

Ticketless Asphalt

Robert Laurence and Christopher NeSmith

FDOT DCE Meeting

March 22, 2012

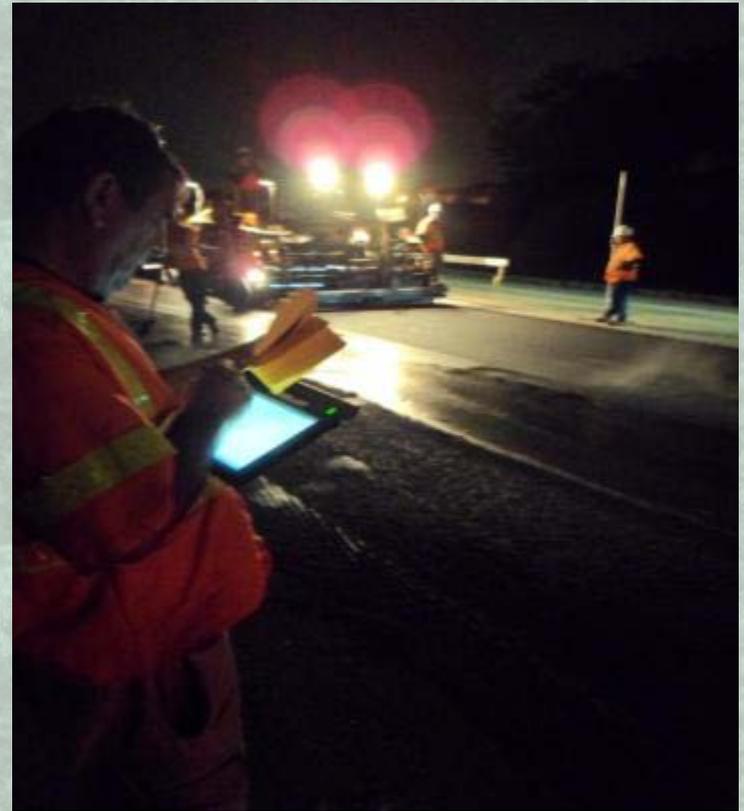
Ticketless Background



- Original idea to electronically collect and store asphalt tickets
- Access to Producers Load Data
- Cooperation from Contractors
- Met with Producer
- Automate creation of Asphalt Daily Report

Ticketless Background

- How the Application works
 - Create barcode sticker at the plant
 - Scan Barcode and enter placement data
 - Download ticket info to database
- Getting the Bugs Out
 - Tested in Lab
 - Using actual paving data from Completed Job
- Pilot Project on Resurfacing Job in Broward County



Ticketless Operation (Inspector)

Scan ticket at job site
Enter placement information



Ticketless Asphalt Tracking - [Ticket 272127]

File View Tools Windows Help

Ticket Scanned - Enter Information | Previous Ticket Scanned: 272128 | Load: 23 | Net Tons: 21.22 | Currn. Tons: 489.40

Plant ID	Ticket No.	Load Timestamp	Mix Type	Mix No.	Grm	FIN	Truck ID	Load No.	Net Tons	Cumm. Tons
A0715	272129	5/20/2010 7:28 AM	SP-12.5 TL-D Fine Poly	SPM 08-6727B	2.491	406148-1-52-01	272129	24	21.22	510.62

Plant Truck Temp: 325 Road Truck Temp: 325
 Rejected

Location 1

Description: Station Start: End: 2731 09
 Multiple Intended Uses
Intended Use 1: SP TL-D 75-22 Lane 1: IL
Width 1: 17.50 Total Thickness 1: Density Required 1:
Intended Use 2: Lane 2:
Width 2: Total Thickness 2: Density Required 2:

LA: 2 of 3 Lifts
 Static Only
Thickness: 1.50
 Vented Width
Total Width: 17.50 Area: 876.94
Location Tonnage: 10.60 Cum. Full Tonnage: 47.66

Target Spread Rate: 161.79
Spread Rate: 154.31
Add New Location
Waste Remaining Mix
End Truck
End Day

Remaining Mix to Split
Tons: 10.62 %: 50.00
Continue
Cancel

Program Capabilities

- Actual vs. Target Spread Rate
 - Warns if +/- 5%
- Split Loads
- Multiple Paving Crews
- Multiple Intended Uses
- Variable Width Areas
- Improves Waste Calculation

Ticketless Operation

Tickets on Inspector Computer

Ticketless Asphalt Tracking - [Local Tickets]

File View Tools Windows Help

23 of 24

Insert Ticket After Selected Ticket Ticket # to Find:

Truck ID	Load #	Ticket #	Fin #	Mix Design #	Mix Type	Plant	User	Gmm / Gsb	Gmm / Gsb Value	Net Tons	Cumulative Tons	Ticket Timestamp	Plant Truck Temp	Road Truck Temp	Rejected	Rejected Reason	Comment	Waste Tons	Road Input Timestamp	Truck Ended	Last Truck of Day
334	1	272101	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	20.85	20.85	5/20/2010 7:17 AM	305	305	<input type="checkbox"/>				1/30/2012 8:32 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
353	2	272102	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.29	42.14	5/20/2010 7:19 AM	320	315	<input type="checkbox"/>				1/30/2012 8:34 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
314	3	272103	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.19	63.33	5/20/2010 7:19 AM	330	325	<input type="checkbox"/>				1/30/2012 8:34 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2856	4	272104	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.21	84.54	5/20/2010 7:20 AM	320	320	<input type="checkbox"/>				1/30/2012 8:35 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2666	5	272106	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.85	106.39	5/20/2010 7:20 AM	320	320	<input type="checkbox"/>				1/30/2012 8:35 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2727	6	272108	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.36	127.75	5/20/2010 7:21 AM			<input type="checkbox"/>				1/30/2012 11:26 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2749	7	272109	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.21	148.96	5/20/2010 7:21 AM			<input type="checkbox"/>				1/30/2012 11:39 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
334	8	272112	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	20.85	169.81	5/20/2010 7:22 AM			<input type="checkbox"/>				1/30/2012 11:38 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
353	9	272113	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.24	191.05	5/20/2010 7:22 AM			<input type="checkbox"/>				1/30/2012 11:39 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
314	10	272114	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.29	212.34	5/20/2010 7:23 AM	330		<input type="checkbox"/>				1/30/2012 11:40 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2856	11	272115	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.23	233.57	5/20/2010 7:23 AM			<input type="checkbox"/>				1/30/2012 11:41 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2666	12	272116	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.85	255.42	5/20/2010 7:23 AM			<input type="checkbox"/>				1/30/2012 11:41 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2727	13	272117	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.38	276.80	5/20/2010 7:24 AM			<input type="checkbox"/>				1/30/2012 11:41 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2749	14	272118	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.29	298.09	5/20/2010 7:24 AM			<input type="checkbox"/>				1/30/2012 11:42 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
334	15	272119	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	20.88	318.97	5/20/2010 7:24 AM			<input type="checkbox"/>				1/30/2012 11:49 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
353	16	272120	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.25	340.22	5/20/2010 7:25 AM			<input type="checkbox"/>				1/30/2012 11:51 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2856	17	272121	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.25	361.47	5/20/2010 7:25 AM	325	325	<input type="checkbox"/>				1/30/2012 11:51 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
314	18	272122	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.31	382.78	5/20/2010 7:25 AM			<input type="checkbox"/>				1/30/2012 11:51 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2666	19	272123	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.87	404.65	5/20/2010 7:26 AM			<input type="checkbox"/>				1/30/2012 11:51 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2727	20	272124	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.44	426.09	5/20/2010 7:26 AM			<input type="checkbox"/>				1/30/2012 11:52 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2749	21	272125	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.23	447.32	5/20/2010 7:27 AM			<input type="checkbox"/>				1/30/2012 11:52 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
334	22	272127	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	20.86	468.18	5/20/2010 7:27 AM			<input type="checkbox"/>				1/31/2012 11:33 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
353	23	272128	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.22	489.40	5/20/2010 7:27 AM			<input type="checkbox"/>				2/10/2012 10:36 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2856	24	272129	406148-1-52-01	SPM 08-6727B	SP-12.5 TL-D Fine Poly	A0715	Default User	Gmm	2.491	21.22	510.62	5/20/2010 7:28 AM	325	325	<input type="checkbox"/>				2/10/2012 10:36 AM	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Ticketless Operation

Online Database



Ticketless Asphalt Tracking

Ticket Labels Ticket Sets

Uploaded Ticket Sets

Project Fin # Plant Date From

Mix Design # User Date To

	Project Fin #	Mix Design #	Mix Design Type	Fleet	User	Shift	Date	Submit Timestamp	Submitted By	
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/22/2012	1/23/2012 1:09 PM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SP-12.5 TL-D Fine PG 75-22	A0612	Default User	NIGHT	1/23/2012	1/23/2012 4:28 PM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/23/2012	1/24/2012 1:28 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	erick-rojo	NIGHT	1/24/2012	1/25/2012 8:06 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SP-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/25/2012	1/26/2012 8:07 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/26/2012	1/27/2012 8:19 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/26/2012	1/28/2012 5:51 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SP-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/30/2012	1/31/2012 5:39 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	1/31/2012	2/1/2012 6:16 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406100-5-12-01	SPM 09-7309A	SR-12.0 TL-D Fine PG 75-22	A0613	Default User	NIGHT	2/1/2012	2/2/2012 5:48 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SP-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	2/2/2012	2/3/2012 8:27 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	2/7/2012	2/8/2012 5:46 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	2/9/2012	2/9/2012 5:54 AM	Default User	Export Ticket Set Delete
Tickets (Summary) Tickets (Detail)	406150-5-52-01	SPM 09-7309A	SR-12.5 TL-D Fine PG 75-22	A0613	Default User	NIGHT	2/9/2012	2/19/2012 8:05 AM	Default User	Export Ticket Set Delete

Ticketless Operation

Import Excel data into Asphalt Roadway Daily Report

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	AH	AI																			
1	top	Remove Row at selection	Add Row at selection	Copy (constant)	Copy (varied)	State of Florida Department of Transportation																		675-030-20A CONSTRUCTION 11/11	Show Reports																			
2	FIN ID (Project #)		406150-5-52-01			<input type="checkbox"/> Lot Closed		Asphalt Roadway - Daily Report of Quality Control										Update Workbook	Clear EVERYTHING	Email Form Feedback to: SM-AsphaltForms@dot.state.fl.us																								
3	Intended Lot Size		2000 tons			<input type="checkbox"/> Static Only		LOT #		1			Mix Design #		SPM 09-7369A			Reload	Clear	Change Pay Item #'s		Import from file			Import Pay Item Numbers			remove last lot			Clear Pay Item Numbers													
4	Constant Width Areas																		Gmm: 2.355		BASE ONLY																							
#	Date Paved	Day or Night	Sub Lot	Truck Load #s	Intended Use	Density ?	Lane	Desc.	Lift # of #	Start Paving at Station	End Paving at Station	Length (FT)	Width (FT)	Area Paved (SY)	Quantity (TN)	Individual Lift Thickness (in)	Actual Spread Rate (LB/SY)	Target Spread Rate (LB/SY)	Total Thickness (in)	Prorated Base (SY)																								
6	1/22/2012	NIGHT	1	1-5	SP TL-D 76-22	Y	L1		1 1	382+23.00	373+60.00	863	11.50	1102.72	109.48	2.00	198.56	204																										
7	1/22/2012	NIGHT	1	6-14	SP TL-D 76-22	Y	L1		1 1	373+60.00	358+20.00	1540	11.50	1967.78	196.05	2.00	199.26	204																										
8	1/22/2012	NIGHT	1	15-20	SP TL-D 76-22	Y	L1		1 1	358+20.00	348+00.00	1020	11.50	1303.33	129.78	2.00	199.15	204																										
9	1/22/2012	NIGHT	1	1&2	21-25	SP TL-D 76-22	Y	L1	1 1	348+00.00	339+80.00	820	11.50	1047.78	107.91	2.00	205.98	204																										
10	1/22/2012	NIGHT	1	2	26-30	SP TL-D 76-22	Y	L1	1 1	339+80.00	331+50.00	830	11.50	1060.56	109.43	2.00	206.36	204																										
11	1/22/2012	NIGHT	1	2	31-36	SP TL-D 76-22	Y	L1	1 1	331+50.00	322+55.00	895	11.50	1143.61	120.60	2.00	210.91	204																										
12	1/22/2012	NIGHT	1	2	36	Waste									8.00																													
13	→ 01/22/2012 DAILY TOTALS: 781.25 Total Tons 8.00 Tons Not in Lot 773.25 net tons (773.25 tons Require Density 0.00 tons Non-Density)																																											
14																																												
15																																												
16																																												
17	Varied Width Areas																																											
18																																												
19																																												
20																																												
21	Comments Box:																																											
22																<table border="1"> <thead> <tr> <th>Intended Use</th><th>Pay Item #</th><th>Previous Total (Tons)</th><th>LOT Total (Tons)</th><th>Cumulative Total (Tons)</th><th>Previous Total (SY) or CY for ATPB</th><th>LOT Total (SY) or CY for ATPB</th><th>Cumulative Total (SY) or CY for ATPB</th> </tr> </thead> <tbody> <tr> <td>SP TL-D 76-22</td><td>334 124</td><td>0.00</td><td>773.25</td><td>773.25</td><td>0.00</td><td>7,625.78</td><td>7,625.78</td> </tr> <tr> <td>Waste</td><td></td><td>0.00</td><td>8.00</td><td>8.00</td><td>0.00</td><td>0.00</td><td>0.00</td> </tr> </tbody> </table>					Intended Use	Pay Item #	Previous Total (Tons)	LOT Total (Tons)	Cumulative Total (Tons)	Previous Total (SY) or CY for ATPB	LOT Total (SY) or CY for ATPB	Cumulative Total (SY) or CY for ATPB	SP TL-D 76-22	334 124	0.00	773.25	773.25	0.00	7,625.78	7,625.78	Waste		0.00	8.00	8.00	0.00	0.00	0.00
Intended Use	Pay Item #	Previous Total (Tons)	LOT Total (Tons)	Cumulative Total (Tons)	Previous Total (SY) or CY for ATPB	LOT Total (SY) or CY for ATPB	Cumulative Total (SY) or CY for ATPB																																					
SP TL-D 76-22	334 124	0.00	773.25	773.25	0.00	7,625.78	7,625.78																																					
Waste		0.00	8.00	8.00	0.00	0.00	0.00																																					
23																																												
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Ticketless Benefits

- Accurate
- Time Saved
 - Automatic Spread Rate in field
 - Automatic Road Report in office
- Access to Truck Tickets
- Better Quality Control
 - real time data

Ticketless Future

- Industry Support
- Eliminate Human Factor at Plant
 - Print Interceptor
 - Access to load data
- RFID Possibility
 - Completely eliminate tickets

Questions?

If you are interested in seeing more please contact:

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