

# How Rural Areas are Using Technology

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# The Game Plan

- Motivation
- Survey design
- Technology familiarity & use
- Factors that influence technology use

# Questions

- Which agencies use technology?
- What factors impact technology adoption?
- What policies or practices would lead to the proper adoption of technology?

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# Data Collection

- Surveyed 1200+ rural transit agencies
- Collected data on agencies, managers, and use of technology
- Limited cost information
- Financial and operating data from the Rural NTD
- 451 agencies responded (>30%)

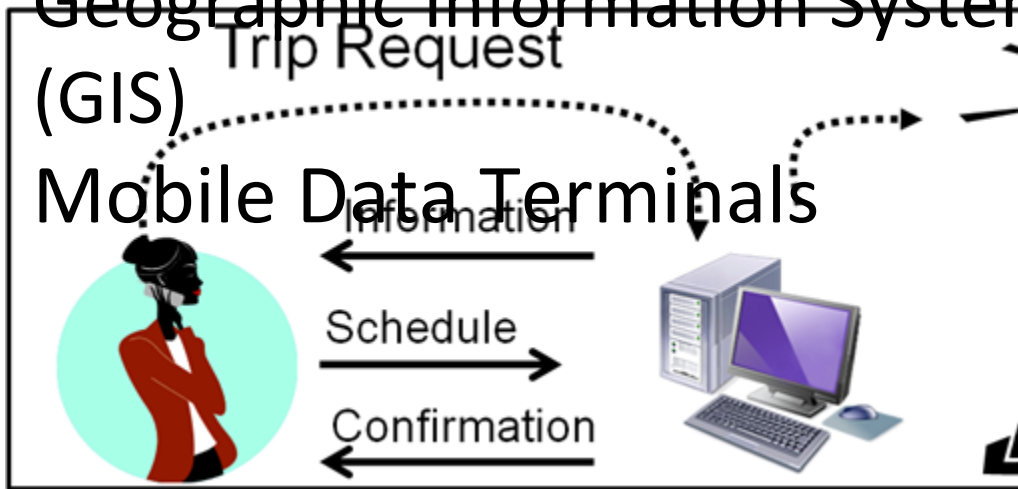
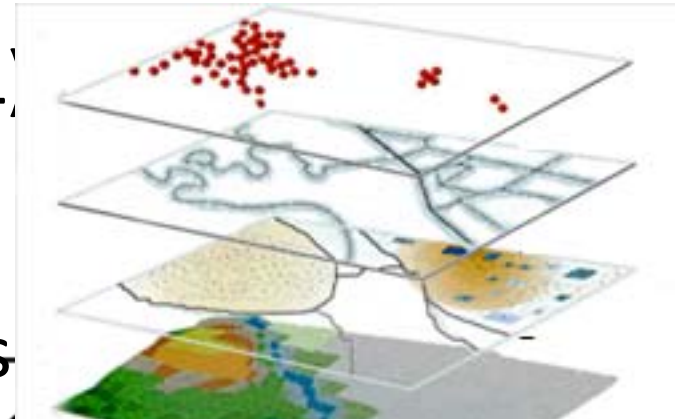
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# Four Core Rural Technologies

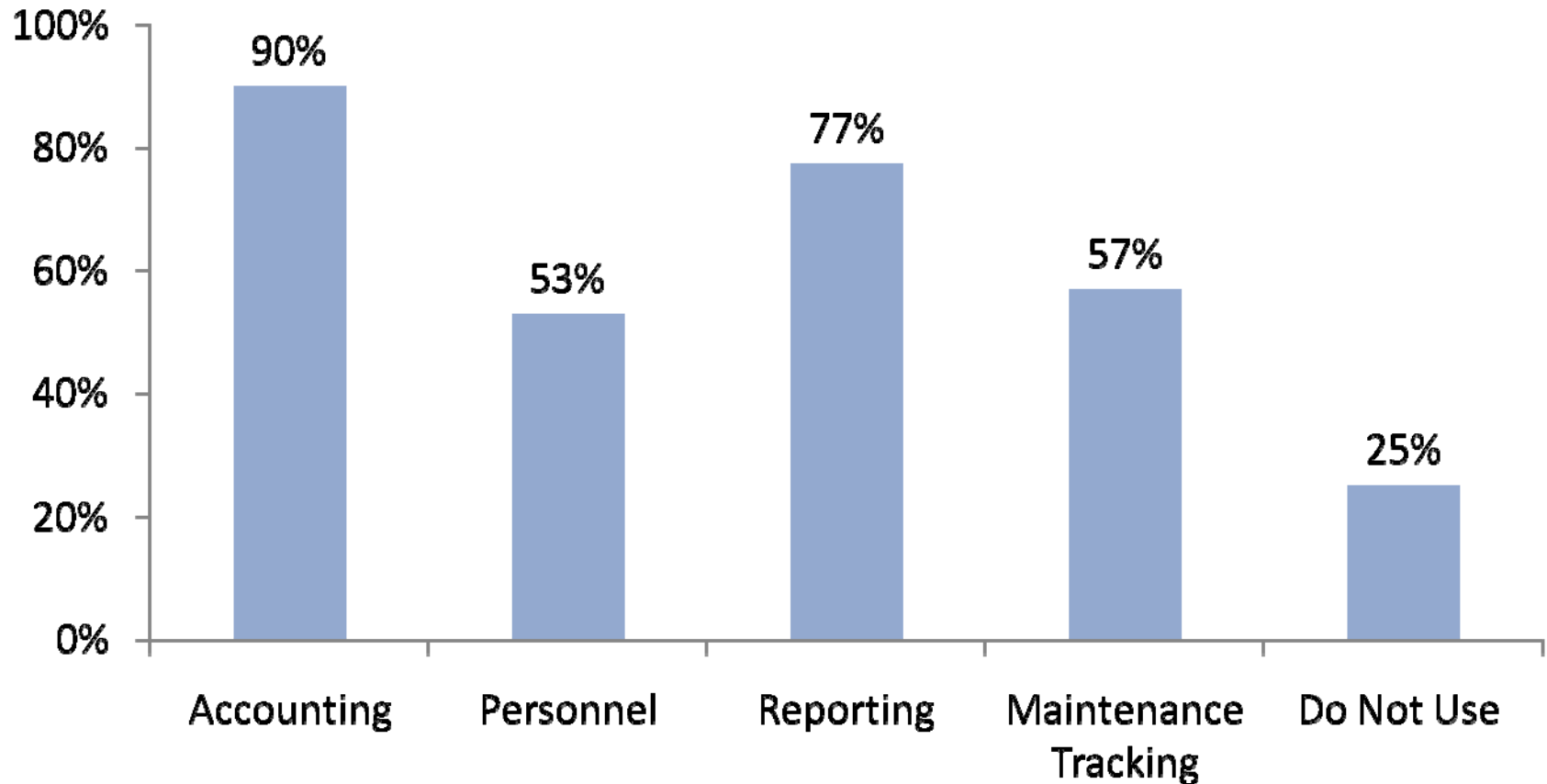
- Automatic Vehicle Location (AVL)
- Computer Aided Scheduling and Dispatch Software (CASD)
- Geographic Information Systems (GIS)
- Mobile Data Terminals



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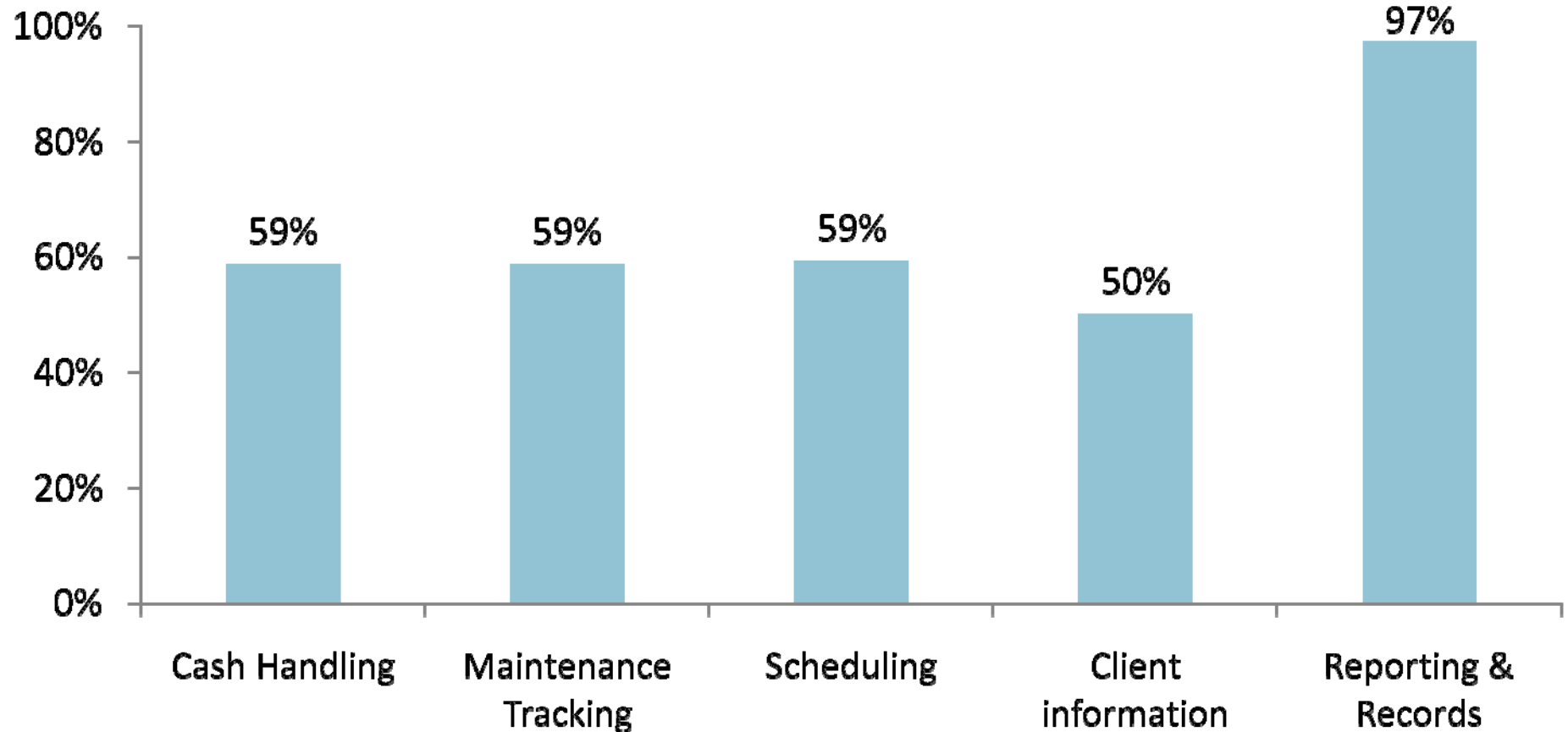
# Use of Specialized Software



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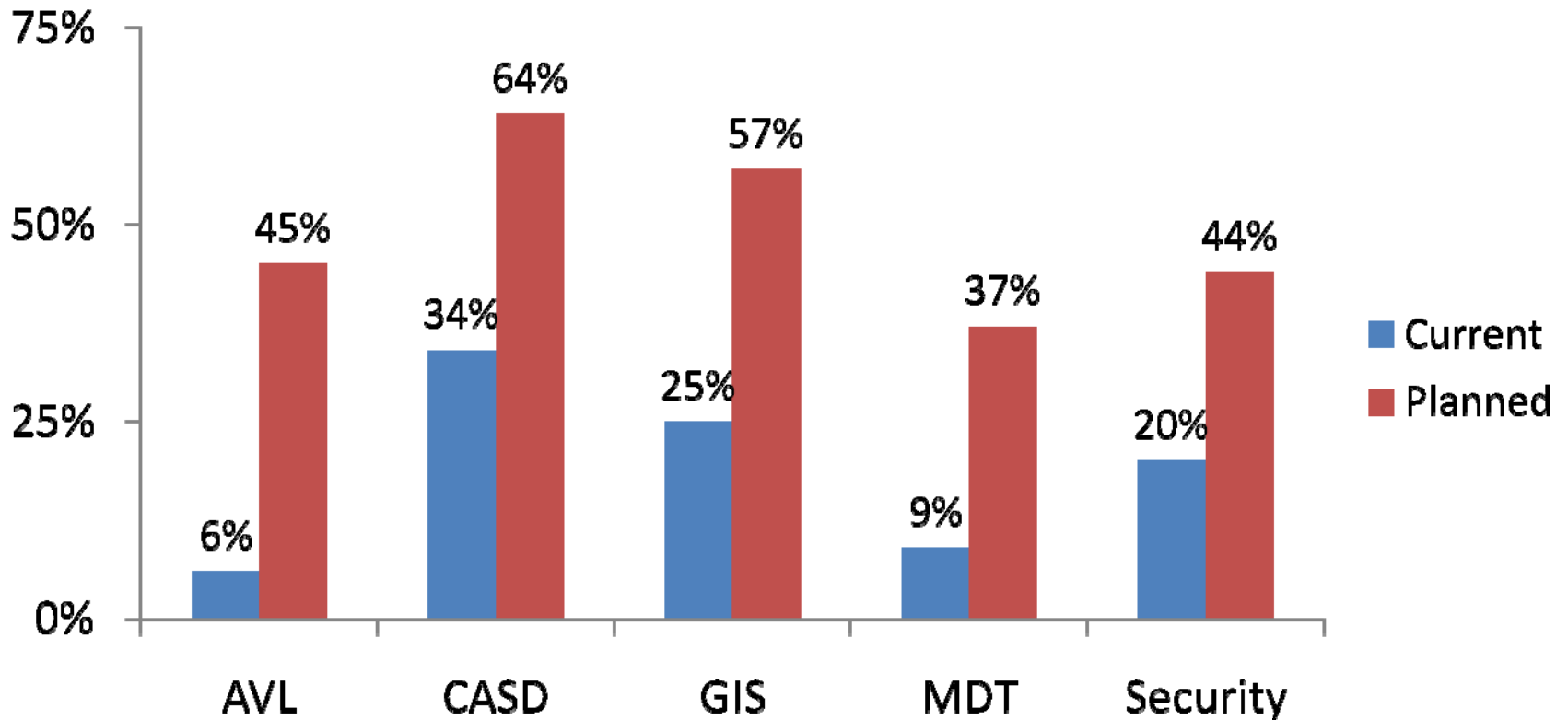
# Use of Customized Spreadsheets



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# Current & Planned Use

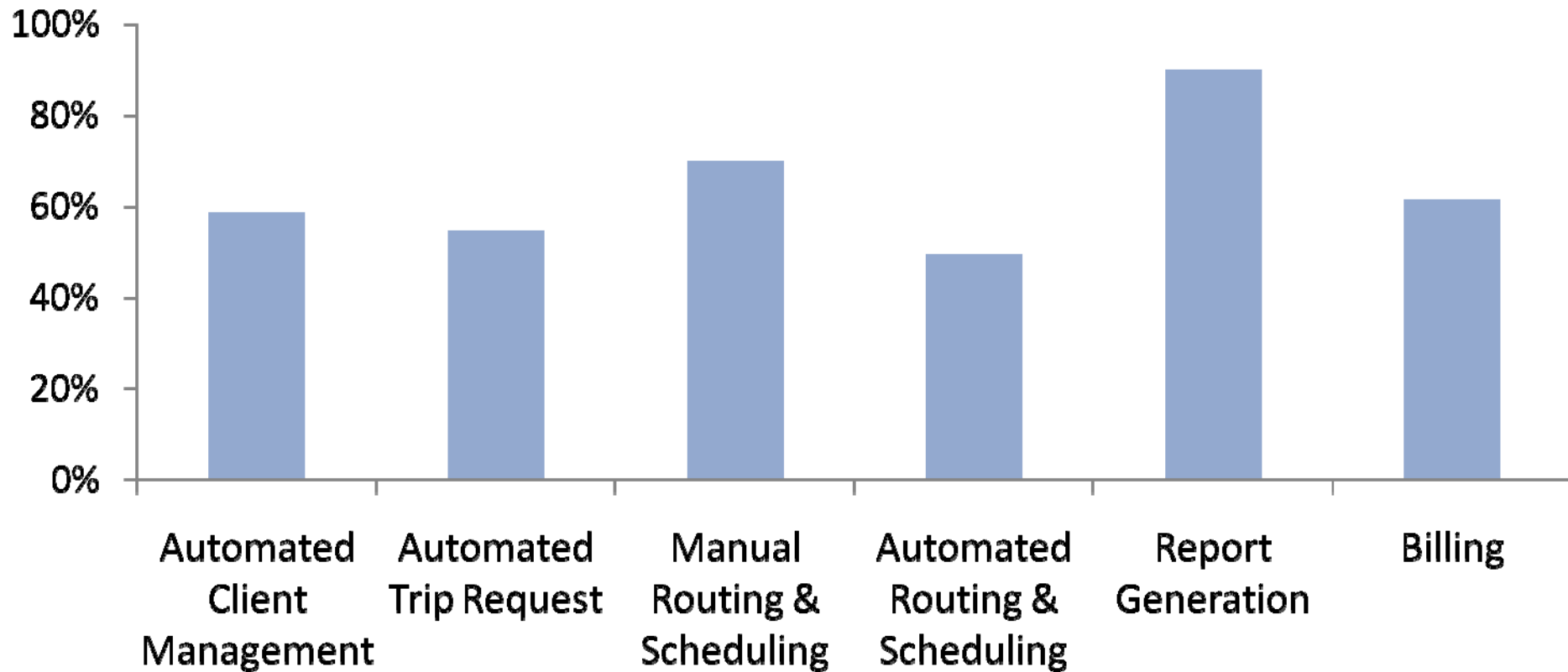


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# CASD Functions



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# Cost Data

- ***The numbers were all over the place!***
- Variation in
  - Technology
  - Pricing
  - Local cost share

# Factors that Impact Use

- Economic theory asserts that firms will adopt new technology if it is profitable
- If you control for agency and manager characteristics you should be able to model technology adoption
- Use discrete choice (logit/multinomial logit) modeling techniques

# Results

	AVL	CASD	GIS	MDT
Fleet Size	+	+	+	+
Annual Ridership	+	+		
Budget			+	
Trips/Vehicle			+	
Cost/Trip	+		-	
Non-Profit	+		-	
Number of Agency Computers			+	
Manager Education				
Years Working in Transit	+	-		
Technology Session Attendance			+	
National Conference Attendance	-			
Region 2		+		
Region 3			-	

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# Implications for Policy & Practice

- Training of transit agency managers
- Participation in conferences
- Interaction with vendors

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# Closing Thoughts

- Many agencies plan to implement technology
- Larger agencies typically use technology
- Better cost data and case studies are needed

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