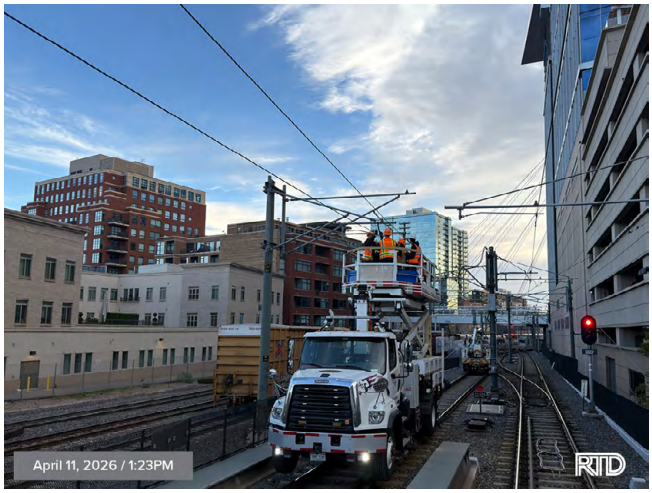
Denver Union Station System Upgrades

Project Complete

Tuesday, April 14, 2026

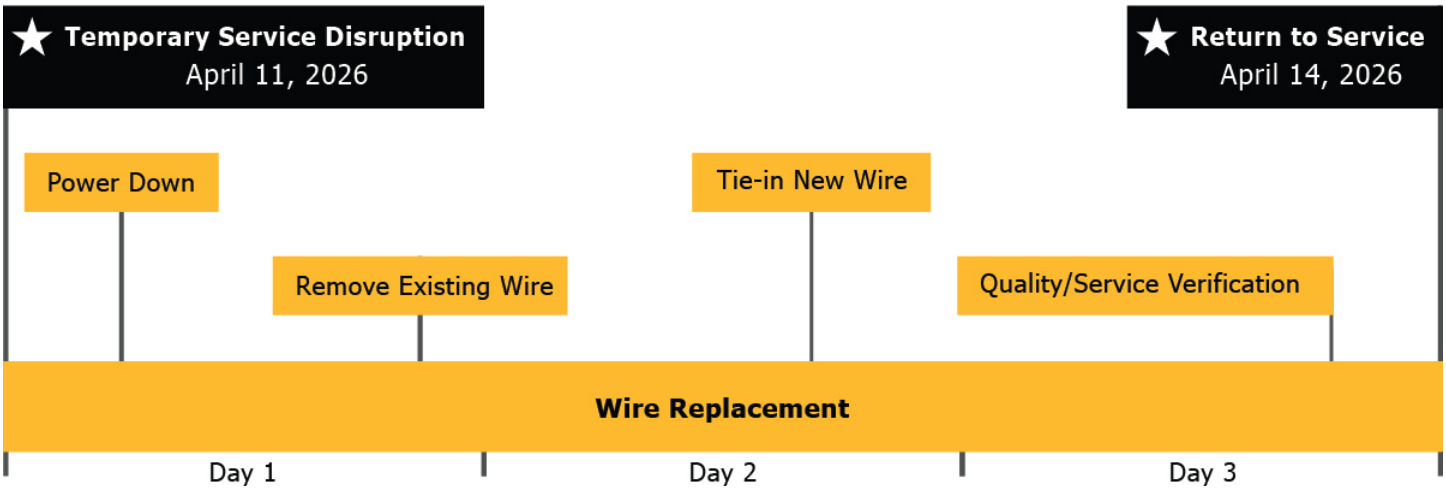
Overview:
The **Regional Transportation District (RTD)** replaced overhead electrical wires Saturday, April 11 through Monday, April 13 at **Denver Union Station.** As a part of the **Building a Better RTD** strategic initiative, this proactive maintenance will ensure safe and reliable operations for the agency's **E** and **W light rail** lines.



Safety Moment:
Bikes, strollers, and wheelchairs may require extra care at rail crossings. When crossing, always use marked crosswalks and approach the tracks at a right angle to help prevent wheels from getting caught or stuck. Move carefully and keep full control of your equipment at all times. If conditions feel unsafe, such as limited visibility, crowded areas, or poor surface conditions, seek assistance or choose an alternate route. Taking an extra moment to assess the crossing before proceeding can help ensure a safer experience.

Prepared by
RTD Infrastructure Team

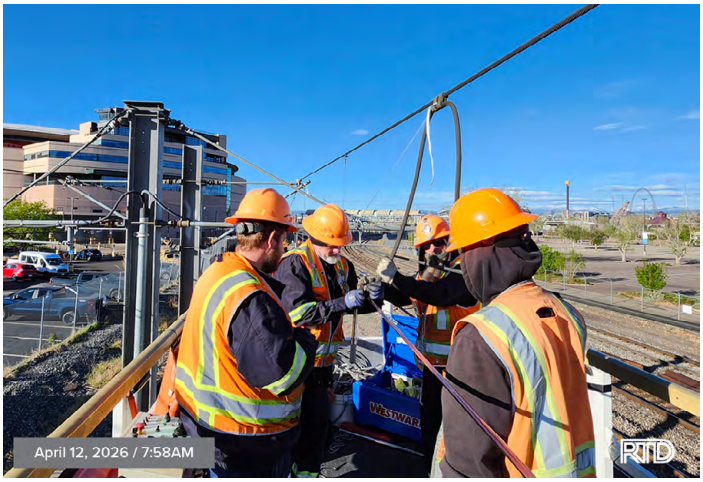
Timeline



The timeline above provides a breakdown of project milestones.

Week in Review

1 | Raising Counterweights
Ball Arena | April 11, 12:11 PM

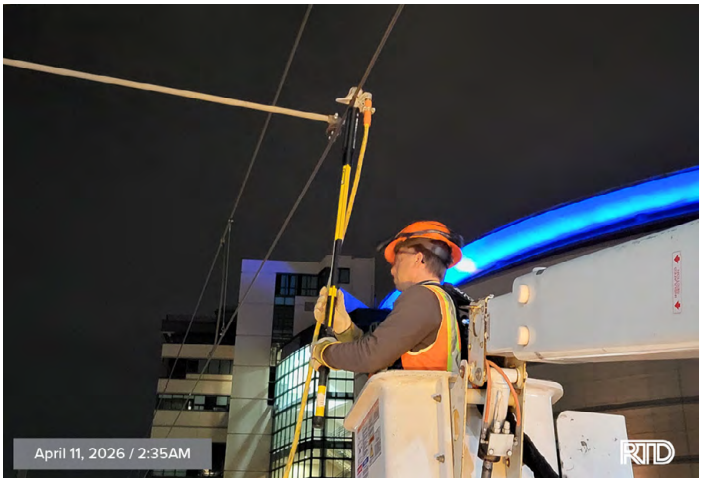


2 | Installing New Wire
Ball Arena | April 12, 7:58 AM

In the early morning hours of Saturday, April 11, RTD's **Maintenance of Way (MOW)** crews powered down the electrified overhead wires in the project work area near Denver Union Station. The wires are part of the **overhead contact system**, or **OCS**, that power the trains. As part of the power down, Maintenance of Way staff followed a predetermined **lockout-tagout** (LOTO) procedure to ensure that the power was off and that it could not be accidentally re-energized during the work. With the power off, crews temporarily raised the **counterweights** that keep tension on the overhead wires during operation. The existing wire was removed, cut to a smaller size and recycled locally. MOW crews then began installing the over **1,600 linear feet** of **new wire**. The new wire was attached to "steady arms" on the OCS poles by crews using specialized high-rail vehicles with bucket and scissor lifts.

Safety Obeservtions

Quality Observations



Grounding the Overhead Wire
Ball Arena | April 11, 2:35 AM

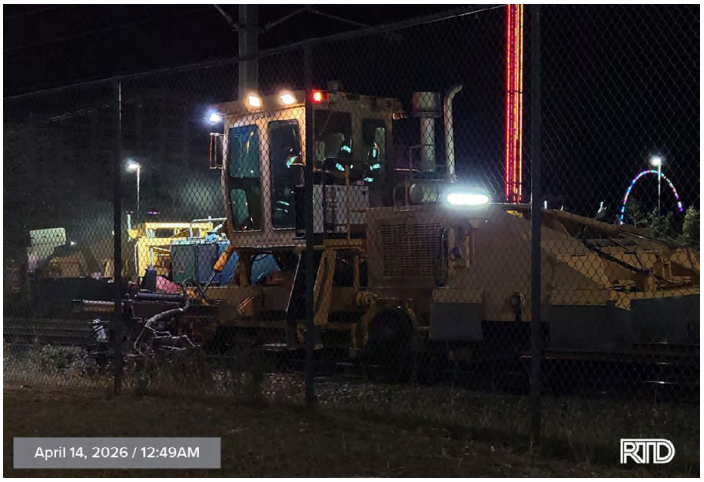
Verifying Wire Height and Alignment
Ball Arena | April 12 3:48 PM

After powering down the OCS and prior to starting removal work, crews used a tool called a **"hot stick"** to attach a ground cable to the overhead wires. The other end of the large grounding cable was clamped to the rail head and crews used a **voltage meter** to confirm that zero volts of electricity are detected in the wires prior to beginning work on the system. The use of the grounding cable gives personnel working on the alignment a visual indicator that the power remains off.
This can be very important during shift changes during the work.

A critical part of the quality procedure for the MOW team is verifying the precise height and alignment of the OCS wire using a **wire height and stagger gauge**. This quality assurance verification ensures that the interface is maintained between the OCS wire and the **pantograph**, the "T" shaped bar on the top of the light rail trains. Confirming that there is positive contact between the two components makes sure that the train will receive **continuous power** and that the pantograph utilizes its full width, resulting in a longer usable life and less maintenance.

Amplifying Results

New TWC Loop
Union Station | April 13, 4:18 PM



Regulating Ballast
Yale Street Bridge | April 14, 12:49 AM

Maintenance of Way crews worked around the clock during the three-day temporary service disruption, replacing the overhead wires and making other repairs that cannot be completed during regular service hours. Crews upgraded a **train-to-wayside communication (TWC) loop**, installing a newer model that is more resilient to environmental factors. These loops allow trains to communicate their position to switches and signals along the tracks. As added value, MOW was able to inspect system components like insulators to verify condition and replace where necessary.

During the temporary service disruption, crews also **regulated ballast** on the light rail tracks between Ball Arena●Elitch Gardens and Empower Field at Mile High stations. This essential maintenance activity ensures the tracks are stable and properly aligned, resulting in a **smoother ride** for RTD customers. Crews regulated ballast on approximately **3,800 feet of track** over three days.

RTD's system upgrades to the light rail at Denver Union Station are complete. Service to and from Union Station on **E** and **W lines** was interrupted beginning at the start of service on **Saturday, April 11**, and regular service for all lines resumed on **Tuesday, April 14**.

Angel Peña and Maintenance of Way Team
Deputy Chief Executive Officer