

Caltrain Fleet Maintenance Update

Citizens Advisory Committee
September 21, 2022
Agenda Item 7



Agenda

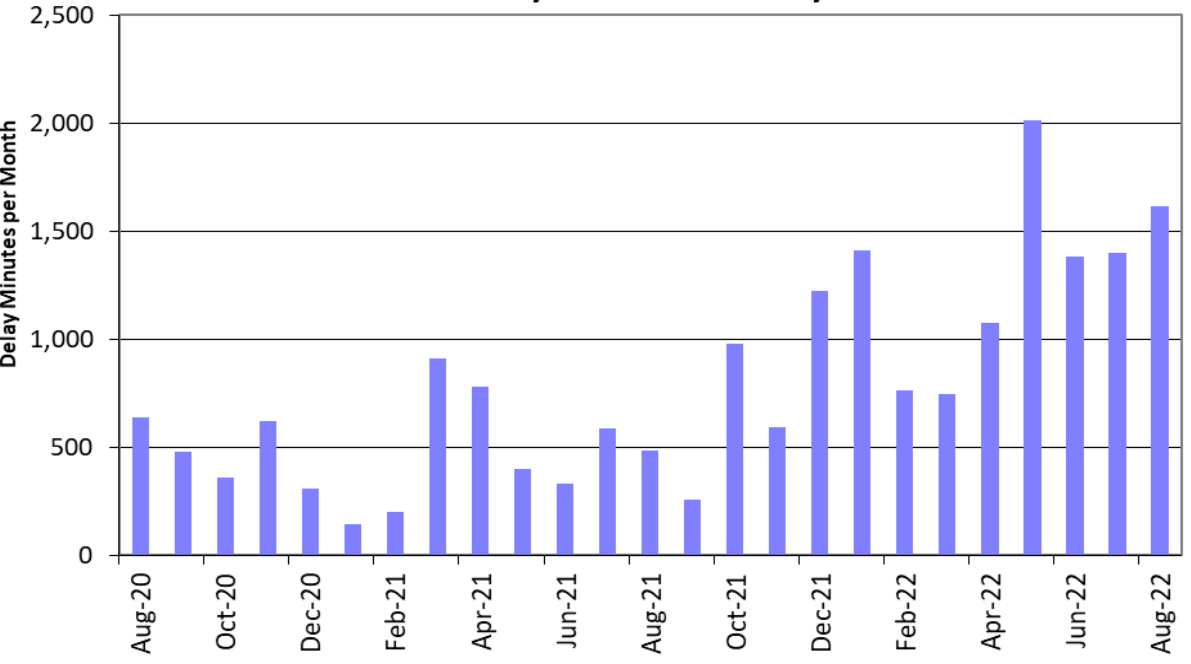
- **Current Fleet Conditions**
- **Impacts of Aging Fleet**
- **Locomotive Reliability Plan**
- **Heat Advisory Restrictions**
- **Questions**

Current Fleet Conditions

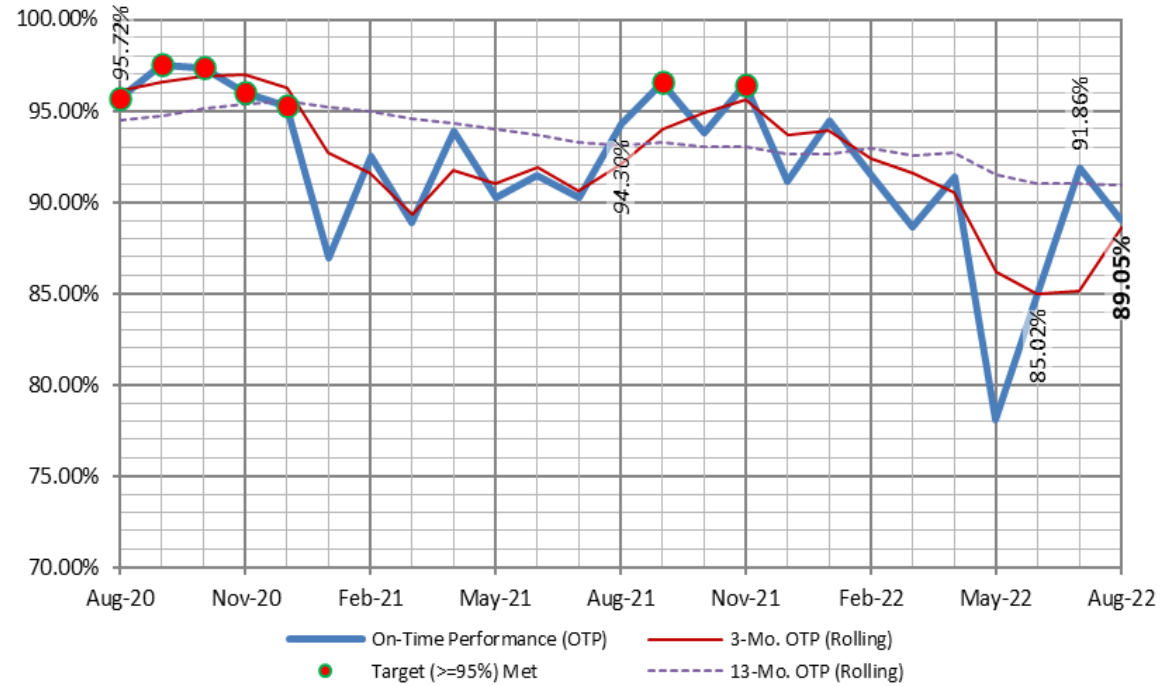
- The majority of Caltrain's existing fleet dates from 1985 and has reached the end of its useful life, leading to breakdowns and increasingly frequent service disruptions.
- Fleet Breakdown
 - 29 Total Locomotives
 - 17 Required for Revenue Service
 - Years Built:
 - 1985 (18 locomotives), 1987 (2 locomotives)
 - 1998 (3 locomotives), 2003 (6 locomotives)

Impacts of Aging Diesel Fleet

Monthly Mechanical Delays



Caltrain Monthly On-Time Performance (OTP)



Locomotive Reliability Plan

- Caltrain is focused on two types of urgent repairs to keep locomotives in a state of good repair through the launch of electrified service:
 1. Head End Power (HEP) Replacements
 2. In-Frame Engine Overhauls
- Challenges:
 - Long lead times for procuring necessary replacement parts
 - Limited spares require cycling locomotives through repair process incrementally
 - In order to maintain daily service, only 2-4 locomotives are released at a time for overhaul work. Caltrain currently has 2 locomotives at CEMOF undergoing in-frame engine overhauls and 2 locomotives at Alstom for mid-life overhauls.

Locomotive Reliability Plan

- Head End Power (HEP) Replacements
 - HEP is the electrical power distribution which supplies lighting and HVAC
- In-Frame Engine Overhauls
 - Reconditioning of re-usable main frame components and re-assembly with new engine components
- Timeline
 - 6 HEP engine replacements planned between Feb. '23 and June '24
 - 4 In-Frame overhauls planned between now and June '23
 - MP36 mid-life overhauls ongoing in Mare Island, CA

Heat Advisory Speed Restrictions

- Caltrain's diesel fleet is aging and is more prone to mechanical issues caused by extreme heat.
- Additionally, during periods of extreme heat, conditions exist that could affect track structure (e.g., sun kinks or track buckles).
- When a Level 1 or 2 Heat Restriction is in effect, trains using the Caltrain Right-of-Way must operate within the following limits:

Heat Level	Speed Application	Passenger Train MPH	Freight Train MPH
1 (above 95 degrees)	Do not exceed	60	40
2 (above 105 degrees)	Do not exceed	50	30

Extreme Heat Contingency Plans

- Caltrain may proactively suspend Baby Bullet service in extreme heat in order to maintain consistent and reliable service throughout the day.
- Other unplanned train annulments may occur during extreme heat periods depending on the impacts to locomotives.
- Slow-down rules are essential to ensure customer safety. Caltrain will communicate planned service impacts with as much advance notice as possible and inform customers in real-time of unplanned service changes.

Questions?