NavCore Technologies

Proposal for Transit Yard Management System (TYMS) Implementation

In response to the City of Mississauga's Request for Proposal (RFP) PRC004692

Submitted to: City of Mississauga

Date: March 25, 2025

Executive Summary

NavCore Technologies is pleased to submit this proposal in response to the City of Mississauga's Request for Proposal (RFP) PRC004692 for the implementation of a Transit Yard Management System (TYMS) for MiWay. Our solution will transform MiWay's current vehicle tracking and dispatching processes by replacing manual operations with an automated, real-time digital system. This advanced platform will enhance efficiency, reduce errors, and provide seamless integration with MiWay's existing infrastructure.

Our proposed solution will:

- **Enable Real-Time Vehicle Tracking** – Monitor both revenue and non-revenue vehicles within transit yards and garages, improving visibility and control.
- **Reduce Manual Work & Human Errors** – Automate key processes, minimizing the risk of delays, misallocations, and inefficiencies.
- **Optimize Fleet Workflow –** Streamline vehicle allocation, enhance operational planning, and support fleet expansion.
- **Seamlessly Integrate with MiWay's existing systems** – Ensure seamless communication with scheduling, dispatching, asset management, and vehicle tracking tools.
- **Enhance Decision-Making with Data Analytics** – Provide actionable insights on fleet utilization, maintenance needs, and operational trends.
- **Support fleet electrification** – Provide tools to manage electric vehicle operations, including charging schedules and readiness tracking.

By implementing our scalable and future-ready TYMS, MiWay will achieve greater operational control, improved efficiency, and a modernized transit yard management process that supports long-term transit growth.

About Us

NavCore Technologies specializes in advanced fleet management, GPS tracking, and transportation optimization solutions. Our expertise spans multiple industries, including

public transit, municipal fleets, trucking, logistics, and last-mile delivery services. By integrating cutting-edge tracking and automation technologies, we help organizations improve operational efficiency, reduce costs, and maximize resource utilization.

Since our inception, we have worked with government agencies, logistics firms, and corporate transportation departments, providing customized solutions tailored to industry-specific challenges. Whether optimizing vehicle dispatching, automating fleet workflows, or enhancing asset tracking, NavCore Technologies delivers scalable, data-driven solutions that drive measurable results.

Technical Capabilities & Experience

NavCore Technologies brings extensive experience in vehicle tracking, fleet management, and transportation automation, serving clients across diverse industries.
Our Core Capabilities includes:

- Developing and implementing intelligent fleet management and tracking systems for diverse industries.
- Seamless integration of GPS, RFID, and telematics solutions to enhance vehicle tracking, dispatching, and operational visibility.
- Working with government agencies, logistics firms, trucking companies, and last-mile delivery services to optimize fleet operations and resource allocation.
- Delivering scalable, cloud-based, and on-premises software solutions tailored to specific industry needs.
- Enhancing workflow automation, predictive maintenance, and data-driven decision-making to improve fleet performance.

Previous projects include:

- **Implemented a real-time tracking system for ON Road Transport Inc.** – Enhanced fleet visibility and route optimization, reducing fuel costs and improving delivery efficiency.

- **Designed a scalable fleet management system for a large urban transit network** – Replaced paper-based processes with a digital platform, reducing manual errors and optimizing fleet management.
- **Integrated GPS and RFID-based tracking for a major waste management company** – Enabled real-time location tracking and route planning, improving operational efficiency.

Understanding of the Project

MiWay currently relies on a manual system to track bus parking locations and allocate vehicles for morning service. This system requires continuous physical updates throughout the day, leading to inefficiencies and potential operational delays. The City of Mississauga seeks a robust TYMS that automates this process, improves accuracy, and streamlines daily operations.

The key objectives of the project include:

- Eliminating manual tracking and paper-based processes.
- Providing a real-time digital map of vehicle locations.
- Enhancing vehicle dispatching and scheduling.
- Supporting integration with MiWay's existing technology infrastructure.
- Improving operational visibility and workflow efficiency.

Proposed Approach & Methodology

Our approach is designed to ensure a smooth transition from the manual system to a fully automated TYMS. The implementation process will be structured in five key phases:

Phase 1: Project Initiation & Requirement Analysis

- Conduct stakeholder consultations with MiWay operations and IT teams.
- Review existing transit management systems and infrastructure.

- Define system requirements and key performance indicators (KPIs).

Phase 2: System Design & Integration Planning

- Design TYMS architecture to ensure compatibility with MiWay's existing infrastructure.
- Develop integration strategies for automated vehicle location, dispatch, scheduling, and asset management systems.
- Plan data migration and system security measures.

Phase 3: System Development & Deployment

- Configure TYMS software and hardware components.
- Implement real-time tracking functionalities using GPS and RFID technologies.
- Set up digital dashboards and user interfaces for MiWay operators.
- Conduct preliminary testing and quality assurance.

Phase 4: System Training & Pilot Testing

- Train MiWay staff on TYMS functionalities and best practices.
- Conduct a pilot run within a selected garage facility.
- Gather feedback and make necessary refinements.

Phase 5: Full Implementation & Support

- Deploy TYMS across all MiWay transit garages and yards.
- Provide ongoing technical support and system maintenance.
- Monitor performance and implement continuous improvements.

Project Timeline & Deliverables

PHASE	KEY ACTIVITIES	TIMELINE
PROJECT INITIATION	Stakeholder consultations, requirement analysis	Month 1
SYSTEM DESIGN & INTEGRATION	System architecture, data migration planning	Month 2-3
DEVELOPMENT & DEPLOYMENT	System configuration, testing	Month 4-6
TRAINING & PILOT TESTING	Staff training, pilot implementation	Month 7
FULL IMPLEMENTATION & SUPPORT	System-wide deployment, monitoring	Month 8-10

Budget & Financial Planning

The following is a preliminary budget estimate for the TYMS implementation:

CATEGORY	ESTIMATED COST (CAD)
SOFTWARE DEVELOPMENT & LICENSING	$120,000
SYSTEM INTEGRATION	$85,000
GPS & RFID HARDWARE	$150,000
TRAINING & SUPPORT	$40,000
PROJECT MANAGEMENT	$55,000
TOTAL ESTIMATED COST	**$450,000**

This estimate includes custom software development, integration with existing MiWay systems, necessary GPS/RFID hardware, staff training, ongoing support, and project management costs. The final cost will depend on the specific system requirements, hardware selection, and integration complexity.

Conclusion

NavCore Technologies is committed to providing the City of Mississauga with an advanced and reliable ***Transit Yard Management System (TYMS)*** that enhances fleet tracking, dispatching, and operational efficiency. Our solution is designed to automate manual processes, improve accuracy, and integrate seamlessly with MiWay's existing systems. By implementing our TYMS, MiWay will benefit from real-time vehicle tracking, optimized workflows, reduced operational delays, and enhanced decision-making through data analytics.

We look forward to the opportunity to collaborate with MiWay and support its mission of delivering an optimized and modernized transit experience.

For further discussions or clarifications, please feel free to contact us.

Contact Information

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