

# Central Maintenance Facility Community Update



September 26, 2020

CUSTOMER FIRST: Safety & Security • An Integrated System • Modernizing Business Practices

# Meeting Agenda

- 1. Welcome
- 2. Updates Since February 2020
- 3. CMF Action Plan
- 4. CMF Action Plan Updates
  - Short-Term Goals
  - Mid-Term Goals
  - Long-Term Goals
- 5. CMF Drainage Project
- 6. Next Steps
- 7. Questions and Answers



## Welcome

- Spanish language translation is available /
   Traducción en Español disponible :
  - ID del seminario web: 874 3009 6352
  - Marcar 833-548-0276 (Ilamada gratuita) o
     833-548-0282 (Ilamada gratuita)
- During the presentation all attendees will remain muted. Please hold all questions until the Q&A segment of the presentation. More detailed instructions on how to ask questions will be given at that time.

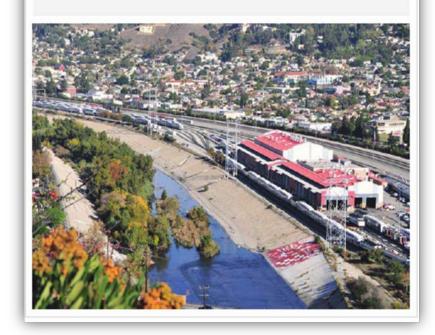


## CMF Action Plan

- Metrolink's 11-point plan to be a better neighbor by reducing noise and emissions and to be more accountable to surrounding communities.
- Adopted May 2019
- Goals:
  - $\circ$  Short-term = 0 6 months
  - $\circ$  Mid-term = 6 18 months
  - Long-term = 18+ months

# CENTRAL MAINTENANCE FACILITY ACTION PLAN

Being a Good Neighbor to the Communities We Serve



# Updates Since February 2020

- All 30 Tier 0 locomotives have been decommissioned as of March 25, 2020.
- 37 out of 40 Tier 4 locomotives are in service.
- California Air Resources Board (CARB) certified on September 1, 2020 that Tier 4 locomotives meet the required emissions standards.
- The drainage system that keeps run-off out of LA River and the City
   Sewer system was upgraded at the CMF. (Completed August 4, 2020)
- This month, Metrolink received the 2020 Sustainability Impact Award in the Energy Management from the Los Angeles Department of Water and Power (LADWP) for retrofitting and upgrading all building lighting at CMF.

# CMF Action Plan Update: Short-Term Goals

	Short-term Goal (0-6 months)	Status	Highlights
1)	Optimize use of ground power stations	1	<ul> <li>Completed August 1, 2019</li> <li>15 connections can be used at any one time</li> <li>Replacement cables received 12/19/2019</li> </ul>
2)	Installation of Sound Monitors	1	<ul> <li>Temporary installation completed July 1, 2019</li> <li>Two monitors each at 10 locations on the yard during a 4-week period</li> <li>Approx. key decibel readings: average (74.75) high (83.2) low (66.3)</li> </ul>
3)	Internal Audit	1	Completed November 8, 2019
4)	Independent New Noise Study	10%	In Progress
5)	Expedite 8 Tier 4 Locomotives into service	1	<ul> <li>Metrolink expedited eight Tier 4 locomotives into service on August 22, 2019 ahead of the target date.</li> <li>Metrolink has a total of 37 locomotives on property as of September 2020.</li> </ul>
6)	Change the Accountability Metrics of the Equipment Maintenance Contractor	1	New accountability metrics, incentives and penalties had been incorporated into a bundled procurement. That procurement was canceled in March 2020 due to affordability concerns. However, Operations staff identified improved management procedures to ensure contractor accountability. More in goal 11.

# Goal 1: Optimize use of ground power stations

Benefits: Cleaner air and less noise

#### Status:

- Completed August 1, 2019
- 15 active ground power stations
- Continuous monitoring to ensure compliance

#### **Findings:**

- Inconsistent use by contractors
- Malfunctioning ground power stations

## **Ongoing Actions Taken:**

- Continuous evaluation of power station usage to determine how we can improve
- New procedures with the contractor were implemented on September 16, 2019.
- Repaired ground power stations when needed, including replacement cables received December 19, 2019



# Goal 2: Installation of Sound Monitors

Benefits: Less noise

#### **Progress:**

- Completed July 1, 2019
- Two monitors each at 10 locations on the yard during a 4-week period.

#### **Findings:**

- Approx. key decibel readings: average (74.75) high (83.2) low (66.3)
- Noise levels highest during the horn and load testing throughout the day

#### **Ongoing Actions Taken:**

Procurement of permanent sound monitors in process



# Goal 3: Central Maintenance Facility Audit

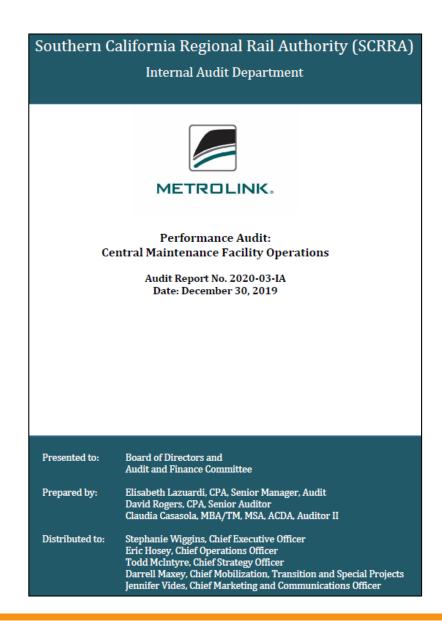
**Benefits:** Accountability of operating procedures and commitments already in place

#### **Progress:**

- Internal Audit completed November 8, 2019
- Internal Audit issued six findings

#### **Process:**

- Metrolink's Internal Audit Department had a kickoff meeting with departments involved
- Internal Audit toured the CMF Facility
- Internal Audit gathered procedures and materials from involved departments
- Audit report was provided to the Board of Directors in January 2020.
- Audit findings and corrective actions were presented to CMF community at the February 2020 meeting.



# Goal 3: Central Maintenance Facility Audit - Findings

Finding	Requirement
Contractor monitoring needs improvement	<ul> <li>No process was in place to monitor locomotives idling. An instance was noted where a locomotive was idling but there was nobody servicing the train</li> <li>No effective process in place to monitor compliance with load testing requirements</li> <li>Head End Power was running on 3 of the 5 test trips taken from Union Station to CMF</li> </ul>
2. Ground Power Stations missing equipment	<ul> <li>It was noted there were 26 out of 50 jumper cables needed to optimize the use of Ground Power Stations.</li> </ul>
3. Sand Silo Filter Housing: Timeliness and documentation of inspections needs improvement	<ul> <li>Inspection Documentation         <ul> <li>Pressure gauge readings, filter housing &amp; dust seal joint condition not consistently documented</li> </ul> </li> <li>Inspection Timeliness         <ul> <li>During the period between January 1, 2019 – October 31, 2019 two (2) instances of noncompliance noted</li> </ul> </li> </ul>
Sand Silo Hatch - Lack of guidance and training to use the access hatch	<ul> <li>Terminated sand delivery on September 28, 2019 due to damaged access hatch seal</li> <li>No guidelines to use the access hatch.</li> </ul>
5. Environment stewardship requirements are not consistently followed	<ul> <li>Instances where trash containers were not covered</li> <li>Excess trash noted in service area         <ul> <li>Plastic bottles, bottle caps, food containers, paper napkins, crushed cans, etc.</li> </ul> </li> <li>A loose drainage connection between a passenger car being serviced to the sewage receptacle         <ul> <li>No contamination was noted however due to overflow catch being in place</li> </ul> </li> </ul>
6. Various standard operating procedures are inconsistent with current practice or other internal documents	<ul> <li>Load testing times - Good Neighbor Standards and Practices vs. posted signs at CMF</li> <li>Sand delivery time frames (Saturdays between 10 AM – 12 PM) – SOP vs. practice</li> <li>Load testing areas – diagram on the Metrolink website vs. practice</li> </ul>

# Goal 3: Central Maintenance Facility Audit

Metrolink Responses

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Responses	Status
Audit Finding 1: Metrolink to provide contractors the current Good Neighbor Standards and Practices and Fuel Conservation Program	Completed 1/15/20
<ul> <li>Contractor received Good Neighbor Standards/Practices and Fuel Conservation Program</li> </ul>	
<ul> <li>Operations Manager will establish compliance checks with train crews at LAUS</li> </ul>	
Audit Finding 1: Equipment Contractor to document Head End Power (HEP) status where HEP should be turned off when arriving to CMF. Equipment Contractor to log emergency load testing performed outside of load testing area  Tracking began Permanent Sound Monitors to be installed at the CMF.	Completed 1/20/20
Audit Finding 1: Compliance checks to be established on Equipment Contractor for load testing on special trains as well as random compliance checks on idling equipment.	Completed 1/21/20
Audit Finding 2: Missing equipment received	Completed 12/9/19
Audit Finding 2: Good Neighbor Standard Practices to be drafted to clarify necessary equipment connections and usage of ground power stations.  SOP was drafted and submitted to Contractor and effective	Completed 1/21/20
Audit Finding 2: Ensure there is a 10% reserve inventory on Ground Power Station cables  o Receipt of inventory pending	Completed 9/22/20
Audit Finding 3: Inspections completed weekly. Email notification provided to Management following each inspection.	Completed 10/1/19
Audit Finding 3: Employees to be trained on required procedure	Completed 10/1/19

# Goal 3: Central Maintenance Facility Audit

## Metrolink Responses

Responses	Status
Audit Finding 4: Ensure Metrolink personnel are trained under new guidelines of SOP for sand delivery to address the use of the access hatch.	Completed 9/30/19
Audit Finding 5: Large new trash containers with damaged covers were replaced	Completed 1/16/20
Audit Finding 5: Housekeeping practices for each section of the facility are developed by contractor to address housekeeping. Checklists/ spot checks implemented.	Completed 11/7/19
Audit Finding 5: Equipment contractor required to red tag and remove any and all broken hoses	Completed 1/21/20
Audit Finding 6: Updated Sand Delivery times in the SOP. In the future, communication to the CMF community will reflected updated delivery times.	Completed 12/9/19
Audit Finding 6: Fuel Conservation Program updated to reflect the current Metrolink fleet and conservation policies.	Completed 1/31/20
Audit Finding 6: Updated locations and verbiage provided regarding load testing areas on the CMF map. Updated map has been posted to the website.	Completed 2/20/20

# Goal 4: Independent New Noise Study

Led by: LA Metro

Benefits: Less noise

#### **Progress (10%):**

 Metro has selected WSP through a Regional Rail on-call contract

#### **Next Steps:**

- Kick-Off Meeting
- Identification of Sensitive Receptors

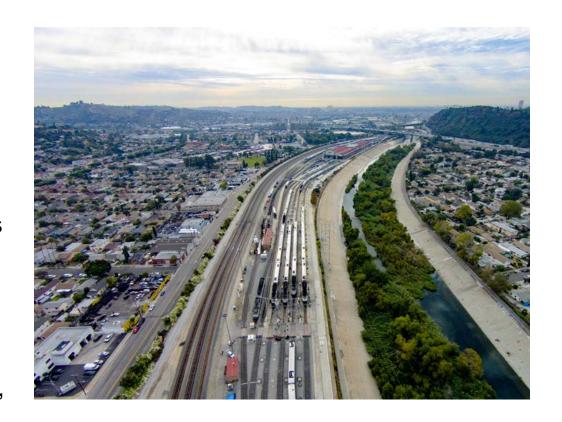
#### **Contact:**

Name: Brian Balderrama - Senior Director,

Program Management/Regional Rail

Email: <u>balderramab@metro.net</u>

Phone: (213) 418-3177



# CMF Noise and Vibration Study 30-Day Look Ahead

TASK	DATE
PDT No 1 (Concurrence on Sensitive Receiver	October 2 2020
Locations)	October 3, 2020
Start Conducting Noise & Vibration	October 5, 2020
Measurements	
Stop Noise & Vibration Measurements	October 22, 2020
and Compiling Data	October 23, 2020
DDT No. 2 (Drocont Dow Data Bosulta)	Week of
PDT No. 2 (Present Raw Data Results)	November 16, 2020



# CMF Noise and Vibration Study - Next Steps

Conduct on-line PDT Meeting, October 3, 2020

-Zoom Meeting ID: 953 7897 9858

Passcode: 582309

Metro

Audio Only: (669) 900-6833

- Project webpage and activity for receptor locations: <a href="https://arellano.mysocialpinpoint.com/metrolink-cmf-study/map#/sidebar/tab/about">https://arellano.mysocialpinpoint.com/metrolink-cmf-study/map#/sidebar/tab/about</a>
- Head to site this week to provide your comments.
- Measurements to account for both weekday and weekend service
- Volunteers for noise receptors to be placed in backyard email Metro PM, Brian Balderrama <u>balderramab@metro.net</u>

# Goal 5: Expedite 8 Tier 4 Locomotives into service

Benefits: Cleaner air

Tier 0 = unregulated emissions;

Tier 4 = Highest EPA standard for emissions

#### **Progress:**

- 8 new locomotives were deployed by August 20, 2019 - ahead of schedule
- Metrolink has 37 Tier 4 locomotives deployed in service with the final three anticipated to be delivered later this fall.

#### **Results:**

- Up to 85% reduction in emissions compared to Tier 0 locomotives
- Up to 65% reduction in emissions compared to Tier 2 locomotives



# Goal 6: Change the Accountability Metrics of the Equipment Maintenance Contractor

Benefits: Cleaner air and less noise

#### **Progress:**

 Metrolink staff included new accountability metrics as part of the new maintenance contracts which are being advertised

#### **Findings:**

Insufficient contract requirements pertaining to neighborhood impacts

#### **Results:**

• New accountability metrics, incentives and penalties had been incorporated into a bundled procurement. That procurement was canceled in March 2020 due to affordability concerns. However, Operations staff identified improved management procedures to ensure contractor accountability. More in goal 11.

# CMF Action Plan Update: Mid-Term Goals

N	lid-Term Goal (6-18 Months)	Status	Highlights
7)	Fleet Modernization Study	40%	Consultant team is continuing to engage overhaul vendors as well as other agencies to inventory overhaul options for Metrolink's Tier 2 fleet.
8)	CMF Modernization Study	40%	Consultant completed a baseline conditions assessment in July 2020. The consultant team is developing options address the identified operational needs and known community concerns. An initial set of options were shared with staff in mid-August and will be shared here today.
9)	Complete deployment of 40 Tier 4 Locomotives	92%	37 of 40 locomotives have been deployed. Due to delays related to COVID-19, the remaining Tier 4 locomotives will be delivered in fall 2020.

Benefits: Cleaner air and less noise

#### **Progress:**

- Developed a study scope and schedule
- Secured funding for study in FY20 budget
- Selected consultant to perform the study.
- Study commenced March 2020

#### Findings:

Work in progress. Findings included in Final Study

#### **Next steps:**

- Consultant team is working with overhaul vendors and other agencies to determine range of overhaul options for Metrolink's Tier 2 fleet.
- Also studying options for zero-emissions retrofit of decommissioned Tier 0 locomotives.
- Recommendations expected end of 2020.



# Goal 7: Fleet Modernization Study Study Objectives

Develop path forward for mid-life overhaul of Tier 2 fleet, including exploring the feasibility of a Tier 4 upgrade

Study zero emission and near zero emissions locomotive technologies, including battery electric, hydrogen fuel cell and hybrid locomotive systems, as well as renewable diesel and fuel optimizing systems

Coordinate activities with facilities modernization study and other regional efforts

Develop support and exhibits for future funding requests

This study will allow Metrolink to plan for a transition to zero emission future.

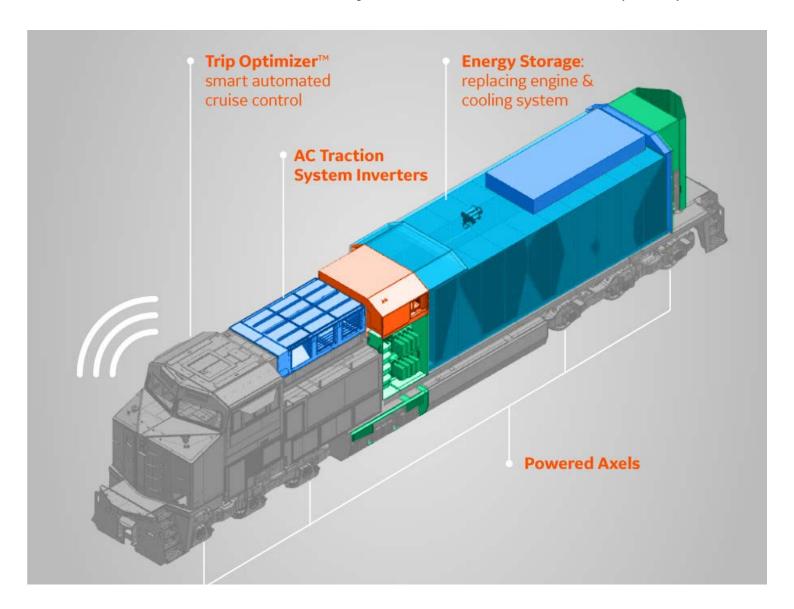
## Study Timeline

Action	Milestone
Study started	March 2020
Research available options for Mid-life Overhaul of Tier 2 Fleet including researching vendors and identifying solutions ranging from Tier 2 to Tier 4	Q2 2020 – Q3 2020
Research zero and near zero emissions technologies, perform simulation, interview vendors and agencies	Q2 2020 – Q3 2020
Develop Tier 2 Fleet Overhaul Recommendations and Implementation Plan	Q4 2020
Develop Zero and Near Emissions Recommendations and Implementation Plan	Q4 2020

# Goal 7: Fleet Modernization Study Metrolink Tier 2 Fleet Mid-life Overhaul MP36 Locomotives - Built 2008 - 15 Locomotives



BNSF-Wabtec Battery-Electric Locomotive (BEL)



## BNSF/ABB/Metra Battery Retrofit Partnership

- Partnership discussions underway to develop a battery retrofit kit.
- ABB has a product line of locomotive electrical power technology and batteries for this project.
- Retrofit locomotive would initially operate in a hybrid consist with a diesel electric locomotive.

Transition Strategies Under Study

- Explore renewable diesel demonstration
- Explore fuel optimizing software
- Purchase battery electric car mover for CMF



# Goal 8: CMF Modernization Study

Benefits: Cleaner air and less noise

#### **Progress:**

- Developed a draft of the study scope and schedule
- Secured approval for study funding in FY20 budget
- Per community request, staff met with Advanced Engineering Group (hood technology manufacturer)
- Selected vendor to perform the study.
   Documents to execute the study routed for approval.
- Study commenced February 2020

#### **Findings:**

To be determined upon completion of the study

#### **Next steps:**

WSP will be providing updates





# Presentatio n Overview

- 1. Need for Study
- 2. Study Objectives
- 3. Approach
- 4. CMF Site Map
- 5. Noise Concerns
- 6. Air Quality Concerns
- 7. Next Steps

# **Need for Study**

- 30-year old Central Maintenance Facility (CMF) ready for improvements
- Opportunities for operational efficiencies
- Community concerns around noise and diesel emissions
- Expansion of Eastern Maintenance Facility (EMF)
   can relieve some demands on CMF
- Support Lower/Zero-emissions technologies
- Support future changes to Metrolink Service



# **Study Objectives**

- Identify and recommend facility improvements to address community concerns
- Improve the functionality and productivity for fleet inspections, service, repairs, storage and rehabilitation
- Identify and explore improvements to support agency initiatives and near term, medium term and long-term goals
- Develop concepts and designs that are scalable with implementation plans
- Provide support documents for funding requests and member agency buy-in



# **Approach**

## 5 Phases:

- 1. Baselines and Needs Assessment
- 2. Research Technologies and Mitigation Measures
- 3. Evaluate Alternatives for Improvements and Make Recommendations
- 4. Draft Conceptual Designs and Implementation Plans, including Cost Estimates and Schedules
- 5. Prepare Final Study Documents



# **CMF Site Map**



# **Noise Concerns**

Concern	Potential Option
	A1: Sound isolating run-up shed outside locomotive shop
A. Load Testing	A2: Use of hood technology to isolate noise A3: Enclosure of portions of S & I tracks to isolate noise-causing operations behind sound walls
B. Idling Trains	B1: Additional ground power B2: Sound walls
C. Train Horn Testing	C1: Sound barriers
D. Sand Tower	D1: Daytime only deliveries, which have
Deliveries	already begun
	E1: Electric car movers
E. Yard Movements	E2: Reduce movements required for train
	maintenance
F. Early Morning/Late	F1: Expand other facilities' capabilities to
Trains	reduce the need



# **Air Quality Concerns**

Concern	Potential Option
	G1: Exploration of emissions reduction options through the overhaul of the Metrolink
G. Diesel Emissions	Tier 2 fleet (MP36)
O. Diesei Ellissions	G2: Metrolink Zero Emissions Demo
	G3: Use of hood/scrubber technology
H. Idling	H1: Use of additional ground power
Locomotives	
I. Load Testing	I1: Use of hood/scrubber technology
	J1: EV charging for fleet vehicles
	J2: Solar panel integration
	J3: Use of low energy lighting
J. Sustainability	J4: Use of battery electric car movers
	J5: Selection of building materials for long
	term investment with minimal environmental
	impacts





# **Next Steps**

Consider community feedback from meeting and provide study updates via the CMF Action Plan

Complete study report in early 2021

Identify funding for design and construction of study recommendations



# Goal 9: Complete deployment of 40 Tier 4 Locomotives

Benefits: Cleaner air

#### **Progress:**

- 37 locomotives have been deployed as of September 2020
- All legacy Tier 0 locomotives (30 total) decommissioned and removed from service
- Two Tier 2 locomotives have been decommissioned and removed from the yard

### **Findings:**

 California Air Resources Board (CARB) emissions certification recently completed, confirming a F125 meets Tier 4 emissions requirements after more than 100,000 service miles

#### **Next steps:**

 Due to COVID-19 related material supply delays, the remaining three Tier 4 locomotives are anticipated to be delivered in late fall 2020.







# Tier 4 Noise Reduction Efforts

#### Round 1

**Issue:** Original equipment cooling blowers operated at a single high-speed.

**Reduction Effort:** New improved blowers were installed allowing for high and low speed operation. While in the yard, these new blowers primarily operate at the low speed, reducing associated noise.

**Status:** Completed in 2017 during initial deployment of F125 fleet.

#### Round 2

**Issue:** During warm summer months, the engine radiator fans operate at a higher speed to cool the engine, resulting in more noise.

**Reduction Effort:** Software updates can adjust the engine cooling routine to minimize the high-speed operation of the radiator fans as much as possible.

**Status:** Metrolink has coordinated with the locomotive manufacturer to initiate a field test on a single unit to evaluate the effectiveness of this approach and ensure the engine and Tier 4 capabilities are not compromised. Once this approach is confirmed, an implementation schedule will be established and communicated to the community.

# CMF Action Plan Update: Long-Term Goals

Long-term Goal (18+ months)	Status	Highlights
10) Work towards a Zero-Emissions Future	10%	<ul> <li>Metrolink, in partnership with Metro, received a Transit and Intercity Rail Capital (TIRCP) grant to upgrade the Metrolink Antelope Valley Line and test zero-emissions train technology</li> <li>Ongoing conversation with AQMD continues relating to potential grant funding opportunities.</li> <li>SBCTA Alternative Fuels Study and ZEMU Pilot – staff are continuing to participate in monthly meetings with SBCTA.</li> <li>Staff continue to engage with industry partners and vendors offering zero emissions solutions.</li> </ul>
offering zero emissions solutions.      March 23, 2020, the Metrolink Board of Directors versions the bundled contract procurement due to budgetary      Staff developed a plan for future contracts and the	March 23, 2020, the Metrolink Board of Directors voted to cancel the bundled contract procurement due to budgetary concerns.	
11) New contracting approach		Staff developed a plan for future contracts and the plan was approved by the Board in April 2020. New train operations contract awarded in August 2020.
system-wide goes in effect with new accountability metrics.	75%	Staff are enforcing the Good Neighbor Policy with the existing Maintenance Contractor. Staff will determine how to integrate additional accountability measures into future contracts that will temporarily remain unbundled.
		Staff is evaluating how additional accountability measures can be integrated into current contracts (by amendment) and future contracts, some of which will currently remain unbundled.

# Goal 10: Work towards a Zero-Emissions Future

Benefits: Cleaner air and less noise

#### **Progress:**

- Metrolink, in partnership with Metro, received a Transit and Intercity Rail Capital
  (TIRCP) grant to upgrade the Metrolink Antelope Valley Line. The grant also includes
  funding for a zero emissions pilot project for the corridor. Planning for the pilot project
  will be explored as part of the Metrolink Fleet Management Plan Update, which is
  expected to be initiated in September.
- Ongoing conversation with AQMD continues relating to potential grant funding opportunities.
- SBCTA Alternative Fuels Study and ZEMU Pilot staff are continuing to participate in monthly coordination meeting with SBCTA.

#### Findings:

Learned about possible new technologies, gain experience

#### **Next steps:**

 Staff continue to engage with industry partners and vendors offering zero emissions solutions. Staff is continuously working on these efforts.

# Goal 11: New contracting approach system-wide goes in effect with new accountability metrics.

Benefits: Cleaner air and less noise

#### **Progress:**

 March 23, 2020, the Metrolink Board of Directors voted to cancel the bundled contract procurement due to budgetary concerns.

 Staff developed a plan for future action and the plan was taken to the Board for approval in April 2020. New train operations contract awarded in August 2020.

#### **Next steps:**

- Staff has reviewed all related current contracts and there are accountability measures in place.
- Currently, staff are monitoring contractor's performance and are utilizing those accountability measures when needed for enforcement of the Good Neighbor Policy.
- For any future contractor procurements whether they are independent or bundled, staff will make sure accountability measures are in place to enforce the Good Neighbor Policy.



# CMF Drainage Project

**Purpose:** Upgrade drainage system to ensure the long-term continued reliability of our stormwater and sewage systems.

**Benefits:** Continue to ensure the water that is used for maintenance of Metrolink trains is kept separated from the environment.

#### Schedule:

Start date: January 22, 2020

End date: August 4, 2020

• Cost: \$2.6 million

#### **Current Status:**

- Upgrade is complete.
- You may see light clean-up activities to include adjustments to equipment and programming of the pumps.



# Questions and Answers

Facilitated by: Todd McIntyre, Chief Strategy Officer

- If you are accessing Zoom online or a mobile device, please ask your question by clicking the Q&A button( ). Please type your first and last name, then type your question.
- If you prefer to speak your question, press the "Raise Hand" button ( Raise Hand ) where
   you are ready to ask your question.
  - Todd McIntyre will unmute you and state that you have been unmuted. Please state your first and last name, and ask your question.
  - o To lower your hand click the same button, now labeled "Lower Hand."
- If you have joined the Zoom call by dialing in, please raise your hand by pressing \*9.
  - Once Todd McIntyre has unmuted your phone, you will hear the prompt "you have been unmuted." Please unmute yourself by pressing \*6, then state your first and last name, and ask your question.
  - To lower your hand, press \*9 again.



# Next Steps

Keep in Touch

 Our next community meeting will be held in February 2020. Please keep in touch with us to receive all details as they come.

metrolinktrains.com/community  To view past meeting materials, action plans, newsletters, and background information.
24/7 Public Affairs Hotline: (213) 452-0400
communityrelations@scrra.net,  Sign up HERE to receive e-mail updates such as: construction/maintenance notices, action plans, newsletters, and upcoming meeting invites.

# Next Steps

## How to Access the Virtual Meeting Room

We invite you to visit our CMF Virtual Meeting Room (VMR):

- Simply click on the link in the "chat" section of your screen
- Scan the QR code on the screen by using your phone or tablet device





Or visit <u>www.virtualeventroom.com/metrolink-cmf/</u>

The CMF Virtual Meeting Room (VMR) will be live for 30 days. Materials will be available for viewing on the Metrolink Community website afterwards.