RiaaS Road Assessment Pilot Proposal

3-Month Pilot Project

Brazoria County, Texas

Prepared by:
Dareesoft North America Inc.

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1. Executive Summary

Brazoria County is seeking more rapid, frequent, and accurate methods to perform Pavement Condition Assessment—a critical component of roadway maintenance and long-term asset planning. Traditional assessment methods rely on highly expensive line-scan systems and specialized inspection vehicles, limiting assessments to **once per year** or, in many regions, **once every two to three years**. Because pavement conditions can deteriorate within days, weeks, or months, low-frequency assessment is insufficient for timely and data-driven decision-making.

Dareesoft proposes a 3-month pilot utilizing the **Road Monitor platform**, a rapid AI-driven pavement assessment system that operates on regular County vehicles. Road Monitor automatically detects **potholes, cracks, debris, and rutting**, while also capturing high-resolution imagery, generating GIS-based distress maps, and producing IRI and RRA (Rapid Road Assessment) indicators.

As part of this pilot, Dareesoft will develop a **customized rutting severity model** tailored to Brazoria County's own definitions and integrate it into the Road Monitor platform.

With four ARA-30 devices deployed across the County's Operations Centers, Dareesoft will deliver **continuous, real-time road condition data** throughout the pilot—allowing the County to observe pavement condition fluctuations on a daily, weekly, or monthly basis instead of relying on annual inspections.

2. Problem & Current Industry Limitations

The challenges faced by Brazoria County reflect limitations in the **entire pavement inspection industry**, not specific issues with the County.

Key Limitations of Traditional Pavement Assessment

1. Extremely high equipment cost
Traditional pavement inspection requires specialized vehicles equipped with laser line scanners and multi-camera hardware, costing hundreds of thousands of dollars. This restricts inspection frequency.

2. Low-frequency assessments
Most agencies assess pavement conditions annually or once every 2–3 years, which is too infrequent to capture rapid deterioration.

3. Lack of progressive visibility
Potholes, cracks, debris, and rutting can form or worsen quickly. Traditional inspections cannot track short-term condition changes.

4. Reduced responsiveness
Maintenance prioritization often relies on outdated assessments, making budget allocation less precise.

Agencies increasingly require **continuous, high-frequency, and objective** Pavement Condition Assessment. Road Monitor directly addresses these needs.

3. Solution Overview: Road Monitor Platform

Road Monitor is a fully integrated, AI-powered platform engineered for **Rapid Condition Assessment**. It enables consistent, automated evaluation of roadway surfaces using ordinary fleet vehicles.

Core Capabilities

- Automated detection of:
  - Potholes
  - Cracks
  - Debris
  - Rutting (customized for Brazoria County)
- High-resolution images every 5 meters
- Continuous pavement condition updates (daily, weekly, monthly)
- IRI and RRA calculation
- GIS-based visualization of roadway distress
- Virtual drive-through inspection
- Fully compatible with County GIS systems

As part of this pilot, rutting detection will be enhanced and incorporated into the Road Monitor workflow based on Brazoria County's preferred severity criteria.

4. Pilot Objectives

Technical Objectives

- Deploy Road Monitor across four County vehicles
- Automate detection of four major distresses
- Provide high-frequency, real-time road condition updates
- Deliver high-resolution roadway imagery
- Provide IRI and RRA indicators via the platform

Rutting Customization Objective

- Rutting detection is already technically feasible
- Severity levels differ across jurisdictions
- This pilot will establish **Brazoria County's rutting severity definition**, which will be trained into the AI model and integrated into Road Monitor

Operational Objectives

- Collect continuous data during normal County vehicle routes
- Provide training and operational support
- Conduct weekly governance and refinement meetings

Strategic Objectives

- Build a continuous pavement monitoring framework
- Improve maintenance prioritization and funding allocation
- Reduce dependence on low-frequency, high-cost inspections

5. Scope of Work

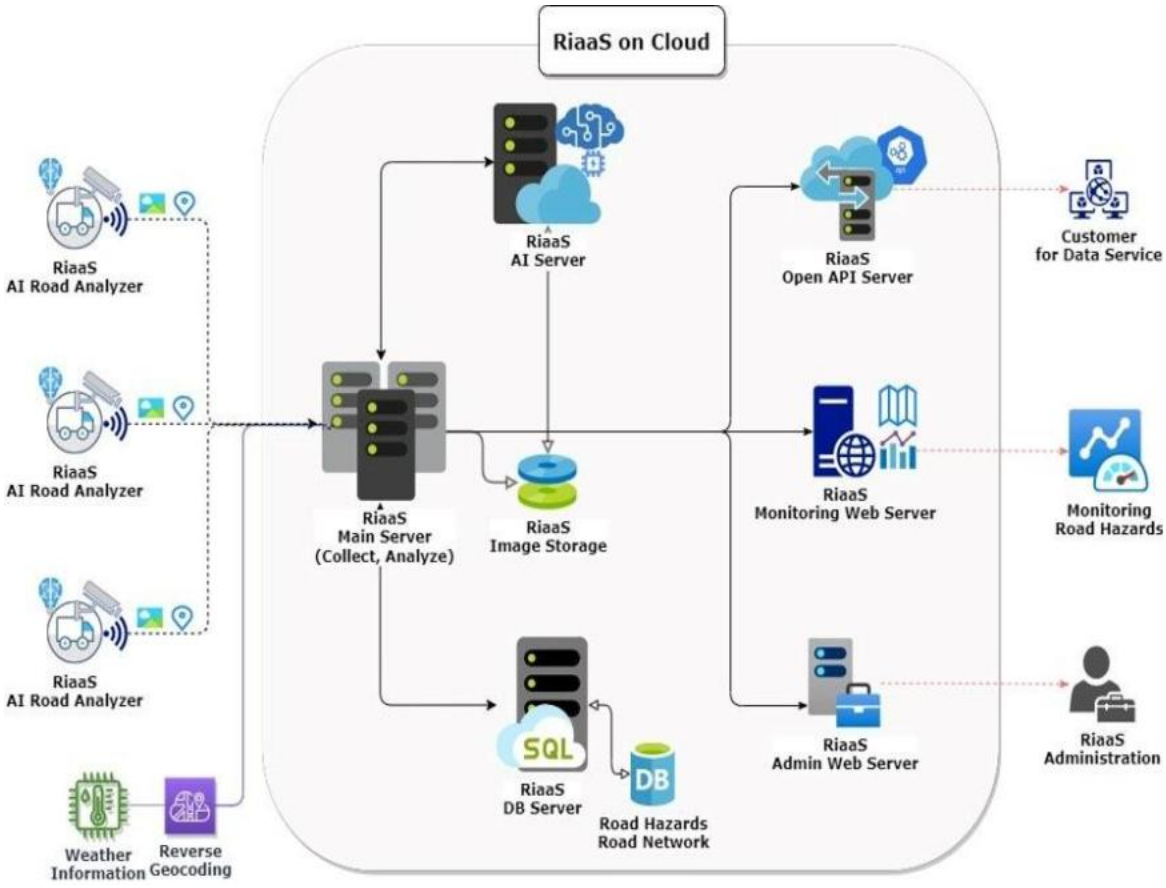
Dareesoft will deliver the following project components:

- Provide four ARA-30 AI Road Analyzer units
- Deploy Road Monitor platform for full pilot duration
- Enable automated detection of:
    - Potholes
    - Cracks
    - Debris
    - Rutting (customized for Brazoria County)
- Calibrate rutting severity according to County standards
- Provide real-time condition scores with RRA
- Deliver GIS-ready layers throughout pilot
- Weekly review meetings
- Technical support and operational monitoring
- Scale-up recommendations

6. Technical Approach

6.1 Data Collection

- During the pilot, ARA-30 devices installed on regular County vehicles will continuously collect pavement images and GPS-based location data as the vehicles follow their normal daily routes. The devices capture high-resolution images approximately every five meters and upload them to Road Monitor either in real time or through delayed transmission depending on coverage. Basic on-device filtering ensures that only clear, usable images are processed. This rapid collection method allows the County to gather pavement condition data daily—without deploying any specialized inspection vehicles.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RiaaS
AI Road Analyzer
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Weather
Information
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Open API Server
RiaaS
Monitoring Web Server
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for Data Service
Monitoring
Road Hazards
RiaaS
Administration

6.2 Pavement Analysis

- All collected data is analyzed through the Road Monitor platform, which automatically detects potholes, cracks, debris, and rutting. The platform produces real-time pavement condition updates that reflect day-to-day changes and provides supporting indicators such as IRI (International Roughness Index) and RRA (Rapid Road Assessment). Results are presented through an interactive GIS-based map and image viewer, enabling County staff to quickly review conditions or visually verify segments through a virtual drive-through interface.

6.3 Rutting Model Integration

- The pilot will include the development of a rutting severity scale that reflects Brazoria County's own standards. While rutting detection is already supported, the County-specific severity definitions will be trained and refined throughout the pilot using local examples. Once validated, the customized severity model will be fully integrated into Road Monitor so that rutting scores align with the County's pavement management criteria.

6.4 GIS Integration

- RoadMonitor is designed to integrate seamlessly with Brazoria County's existing GIS environment. If the County already uses a specific asset management platform or GIS-based system, Road Monitor can interface with those workflows by aligning distress information and pavement condition outputs to the County's provided shapefiles and roadway segmentation. All condition data, mapping layers, and distress results can be synchronized with the County's GIS platform, enabling staff to continue working within familiar tools while accessing up-to-date pavement condition information generated through the pilot.

7. Implementation Plan & Timeline

Phase 1 (Weeks 1–2): Kickoff, Setup, and Initial Operation

- Kickoff session with County staff
- Installation of four ARA-30 units
- Training on device usage and platform workflows
- Initial data capture and rutting calibration
- Begin daily pavement condition updates

Phase 2 (Weeks 3–10): Continuous Monitoring & Model Refinement

- Continuous daily scanning via County vehicle operations
- Automatic daily/weekly pavement condition updates
- Iterative refinement of rutting severity model
- Weekly governance meetings with County
- Continuous availability of updated distress maps

Phase 3 (Weeks 11–12): Operational Wrap-Up & Scale-Up Recommendations

- Continued real-time pavement monitoring
- Validation of the customized rutting severity model
- Summary of operational learnings
- Recommendations for County-wide scale-up
- End-of-pilot review with County leadership

8. Roles & Responsibilities

Brazoria County Responsibilities

- **Provide vehicles and information for installation**
  County will assign four vehicles suitable for ARA-30 installation.
- **Provide shapefiles and GIS files**
  Ensures seamless integration and route segmentation.
- **Identify rutting hotspots**
  Helps accelerate severity calibration.
- **Participate in weekly review meetings**
  To refine the model and align operational needs.
- **Support regular vehicle operations**
  Daily routes enable continuous pavement data collection.

Dareesoft Responsibilities

- **Install and configure devices**
  Full installation, calibration, and testing on County vehicles.
- **Configure Road Monitor platform**
  Set up County routes, GIS layers, and user accounts.

- **Provide staff training**
  Includes device handling, workflow, and dashboard usage.
- **Conduct flexible customization**
  Tailor rutting severity model and platform settings to County needs.
- **Deliver continuous pavement condition updates**
  Daily and weekly distress maps available on the platform.
- **Provide ongoing technical support**
  Troubleshooting, data validation, and proactive monitoring.
- **Provide scale-up recommendations**
  Support County in planning potential full deployment.

9. Deliverables

Platform Deliverables

- Full access to Road Monitor platform
- Four fully installed ARA-30 units
- Continuous automated detection (potholes, cracks, debris, rutting)
- Continuous high-resolution image capture

Data & Visualization Deliverables

- Real-time distress maps updated daily/weekly
- Real-time IRI & RRA values through the platform
- GIS integration automatically updated

Support Deliverables

- Weekly review meetings
- Continuous technical support
- Flexible customization based on County feedback
- Scale-up recommendation package

10. Budget

Total Fixed Cost: USD 20,000.00

Includes:

- **Four ARA-30 devices (3-month duration)**
- **Road Monitor platform**
- **Customized rutting severity modeling**
- **Weekly governance**
- **Technical support**
- **GIS integration**
- **End-of-pilot recommendations**

No additional or hidden fees.

11. Post-Pilot Options

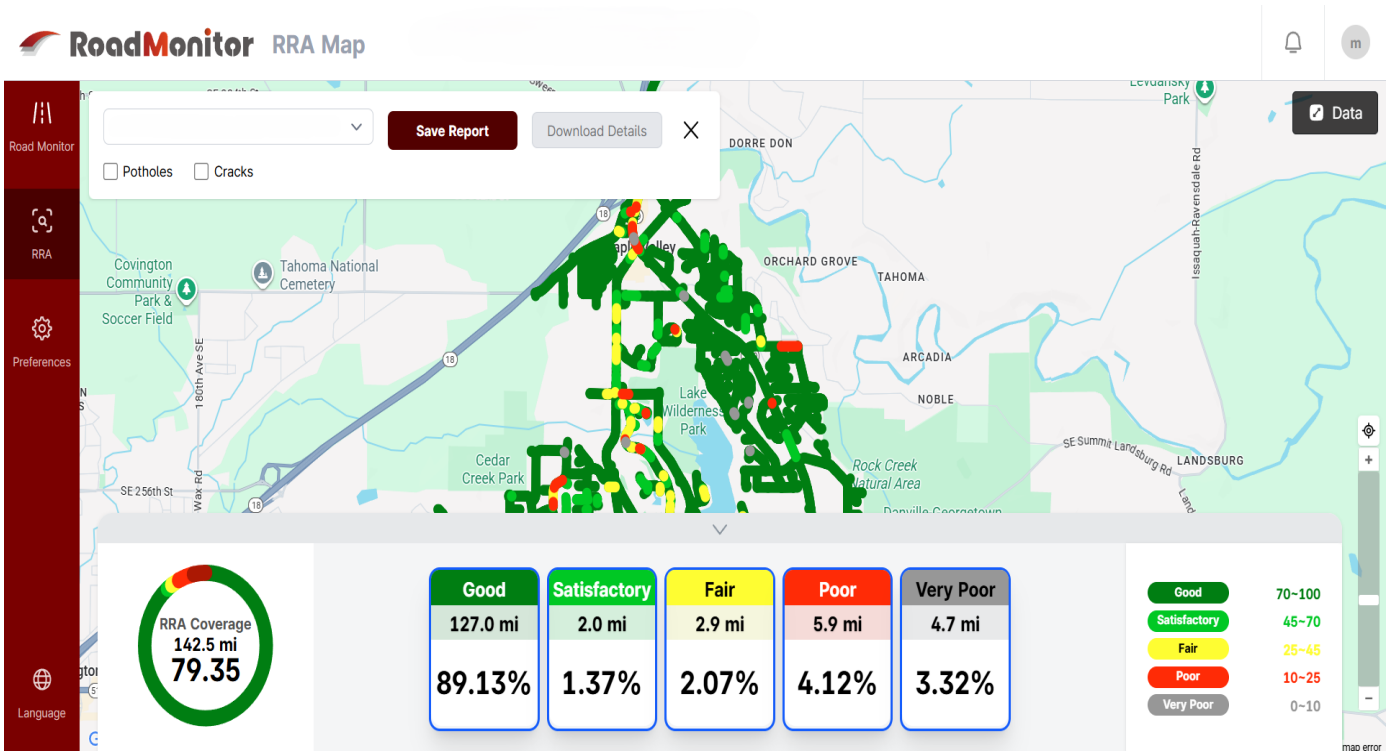
- County-wide Road Monitor deployment
- Integration with Work Order Management systems – RoadKeeper
- Multi-year subscription plans

12. Conclusion & Next Steps

Road Monitor enables Brazoria County to transition from annual or multi-year pavement assessments to **continuous, real-time Road Condition Monitoring**—improving accuracy, responsiveness, and long-term asset planning.

Next Steps

1. Confirm pilot project agreement
2. Provide vehicle list (Model, Car Power Socket Availabilities)
3. Provide GIS shapefiles
4. Identify rutting hotspots
5. Finalize agreement and schedule kickoff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TAHOMA
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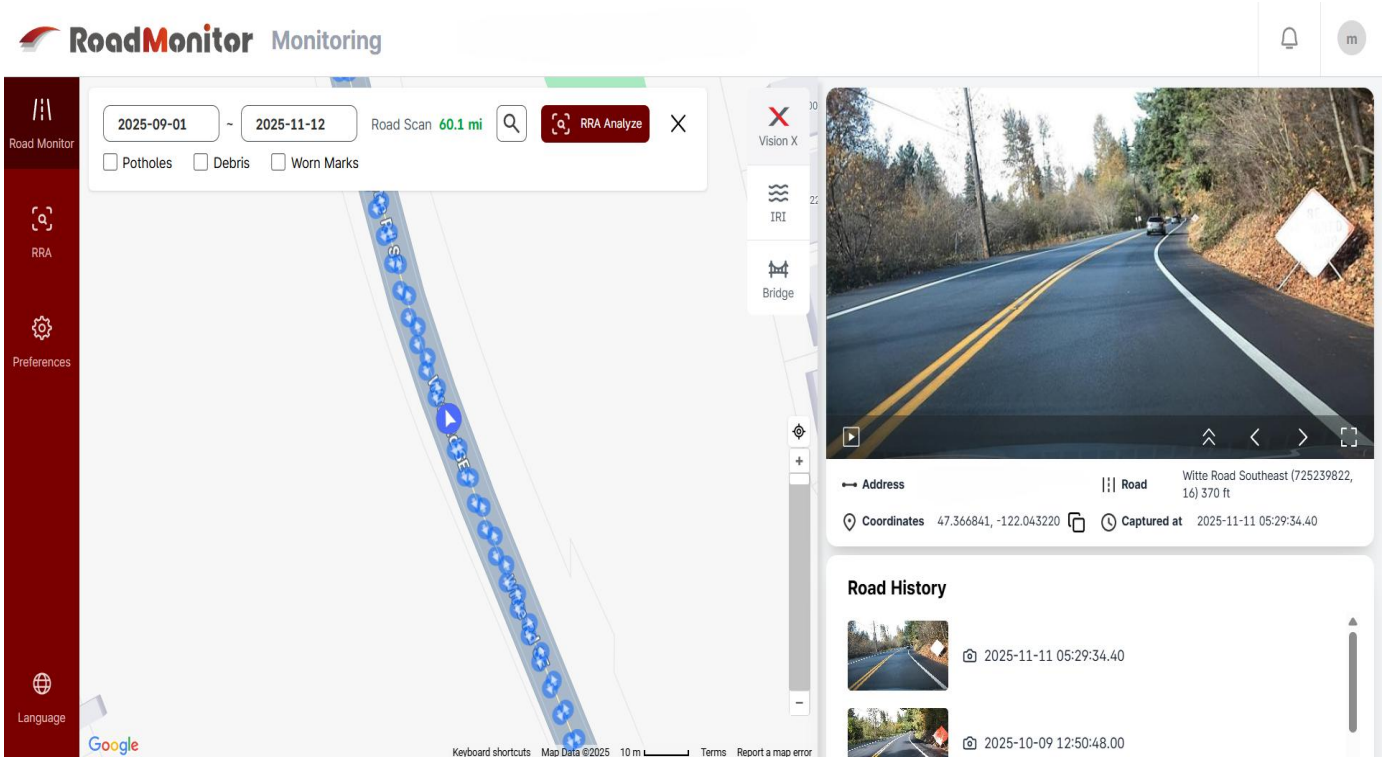
NOBLE
LANDSBURG
Covington Community Park & Soccer Field
Tahoma National Cemetery
Lake Wilderness Park
Cedar Creek Park
Rock Creek Natural Area
SE 256th St
SE Summit Landsburg Rd
RRA Coverage
142.5 mi
79.35
Good
127.0 mi
89.13%
Satisfactory
2.0 mi
1.37%
Fair
2.9 mi
2.07%
Poor
5.9 mi
4.12%
Very Poor
4.7 mi
3.32%
Good 70~100
Satisfactory 45~70
Fair 25~45
Poor 10~25
Very Poor 0~10


RoadMonitor Monitoring
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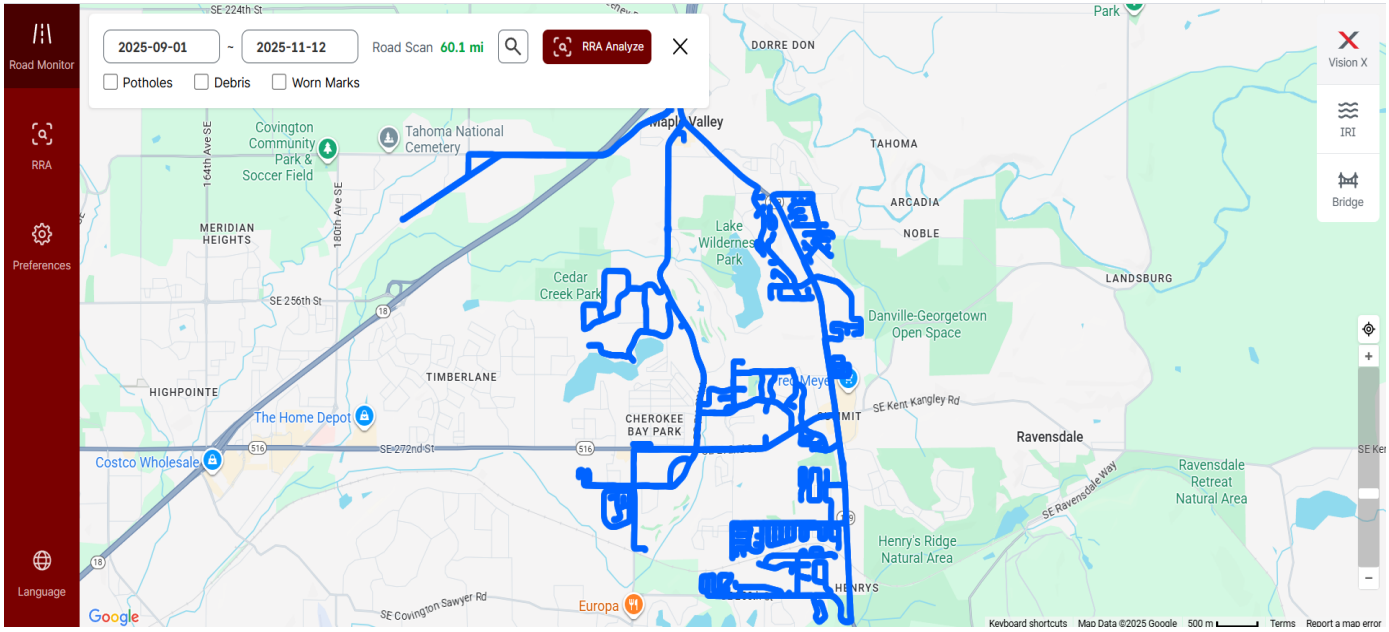
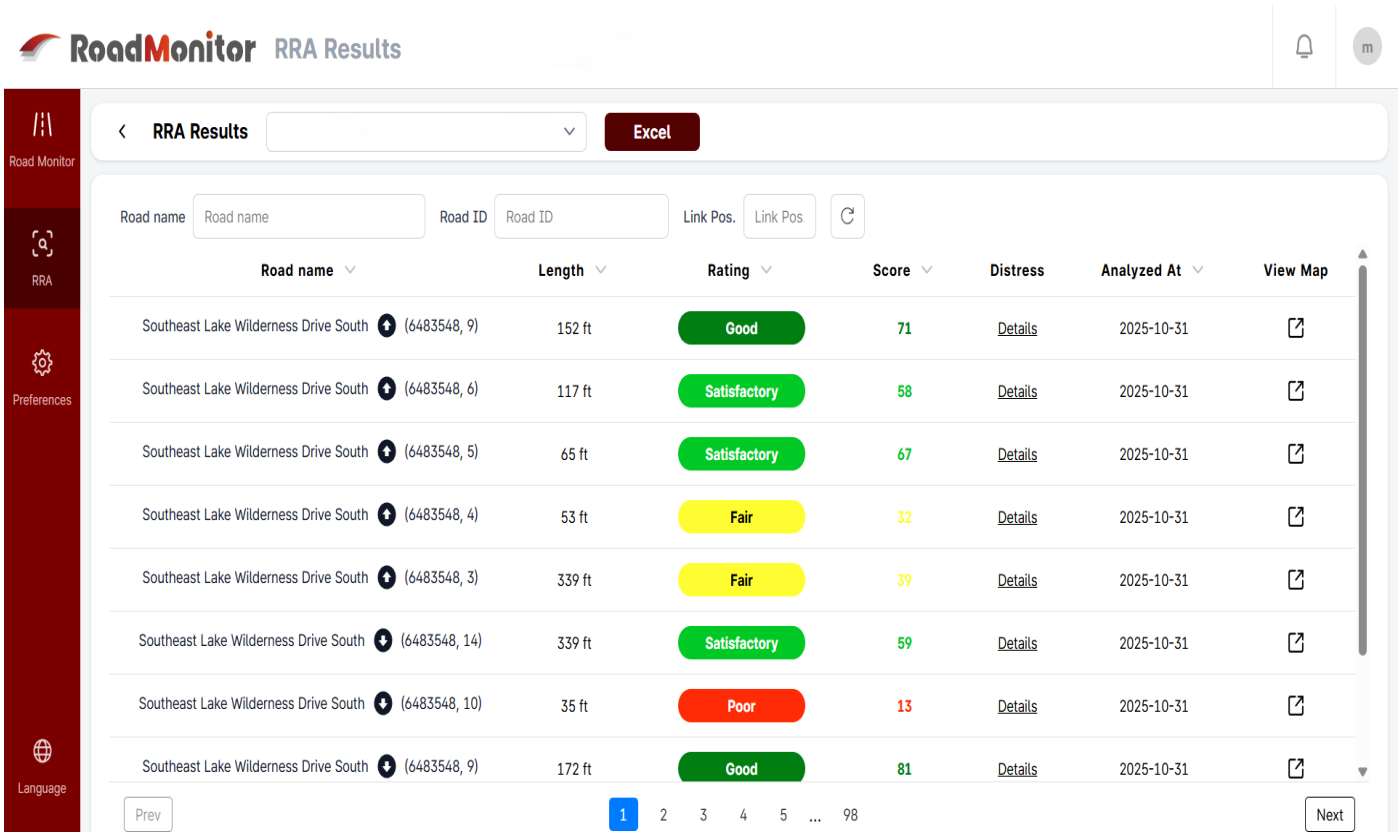
RoadMonitor Monitoring



RoadMonitor RRA Results



Brazoria County Pricing	Retail Pricing per Quarter	Brazoria Pricing
Road Monitor Solution (Includes IRI and RRA scores)	$48,000 (4 Devices)	$20,000 (4 Devices)
Mileage	300 Miles per Device	Unlimited
Customized rutting severity modeling		Included
Technical Support		Included
GIS Integration		Included
Post Pilot Application Access	**$1,200 per 6-months**	

Agreement

Now, THEREFORE, both parties hereby acknowledge that they have carefully reviewed and understood the entirety of the Proof of Concept (PoC) proposal and hereby agree to its terms.

DAREESOFT NORTH AMERICA INC. **Brazoria County, TX**

Signature: *Douglas Dragovich* Signature: _____

Name: Douglas Dragovich Name:

Title: General Sales Manager Title:

Date: March 13, 2026 Date: _____

Note: The partner is responsible for the safekeeping of the ARA device. It is imperative that the seal of the ARA device remains unbroken. Tampering with the device, including breaking of the seal, could expose sensitive information and intellectual property, potentially leading to reverse engineering and patent infringement which could be detrimental to Dareesoft's business. In the event of any tampering, we may be compelled to pursue appropriate legal action to safeguard our interests.

Contact Information

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