

U.S. DOT T3 Webinar Mobile Device Technology TCRP Synthesis 91

April 10, 2012

Case Study

LeeTran – Lee County, FL

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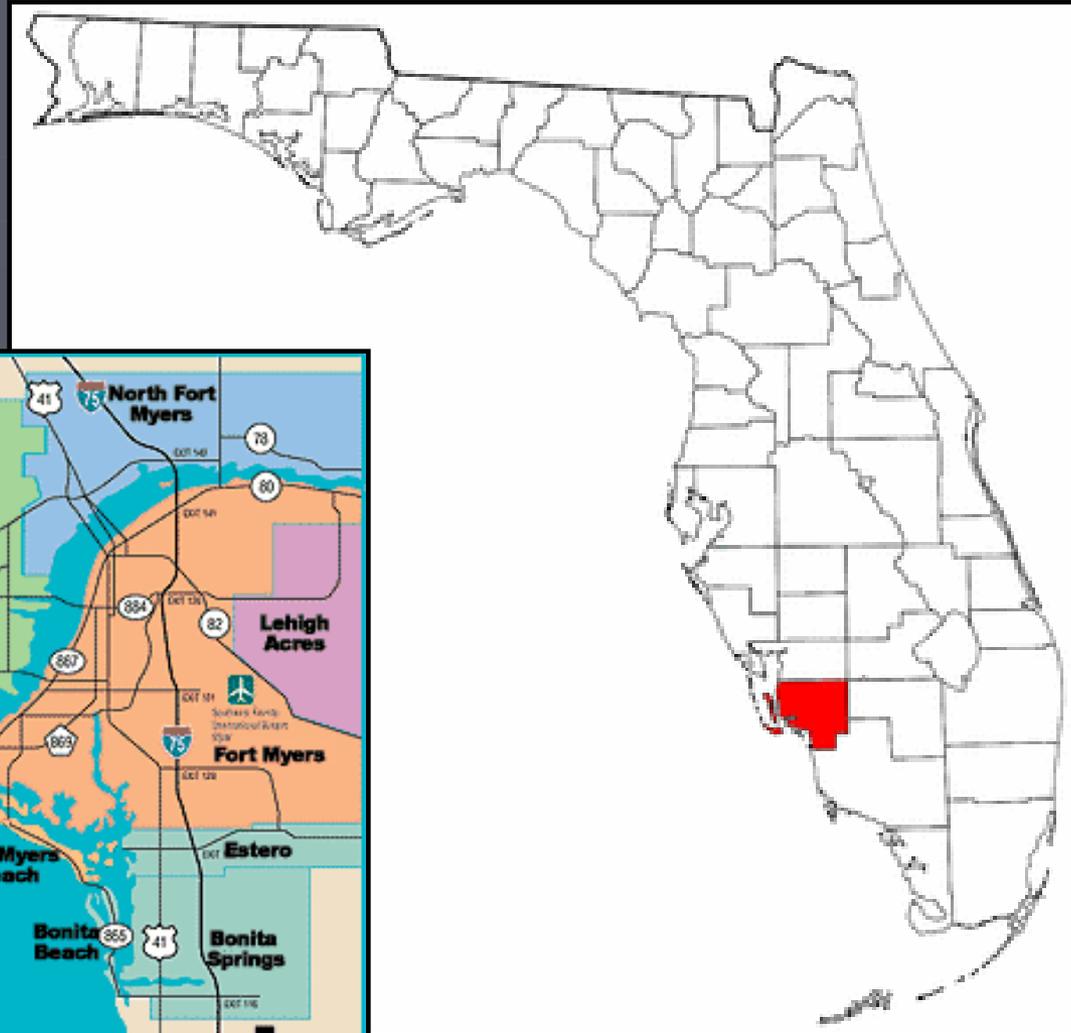
Presentation Outline

- ▶ Lee County Background
- ▶ Situation and Need
- ▶ Identified Solution
- ▶ Technology Procurement and Installation
- ▶ Trouble-shooting
- ▶ Results and Benefits

Who is LeeTran?

- ▶ Lee County Transit – Fort Myers, FL
- ▶ County-wide bus route network
- ▶ 18 bus routes
- ▶ Bus fleet of 61
- ▶ 3.1 million annual passenger trips
- ▶ Traditional transit rider and tourists

Where is Lee County?



Fort Myers Beach Dreaming...



Fort Myers Beach Reality...



Stakeholders

- ▶ Town of Fort Myers Beach
- ▶ Lee County Transit
- ▶ Lee County Department of Transportation
- ▶ State of Florida Department of Transportation



Identifying the Problem

- ▶ Tourism Destination
 - Great beaches and warm, sunny winters
- ▶ Island Community with Limited Access
- ▶ Significant to Severe Congestion
- ▶ Limited Parking
- ▶ Driver Behavior
- ▶ Limited Transit



Identifying the Needs

- ▶ Additional Passenger Information
 - Number one passenger request
 - Reduce the guessing
 - (When will the trolley be here?)
- ▶ Manage Congestion
- ▶ Give Transit the Advantage
- ▶ Reduce Road-Rage



Packaging a Solution

- ▶ Intelligent Transportation Systems
 - Real-Time Passenger Information
 - First at stops, then mobile devices
- ▶ Increase Capacity by Reducing Headways
- ▶ Dedicated Transit Lane over Bridge
- ▶ Free Parking
- ▶ Marketing Campaign
- ▶ Luggage / Gear Racks



ITS Requirements

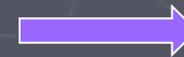
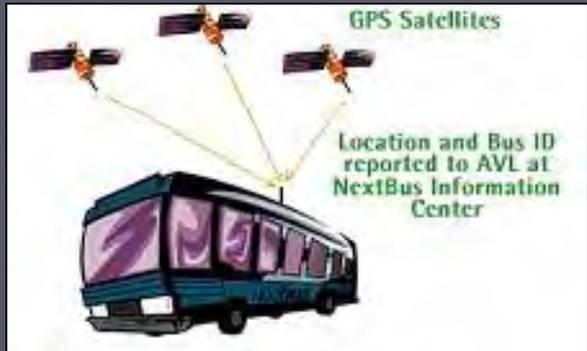
- ▶ Web-based and Cost effective solution
- ▶ Real-Time Information must be:
 - 80% accuracy for 10 minute predictions
 - 90% accuracy for 5 minute predictions
- ▶ Vendor support for changes and upgrades
- ▶ LED displays at four key stop locations
- ▶ Expandable to other routes, vehicles and information mediums

Solution Procurement

- ▶ Solicitation - RFP
- ▶ Evaluation Criteria:
 - Stability
 - Recent Experience
 - References
 - Technical Proposal
 - Software Requirements
 - Price
- ▶ Initial 5 year contract with vendor



Functional Diagram



Installation and Testing

- ▶ Vehicle Installation
- ▶ LED Displays at Stations
 - Power Sources
- ▶ Initial learning period 1-2 months
 - Off-season time period
 - Quick accuracy
 - One route
- ▶ Test Launch and Monitor



Initial Information Sources

- ▶ LED Displays
 - Arrivals and Current Time
- ▶ Internet
 - Arrivals and Interactive Map
- ▶ SMS (phase II)
 - Text



Deployment

- ▶ Training
 - Dispatchers and Supervisors
 - Operators
- ▶ Marketing and Advertising
 - Brochures
 - Variable Message Boards
- ▶ Monitoring into Winter Season
 - Field Observations

Reality

- ▶ Seasonal Congestion too Severe
- ▶ Software Miscalculations
- ▶ Vehicles “Dropping-out”
- ▶ Inaccurate Predictions
- ▶ Operational Frustrations
- ▶ Solar-powered Signs



Fixing Reality

- ▶ Schedule-based Predictions
- ▶ Headway-based Predictions
 - “Loop Jobs”
- ▶ Accuracy Achieved



Expansion

- ▶ Added Information via Mobile Device
- ▶ Two additional routes
 - Entire beach zone
- ▶ Entire dedicated fleet installation
- ▶ All stops
 - Stop ID numbers



Pushback/Results

▶ “Our customers don’t use smart phones”

▶ SMS Text messaging

▶ Website

▶ Smartphone

▶ Alerts



Overall Improvements

- ▶ Improved Customer Satisfaction
 - No more guessing at 4 major stops
- ▶ Business Owner Satisfaction
 - Customer information
 - Extra business
- ▶ Accurate Real-time Information
- ▶ Positive customer feedback
- ▶ Ridership increase of 32%

Additional Benefits

▶ Dispatch

- Vehicle location monitoring
- On-time performance

▶ Additional Customer Information

- Service Advisories and Delays
- Planned service changes

Cost, Time, Staffing, Budgeting

- ▶ Initial procurement of \$60,000
 - Hardware
 - Installation
 - First year operating costs
- ▶ Annual operating costs of \$12,000
- ▶ Lowered wireless costs after 5 years
- ▶ TIME!





Thank You!

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