Fleetwatcher: E-Ticketing







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Agenda

- Earthwave Overview
- E-Ticketing What is it
 - Building Blocks
 - Experience in E-Ticketing
- Fleetwatcher Paving Management
- Eticketing for the Contractor
- Eticketing for the DOT/Inspector
- Q&A



Who is Earthwave?

- · 2000 Founded in Cincinnati, Ohio
- 2000-2007 Exclusive focus on "Yellow Iron"
- 2010 Selected as Viewpoint Telematics Partner
- 2010 Selected Preferred Vendor by OMG
- 2012 Began development of Materials Tracking
- 2014 Selected by <u>B2W</u> as Integration Partner
- Q1 2014 Delivered Materials Tracking Solution
- 2015 E-Ticketing Proof of Concept
- 2015-17 Focus on Integrations
- 2018-19 Delivered Paving Management Solution

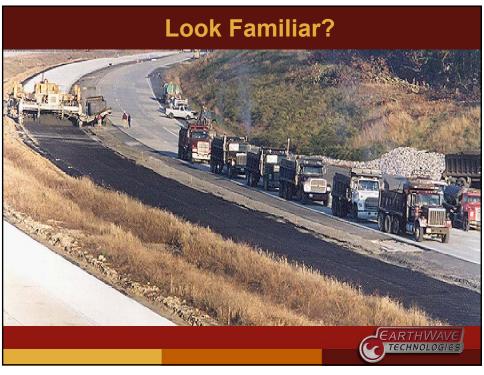


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E-Ticketing Bid Spec

- A wireless fleet management or GPS device that is capable of tracking all delivery trucks (both companyowned and third-party) must be installed on all trucks and equipment (dump trucks, belly dumps, side-load dumps, transfer vehicles, pavers, or any other trucks/vehicles) used to transfer and incorporate HMA into the project. KYTC personnel shall have the ability to access Real Time monitoring through the use of a mobile device such as an iPad, smartphone, etc.
- The fleet management system shall be fully integrated with the Contractor's Load Read-Out scale system at the HMA plant site.
- 3. The fleet management system shall have the ability to measure and track vehicles and their contents (weights and material types) continuously from the plant site to the project site. The system shall have internal battery backup capabilities due to loss of power, and have the ability to store data if GPS connectivity is lost and transmit that same data when unit re-establishes connectivity. To be considered continuous, no two data points shall be more than 60 seconds apart unless the vehicle is stopped. Duration of stop time for any reason shall be recorded. The fleet management system shall have the ability to track the engagement of the truck PTO to indicate the dump the material.





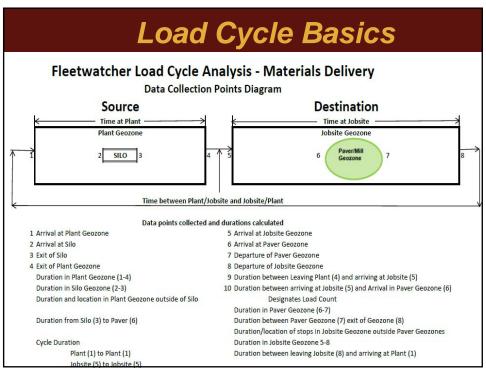
Fleetwatcher Hardware

- CLA for 3rd Party Trucks
- Hardwire for company owned assets
- 1 minute updates for trucks
- 30 second updates for Pavers/Mills
- Internal Antenna
- Internal back-up battery
- Waterproof

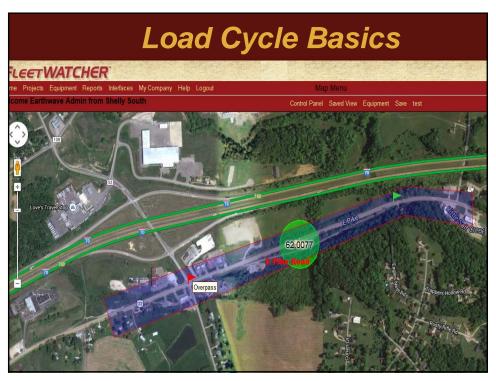


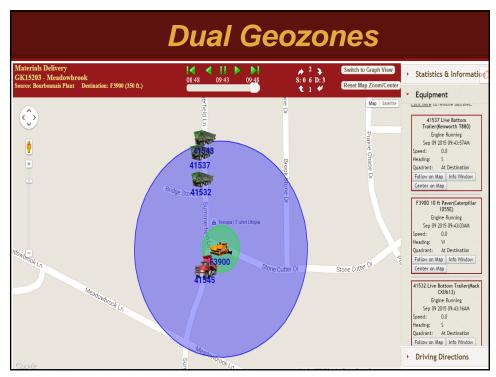


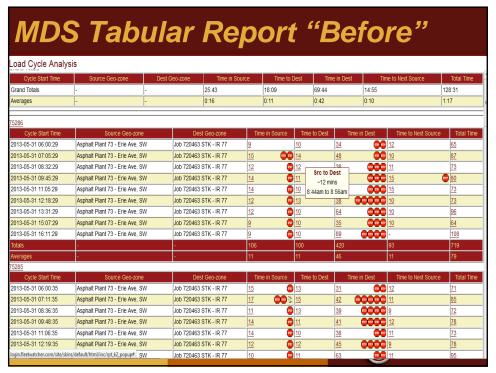


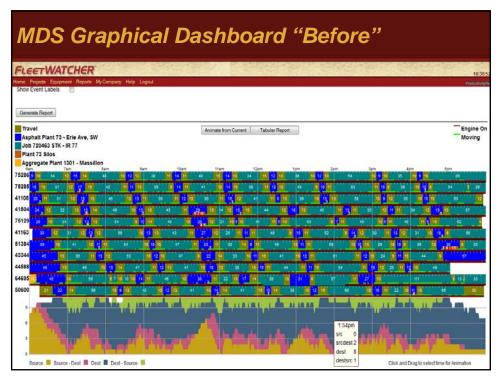












E-Ticketing Solves Big Problems For DOT's

Problems

- Paper Tickets
- Lost Tickets
- Ticket Verification
- Ticket Sorting
- Summing the tickets for Contractor Pay
- Safety for field personal on the jobsite



Solutions

- Eliminates Paper Tickets
- No More Lost Tickets
- Real time Material and Tonnage Verification
- Quickly Summarize Tickets for Contractor Pay
- Reduce Worksite Hazards For Inspectors Frequently Dodging Trucks

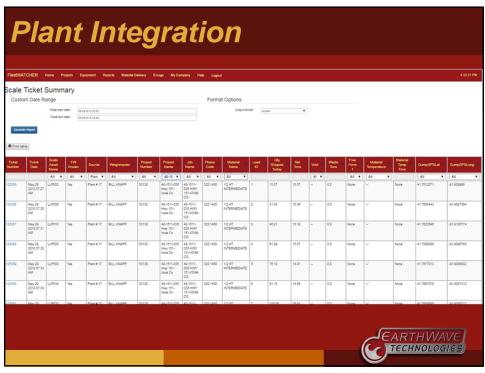


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E-Ticketing Benefits For Paving Contractors

- Safety field personnel & drivers risk
- Scales Integration to Help with Job Costing / Future Bidding
- Transparency for quicker pay
- Collaboration EDC4
- Optimize Cycle Times Move More Tonnage
- Eliminate Bottle-necks at Paver and/or Plant
- Hold Drivers Accountable For Performance and Production
- Automate Payroll Processes
- Alerts / Notifications to Management When Benchmarks Fall Outside of Norm





Active	Shift	C	ard	
2 10 11 0	• •			
	48-1511-035 Hw	y 151- low	a Co	May 29 6:00 AM - 7:59 PM
	Project:	48-1511-	035 Hwy 151- Iowa Co (edit	A 4 3
	Project Number:	53130		S: 3 13 D: 3
	Source:	Plant # 1		★ 3 ♥
	Destination:		035 Hwy 151- Iowa Co	LCA Graph
	Load Count:	62		Con Graph
	Total Tons: Material Type:	959.65 Asphalt		- Map View
	Phase Code:	Asphalt		Colombia Colombia
	Shift Note:	Add		Scale Tickets
	Shirt Note.	Aud		
			Shift is 64% complete	(8.91 out of 13.98 hours)
		Actu	al Tons: 96% of Estimated	1 1000
	First Ticket: Truck # LL	P503 at 7:27 w	rith 15.57 tons of 1/2 HT INTER	MEDIATE , First At Destination: 8:28.
	KPI Shift Ave	Last Hour	Target Shift % Hour %	
	TpH: Crew 90.07	140.52	Set 'TpH: Crew' Target	
	TpH: Truck 105.46	140.52	Set 'TpH: Truck' Target	
	Cycle 81,42	81.43	Set 'Cycle' Target	Material Loads Tons
	TCpT 5 7.72	5 6.96	8 96.5% 87%	■ 1/2 HT INTER 52 801.12
	200		Tons per Hour	
	6 am 7 am 8	am 9 am 10	am 11 am 12 pm 1 pm 2 pm	a 3 pm 4 pm 5 pm 6 pm 7 pm
				EARTHWAVE
				TECHNOLOGIES
				TECHNOLOGIES

