



# KC Streetcar Track Repair Effort



RideKC  
**STREETCAR**™

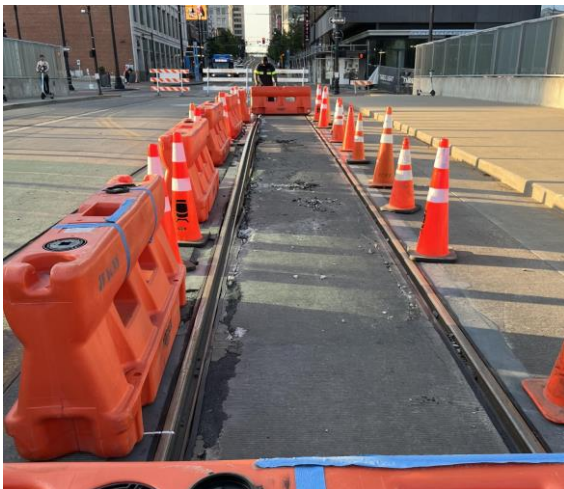


**KANSAS CITY  
MISSOURI**

# AGENDA

- Event Overview and Timeline
- Engineering and Repair Approach
- Operations and Communications Response
- Return to Service and Safety Certification
- SSO Response and Considerations
- Lessons Learned and Key Takeaways
- Question and Answer





## EVENT OVERVIEW AND TIMELINE

- Approx. 14:03 in the afternoon of July 4, 2023
- Operator was approaching bridge and noticed “kink” in the rail
- At maximum, rail measured 12” above grade
- Coordinated with SSO, KCPD, KCFD, and KC Public Works over subsequent three hours
- 17:02 - Streetcars safely escorted
- 18:15 - Scene released and bridge was shutdown

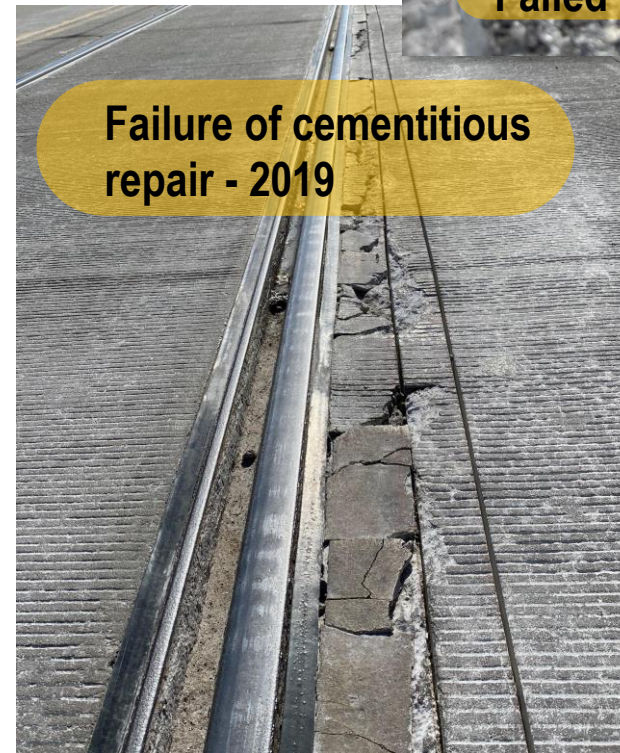
# ROOT CAUSE EVALUATION

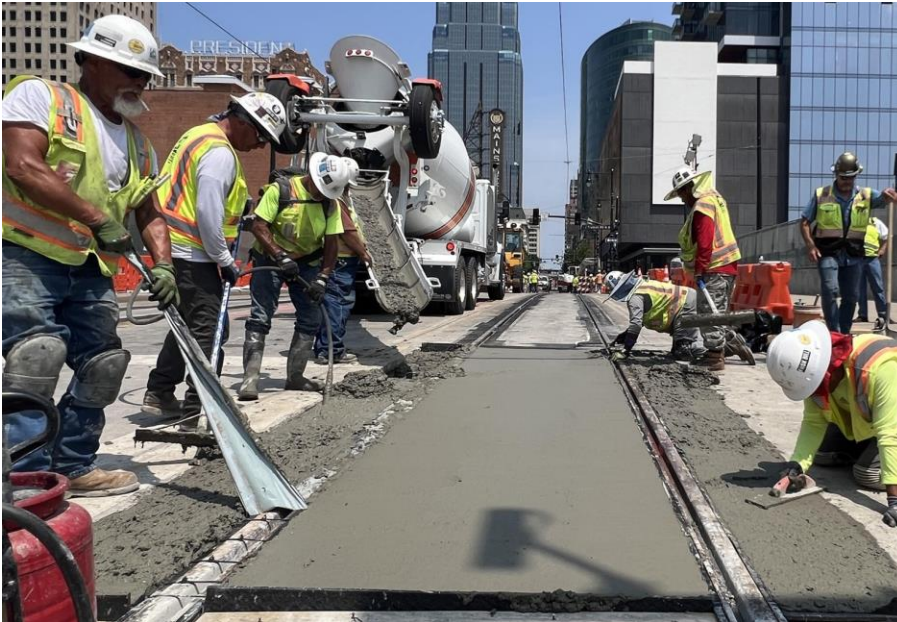
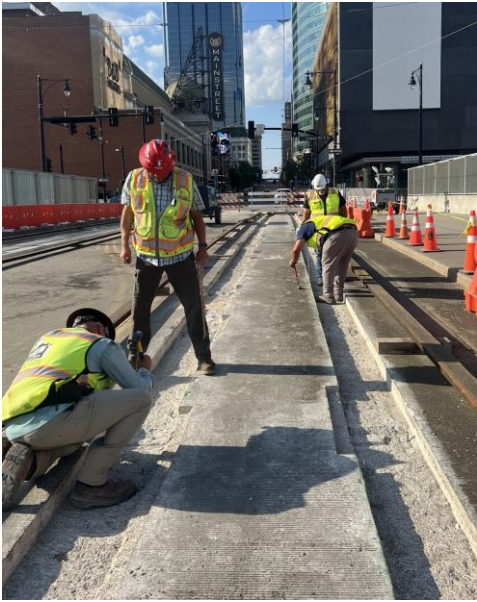
## History

- Bridge was built before the rest of the track
- Prior cementitious repairs were made in the summer of 2019 and fall of 2020
- Cementitious material failed and moved to elastomeric material

## Root Cause

- Concrete degradation
- Elastomeric repair failure
- Loss of rail “anchor”
- Thermal expansion





# ENGINEERING AND REPAIR APPROACH

Team Effort: Kansas City Streetcar Authority; City of Kansas City, Missouri; KC Streetcar Constructors Joint Venture; Engineering Team; and others

- 7/4: Rail buckle on bridge over I-670
- 7/5: On-site review with local partners + developed repair strategy
- 7/6-7/11: Demolition + rail reparation
- 7/12-7/15: Set rail + installed elastomeric grout
- 7/14-7/20: Rail welding + poured approach slabs
- 7/20: Testing
- 7/21: Return to full service

# OPERATIONS & COMMUNICATIONS RESPONSE

- Immediate deployment of RideKC bus bridge (Streetcar Link)
- Identified sustainable transit service (RideKC Main MAX re-route) to connect passengers during Streetcar outage
- Customized stop-specific information at each KC Streetcar stop
- Passenger and stakeholder communication via text alerts, social media, printed signage, and media alerts
- On-site interviews and consistent & transparent communication with print, TV, and radio media outlets
- Webpage to track repair progress [kcstreetcar.org/service-alert-july-4-2023/](https://kcstreetcar.org/service-alert-july-4-2023/)
- Streetcar Operators as ambassadors and resources on re-routed buses and route

RideKC Message: While KC Streetcar service is suspended due to track repairs, riders can use the downtown Main Street MAX bus service which has been re-routed to the downtown KC Streetcar line (from Grand to Main St). The southern portion of the route (past Union Station) remains the same. The Main Street MAX will service the streetcar route, stopping at all designated and open streetcar stops EXCEPT for Kauffman Northbound and Power & Light Northbound. Main St MAX will run every day w/ 20-30 arrival times, ending at midnight Sunday - Saturday. Streetcar track repairs are estimated to continue for 2-3 weeks. Updates can be found on our website <https://kcstreetcar.org/service-alert-july-4-2023/> and on all KC Streetcar social media channels. Thank you for your patience and for riding RideKC transit!

Text Message



**KC Streetcar** @kcstreetcar · 7/14/23  
 Crews made great progress overnight setting #kcstreetcar rails & pouring grout on the Main St Bridge over I-670. Work will continue tonight & this weekend. During this time, @RideKCTransit buses will provide service on the route w/ 20-30 min frequencies.



2 2 28 2,682



Good afternoon,

I would love to give a shout out to Jean Flowers, a streetcar operator. During the time the streetcar was down, Ms. Flowers was present on the bus. She went above and beyond to help all of us passengers in our confusion...to get to the right places. ...

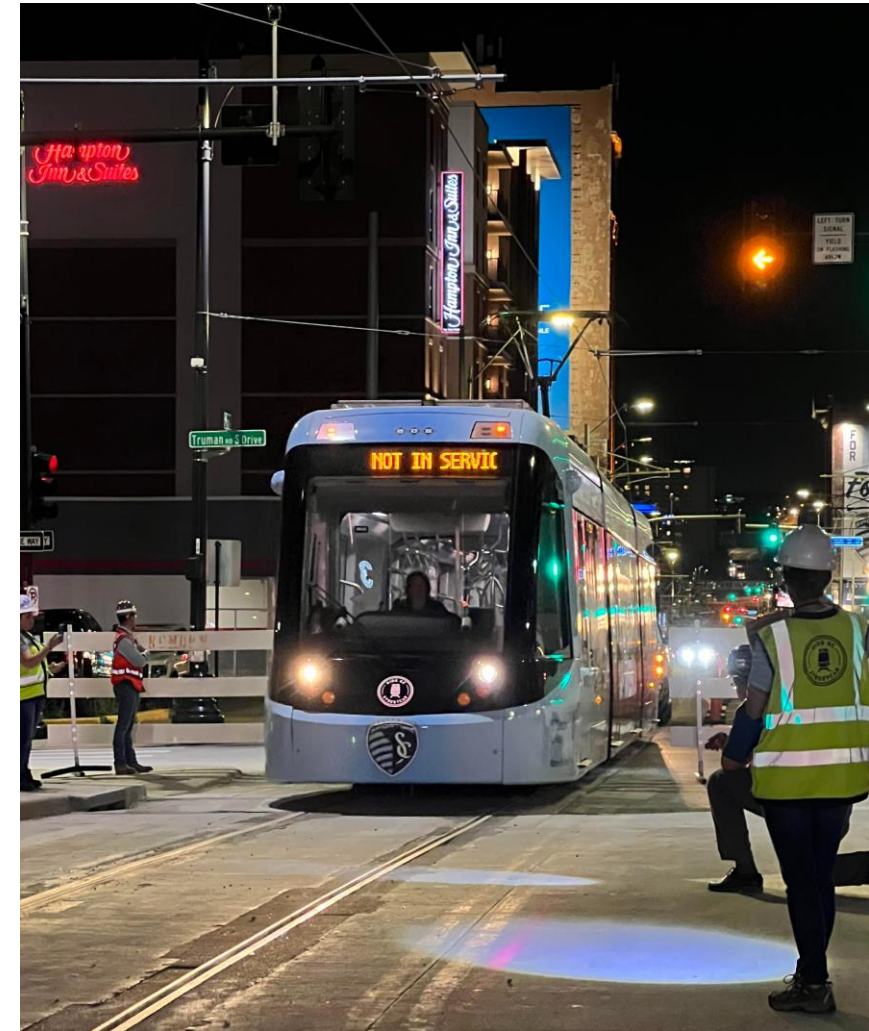
She was welcoming, approachable, confident and came across credible and competent. I was so appreciative of her! She put all of us at ease. She deserves the highest praise!!

Sara Estrada



# RETURN TO SERVICE & SAFETY CERTIFICATION

- Thorough track slab and rail alignment review (HTSI + KCSA + Engineer)
- No similar failures were identified
- Concurrent preventative maintenance completed during the outage
- Completed certified items and on-route testing at the completion of the repair
- Returned to full service on July 21st, 2023 (two-and-a-half-week outage)





# OPERATIONS & PERFORMANCE PRE- & POST- REPAIR

Bus ridership on Main Street Corridor during streetcar outage:

- ~ 20% of weekday ridership
- ~ 10% of weekend ridership



## Comparison of Streetcar Ridership Pre- and Post-Repair:

End of June (Pre Repair)		End of July (Post Repair)		Day of Week
6/23	6,170	7/21	6,143	Friday
6/24	10,758	7/22	10,478	Saturday
6/25	6,336	7/23	5,619	Sunday
6/26	4,485	7/24	3,557	Monday
6/27	4,430	7/25	4,124	Tuesday
6/28	4,422	7/26	5,358	Wednesday
6/29	4,190	7/27	5,938	Thursday
6/30	5,191	7/28	6,878	Friday
7/1	10,833	7/29	10,388	Saturday
7/2	6,607	7/30	5,744	Sunday
	63,422		64,227	

## SSO RESPONSE & CONSIDERATIONS

- Initial Notification of an Unacceptable Hazard was made in a timely manner per the PSM
- Agency Response and replies were made in a manner well above the minimums required or outlined
- The response timeline was met and service resumed within the planned window
- SSO was on site to witness the final stages of the repair efforts and testing prior to re-opening of service

# LESSONS LEARNED, KEY TAKEAWAYS & INNOVATIONS

- Creativity
  - Innovation in materials, thoughtful repairs
- Emergency Response
  - Partnerships, personal relationships
- Operational Response
  - Bus Bridge Deployment, Staff Re-Deployment
- Communication with riders, public, & media
- Transit Asset Management and SMS



## QUESTION & ANSWER