (e.g.GSA, NASPO, CMAS, OMNI reference): _____
***Please specify the reference number of the Cooperative Purchasing Agreement used as the basis of your bid.**

Call Manager Bundle	Cisco contract number 202670332			
Part Number	**Description**	**Qty**	**Unit Net Price**	**Extended Net Price**
A-FLEX-3	Collaboration Flex Plan 3.0	1	$ -	$ -
SVS-FLEX-SUPT-BAS	Basic Support for Flex Plan	1	$ -	$ -
A-FLEX-EAPL	EntW On-Premises Calling	450	$138.49	$62,320.50
A-FLEX-SME-S	Session Manager (1)	1	$ -	$ -
A-FLEX-SRST-E	SRST Endpoints (1)	900	$ -	$ -
A-FLEX-P-EA	On-Premises Smart License - EA (1)	540	$ -	$ -
A-FLEX-P-ACC	Access Smart License (1)	90	$ -	$ -
A-FLEX-P-CA	Common Area Smart License (1)	225	$ -	$ -
A-FLEX-P-UCXN	Unity Connection Smart License (1)	540	$ -	$ -
A-FLEX-P-ER	Emergency Responder Smart License (1)	1350	$ -	$ -
A-FLEX-EXP-PAK	Expressway Product Authorization Key (1)	1	$ -	$ -
A-FLEX-SW-12.5-K9	On-Premises & Partner Hosted Calling SW Bundle v12.5 (1)	1	$ -	$ -
A-FLEX-CCUCS-EA	Cloud Connected UC EA Standard ENT	540	$ -	$ -
A-FLEX-C-DEV-ENT	Cloud Device Registration Entitlement	540	$ -	$ -
A-FLEX-JABBER-ADD	Flex Cisco Jabber (1)	450	$ -	$ -
A-FLEX-MSG-ENT	Messaging Entitlement	540	$ -	$ -
A-FLEX-FILESTG-ENT	File Storage Entitlement	10800	$ -	$ -
A-FLEX-PROPACK-ENT	Pro Pack for Cisco Control Hub Entitlement	540	$ -	$ -
A-FLEX-EXP-RMS	Expressway Rich Media Session (1)	90	$ -	$ -
A-FLEX-CC	Flex Contact Center	1	$ -	$ -
Call Center Bundle	**Cisco contract number – 203152201**			
SVS-FLEX-SUPT-BAS	Basic Support for Flex Plan	1	$ -	$ -
A-FLEX-NQM-O	Quality Management Named Agent Overage	1	$ -	$ -
A-FLEX-CR-O	Call Recording for WFO Overage	1	$ -	$ -
A-FLEX-NQM	Quality Management Named Agent	60	$755.11	$45,306.60
A-FLEX-PJXPC	Flex CC On-Premises UCCX Premium Concurrent Agent	100	$1,149.84	$114,984.00
A-FLEX-CR	Call Recording with WFO	40	$131.98	$5,279.20
A-CC-NQM-M-ENT	Quality Management Named Agent Entitlement	60	$ -	$ -
A-CC-CR-M-ENT	Call Recording with WFO Entitlement	40	$ -	$ -
A-FLEX-J-AGT-RTU	On-Premises PCCE & UCCE, Hosted CCE & CCX Agent RTU	1	$ -	$ -
A-FLEX-05-12.5-K9	On-Premises UCCX Standard & Premium Media Kit v12.5	1	$ -	$ -
A-FLEX-PJX-SVR12.5	On-Premises UCCX Standard & Premium Server v12.5 (incl 12.6)	1	$ -	$ -
A-FLEX-PJXPAGT12.5	On-Premises UCCX Premium Agent License v12.5	100	$ -	$ -

Product Total	
Service Total :	$227,890.30
Subscription Total	
SAN DIEGO, CALIFORNIA SALES TAX (7.75%):	

(BASIS OF AWARD) GRAND TOTAL (All Inclusive of all charges e.g Tax etc.):	$227,890.30

BIDDER ACCEPTS RESPONSIBILITY FOR ACCURACY AND PRESENTATION OF THE ABOVE NUMBERS.

Read attached Request for Quote (RFQ) carefully. They are a part of your bid/ proposal. Unit prices will prevail regardless of extensions submitted by the Proposer. Proposal must be firm and valid for a minimum of 120 days from proposal due date. The following Addenda have been noted and attached hereto:

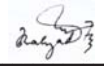
FOB POINT: **SDMTS-IADP**
100 16th Street
San Diego, California 92101

Bidder to check one:

_____X_____ All parts shall be delivered within thirty (30) calendar days after Purchase Order issuance.
_____ No, I cannot meet the 30 calendar day delivery time
_____ No, I cannot meet the 30 calendar day delivery time

DATE: **1/21/2022**

FIRM: **Axelliant LLC**

SIGNATURE: 

TYPE OR PRINT NAME: **Shahzad Munawwar**

TITLE: **Chief Operating Officer**

ADDRESS: **21250 Hawthorne BLVD, Suite 500**

CITY, STATE & ZIP: **Torrance, CA, 90503**

PHONE NUMBER: **424 535-1018** **FAX NO.: 310-375-8493**

E-MAIL ADDRESS: **bidteam@axelliant.com**

Metropolitan Transit System

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 11

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

ZERO-EMISSION BUS (ZEB) PROCUREMENT PROJECT: 60-FOOT LOW-FLOOR ELECTRIC BUSES – CONTRACT AMENDMENT (NEW FLYER)

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Amendment No. 3 to MTS Doc. No. B0722.0-21 (insubstantially the same format as Attachment A) with New Flyer, in the amount of $155,428.49 per technical specification changes for the twelve (12) 60-foot low-floor electric battery-powered buses.

Budget Impact

The total budget for this project is $18,807,514.21, and the total Amendment 3 shall not exceed $155,428.49 (inclusive of 3.8125% partial sales tax exemption-ZEB). This project is funded by Capital Improvement Project (CIP) 1009113201 – Iris Rapid ZEB Bus Procurement and 1001105501 – ZEB Pilot Program. Costs are paid by Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program (LCTOP) and Transportation Development Act (TDA) funding.

Description	Amount
Current Board Approved Amount	**$18,652,085.72**
Approve Amendment 3 (Pricing adjustment per technical specification changes)	$155,428.49
New Board Approved Amount	**$18,807,514.21**

DISCUSSION:

On February 11, 2021 (AI 8), the Board authorized the purchase of twelve (12) 60-foot articulated ZEB buses from New Flyer from the California State Bus Contract (ref: RFP #0000014840) to service the new Iris Rapid route connecting passengers from the Otay Mesa border crossing to Trolley service in Imperial Beach (Iris Transit Center). This electric bus

purchase will be supported by the first scalable/modular overhead charging infrastructure built at MTS's South Bay Division. This project is considered the beginning of MTS's ZEB fleet transition that will be the next step in understanding charging infrastructure technology and build-out.

During the technical specification review process, MTS recognized a design and durability change needed with the original Kiel Avance and Ligero passenger seats that are currently on MTS's Rapid bus fleet. Original Kiel passenger seats have needed consistent repairs and modifications due to seat component quality issues. In addition, a new seat design layout was provided with the new proposed seats (USSC GT Diablo) to improve comfort for passengers on MTS's Rapid service bus type.

Today's proposed action would authorize Amendment 3 to change the passenger seating (from USSC Aries to USSC GT and Diablo) for the twelve (12) 60-foot articulated ZEB buses from New Flyer from the California State Bus Contract. The vehicles are expected to be delivered in mid-2022.

Therefore, staff is requesting that the MTS Board of Directors authorize the CEO to execute Amendment No. 3 to MTS Doc. No. B0722.0-21 (in substantially the same format as Attachment A) with New Flyer, in the amount of $155,428.49 per technical specification changes for the twelve (12) 60-foot low-floor electric battery-powered buses.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachment: A. Draft Amendment No. 3, MTS Doc. No. B0722.3-21

Metropolitan Transit System

Amendment 3

Date: March 10, 2022 MTS Doc No. B0722.3-21
12 60FT BATTERY ELECTRIC BUSES (BEB)

New Flyer of America, LLC
Ms. Jennifer McNeill
V.P., Sales and Marketing
711 Kernaghan Avenue
Winnipeg, Manitoba, CANADA R2C 3T4

This shall serve as Amendment No.3 to the original agreement B0722.0-21 (Ref: PO #4500040166) as further described below.

TECHNICAL SPECIFICATIONS

This amendment is to authorize the technical specification changes to the Passenger Seating (from USSC Aries to USSC GT Transit and Diablo) for the 12 60-foot battery electric buses (BEB) per attached Price Change Summary.

SCHEDULE

There shall be no change to the schedule.

PAYMENT

This contract amendment shall authorize an increase in the amount of $155,428.49 ($12,952.37 per bus, inclusive of 3.8125% sales tax). The total value of this contract including this amendment shall be in the amount of $18,807,514.21 ($18,652,085.72 + $155,428.49). This amount shall not be exceeded without prior written approval from MTS.

Please sign and return the copy marked *original* to the Contract Specialist at MTS. All other terms and conditions shall remain the same and in effect. Retain the other copies for your records.

Sincerely,

Sharon Cooney, Chief Executive Officer

Agreed:

Ms. Jennifer McNeill, V.P., Sales and Marketing
New Flyer of America, LLC

Date: _____

Attachment(s): New Flyer Revised Price Change Summary

Cc: M. Wygant, T. Pascarella, W. Wells, K. Whatley, M. Daney, C. Aquino, Procurement file

Price Change Summary

Property:	San Diego
Option Origin:	19-017
Sales Release No.:	TBD
Quantity:	12
Type:	XE60
Price Change No.:	1
Revision:	D
Date:	12-Jan-21

	Each	Total
Original Contract Price Base Coach	$ 1,218,484.00	$ 14,621,808
Base Bus Price Change Total	$ 209,764.00	$ 2,517,168
Approved SRCR's from PPM	$ 78,476.16	$ 941,713.92
Revised Price Base Bus (including ADA & delivery)	$ 1,506,724.16	$ 18,080,689.92
ADA components	$ 41,532	$ 498,385
Delivery	$ 21,250	$ 255,000
Bus Price Excluding ADA and Delivery	$ 1,443,942.16	$ 17,327,306
Sales Tax 3.8125%	$ 55,050.29	$ 660,603.48
Total Bus Price with Tax	$ 1,561,774.45	$ 18,741,293.40
Tooling Costs (Recommended) Total	-	-
Revised Contract Spares Priced Separately	-	-
Original Contract Price for Miscellaneous (If priced separately)		$ -
Miscellaneous Price Change Total (Training)	$ 66,213.45	$ 66,213.45
Revised Miscellaneous Priced Separately		$ 66,213.45
Original Total Contract Price		$ 14,621,808.00
Sales Tax		$ 660,603.48
Total Contract Price Changes		$ 3,458,881.92
Tooling		-
Training		$ 66,213.45
Revised Total Contract Price including Tax		**$ 18,807,506.85**

Metropolitan Transit System

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 12

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

COST SEGREGATION SERVICES – MID-COAST PROJECT – CONTRACT AWARD

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute MTS Doc. No. G2582.0-22 (in substantially the same format as Attachment A) with HCA Asset Management LLC (HCA) for Cost Segregation Services for the Mid-Coast Project for a two (2) year base period for $143,250.00.

Budget Impact

The total budget for this project shall not exceed $143,250.00. The project shall be funded by the Capital Improvement Project (CIP) 2004009102 – Mid-Coast Project.

DISCUSSION:

The San Diego Association of Governments (SANDAG) has constructed the Mid-Coast Corridor Transit Project (Mid-Coast) which extends the Blue Line from Santa Fe Depot in downtown San Diego to the University Towne Center (UTC) Transit Center in University City. This project includes the construction of approximately 10.9 miles of new double track, portions of which are at-grade, while other sections are aerial or underground cut and cover. Nine stations have been constructed as part of this light rail transit project with four at-grade stations and five elevated stations, including five park-and-ride facilities. The project also includes train control and signals, communications, traction power supply and distribution, and fare collection systems and equipment.

SANDAG will be contributing almost $2 billion of capital assets to MTS at the end of the current fiscal year. MTS requires a consultant to perform the cost segregation services to break down these $2 billion of capital costs into individual, functional assets for the MTS fixed asset register.

On October 28, 2021, MTS issued a Request for Proposals (RFP) for Cost Segregation Services. Three (3) proposals were received by the due date of November 30, 2021 from the following:

Proposer	**DBE/SB/MBE Certification**
1. HCA Asset Management LLC	N/A
2. RSM US LLP	N/A
3. Moss Adams LLP	N/A

All three proposals were deemed responsive and responsible and were evaluated by a committee comprised of the MTS Finance department. The proposals were evaluated on the following:

1. Qualifications of the Firm	30%
2. Work Plan	40%
3. Cost and Price Proposal	30%
Total	100%

The following table illustrates the initial total scores and ranking:

PROPOSER	TOTAL AVG TECH SCORE	TOTAL COST	TOTAL AVG COST SCORE	TOTAL AVG SCORE **(TOTAL POSSIBLE:100)**	RANKING
HCA	41.33	$146,807.00	18	59.33	1
RSM	58.67	$1,536,480.00	0	58.67	2
Moss Adams	34.67	$115,875.00	22	56.67	3

After the initial review, staff reached out to HCA to request information regarding their work plan and experience with transit agencies. Staff also reached out to request additional information on proposed staffing and their roles, and quality control process. After reviewing the clarifications submitted, staff requested a Best and Final Offer (BAFO) from HCA and Moss Adams. RSM did not move on to the next phase of the evaluation process due to its significantly high cost and was deemed to be non-competitive.

After receiving additional clarifications from both firms and BAFO, the evaluation committee met and rescored the proposals which resulted in the final scores and rankings:

PROPOSER	TOTAL AVG TECH SCORE	TOTAL COST	TOTAL AVG COST SCORE	TOTAL AVG SCORE **(TOTAL POSSIBLE:100)**	RANKING
HCA	43.33	$143,250.00	18	61.33	1
RSM	58.67	$1,536,480.00	0	58.67	2
Moss Adams	36.67	$115,875.00	22	58.67	3

Based on the final scores, HCA was deemed as the highest-ranked proposer. Staff was able to reduce HCA's proposal by $3,557.00 (from $146,807.00 to $143,250.00).

Based on the objective of this procurement, consideration of the evaluation criteria and HCA's technical and cost proposals, the evaluation committee determined HCA presented the best overall value to MTS.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute MTS Doc. No. G2582.0-22 with HCA for cost segregation services for the Mid-Coast Project for a two (2) year base period for $143,250.00.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachments: A. Draft Agreement, MTS Doc. No. G2582.0-22
B. Cost Proposal (BAFO)
C. Scope of Work

Metropolitan Transit System

STANDARD AGREEMENT

FOR

MTS DOC. NO. G2582.0-22

THIS AGREEMENT is entered into this _____ day of _____, 2022 in the State of California by and between San Diego Metropolitan Transit System ("MTS"), a California public agency, and the following, hereinafter referred to as "Contractor":

Name: HCA Asset Management LLC

Address: 5214 4th Avenue Circle East

Bradenton FL 34208
City State Zip

Form of Business: Partnership LLC
(Corporation, Partnership, Sole Proprietor, etc.)

Email: gsheahan@hcamgmt.com

Telephone: 941-544-2369

Authorized person to sign contracts Gregory P. Sheahan (Name) President (Title)

The Contractor agrees to provide Cost Segregation services as specified in the conformed Scope of Work/Technical Specification (Exhibit A), Contractor's Cost/Pricing Form (Exhibit B), and in accordance with the Standard Agreement, including Standard Conditions (Exhibit C), (Exhibit D), and MTS Policy 44C Travel Guidelines for Contractors (Exhibit E).

The contract term is for a two (2) year period effective April 1, 2022 through March 31, 2024.

Payment terms shall be net 30 days from invoice date. The total cost of this contract shall not exceed $143,250.00 without the express written consent of MTS.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM	HCA ASSET MANAGEMENT LLC
By: _____ Sharon Cooney, Chief Executive Officer	By _____
Approved as to form:	
By: _____ Karen Landers, General Counsel	Title: _____

SAN DIEGO METROPOLITAN TRANSIT SYSTEM (MTS)

EXHIBIT B – COST PROPOSAL FORM

COST SEGREGATION SERVCES – MID-COAST PROJECT

Item	Description	Est. # of Hours	Hourly Rate	Extended Cost
1.	Engagement Director(s)	160	$181.36	$29,017.60
2.	Senior Manager(s)	320	$130.00	$41,600.00
3.	Inventory and Appraisal Staff	440	$109.00	$47,960.00
4.	Travel Expenses per MTS Travel	2 men 4 weeks	Photo-copy cost Receipts Provided	Policy No 44-C
5.	Overhead/Profit	9%		$10,672.02

TOTAL CONTRACT AMOUNT $ 129,250 plus travel costs photo receipts provided

Per line item #3 and as requested in BAFO document - anticipated Travel Expenses $14,000

TOTAL CONTRACT AMOUNT WITH ANTICIPATED TRAVEL COST = $143,250

- *Proposal pricing shall be fixed for the entire project.*
- *Hourly rates shall be an all-inclusive, including but not be limited to costs such as all labor, overhead, materials, supplies and transportation costs. Additional payment is not allowed.*
- *Proposer accepts responsibility for accuracy and presentation of the proposal. MTS is not responsible for finding, correcting, or seeking clarification regarding ambiguities or errors in the proposal.*

Gregory P. Sheahan

Date January 14th, 2022

Gregory P. Sheahan
President, HCA Asset Management LLC
Email gsheahan@hcamgt.com

**** Best and Final Offer (BAFO) Cost Proposal Form ****

Exhibit A
SCOPE OF WORK

1. Background

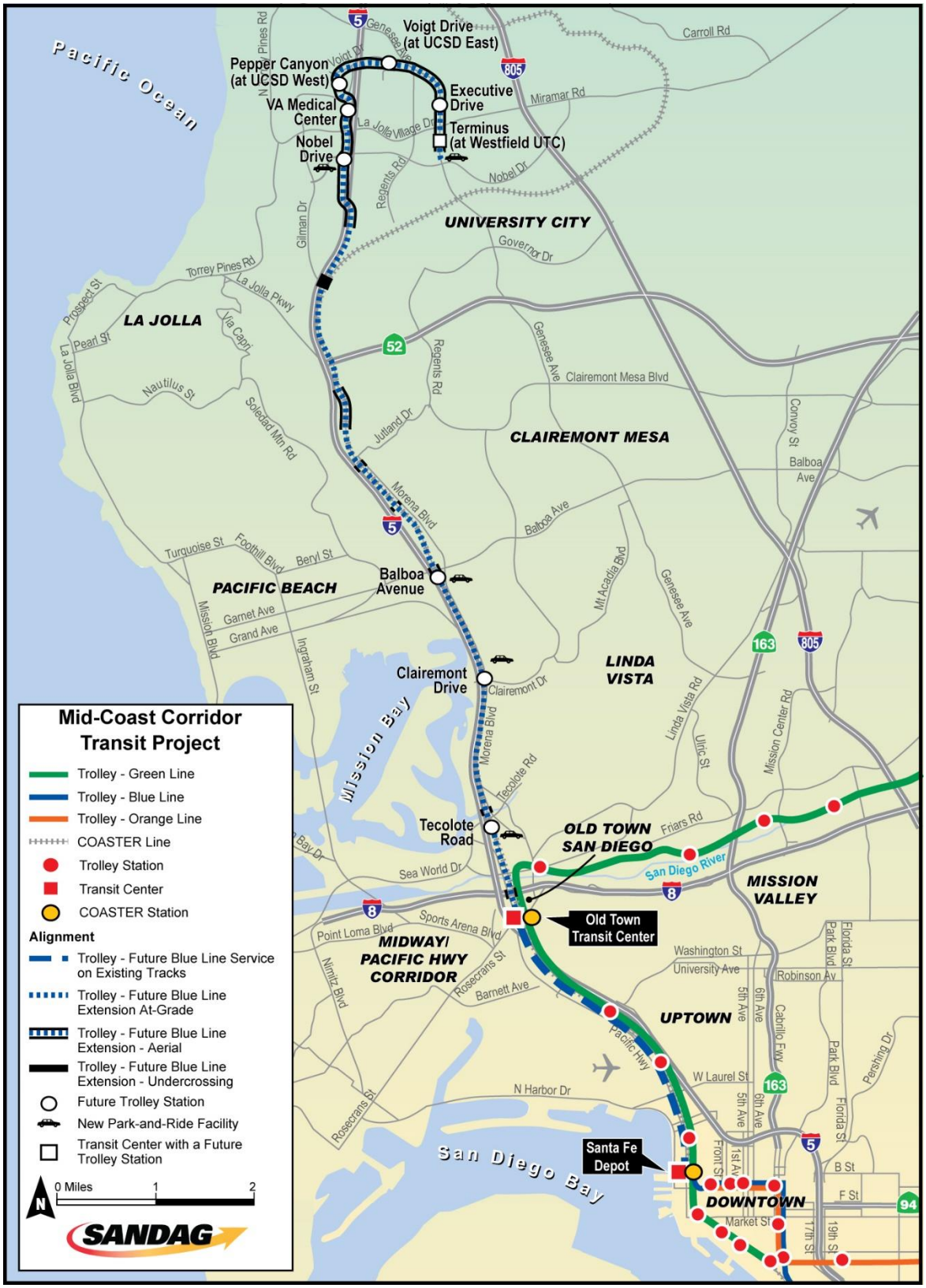
1.1. The San Diego Metropolitan Transit System was created to provide the policy setting and overall management coordination of the public transportation system in the San Diego metropolitan service area. This service area encompasses approximately 3 million people residing in a 570 square mile area of San Diego County, including the cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa, Lemon Grove, National City, Poway, Santee, San Diego and the unincorporated area of the County of San Diego.

1.2. MTS Rail Operations operate and maintain a fleet of 137 light rail vehicles (LRVs) to provide transit service over three separate operating line segments. The Blue Line operates from the US/Mexico border through downtown San Diego and terminates at the Old Town Transit Center. The Orange Line serves the East County communities from El Cajon through downtown San Diego. The Green Line operates from Santee along Mission Valley and serves the campus of SDSU through a short tunnel section before continuing to the Imperial Avenue Station, via the Bayside Corridor. The entire system encompasses 54.3 total miles (107.6 total track miles) of light rail transit (LRT) to 53 transit centers.

1.3. The San Diego Association of Governments (SANDAG) is constructing the Mid-Coast Corridor Transit Project (the Project) which would extend the Blue Line from Santa Fe Depot in downtown San Diego to the University Towne Center (UTC) Transit Center in University City. The Project would use the existing Trolley tracks for approximately 3.5 miles from the Santa Fe Depot to a point just north of the Old Town Transit Center (OTTC) and south of the San Diego River. In this area, the Trolley Blue Line trains would share the tracks with the Trolley Green Line trains. Improvements to this segment of the line include upgrades to signaling and traction power systems.

1.4. The Project also includes construction of approximately 10.9 miles of new double track that would extend from south of the San Diego River to the terminus at the UTC Transit Center. Of the 10.9 miles of new double track, 6.8 miles are at-grade, 4.1 miles are aerial, and 0.03 miles are underground cut and cover. Nine stations would be constructed as part of this light rail transit project with four at-grade stations (Tecolote Road, Clairemont Drive, Balboa Avenue, and VA Medical Center), and five elevated stations (Nobel Drive, Pepper Canyon (UCSD West), Voigt Drive (UCSD East), Executive Drive, and the UTC Transit Center). The UTC Transit Center station and two existing stations served by the extension (Santa Fe Depot and Old Town) are major transfer points to other rail and bus lines. The Project includes five park-and-ride facilities providing 1,170 spaces along with two transfer centers (Balboa and UTC stations). The project also includes 36 light rail vehicles, train control and signals, communications, traction power supply and distribution, and fare collection systems and equipment. Thirteen new traction power substations would be constructed as part of the project.

2. Project Map



3. Project Budget

Reported in Year of Expenditure Dollars		
Source of Funds	**Total Funding ($million)**	**Appropriations to Date**
Federal: Section 5309 New Starts	$1,043.38	$530.02 million in total appropriations through FY 2020
Local: TIFIA Loan Transit Net Sale Tax Revenues and Bond Proceeds	$537.50 $590.32	
TOTAL	**$2,171.20**	

4. Project Status

In fall 2014, the Mid-Coast Trolley received its final environmental clearance from the SANDAG Board of Directors and the Federal Transit Administration (FTA). In May 2014, the SANDAG Board of Directors selected Mid Coast Transit Constructors, a joint venture firm of Stacy & Witbeck, Inc., Skanska USA, and Herzog Contracting Corporation, to serve as the construction manager/general contractor for the project. In September 2016, the FTA signed a Full Funding Grant Agreement with SANDAG to provide the 50 percent federal funding match needed to begin construction in fall 2016. The other half of the funding will be provided by TransNet, the San Diego region's voter-approved half-cent sales tax for transportation improvements. Pre-construction activities – consisting of the relocation of underground utilities out of the way of the project alignment – began in early 2016. Primary construction activities began in fall 2016. Construction reached its halfway point in spring 2019 and remains on schedule. Service is anticipated to begin in late 2021.

5. General Project Description

Perform an analysis of the Project and prepare a report which will be allocated to the capital costs reported by asset class and by source of funds where applicable.

5.1. Methodology

The methodology for the cost segregation study will follow professional engineering and cost estimating procedures. The specific information needed to begin and generate the most accurate analysis will include, but is not limited to, access to the following:

- Engineering drawings
- The bid and cost documents provided by the general contractor of the original construction
- Any change order documentation
- All direct costs information associated with the project

- Funding data for each sub-project of the overall project
- On-site inspections

The analysis will produce quantity engineering take-offs of individual assets develop from field inspections of the project, original bid documentation, construction drawings, specifications, invoices and other contract information. Individual assets will follow the asset classifications detailed below.

Indirect project costs obtained from contract records will be proportionately allocated to the direct project costs. In certain cases, indirect costs related to a specific subcontractor will be allocated only to that subcontract's cost. Labor and material prices for which no specific cost can be identified from available contract documents will be estimated using nationally recognized cost estimating manuals.

Once the site visits, analysis and reconciliation of the cost information have been completed, the final report will be submitted electronically in Microsoft Excel.

5.2. Asset Classifications

The final analysis will produce a listing of assets in the classifications listed below.

5.3. Facilities

Facilities refer to the structures that enclose or support maintenance, operations, administrative, and spaces for passengers. Stations provide shelter for employees and customers, and facilities provide shelter for employees, revenue vehicles, and power systems. Stations and passenger facilities are particularly important because they directly impact the customer experience. This asset category refers to structures intended primarily for passengers' use, including bus transfer facilities, rail stations (both elevated and at grade), and customer service facilities.

Each facility type also encompasses a wide variety of subsystems required for that facility to function appropriately. For this Project, these subsystems or sub-categories include assets such as:

Category	Sub-category	Unit
Rail Facilities	Land/Right of Way	Parcel
	Trolley Stations	Per Station
	Trolley Shelters	Per Station
	Parking Structure (multi-level)	Per Building
	Surface Parking Lot (Asphalt)	Per Lot
	Fencing	Segments
	Retaining Walls	Segments
	Elevators/Escalators	Per unit
	CCTVs	Per Station
	Landscaping	Per Station
Bus Facilities	Bus Stations	Per Station
	Bus Shelters	Per Station

5.4. Fixed Guideway

Fixed guideway elements refer to the structural elements that allow for the movement of MTS's LRVs. These assets are broadly categorized into track elements, guideway elements comprising the track right-of-way, grade crossings, and the electrical infrastructure.

MTS fixed guideway asset classifications:

Category	Sub-category	Unit
Wayside	Traction Power Substation	Per unit
	Overhead Catenary	Segments
	Signals	Segments
	Interlockings	By Location
	Maintenance Equipment	Per equipment
Track	Guideway	Segment
	Trackage	Segment
	Grade Crossing	By Location
	Turnouts/Crossovers	By Location
	Drainage	By Location
	Ped Crossing	By Location
	Bridge/Tunnel	By Location
	Over Pass/Under Pass	By Location
	Station Platform	Per Station
	Maintenance Equipment	Per equipment

The guideway asset categories are described in greater detail below:

- **Track** – This asset category refers to the guide structure directly under the wheels of the transit vehicle that distributes vehicle dynamic loads to its supporting infrastructure both above and below ground.
- **Special Trackwork** – This asset category consists of trackwork structures, trackwork components or apparatus that are normally fabricated in whole or in part from regular rail sections. This includes items such as crossovers and turnouts.
- **Guideway** – This asset category consists of the right-of-way elements upon which the track resides. The majority of MTS's system is run on at-grade ballast, but there are significant portions that are on elevated bridges.
- **Grade Crossings** – This asset category refers to specific points along the track line where the track is embedded in the street and shares right-of-way with general automobile or pedestrian traffic.
- **Electrification** – This asset category provides supply and distribution of propulsion power for MTS's electric-powered LRVs and includes

alternating current (AC) and direct current (DC) systems. Subsystems include overhead catenary system, distribution, and substations.

Like with facilities, there are a number of ancillary structures not detailed above that are required to physically support the safe and efficient operation of a transit system. These structures can include culverts, retaining walls, pedestrian walkways, utilities conduits, communications towers, light poles, safety fencing, signal cases, traffic gates, and vehicular signage.

5.5. Other Assets

There are other equipment and Information Technology (IT) systems and hardware that will be acquired as part of any large-scale project. For this Project, these subsystems or sub-categories include assets such as:

Category	Sub-category	Unit
LRV	Maintenance Equipment	Per equipment
Rail Transportation	Centralized Train Control System	One unit
	PA Communication System	Per Station
	Variable Messaging Signs	Per Station
Rail Revenue	Fare Equipment	TVMs, validators
	Fare Enforcement Equipment	Per unit
IT	Communication cabinets	Per unit

5. Contract Term

The period of performance under the resultant contract shall be for approximately two (2) year from contract execution.

6. Cost

MTS is requesting a fixed price for the cost segregation services for the Project described above. Proposers as asked to provide a cost proposal showing the following:

a. Estimates of the number of hours to provide the services broken down by classification.
b. Hourly billing rates based by classification/

[redacted]

Metropolitan Transit System

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 13

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

FISCAL YEAR (FY) 2021-2022 LOW CARBON TRANSIT OPERATIONS PROGRAM (LCTOP) FUNDING

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors adopt Resolution No. 22-02 in order to:

1) Agree to comply with all conditions and requirements set forth in the Certification and Assurances Document, and applicable statutes, regulations, and guidelines for all LCTOP funded transit projects; and

2) Authorize the Chief Executive Officer (CEO), or designated representative, to execute all required documents of the LCTOP and any amendments thereto with the California Department of Transportation; and

3) Authorize the allocation of $8,103,037 in Fiscal Year (FY) 2021-2022 LCTOP funding for the procurement of Battery Electric Buses (BEB's). A total of $12,426,859 will be funded and programmed in the FY 2024 Capital Improvement Program (CIP), which will reduce greenhouse gas emissions and improve mobility with a priority on serving Disadvantaged Communities (DAC); and

4) Certify that at least 50% of the total LCTOP funds received will be spent on projects or services that will benefit DACs identified in Section 39711 of the Health and Safety Code.

Budget Impact

Resolution No. 22-02 would authorize the allocation of $8,103,037 in FY2021-2022 LCTOP funding for the BEB Procurement Project and future BEB procurements. The FY 24 CIP will include $11,659,395 of the LCTOP funding.

DISCUSSION:

The LCTOP is one of several programs that are part of the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 by Senate Bill 862. The LCTOP is a formula-based program, which provides operating and capital assistance for transit agencies to reduce greenhouse gas emissions and improve mobility, with a priority on serving disadvantaged communities.

As a condition of the LCTOP, MTS must agree to comply with specific terms and conditions outlined in the LCTOP Certification and Assurances Form. In addition, the Board must authorize the CEO, or their designated representative, to execute all required documents of the LCTOP and amendments thereto with the California Department of Transportation.

Upon approval by the MTS Board, MTS will use the previously requested FY 2019-20 LCTOP apportionment of $876,831 and the FY 2020-21 LCTOP apportionment of $3,446,991 for the following purposes:

2021-2022 LCTOP	
Previously Requested	$4,323,822
Total 21/22 LCTOP Apportionment	$7,335,573
FY24 BEB Procurement	$11,659,395
21/22 LCTOP Roll Forward	$767,464

The LCTOP requires that the Board Resolution state DAC requirements if the service area of the implementing agency includes any DACs as identified by the California Environmental Protection Agency (CalEPA). The MTS service area includes 37 DACs as identified by CalEPA. Hence, MTS is required to certify that at least 50% of the total LCTOP funds received will be spent on projects or services that benefit DACs identified in Section 39711 of the Health and Safety Code. MTS staff has conducted an analysis of the project areas and determined that both projects will provide direct and meaningful benefits to DACs in the MTS service area, indicating that one hundred percent of the allocated funds will provide benefits to DACs.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachment: A. Resolution No. 22-02

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

Resolution No. 22-02

Resolution Authorizing the Execution of the Certifications and Assurances and Authorized Agent Forms for the 2021-2022 Low Carbon Transit Operations Program (LCTOP), and the Application of $4,323,822 from Fiscal year (FY) 2019-2020 and 2020-2021 LCTOP Funding and $8,103,037 of FY 2021-2022 LCTOP to FY24 Battery Electric Bus Procurement Project

WHEREAS, the San Diego Metropolitan Transit System (MTS) is an eligible project sponsor and may receive state funding from the LCTOP now or sometime in the future for transit projects; and

WHEREAS, the statutes related to state-funded transit projects require a local or regional implementing agency to abide by various regulations; and

WHEREAS, Senate Bill 862 named the California Department of Transportation as the administrative agency for the LCTOP; and

WHEREAS, the Department has developed guidelines for the purpose of administering and distributing LCTOP funds to eligible project sponsors (local agencies); and

WHEREAS, MTS wishes to delegate authorization to execute these documents and any amendments thereto to the Sharon Cooney, Chief Executive Officer (CEO), and designated representatives; and

WHEREAS, MTS wishes to allocate $4,323,822 from FY 2019-2020 and 2020-2021 LCTOP funds and the entire balance of $8,103,037 in FY 2021-2022 LCTOP funds for FY24 Battery Electric Bus Procurement Project.

NOW THEREFORE, BE IT RESOLVED, DETERMINED, AND ORDERED by the MTS Board of Directors (Board), that MTS agrees to comply with all conditions and requirements set forth in the Certification and Assurances document, and applicable statutes, regulations, and guidelines for all LCTOP funded transit projects.

BE IT FURTHER RESOLVED by the Board that the CEO, or designated representative, be authorized to execute all required documents of the LCTOP program and any Amendments thereto with the California Department of Transportation.

BE IT FURTHER RESOLVED by the Board that MTS be authorized to apply for and use the FY 2019-2020 LCTOP, FY 2020-2021, and FY 2021-2022 LCTOP for the following projects.

- FY 19/20 LCTOP - FY24 Battery Electric Bus Procurement: $876,831
- FY 20/21 LCTOP - FY24 Battery Electric Bus Procurement: $3,446,991
- FY 21/22 LCTOP - FY24 Battery Electric Bus Procurement: $8,103,037

BE IT FURTHER RESOLVED by the Board that MTS agrees to spend at least 50% of all LCTOP funds received on projects or services that benefit SB535 Disadvantaged Communities.

PASSED AND ADOPTED, by the Board of Directors this 10th day of March , 2022 by the following vote:

AYES:

NAYS:

ABSENT:

ABSTAINING:

Chairperson
San Diego Metropolitan Transit System

Filed by:

Clerk of the Board
San Diego Metropolitan Transit System

Approved as to form:

General Counsel
San Diego Metropolitan Transit System

Resolution No. 22-02

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 03/03/2022

Agenda Item No. 14

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

NEW TRANSIT FACILITY, CONCEPTUAL LAYOUT AND REPORT – WORK ORDER

RECOMMENDATION:

That the San Diego Metropolitan Transit System (MTS) Board of Directors authorize the Chief Executive Officer (CEO) to execute Work Order MTS Doc No. WOA2075-AE-73 to MTS Doc. No. G2075.0-18 (in substantially the same format as Attachment A) with Dokken Engineering (Dokken) in the amount of $206,043.16 to provide planning services for the Division 6 conceptual layout and report.

Budget Impact

The total budget for this project shall not exceed $206,043.16. The project is funded by Capital Improvement Program (CIP) 3004100801 – New Transit Facility.

DISCUSSION:

MTS is in need of a new bus maintenance facility to accommodate future transit needs. A potential site consisting of several parcels with varying elevations has been identified for the new facility. In order to proceed with this project, a planning level/conceptual layout and high-level review of the property is needed. This study will provide an assessment, survey, conceptual site layouts for the potential bus maintenance facility as well a review of the soil cut-fill requirements in order to make the site more level or continuous.

Under the proposed work order, Dokken will provide planning services for a set of conceptual layouts with building block diagrams and a planning report related to soil balancing and retaining wall requirements in an effort to provide MTS with an understanding of the feasibility of constructing a bus maintenance facility at the proposed site. The scope of services under this work order excludes any building design, and will focus on conceptual layouts, reporting and general feasibility of constructing a bus maintenance facility at the proposed site.

On January 12, 2016, San Diego Association of Governments (SANDAG) and MTS issued a joint Request for Statement of Qualifications (RFSQ) for On-Call Architectural and Engineering (A&E) Design Consulting services. The RFSQ resulted in the approval of 8 firms qualified to perform A&E services. Tasks are assigned to the firms through a work order process.

MTS staff reviewed the approved A&E firms and utilizing a direct award process, selected Dokken to perform the requisite services. Dokken had previously completed a Zero Emission Bus (ZEB) master plan study at the South Bay Maintenance Facility (SBMF).

Based on the various elevations of the site, Dokken's proposed amount of $206,043.16 was determined to be fair and reasonable to perform the prescribed services. Dokken has designated two (2) subcontractors: WSP in the amount of $105,212.65; and Aguirre & Associates (a Disadvantaged Business Enterprise (DBE)) in the amount of $8,269.60.

Therefore, staff recommends that the MTS Board of Directors authorize the CEO to execute Work Order WOA2075-AE-73 (in substantially the same format as Attachment A) with Dokken in the amount of $206,043.16 to provide planning services for the Division 6 conceptual layout and report.

/S/ Sharon Cooney
Sharon Cooney
Chief Executive Officer

Key Staff Contact: Julia Tuer, 619.557.4515, Julia.Tuer@sdmts.com

Attachment: A. Draft Work Order WOA2075-AE-73

Metropolitan Transit System

March 10, 2022

MTS Doc. No. G2075.0-18
WOA2075-AE-73

Mr. John Klemunes, PE
Regional Manager
Dokken Engineering
1450 Frazee Road, Suite 100
San Diego, CA 92108

Dear Mr. Klemunes:

Subject: WORK ORDER WOA2075-AE-73, TO MTS DOC. NO. G2075.0-18, ENGINEERING SERVICES FOR DIVISION 6 CONCEPTUAL LAYOUT AND REPORT

This letter shall serve as Work Order WOA2075-AE-73, under the General Engineering Consultant Agreement, MTS Doc. No. G2075.0-18, as further described below.

SCOPE OF SERVICES

This Work Order shall provide design services for Division 6 conceptual layout and report charging concept planning performed in accordance with the attached Scope of Services (Attachment A).

SCHEDULE

The Scope of Services, as described above, shall be for a period of twelve (12) weeks from the date of the Notice to Proceed.

PAYMENT

Payment shall be based on actual costs in the amount not to exceed $206,043.16 without prior authorization of MTS (Attachment B).

Please sign below, and return the document to the Contracts Specialist at MTS. All other terms and conditions shall remain the same and in effect.

Sincerely,

Sharon Cooney
Chief Executive Officer

Accepted:

John Klemunes, PE
Regional Manager, Dokken Engineering

Date: _____

Attachments: Attachment A, Scope of Services
Attachment B, Negotiated Fee Proposal

ATTACHMENT A
SCOPE OF SERVICES

PROJECT UNDERSTANDING AND APPROACH

MTS currently performs bus maintenance services at five divisions within the county. With ridership growth and bus fleet electrification, all divisions are constrained. MTS is in the process of obtaining five contiguous parcels in order to construct a new bus maintenance division (referred to hereafter as "Division 6") located north of Federal Blvd at the intersection with 47th Street. The parcels are on differing elevations and are split by an access road to a commercial building. Both the access road and commercial building will remain.

It's anticipated that the Division 6 site will have the same operation and maintenance functions as other MTS bus maintenance facilities, such as the Imperial Avenue Division. Division 6 will be 100% electric with only battery electric bus (BEB) charging; there will be no compressed natural gas (CNG) fueling at this site.

The results of the summary memorandum will be utilized to support the on-going environmental work and will also define the project scope for the future development of preliminary design/bridging documents for a design-built project delivery.

Services shall generally include:

- Coordination with MTS to understand and determine the fleet size, required buildings, number of staff, and bus maintenance needs.
- Development of four (2) conceptual site layouts, including cost and recommendations, for laying out and operating electric buses.
- Validation of the site's existing constraints, including topography and utilities.
- Develop a Final Recommendations Report summarizing our findings and recommendations for the site layouts.

Our team proposes that these consulting services be divided into sequential tasks, as indicated below.

Task 1: Project Management and Coordination

Our team will:

1. Complete general project management and coordination activities.
    a. The Dokken project manager will work closely with the MTS project manager and continuously inform the MTS project manager of all project activities.
    b. Close contact will be maintained between the Dokken project manager, all sub-consultants, the MTS project manager, project personnel, and other stakeholders. The Dokken project manager will act as the principal liaison between MTS staff and the Dokken Team.
2. A) Conduct a project kick-off meeting to:
    a. Establish clear lines of communication.
    b. Review the scope of work and project schedule.
    c. Clearly define project goals and objectives.
    d. Identify MTS staff to be involved in the review process.
2. B) Schedule and coordinate up to four (4) coordination meetings including:
    a. Identifying appropriate participants for each meeting.
    b. Developing (with MTS input) and distributing agenda prior to meetings.
    c. Developing and distributing minutes for each meeting.
3. Prepare and submit monthly progress reports. Each report shall include an updated schedule, summary of tasks in progress and completed, and projected tasks to be accomplished in the next month.

Deliverables:

- Kick-off meeting
- Up to four (4) coordination meetings
- Monthly progress reports and schedule

Task 2: Data Collection and Site Assessment

Our team will:

A. Work with MTS staff to confirm based on either a programming workshop or web conference the following:

   a. Proposed fleet size, transit revenue vehicles and other non-revenue vehicles including service vehicles.
   b. Proposed maintenance services including cleaning, fueling and fare collection.
   c. Proposed administrative functions and space usage.
   d. Proposed employee vehicle parking.
   e. Proposed project limits.
   f. Charging or other fueling types.

B. Space Program Confirmation

   a. The Dokken team will utilize building square footages from the Coca-Cola study and from the Imperial Avenue Division project as a comparable need for this project. MTS will confirm use of the Dokken-assumed space program and design criteria for the site prior to moving forward with Tasks 3, 4, and 5.

   b. A program for the battery electric bus yard and a potential parking garage will be developed as part of this project.

C. Research Existing Site Conditions, to include:

   a. Review relevant codes, regulations, requirements, and restrictions for retaining wall construction including, but not limited to height restrictions and street or property line setback requirements.

   b. Review existing documents provided by MTS which are pertinent to the project, including any ongoing projects or studies that could impact the Division 6 concept layouts.

   c. It is assumed that coordination with SDG&E will be excluded from this task.

   d. Research the City of San Diego database for existing public utilities serving the site or within the site (water, sewer, storm drain systems). This task will be limited to large-scale utilities that may impact the design of the site. No dry/private utility service providers (SDG&E, Cox communications, AT&T) will be contacted for any onsite or offsite infrastructure serving the site. The intent of this task is only to identify potentially significant conflicts.

   e. Review the Preliminary Title Reports provided by MTS and identify existing easements or encumbrances that could impact the site layout.

   f. Conduct one (1) project site walk/site visit to obtain a photo archive of the site and to identify existing conditions.

D. Develop an Existing Conditions & Design Criteria Memorandum

   a. The data collected and analyzed throughout Task 2 will be documented within the Existing Conditions and Design Criteria section of the Technical Summary Memorandum.

Task 3: Topographic Survey and Initial Site Grading Analysis

Our team will:

A. Provide a concept level topographic survey.

   a. The survey will be conducted using photogrammetry to produce contour mapping and a digital terrain model.

   b. Pertinent ground features will be identified.

   c. Property line limits will be mapped by record drawings per Map 4870, Map 5042, and PM 14611.

      i. A boundary survey will not be completed at this time.

d. The number of existing easements to be identified and mapped is limited to 6, per Preliminary Title Reports provided by MTS.

B. Conduct an Initial Site Grading (Cut/Fill) Analysis.

a. The initial site grading analysis will determine the optimum site elevation to balance earthwork onsite along a single plane.

b. Once a balanced site elevation is understood, driveway sloping, tying into Federal Blvd, and other associated impacts to the facility design can be evaluated.

i. From an operational standpoint, a single elevation for the five (5) contiguous parcels may be preferred; however, the Dokken team will develop additional grading analyses to coincide with each concept site layout as shown in Task 4.

C. Limited Geotechnical Report (Excluded)

a. Due to the site currently being unavailable for geotechnical explorations, no geotechnical activities nor soil tests will be completed under this scope. If access becomes available upon authorization of this Task Order, the Dokken team can complete a limited geotechnical report and soil testing via an amendment to the task order.

Deliverables:

- Topographic survey including property limits and contours.
- Initial Site Grading (cut-fill) Analysis.

Task 4: Conceptual Site Layouts and Technical Summary Memorandum

Our team will:

A. Develop up to four (2) planning level site layouts for the proposed site.
   a. Up to two rounds of revisions for each of the two site layouts may be required.
   b. Layouts will be defined by the Space Program in Task 2.
   c. Layouts will incorporate as much BEB parking/charging space as possible to show maximum balanced site operations capacity (vehicle service, vehicle parking, operational spaces).
   d. The project assumes overhead frame style piston-type depot charging with battery storage, emergency generator (fixed and/or Trailerized), and solar panels will be utilized.
   e. A high-level concept layout for hydrogen on-site generation, compression, storage, and fueling for fuel cell electric buses will be included with each site layout option.
   f. Each conceptual site layouts will include:
      a. Planning level "block diagram" plans will include site access and internal circulation for transit fleet and employee vehicles, fleet and employee parking, administrative building and building functions, relationships among functional spaces, and support activities.
      b. An independent site grading analysis, specifically associated with its respective concept site layout.
      c. Identification of retaining wall locations, heights, and wall types.

Excludes Single line diagram generation and conceptual electrical layouts

B. Conduct a Conceptual Layout Workshop with MTS.

a. It is anticipated this the Workshop will be no more than one (1) day, a maximum of 4 hours, and be conducted virtually.

b. This Workshop will be utilized to review the conceptual layouts and discuss MTS' review comments.

c. During the Workshop the concepts will be reviewed with respect to operational flow, constraints, constructability, cost, and expandability.

d. Based on the discussions during the Workshop, the concepts will be refined and presented for review.

e. This review will result in the selection of two (2) viable options.

C. Submit a planning level Technical Summary Memorandum providing an overview of the site including:

a. Existing conditions and design criteria (per Task 2).
b. Potential, utility conflicts, stormwater impacts, etc.
    i. Environmental constraints will not be identified at this time.
c. Grading (cut/fill) analysis associated with each concept layout.
d. Retaining wall constraints.
    i. Including maximum height, property line setbacks, permitting, and wall types.
e. Documentation of the decisions made and summarizing issues or concerns with each concept layout.

Deliverables:

- Prepare up to four (2) Concept Site Layouts
- Technical Summary Memorandum

Task 5: Rough Order of Magnitude (ROM) Pricing

Our team will:

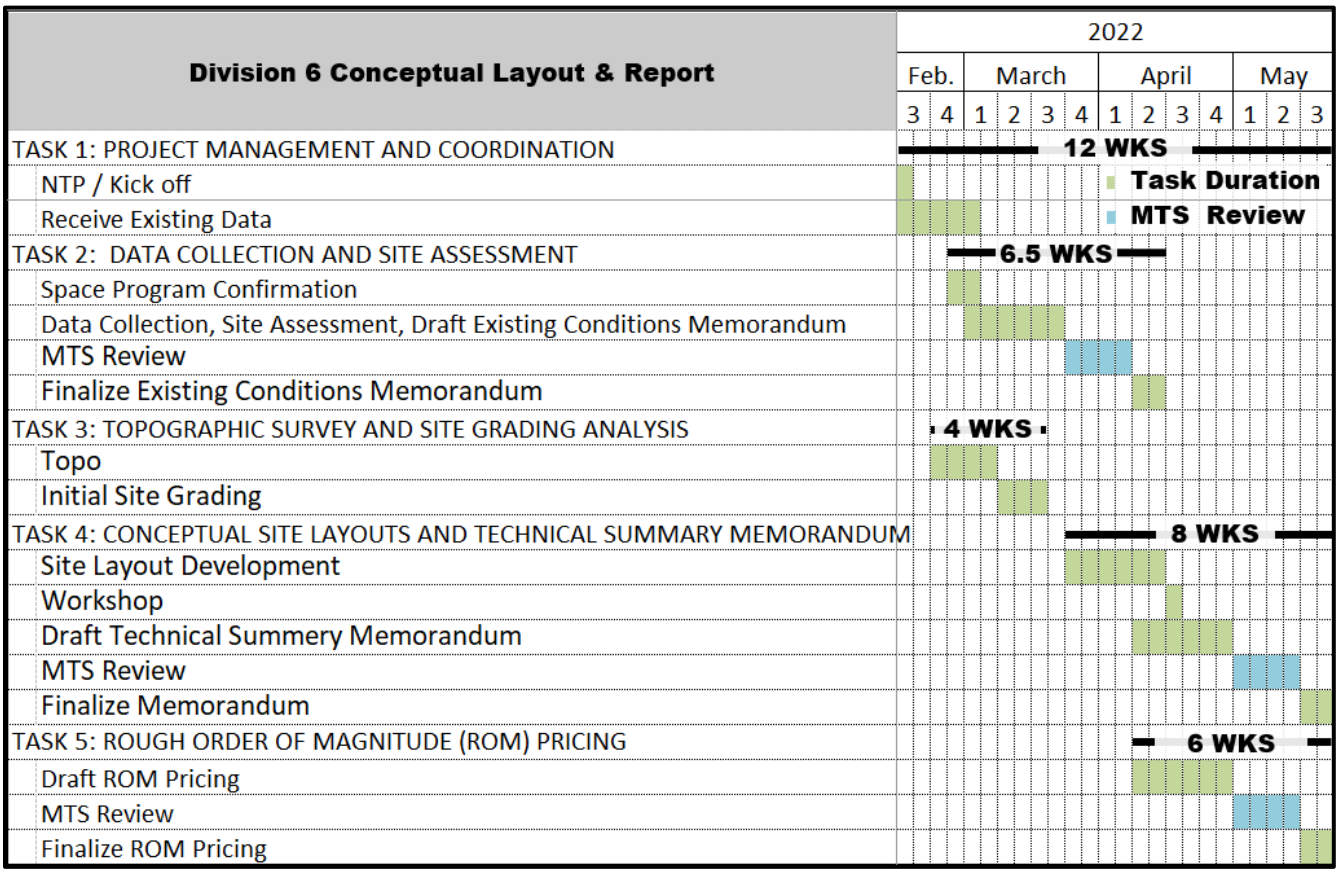
A. Develop a ROM conceptual capital cost estimate for no more than two (2) selected preferred conceptual site plans using the cost estimating methodology developed for the MTS ElevateSD 2020 program in June 2019. The prices used for that report will be escalated to year 2022.

Deliverables:

- ROM costs projections for two (2) selected viable conceptual site plans.

SCHEDULE

Our team has prepared an extensive workplan and the milestone schedule below to identify the duration and dates of key tasks and milestones for this project.



ATTACHMENT B
NEGOTIATED FEE PROPOSAL

Work Order Estimate Summary

MTS Doc. No.	**G2075.0-18**
Work Order No.	**WOA2075-AE-73**
Attachment:	**B**

Work Order Title: **Division 6 Conceptual Layout & Report**

Project No:

Table 1 - Cost Codes Summary (Costs & Hours)

Item	Cost Codes	Cost Codes Description	Total Costs
1		LABOR	$ 206,043.16
2		OTHER DIRECT COSTS	$3,380.80
		Totals =	**$209,423.96**

Table 2 - TASKS/WBS Summary (Costs & Hours)

Item	TASKS/WBS	TASKS/WBS Description	Labor Hrs	Total Costs
1		PROJECT MANAGEMENT AND COORDINATION	187.0	$49,817.60
2		DATA COLLECTION AND SITE ASSESSMENT	152.0	$24,511.61
3		TOPOGRAPHIC SURVEY AND SITE GRADING ANALYSIS	124.0	$19,446.04
4		CONCEPTUAL SITE LAYOUTS AND TECHNICAL SUMMARY MEMORANDUM	627.0	$97,646.00
5		ROM PRICING	81.0	$14,621.91
6				
7				
8				
		Totals =	**1,171.0**	**$206,043.16**

Table 3 - Consultant/Subconsultant Summary (Costs & Hours)

(If Applicable, Select One)				Consultant	Labor Hrs	Total Costs
DBE	DVBE	SBE	Other			
				DOKKEN ENGINEERING	509.0	$ 92,560.91
X				AGUIRRE & ASSOCIATES	48.0	$8,269.60
				WSP	614.0	$105,212.65
				Totals =	**1,171.0**	**$206,043.16**

Work Order Estimate Summary

Total Hours = **509**

Total Costs = **$92,560.91**

Consultant/Subconsultant: **DOKKEN ENGINEERING**

Work Order Title: **Division 6 Conceptual Layout & Report**

MTS Doc. No.: **G2075.0-18**

Work Order No.: **WOA2075-AE-73**

Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Mark Tarrall Principal $ 283.67	Senior Engineer $ 236.39	Associate Engineer $ 170.20	Assistant Engineer $ 104.01	Sr. Environmental Planner $ 236.39	Associate Environmental Planner $ 148.14	Environmental Planner $ 100.86	Engineering Technician $ 115.05				Total Hours	Totals
1	**TASK 1**	**PROJECT MANAGEMENT AND COORDINATION**														
1.1	Project Management			25	20										45	$11,819.55
1.2	Meetings & Coordination			10	30										40	$9,928.40
1.3	Project Administration			25	8										33	$8,982.87
		Subtotals (Hours) =	N/A	60	58										118	$30,730.82
		Subtotals (Costs) =		$17,020.20	$13,710.62										**118**	**$30,730.82**
2	**TASK 2**	**DATA COLLECTION AND SITE ASSESSMENT**														
2.1	Space Program Confirmation			2	4										6	$1,512.90
2.2	Research Existing Site Conditions			2	2	6	20								30	$4,141.52
2.3	Existing Conditions & Design Criteria Memorandum			2	4	8	20	4							38	$5,900.26
		Subtotals (Hours) =	N/A	6	10	14	40	4							74	$11,554.68
		Subtotals (Costs) =		$1,702.02	$2,363.90	$2,382.80	$4,160.40	$945.56							**74**	**$11,554.68**
3	**TASK 3**	**TOPOGRAPHIC SURVEY AND SITE GRADING ANALYSIS**														
3.1	Topographic Survey and Property Line Mapping				2	4									6	$1,153.58
3.2	Initial Site Grading Analysis			2	8	20	40								70	$10,022.86
		Subtotals (Hours) =	N/A	2	10	24	40								76	$11,176.44
		Subtotals (Costs) =		$567.34	$2,363.90	$4,084.80	$4,160.40								**76**	**$11,176.44**
4	**TASK 4**	**CONCEPTUAL SITE LAYOUTS AND TECHNICAL SUMMARY MEMORANDUM**														
4.1	Conceptual Site Layout Development			10	20	30	30				30				120	$19,242.30
4.2	Conceptual Layout Workshop with MTS			8	10										18	$4,633.26
4.3	Technical Summary Memorandum			2	10	20	40								72	$10,495.64
		Subtotals (Hours) =	N/A	20	40	50	70				30				210	$34,371.20
		Subtotals (Costs) =		$5,673.40	$9,455.60	$8,510.00	$7,280.70				$3,451.50				**210**	**$34,371.20**
5	**TASK 5**	**ROM PRICING**														
5.1	ROM Pricing			1	6	8	16								31	$4,727.77
		Subtotals (Hours) =	N/A	1	6	8	16								31	$4,727.77
		Subtotals (Costs) =		$283.67	$1,418.34	$1,361.60	$1,664.16								**31**	**$4,727.77**
6	**TASK 6**															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
7	**TASK 7**															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
8	**TASK 8**															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
														TOTALS:	**509**	**$ 92,560.91**
	Subtask 1			60	58										118	$30,730.82
	Subtask 2			6	10	14	40	4							74	$11,554.68
	Subtask 3			$2.00	$10.00	$24.00	$40.00								76	$11,176.44
	Subtask 4			20	40	50	70				30				210	$34,371.20
	Subtask 5			100.0%	600.0%	800.0%	1600.0%								3100.0%	$4,727.77
	Subtask 6															
	Subtask 7															
	Subtask 8															
		Subtotals (Hours) =	N/A	89	124	96	166	4			30				509	
		Subtotals (Costs) =		$ 25,246.63	$ 29,312.36	$ 16,339.20	$ 17,265.66	$ 945.56	$ -	$ -	$ 3,451.50	$ -	$ -	$ -	509	$ 92,560.91
		Totals (Summary) =												**TOTALS:**	**509**	**$92,560.91**
		Total (Hours) =	N/A	89	124	96	166	4			30				509	
		Total (Costs) =		$25,246.63	$29,312.36	$16,339.20	$17,265.66	$945.56			$3,451.50					$92,560.91
		Percentage of Total (Hours) =	N/A	17%	24%	19%		1%			6%				67%	
		Percentage of Total (Costs) =		27%	32%	18%		1%			4%					81%

Work Order Estimate Summary

Consultant/ Subconsultant: **DOKKEN ENGINEERING**

Contract No: **G2075.0-18**

Task Order No. **WOA2075-AE-73**

Work Order Title: **Division 6 Conceptual Layout & Report**

Attachment: B

TASKS/WBS (1-5)

ODC Item	Description	Unit	Unit Cost	TASK 1		TASK 2		TASK 3		TASK 4		TASK 5	
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
			Subtotal =			Subtotal =		Subtotal =		Subtotal =		Subtotal =	

TASKS/WBS (6-10)

ODC Item	Description	TASK 6		TASK 7		TASK 8		TASK 9		TASK 10		Totals	
		Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		**Totals =**	

Work Order Estimate Summary

Total Hours = **48**

Total Costs = **$8,269.60**

Consultant/Subconsultant: **AGUIRRE & ASSOCIATES**

Work Order Title: **Division 6 Conceptual Layout & Report**

MTS Doc. No.: **G2075.0-18**

Work Order No.: **WOA2075-AE-73**

Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Chainman	Land Surveyor	Party Chief	Principal Land Surveyor	Project Land Surveyor	Survey Technician						Total Hours	Totals
				$ 211.84	$ 119.76	$ 209.64	$ 193.77	$ 154.69	$ 106.45							
1	TASK 1	PROJECT MANAGEMENT AND COORDINATION														
1.1	Project Management															
1.2	Meetings & Coordination															
1.3	Project Administration															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
2	TASK 2	DATA COLLECTION AND SITE ASSESSMENT														
2.1	Space Program Confirmation															
2.2	Research Existing Site Conditions															
2.3	Existing Conditions & Design Criteria Memorandum															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
3	TASK 3	TOPOGRAPHIC SURVEY AND SITE GRADING ANALYSIS														
3.1	Topographic Survey and Property Line Mapping			12		12	2	10	12						48	$8,269.60
3.2	Initial Site Grading Analysis															
		Subtotals (Hours) =	N/A	12		12	2	10	12						48	$8,269.60
		Subtotals (Costs) =		$2,542.08		$2,515.68	$387.54	$1,546.90	$1,277.40						**48**	**$8,269.60**
4	TASK 4	CONCEPTUAL SITE LAYOUTS AND TECHNICAL SUMMARY MEMORANDUM														
4.1	Conceptual Site Layout Development															
4.2	Conceptual Layout Workshop with MTS															
4.3	Technical Summary Memorandum															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
5	TASK 5	ROM PRICING														
5.1	ROM Pricing															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
6	TASK 6															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
7	TASK 7															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
8	TASK 8															
		Subtotals (Hours) =	N/A													
		Subtotals (Costs) =														
														TOTALS:	**48**	**$ 8,269.60**
	Subtask 1															
	Subtask 2															
	Subtask 3			$12.00		$12.00	$2.00	$10.00	$12.00						48	$8,269.60
	Subtask 4															
	Subtask 5															
	Subtask 6															
	Subtask 7															
	Subtask 8															
		Subtotals (Hours) =	N/A	12		12	2	10	12						48	
		Subtotals (Costs) =		$ 2,542.08	$ -	$ 2,515.68	$ 387.54	$ 1,546.90	$ 1,277.40	$ -	$ -	$ -	$ -	$ -	48	$ 8,269.60
		Totals (Summary) =												**TOTALS:**	**48**	**$8,269.60**
		Total (Hours) =	N/A	12		12	2	10	12						48	
		Total (Costs) =		$2,542.08		$2,515.68	$387.54	$1,546.90	$1,277.40							$8,269.60
		Percentage of Total (Hours) =	N/A	25%		25%		21%	25%						96%	
		Percentage of Total (Costs) =		31%		30%		19%	15%							95%

Work Order Estimate Summary

Consultant/ Subconsultant: **AGUIRRE & ASSOCIATES**

Contract No: **G2075.0-18**

Task Order No. **WOA2075-AE-73**

Work Order Title: **Division 6 Conceptual Layout & Report**

Attachment: B

TASKS/WBS (1-5)

ODC Item	Description	Unit	Unit Cost	TASK 1		TASK 2		TASK 3		TASK 4		TASK 5	
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1	Photogrammetry	LS	$2,950.00			1	$2,950.00						
2	Reference Maps	EA	$50.00			1	$50.00						
3													
4													
5													
6													
7													
8													
9													
10													
				Subtotal =		Subtotal =	**$3,000.00**	Subtotal =		Subtotal =		Subtotal =	

TASKS/WBS (6-10)

ODC Item	Description	TASK 6		TASK 7		TASK 8		TASK 9		TASK 10		Totals	
		Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1	Photogrammetry											**1**	**$2,950.00**
2	Reference Maps											**1**	**$50.00**
3													
4													
5													
6													
7													
8													
9													
10													
		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		**Totals =**	**$3,000.00**

Work Order Estimate Summary

Total Hours = **614**

Total Costs = **$105,212.65**

Consultant/Subconsultant: **WSP**

Work Order Title: **Division 6 Conceptual Layout & Report**

MTS Doc. No.: **G2075.0-18**

Work Order No.: **WOA2075-AE-73**

Attachment: B

Item	TASKS/WBS	TASKS/WBS Description	ODCs (See Attachment)	Senior Staff Manager $ 368.21	Project Controls Specialist $ 152.10	Staff Manager $ 292.22	Engineer 1 $ 103.35	Senior Supervising Engineer $ 261.20	Engineer II $ 126.55	Senior Technical Specialist $ 176.41	Senior Supervising Engineer $ 261.20	Technical Manager $ 340.66	Technical Specialist III $ 129.01	Engineer 1 $ 103.35	Planner II $ 104.03	Sr Architect $ 112.67	Sr Planning Manager $ 306.04	Total Hours	Totals
1	**TASK 1**	**PROJECT MANAGEMENT AND COORDINATION**																	
1.1		Project Management		4		5												9	$2,933.94
1.2		Meetings & Coordination		8		20	4			4								36	$9,909.12
1.3		Project Administration		12	12													24	$6,243.72
		Subtotals (Hours) =	N/A	24	12	25	4			4								69	$19,086.78
		Subtotals (Costs) =		$8,837.04	$1,825.20	$7,305.50	$413.40			$705.64								**69**	**$19,086.78**
2	**TASK 2**	**DATA COLLECTION AND SITE ASSESSMENT**																	
2.1		Space Program Confirmation		2		10	20											32	$5,725.62
2.2		Research Existing Site Conditions				2	10		12	4								28	$3,842.18
2.3		Existing Conditions & Design Criteria Memorandum				5	5			8								18	$3,389.13
		Subtotals (Hours) =	N/A	2		17	35		12	12								78	$12,956.93
		Subtotals (Costs) =		$736.42		$4,967.74	$3,617.25		$1,518.60	$2,116.92								**78**	**$12,956.93**
3	**TASK 3**	**TOPOGRAPHIC SURVEY AND SITE GRADING ANALYSIS**																	
3.1		Topographic Survey and Property Line Mapping																	
3.2		Initial Site Grading Analysis																	
		Subtotals (Hours) =	N/A																
		Subtotals (Costs) =																	
4	**TASK 4**	**CONCEPTUAL SITE LAYOUTS AND TECHNICAL SUMMARY MEMORANDUM**																	
4.1		Conceptual Site Layout Development		2		35	80		40	20	4					140		321	$44,640.92
4.2		Conceptual Layout Workshop with MTS		4		8	8			8								28	$6,048.68
4.3		Technical Summary Memorandum		4		16	20		8	8	4					8		68	$12,585.20
		Subtotals (Hours) =	N/A	10		59	108		48	36	8					148		417	$63,274.80
		Subtotals (Costs) =		$3,682.10		$17,240.98	$11,161.80		$6,074.40	$6,350.76	$2,089.60					$16,675.16		**417**	**$63,274.80**
5	**TASK 5**	**ROM PRICING**																	
5.1		ROM Pricing		6		8	20		4	8		4						50	$9,894.14
		Subtotals (Hours) =	N/A	6		8	20		4	8		4						50	$9,894.14
		Subtotals (Costs) =		$2,209.26		$2,337.76	$2,067.00		$506.20	$1,411.28		$1,362.64						**50**	**$9,894.14**
6	**TASK 6**																		
		Subtotals (Hours) =	N/A																
		Subtotals (Costs) =																	
7	**TASK 7**																		
		Subtotals (Hours) =	N/A																
		Subtotals (Costs) =																	
8	**TASK 8**																		
		Subtotals (Hours) =	N/A																
		Subtotals (Costs) =																	
																	TOTALS:	**614**	**$ 105,212.65**
		Subtask 1		24	12	25	4			4								69	$19,086.78
		Subtask 2		2		17	35		12	12								78	$12,956.93
		Subtask 3																	
		Subtask 4		10		59	108		48	36	8					148		417	$63,274.80
		Subtask 5		600.0%		800.0%	2000.0%		400.0%	800.0%		400.0%						5000.0%	$9,894.14
		Subtask 6																	
		Subtask 7																	
		Subtask 8																	
		Subtotals (Hours) =	N/A	42	12	109	167		64	60	8	4				148		614	
		Subtotals (Costs) =		$ 15,464.82	$ 1,825.20	$ 31,851.98	$ 17,259.45	$ -	$ 8,099.20	$ 10,584.60	$ 2,089.60	$ 1,362.64	$ -	$ -	$ -	$ 16,675.16	$ -	614	$ 105,212.65
		Totals (Summary) =															**TOTALS:**	**614**	**$105,212.65**
		Total (Hours) =	N/A	42	12	109	167		64	60	8	4				148		614	
		Total (Costs) =		$15,464.82	$1,825.20	$31,851.98	$17,259.45		$8,099.20	$10,584.60	$2,089.60	$1,362.64				$16,675.16			$105,212.65
		Percentage of Total (Hours) =	N/A	7%	2%	18%	27%		10%	10%	1%	1%				24%		100%	
		Percentage of Total (Costs) =		15%	2%	30%	16%		8%	10%	2%	1%				16%			100%

Work Order Estimate Summary

Consultant/ Subconsultant: **WSP**

Contract No: **G2075.0-18**

Task Order No. **WOA2075-AE-73**

Work Order Title: **Division 6 Conceptual Layout & Report**

Attachment: B

TASKS/WBS (1-5)

ODC Item	Description	Unit	Unit Cost	TASK 1		TASK 2		TASK 3		TASK 4		TASK 5	
				Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1	Repro & Graphics	LS	$1.00										
2	Deliveries	LS	$1.00										
3	Mileage	MI	$0.565			120	$67.80			200	$113.00		
4	Scanning	LS	$1.00										
5	Other (Photo, parking,etc.)	LS	$1.00			100	$100.00			100	$100.00		
6	Aerial Photography	LS	$1.00										
7	Hotel	EA	$250.00										
8	Meals	EA	$100.00										
9	Airfare RT Houston-San Diego	EA	$800.00										
10	Rental Car	LS	$85.00										
				Subtotal =		Subtotal =	**$167.80**	Subtotal =		Subtotal =	**$213.00**	Subtotal =	

TASKS/WBS (6-10)

ODC Item	Description	TASK 6		TASK 7		TASK 8		TASK 9		TASK 10		Totals	
		Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total	Quantity	Total
1	Repro & Graphics												
2	Deliveries												
3	Mileage											**320**	**$180.80**
4	Scanning												
5	Other (Photo, parking,etc.)											**200**	**$200.00**
6	Aerial Photography												
7	Hotel												
8	Meals												
9	Airfare RT Houston-San Diego												
10	Rental Car												
		Subtotal =		Subtotal =		Subtotal =		Subtotal =		Subtotal =		**Totals =**	**$380.80**

Metropolitan Transit System

DRAFT FOR EXECUTIVE COMMITTEE REVIEW DATE: 3/3/2022

Agenda Item No. 15

MEETING OF THE SAN DIEGO METROPOLITAN TRANSIT SYSTEM
BOARD OF DIRECTORS

March 10, 2022

SUBJECT:

PROPERTY INSURANCE RENEWAL

AGENDA ITEM WILL BE PROVIDED BEFORE BOARD MEETING

1255 Imperial Avenue, Suite 1000, San Diego, CA 92101-7490 • (619) 231-1466 • sdmts.com