



IMPLEMENTATION SUMMARY

Technical Liaison:

Guy Kohlhofer, Dodge County
Guy.Kohlhofer@co.dodge.mn.us

Project Coordinator:

Bruce Holdhusen, MnDOT
Bruce.Holdhusen@state.mn.us

Principal Investigator:

Renae Kuehl, SRF Consulting Group, Inc.

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\$26,437



Managing a fleet of trucks and heavy equipment requires careful decision-making.



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Putting Research into Practice: Guidebook Helps Cities and Counties Choose Tools for Managing Fleets

What Was the Need?

Managing a fleet of trucks, heavy equipment and other vehicles challenges road agencies large and small. While large agencies like MnDOT use software and specialized administrators to manage fleet management systems electronically, city and county agencies often do not. For some small agencies, fleet management may fall to a shop mechanic or two.

Scheduling routine maintenance, tracking maintenance activities and expenditures, planning for repairs, paying for repairs and proposing budget items for new vehicles are key features needed in a successful system. A number of commercially available tools may help cities and counties effectively address these system requirements, but software may be expensive to acquire or maintain, and sorting through the hundreds of software options requires research that may be impractical for individual agencies.

What Was Our Goal?

The goals of this implementation project were to identify the fleet management needs of city and county agencies, and review various cost-effective tools that could help these agencies make fleet management decisions.

How Did We Do It?

After meeting with a Technical Advisory Panel (TAP) made up of city and county administrators, investigators developed and issued a survey to Minnesota cities and counties that examined the features of each agency's fleet management system, including fleet size, software tools and costs, along with agency practices and needs. Survey results were then used to develop a guidebook to assist local agencies with fleet management decisions.

Eight of the most commonly used software tools in Minnesota were reviewed in detail, and features of these tools were summarized in a comparison matrix. Based on the TAP members' experience using a spreadsheet or software tool to manage a fleet, investigators presented the advantages and disadvantages of each method, and wrote a series of case studies documenting agencies' experience with various tools. Guidance was also provided about how to interpret the data produced by each tool.

What Did We Learn?

The survey generated responses from 49 agencies. Investigators supplemented these findings with data from MnDOT's [2016 State of the Infrastructure Asset Management Survey](#) to identify fleet management needs faced by local agencies.

Fleet sizes among respondents ranged from 17 to 1,850 vehicles, but more than half of the agencies have fleets of less than 100 vehicles. Every fleet entails a mix of highway vehicles and heavy equipment. Agencies with fleets of 50 to 100 vehicles typically turn to

Investigators surveyed Minnesota state, county and local agencies about fleet management practices and needs. Using the survey results, investigators identified tools for fleet management and developed a guidebook for local agencies that addresses the tools and methods needed to manage fleets effectively.

“The guidebook provides the benefits of fleet management, a comparison of various program features and attributes, and a contact for more information about each program.”

—Guy Kohlnhofer,
County Engineer,
Dodge County

“You may have a vehicle that has been driven 300,000 miles and needed little maintenance, while another vehicle has been driven 100,000 miles and has needed a lot of maintenance. We provide three models to determine when you should replace each.”

—Rena Kuehl,
Senior Associate,
SRF Consulting Group, Inc.

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Minnesota Department
of Transportation
Research Services & Library
MS 330, First Floor
395 John Ireland Blvd.
St. Paul, MN 55155-1899
651-366-3780
www.mndot.gov/research



Every city and county must manage its fleet of trucks, equipment and other vehicles to optimize performance and maintenance, and to properly budget for repairs and replacement.

fleet management software, and 50 percent of respondents use software tools other than spreadsheets, including every agency with more than 100 vehicles in its fleet.

Spreadsheets are effective and widely available tools for managing fleets. They are easy to tailor to local needs and fleets, are well understood by most computer users, are part of most office software suites, and work well for small data sets. Disadvantages to spreadsheets include limitations in reporting features, easy corruptibility of data and inconsistent data entry among users.

Fleet management software can be expensive. Software costs for managing fleets average almost \$36 per vehicle, and annual support costs average about \$18 per vehicle. These tools offer easy report generation; software linkage to fuel, financial and other software systems or modules; secure and consistent data; and interagency shareability. Disadvantages include training, internet accessibility and the need for a champion.

What Did We Produce?

The guidebook developed through this effort, [Fleet Management Tools for Local Agencies](#), includes a matrix comparing the eight most widely used fleet management software tools among Minnesota agencies. Costs, equipment needs, tracking features, financial analysis applications and other attributes are reviewed. Guidance is provided for interpreting the data produced from software, along with key considerations and features for agencies to consider when selecting tools, including cost, fleet size, software capabilities, customer support and work order generation.

Three approaches to fleet replacement planning are presented in the guide, in addition to case studies of agencies that use spreadsheets, software and specific fleet replacement strategies.

What's Next?

The guidebook developed in this project, including appendices with survey results and case studies, will be available online. Availability of the guidebook will be announced to city and county agencies through various Minnesota newsletters and web platforms.

This Implementation Summary pertains to the LRRB-produced Report 2017-RIC01, “Fleet Management Tools for Local Agencies,” published June 2018. The full report can be accessed at mndot.gov/research/reports/2017/2017RIC01.pdf.