LA DOTD Maintenance Management System

No Boundaries Roadway Maintenance

October 16-18, 2018

Management Systems

- Original MMS went live in November 2010
- SAP Plant Maintenance
  - Captures work orders for fleet and facilities
  - Tracks movable property assets
- Agile Assets
  - Linear assets
  - Captures work orders for road and structure assets

SAP Plant Maintenance

- Data captured in Plant Maintenance (PM)
  - Materials
  - Equipment

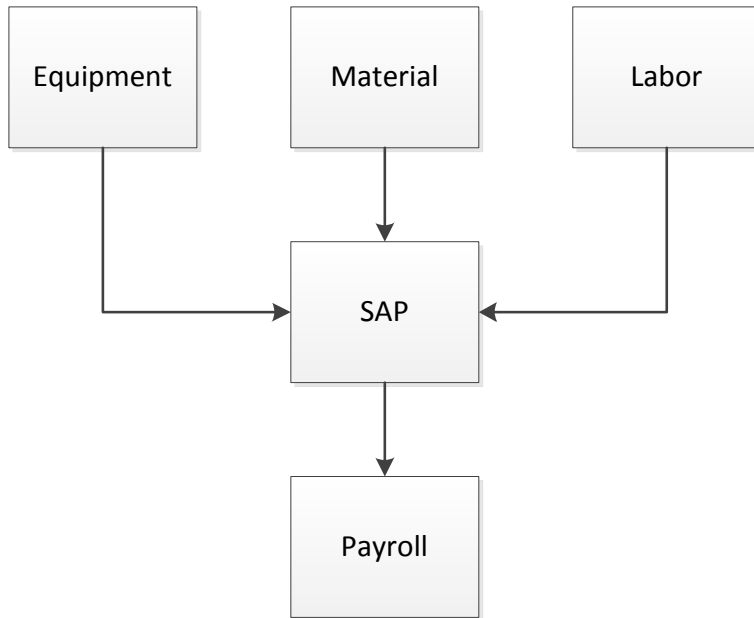 The labor has to be entered separately and manually into SAP financial.

  "Function Codes" (VMRS – Reduced to a reasonable categorization)
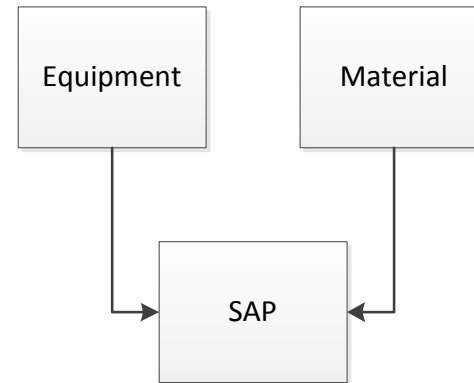
Agile Assets

- Data captured
  - Materials
  - Equipment
  - Labor
- Level of Service application can be incorporated to guide budget and activity decision making
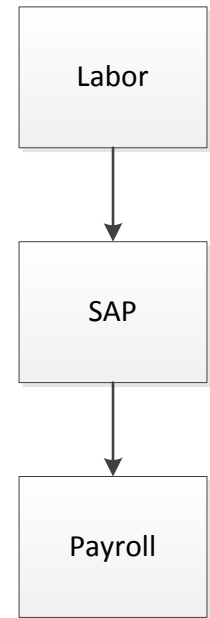
Agile vs. SAP

Agile Assets

```
┌───────────┐   ┌───────────┐   ┌───────────┐
│ Equipment │   │  Material │   │   Labor   │
└─────┬─────┘   └─────┬─────┘   └─────┬─────┘
      │               │               │
      │               ▼               │
      │         ┌───────────┐         │
      └────────▶│    SAP    │◀────────┘
                └─────┬─────┘
                      │
                      ▼
                ┌───────────┐
                │  Payroll  │
                └───────────┘
```

SAP (PM)   SAP (PTMW)

```
┌───────────┐   ┌───────────┐    ┌───────────┐
│ Equipment │   │  Material │    │   Labor   │
└─────┬─────┘   └─────┬─────┘    └─────┬─────┘
      │               │                │
      │  ┌─────────┐  │                ▼
      └─▶│   SAP   │◀─┘          ┌───────────┐
         └─────────┘            │    SAP    │
                                └─────┬─────┘
                                      │
                                      ▼
                                ┌───────────┐
                                │  Payroll  │
                                └───────────┘
```

Agile Assets

- Agile work orders are loaded into SAP via overnight interface
  - Data sent to SAP include only Labor, Materials & Equipment. Job specific information housed only in Agile
- Approximately 300 maintenance activities in Agile, tracks all maintenance accomplished by in-house crews.

Agile – Mobile Solution

- Implemented mobile solution using Motorola MC75 PDA

- Download/upload of WO's from system to PDA

- PDA's used to create WO's in field (offline)

- November 2010 – more computer WO's than PDA

- February 2011 – Over 50% WO's created on PDA

- Fiscal Year 2016 – 50% WO's created on PDA

Original Mobile Work Manager

- ## Technical Limitations
  - Mapping (GPS, Cellular, etc.)
  - Expensive

- ## Software Limitations
  - Asset Lists
  - Entire Control Section
  - Few Minor Software bugs

- ## Employee Limitations
  - Fear of Technology
  - Limited Reading & Writing Skills
  - Multiple Training Sessions Needed

Agile – Mobile Solution

- PDA Advantages:
  - Portable
  - User friendly
  - Eliminates field paperwork
  - Eliminates some errors
  - Able to upload/download to computer each time device is docked

Agile – Mobile Solution

- PDA Disadvantages
  - Limited view of activities (memory limitation)
  - Price: new devices or repair
  - Small screen
  - Not as configurable
  - Agile App must upload/download to computer
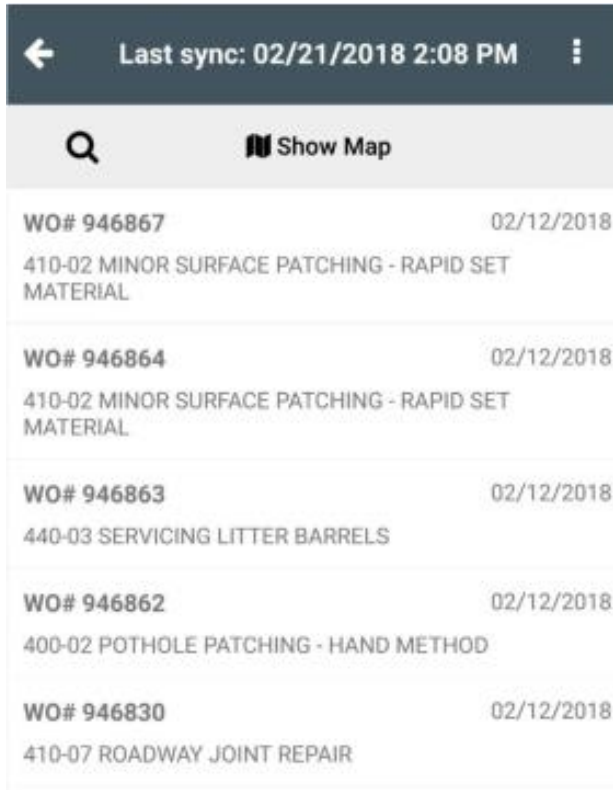
Partnership with AGILE

– Initial discussions about an updated version on Motorola

– Unimpressed/Too expensive to get new/Additional devices

– Perhaps an APP

– Storyboarding/Initial consult/Site visits

– Initial review of screenshots/Layout

– Working versions/Testing/Improvements

There will be CHALLENGES

- Resistance/Why can't we just do it the old way?
- Training Volume
- Timeframe/Regression
- User Apathy
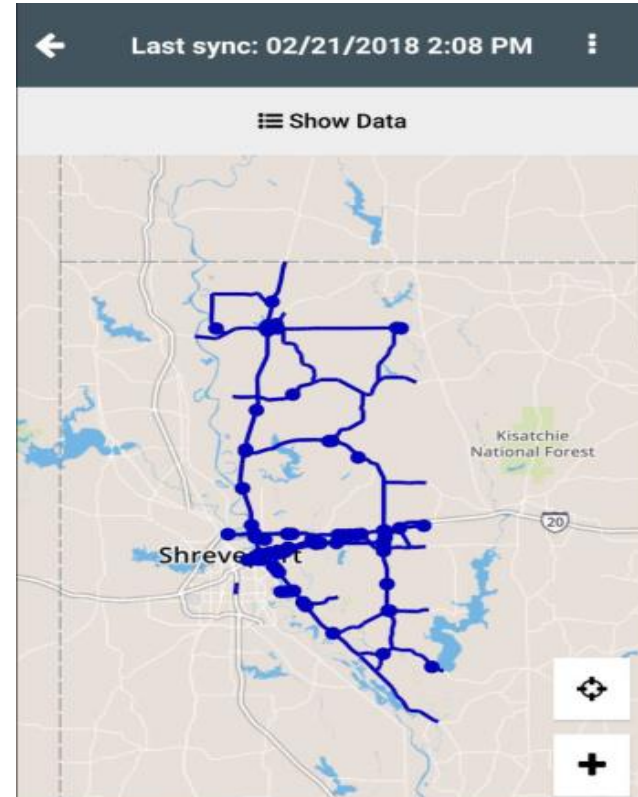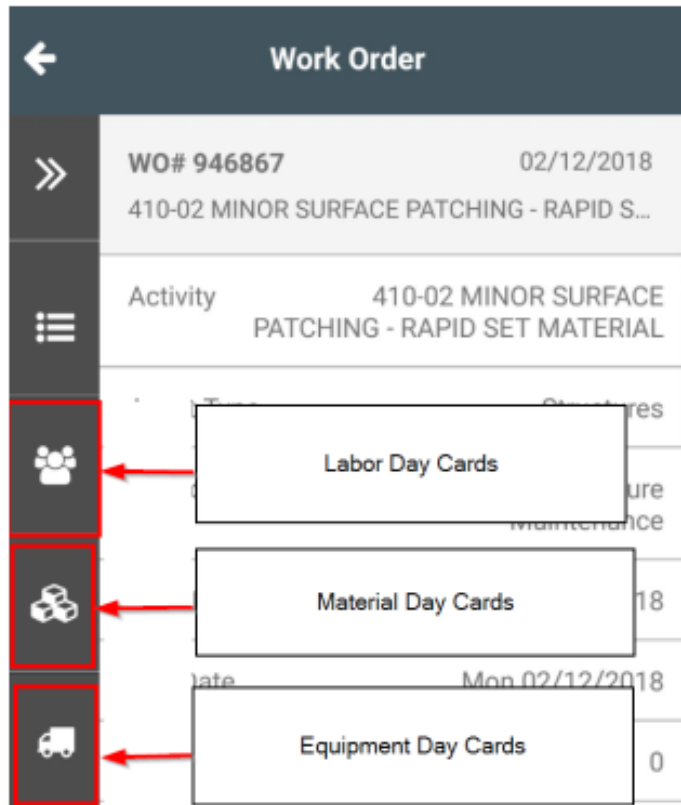- Environmental concerns
- Stereotypes/self-inflicted wounds

There's an App for 'dat

Everything in 1 Place & Portable

MMS Evolution

- AgileAssets upgraded to v.7.3 in June 2018
  - Required hard stop on prior mobile version & devices
  - New devices introduced same week
  - Statewide pilot roll out in June 2018
  - Testing and updates ongoing
  - Estimate full statewide roll out mid 2019

MMS Evolution

- Assets have added to Agile since initial implementation
    - Roads, Bridges, Signals & Sound walls have been added
    - Interstate Signs recently just added
    - ESRI COLLECTOR
    - Future: cable barriers, impact attenuator, guardrail, culverts, etc…

Agile – Mobile Solution

- App Advantages:
  - GPS/Mapping (up to date technology & utilization of Roads & Highways platform)
  - Asset Accuracy
  - Access to full catalog of Project, Activity and Asset Codes
  - With or Without WiFi / Cellular Connectivity

Agile – Mobile Solution

- App Challenges:
  - Temperature / Sun
  - Dirt / Moisture
  - Individuals being responsible for device
  - Wireless Connectivity in Remote Areas
  - Pushing Updates

Agile - Lessons Learned

- More hands-on field training

- Gather as much field user input as possible

- Continually monitor data to catch errors
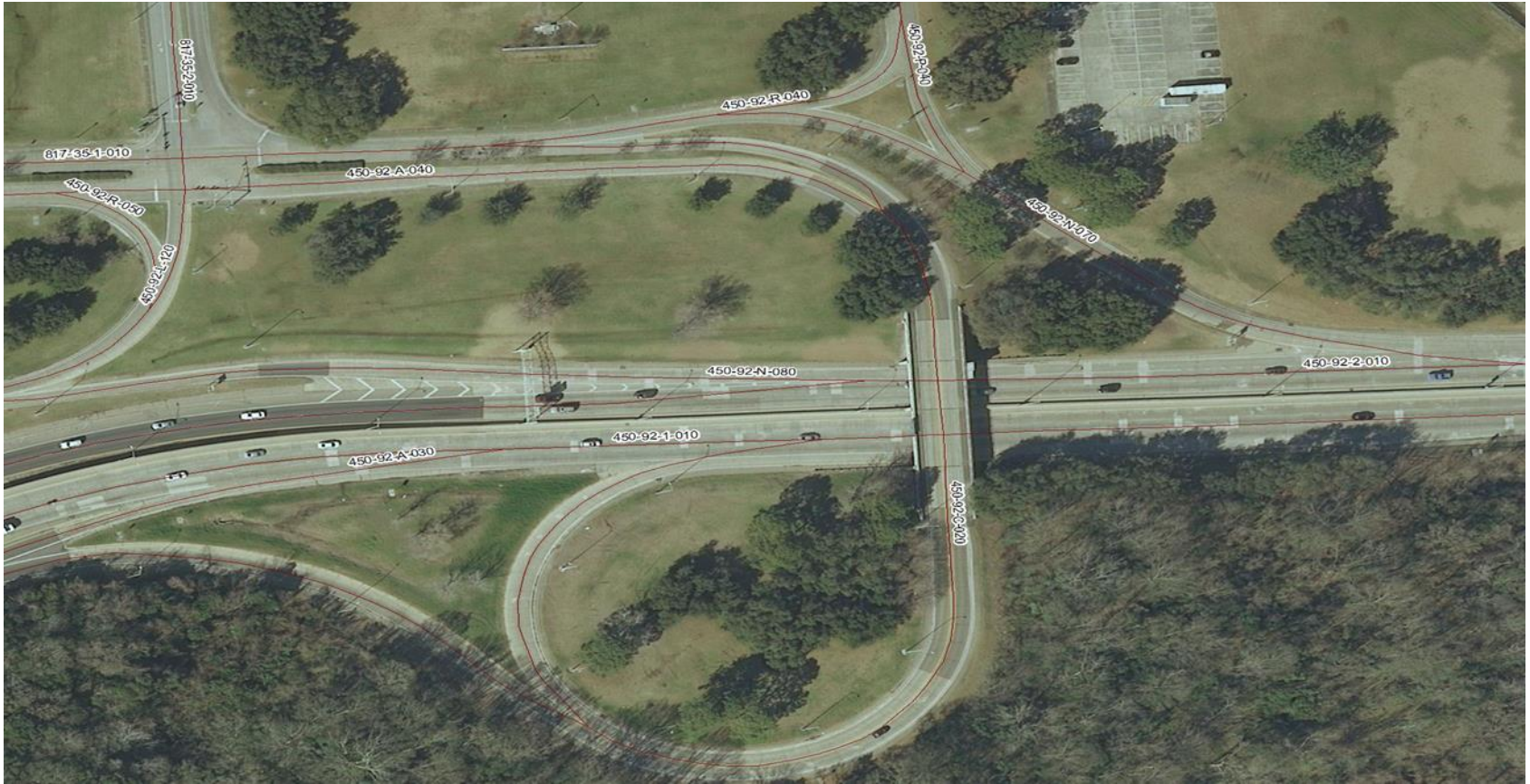
- Keep up to date on mobile technology

Value Proposition of LADOTD

- Get BETTER data
- Get data FASTER
- Accuracy of data as relates to specific assets
- Aid in rollout of FULL LRSID system (Louisiana Road Segment Identification Numbers)

LRSID

MMS Evolution

- Next steps:
  - Continue to identify assets worthwhile of adding
  - Move from simply tracking to planning with MMS
  - Begin asset collection through same devices via ESRI COLLECTOR
  - Expand MWM with greater functionality
  - Grow/Continue to develop

Questions?

Thank you!
Questions?