

## TRRA Signal App

### Overview

The Terminal Railroad Association of St. Louis (TRRA) is responsible for maintaining critical rail infrastructure across the St. Louis region, including the timely resolution of grade-crossing, power-switch, and signal malfunctions. To mitigate operational risk and improve incident response effectiveness, Savvy Technical Solutions (Savvy) modernized the TRRA's repair-tracking capability by replacing a legacy, on-premises system with a secure, cloud-based application.

### At a Glance

- Replaced a legacy Microsoft Access database with a cloud-based Power Platform solution
- Enabled real-time collaboration between dispatchers and field technicians
- Reduced manual handoffs, errors, and communication delays
- Delivered auditable, compliant monthly repair reporting
- Scaled the platform to support future time-tracking integration

### Background

The TRRA was using an antiquated Microsoft Access database to log and track repairs. This application was cumbersome to use, had shown signs of data instability, and was not cloud-enabled. Field technicians performing repairs didn't have access to the application, requiring personnel internally to manually communicate with the field employees and log their activities in the application. This slowed response times, was prone to manual error and miscommunications, and created general operational risk.

### About Terminal Railroad Association of St. Louis



The Mission of TRRA is to provide a premier rail transportation infrastructure

with a superior workforce that delivers the highest level of safe, efficient, and reliable service to customers throughout North America.

## Solution

Savvy worked with the TRAA to build a new application to replace the existing one, using the Power Platform, and SharePoint Online. The new application facilitates the following repair lifecycle:

- Dispatchers log issues in the Power App.
- Signalmen view and claim work remotely.
- Repairs are logged in real time.
- Supervisors review and approve completed work.
- Monthly compliance reports are automatically generated.

## Project Components

- **SharePoint:** The application uses SharePoint Online for data storage, reducing extra licensing costs.
- **Power Platform:** The Power Platform was chosen because the low-code nature of the platform provided for rapid development and deployment of the custom solution and requires minimum platform maintenance.
- **Power Apps:** All staff access the application using a canvas Power App. The canvas app employs advanced logic, such as showing and hiding fields based on the current state of the ticket or showing and hiding dropdown menu options based on other menu selections.
- **Power Automate:** E-mail notifications and reminders happen via Power Automate flows. Additionally, scheduled flows generate monthly reports, but users can also trigger flows to create an ad hoc report if requested through the app.

## About Savvy Technical Solutions

Savvy Technical Solutions is a consulting company with a focus on helping companies improve the way they work through the use of Microsoft technologies. We are a Microsoft Solutions Partner for Modern Work as well as a certified Woman-Owned Business (WOB).



## Screenshots

**TRRA Signal Application**

<p><b>Grade Crossing Malfunctions</b></p> <p>+ Log New Grade Crossing Malfunction</p> <p>☰ View Grade Crossing Malfunctions</p> <p>📄 Run Grade Crossings Malfunction Report</p> <p>Start: <input type="text" value="4/8/2026"/></p> <p>End: <input type="text" value="5/8/2026"/></p> <p style="text-align: center; background-color: #4CAF50; color: white; padding: 5px;">Run Report</p>	<p><b>Power Switch/Signal Malfunction</b></p> <p>+ Log New Power Switch/Signal Malfunction</p> <p>☰ View Power Switch/Signal Malfunctions</p> <p>📄 Power Switch/Signal Malfunction Report</p> <p>Start: <input type="text" value="4/8/2026"/></p> <p>End: <input type="text" value="5/8/2026"/></p> <p style="text-align: center; background-color: #4CAF50; color: white; padding: 5px;">Run Report</p>
--	--

← New Power Switch/Signal Malfunction
Start Over

<p><b>Subdivision</b> Select a subdivision</p> <p><b>Control Point</b> Select a control point</p> <p><b>Asset</b> Choose an asset</p> <p>Asset Type: Milepost:</p> <p>Reporter's Name <input type="text"/></p> <p><b>Time Called</b> Select a date <input type="text" value="00"/> : <input type="text" value="00"/></p>	<p><b>Failure Type</b> Select a failure type</p> <p><b>Signalman Notified</b> Choose a signalman <small>You may choose from the following users</small></p>
--	---

← Grade Crossing Malfunction: 205
Start Over

Street Name: Destrehan Ave.	DOT #: 803-3495	Signalman Notified <input type="text"/>
	Subdivision: Merchants Sub	
	Milepost: 5.58	
<b>Type of Warning System Malfunction</b>		
Malfunction Description <input type="text"/>		
Type of Failure Partial Activation		
<b>Notification</b>		
TRPD Officer Notified <input type="text"/>	Method of Protection XH - Automatic Crossing Device Not Working Properly	
Train Crews Notified Yes		

## Grade Crossing Warning System Malfunction

Form 234.109

---

ID: 163	DOT #: 803-100Y	Street Name: 15th & Lincoln Ave.
Date & Time: 12/1/2025 11:32 AM		Milepost: 3.82
Status: Closed		Subdivision: Illinois Transfer
Signalman Notified: <input type="text"/>		
<b>Type of Warning System Malfunction</b>		
Malfunction Description: <input type="text"/>		
Type of Failure:	False Activation	
Method of Protection:	XH - Automatic Crossing Device Not Working Properly	
Police Officer Notified:	<input type="text"/>	
Reported By:	Rail Employee	
Train Crews Notified:	Yes	

## Leadership



Our president, Becky Bertram, has been granted the prestigious MVP award by Microsoft for

SharePoint and Microsoft 365 Apps and Services every year since 2009. She is also a Microsoft Certified Trainer (MCT) and has authored multiple Microsoft professional exams.



## Outcome

As a result of this new application:

- Manual dispatcher-to-field communication was reduced, preventing communication errors.
- Remote staff can access the application, improving the speed and efficiency of responding to repair requests.
- The risk of the Access database serving as a single point of failure was eliminated.
- Auditing readiness was improved through standardized and automated reporting. These official and binding reports are available to be submitted to the Federal Railroad Administration (FRA) as part of the code of Federal Regulations.
- Because of the robust nature of the data structure put in place, TRRA decided to extend this application further to add a time tracking component to the application so repair activities can be tracked against allocated budget.

## Conclusion

Savvy Technical Solutions was able to assist TRRA by upgrading a legacy application to a more modern application built on Microsoft 365 and the Power Platform, that provides better stability, access and quality to its users and to the organization as a whole.

Office: 618.726.7986

E-mail: [info@savtechsol.com](mailto:info@savtechsol.com)

[www.savvytechnicalsolutions.com](http://www.savvytechnicalsolutions.com)

### **Illinois**

530 Aladar Dr.

O'Fallon, IL 62269

### **Missouri**

6 Cardinal Way

Suite 900

St. Louis, MO 63102