

CASE STUDY SERIES: In the Field with LifeMark

Saint Charles County, Missouri

Public Works Department | Local Agency | LifeMark®-100 System



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Title: A Local Agency Builds a Digital Roadway Network with LifeMark®-100

Subtitle: Saint Charles County Uses Automation to Improve Safety, Reduce Labor, and Record Hundreds of Miles of Roadway Markings

"We used to send four or five guys out just to mark a road. Now we send one or two guys and we're done."

— Saint Charles County Operations Team

HIGHLIGHT PANEL

System Used: LifeMark®-100

Industry: Local Government / Public Works

Location: Saint Charles County, Missouri

Roadway Network: ~800 Miles

Primary Benefit: Reduced labor, improved safety, and creation of a digital roadway marking inventory

Overview

Saint Charles County, Missouri, manages nearly **800 miles of roadway**, with approximately **350 miles requiring pavement markings**. Like many local agencies, the county is responsible for a broad range of roadway maintenance functions including paving, striping, signage, and general right-of-way management.

Seeking to improve efficiency, enhance safety, and better manage roadway markings, Saint Charles County implemented the **LifeMark®-100 Auto Layout System**. What followed was a strategic deployment approach that may serve as a model for local agencies nationwide.

Rather than using the system only for immediate layout needs, the county began **recording large portions of its roadway network**, creating a digital inventory of pavement markings that can be deployed as needed for resurfacing, maintenance, and contractor coordination.

This forward-thinking approach transforms LifeMark®-100 from a layout tool into a **long-term roadway intelligence asset**.

Agency Background

Saint Charles County Public Works performs a wide range of roadway maintenance operations, including:

- Pavement marking
- Roadway paving
- Concrete replacement
- Sign installation
- Signal maintenance
- Culvert work
- Right-of-way maintenance

The department performs much of its work **in-house**, requiring efficient use of limited personnel and resources.

With growing demands and limited staffing, the county began exploring ways to modernize its pavement marking operations while improving worker safety.

Why LifeMark®-100

Prior to implementing LifeMark®-100, Saint Charles County relied on traditional layout methods:

- Tape measures
- String lines
- Google Earth
- Manual roadway walking

This process was time-consuming and labor intensive.

“We used tape measure and string line... a lot of Google Earth... and a lot of walking.”
— Saint Charles County Operator

Layout operations typically required **four to five personnel** working in live traffic conditions.

“We would have three guys plus guys watching traffic... you'd have anywhere between four to five guys out there just to mark out a road.”
— Saint Charles County Team

In addition to labor demands, safety was also a concern.

“Close calls... people not paying attention... we've lost tape measures.”
— Saint Charles County Team

These challenges led Saint Charles County to pursue automation.

Implementation & Strategy

After deploying the LifeMark®-100, Saint Charles County quickly adopted a strategic approach: **record first, deploy later.**

The team began recording significant portions of the county roadway network, creating reusable digital layout files.

This allows the agency to:

- Support resurfacing projects
- Coordinate with contractors
- Maintain marking consistency
- Accelerate future layout operations

This proactive recording strategy represents a shift from reactive layout to **planned digital roadway management**.

RESULTS & IMPACT

Worker Safety

Reducing boots on the ground was one of the most immediate benefits.

“Now we send one to two guys out in the truck and we're done.”

— Saint Charles County Team

Fewer personnel in live traffic translates directly to improved safety.

Operational Efficiency

Saint Charles County dramatically reduced labor requirements:

Before LifeMark®-100

- 4–5 personnel required
- Manual measurement and layout
- Slow and repetitive process

After LifeMark®-100

- 1–2 personnel
- Vehicle-based layout
- Rapid deployment

This allows staff to be reassigned to other roadway maintenance tasks.

Digital Roadway Inventory

Saint Charles County's recording initiative created:

- Long-term layout data
- Repeatable marking patterns
- Faster response to resurfacing projects
- Improved consistency across roadways

This positions the county for **future automation expansion**.

Paving Support

Because Saint Charles County performs paving in-house, LifeMark®-100 also supports paving operations.

Previously:

- Crews manually marked centerlines for paving

Now:

- LifeMark®-100 performs automated layout for paving crews

This reduces additional labor and speeds project timelines.

Leadership Through Innovation

Saint Charles County's approach demonstrates how local agencies can:

- ✓ Improve worker safety
- ✓ Reduce labor requirements
- ✓ Digitize roadway infrastructure
- ✓ Improve operational efficiency
- ✓ Prepare for future automation

Their deployment strategy is particularly notable because it emphasizes **long-term value**, not just short-term productivity gains.

Message to Other Local Agencies

Saint Charles County's experience highlights a growing trend among local agencies:

Automation is no longer just for contractors or state DOTs — it is becoming essential for local public works departments.

With limited staffing and expanding roadway networks, agencies must find ways to do more with fewer resources while improving safety.

LifeMark®-100 offers a pathway toward that goal.

Final Thoughts

Saint Charles County's implementation of LifeMark®-100 demonstrates how local agencies can leverage automation to improve safety, efficiency, and long-term roadway management.

By recording hundreds of miles of roadway and reducing boots on pavement, the county is building a foundation for smarter infrastructure management.

Their approach illustrates how local agencies can lead innovation while protecting workers and improving operational outcomes.

CASE STUDY SERIES

Part 1 — Local Agency Implementation: Saint Charles County, Missouri

Part 2 — State DOT Implementation: Connecticut Department of Transportation (Coming Next)

Want to learn how the LifeMark®-100 can work for your paving or layout operations?

Visit www.limntech.com or contact us at sales@limntech.com