

How Digital Transformation surfaced the concrete industry

How electronic communications are evolving in

Ready-mix

Meet the Team

**Safety, Environmental, Operations Committee
NRMCA DIL C/O 2020-2021**

Jenay Brown- LafargeHolcim- Dispatch Supervisor

Tyler Stanley- imi- Production Manager

Luis Soto Rivas- U.S. Concrete- Concrete Dispatcher

Mission

The Safety, Environmental and Operations (SEO) Division provides the forum for the interchange of ideas relating to safety, equipment maintenance, environmental compliance, production and distribution, and the training of personnel in the ready mixed concrete industry. The division advocates and reports on regulatory issues involving, in part, the Department of Labor, National Labor Relations Board, Department of Transportation, Environmental Protection Agency and the Department of Treasury.

-NRMCA

Digital-e

Let's get digital. What's trending in the concrete industry?

- Paperless tickets
- Concrete web ordering
- Field Level Risk Assessment
- COVID (self evaluation) checklist
- Pre-trip/ Post-trip assessment
- QR Digital Codes
- Concrete Data While in Transit (Smart Hatch/ Drum tech)
- Concrete Analysis Report
- Driver Vehicle Tracking- Mapping Services

Many of the mentioned tools began in 2020 to help reduce the spread of the coronavirus. Not only were these tools of convenience but of most importantly, were top tools of SAFETY.

Take a step into the 21st century as we navigate through the use of these tools and how they're successful in many operations.

Concrete Delivery- Orders & Tracking

Old Way:

1. Assume the loads are on the way.
2. Call if the concrete is not on time.
3. Trust in the concrete producer to tell the truth.

New Way:

1. Mobile app
 - a. Track the exact location of your truck on a live map
 - b. View performance metrics (yards per hour, on time)
 - c. Track quality of material (batch weights, load times)

Mobile App experience may also allow the customer to place concrete orders and chat live with Dispatch on order placements and deliveries.

Accountability and Transparency between customer and producer



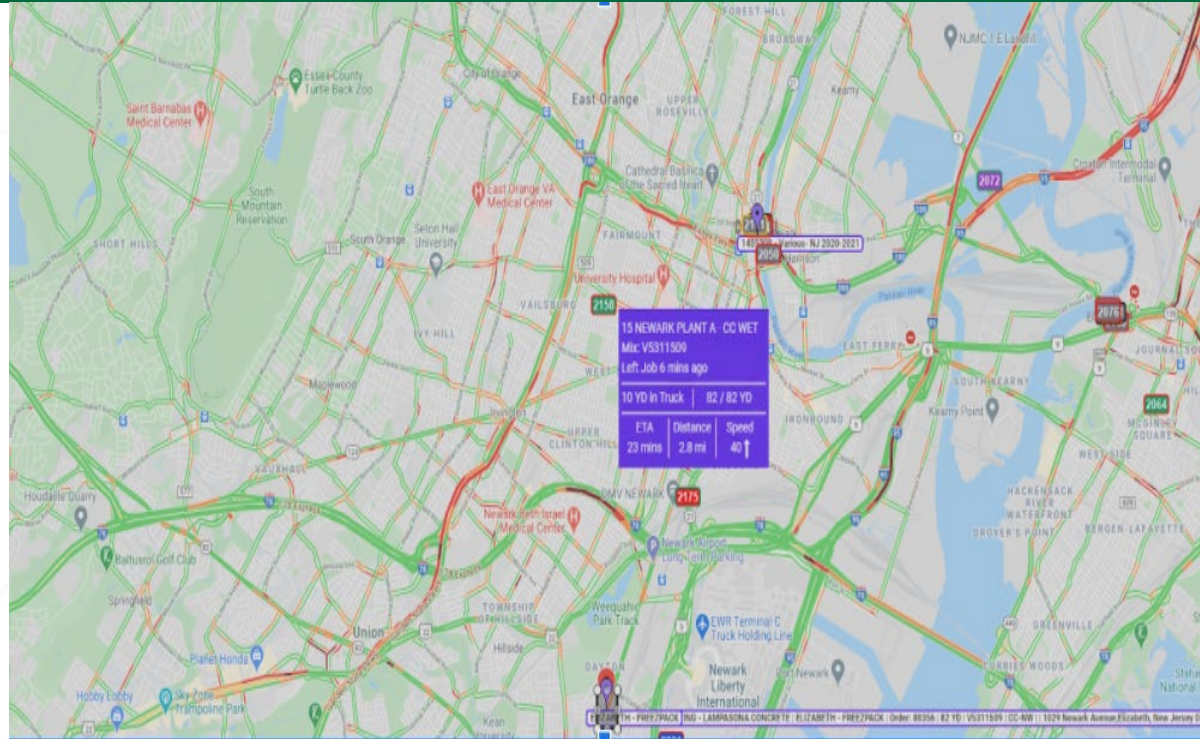
“I like being able to manage everything from my personal device. I like the fact that notifications come when concrete is batched, the trucks track in real time on the map, the calendar shows my will call orders, and the ability to manage and sign tickets from my device.”

-Robbie Bradley- Envision Contractors

e-Truck Mapping Services

The concrete producer, construction manager, owners, developers, engineers and truckers can be connected in real time to make critical logistical decisions by utilizing mobile mapping services to track their deliveries.

No question when a load is late while a driver is stuck in traffic, as the customer has a front row seat, right at their fingertips.



KEEPING THE CUSTOMER INFORMED

- ❖ The rate of the pour is very important and having this information available in real time without having to make a phone call has shown to have a great impact, not only does it save time, but it saves money.
- ❖ When it's time to schedule finishers, it is imperative to the contractors to know how much manpower is needed.
- ❖ This can assist with future pours with similar characteristics. Understanding the analysis of the unload times, wait times, and pouring rates will also reduce rejected and expired loads.

12677 - Morris Warehouse

1400382 - GMAC CONSTRUCTION LLC

Doremus Avenue and Roanoke Avenue, Newark, New Jersey 07105

Mix: 15811E03

Status: Complete

DOWNLOAD

GENERAL INFO

DELIVERIES

ANALYTICS

795 / 795 YD

0 YD In Transit

0 YD Onsite

795 YD Poured

0 YD Remaining to Ship

NEXT TRUCK	START TIME	POUR FINISH
	5:00	9:26
ORDERED POUR RATE	ACTUAL POUR RATE	SHIPPED
132 YDs/HR	175 YDs/HR	795 YD
ON THE WAY	ON THE JOB	POURED LDS
0 Truck	0 Truck	77
Average Time on Job		
ON JOB WAIT	POURING	WASHING
11 mins	7 mins	13 mins

ORDERED BY

tony 609 221 8501

BUILD WITH STRENGTH

www.nrmca.org | National Ready Mixed Concrete Association | #nrmca

PAVE AHEAD
DURABLE. SUSTAINABLE. CONCRETE.

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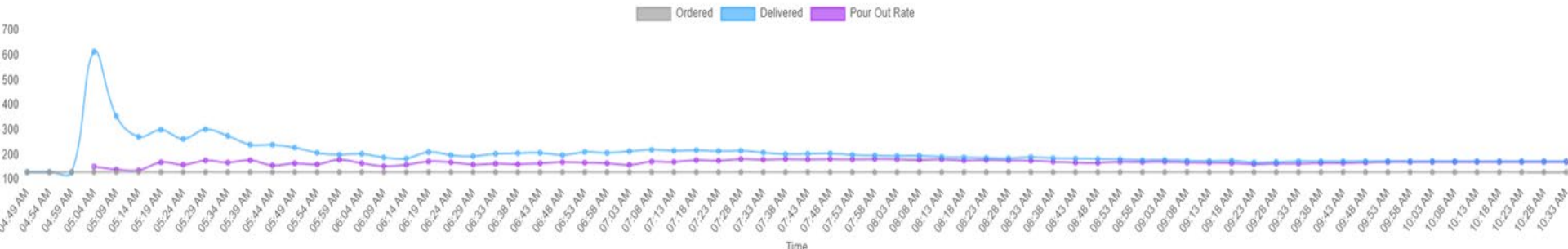
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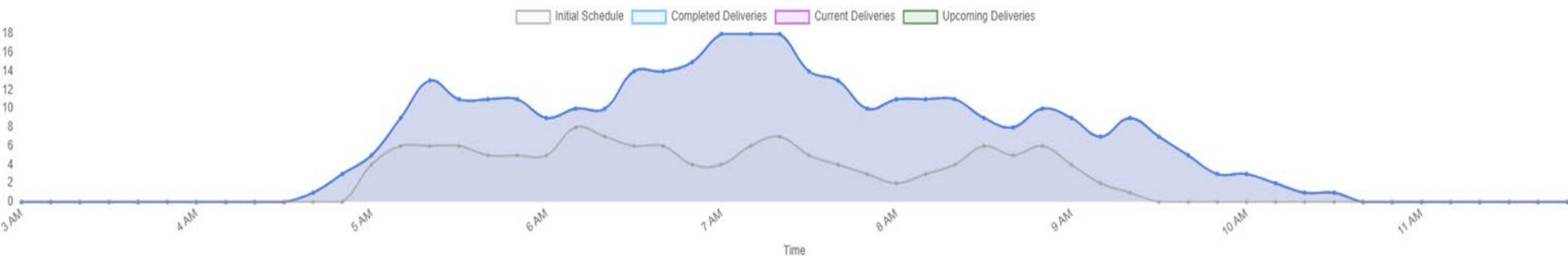
DELIVERIES

ANALYTICS

Pour Rate Analysis



Trucks On Job

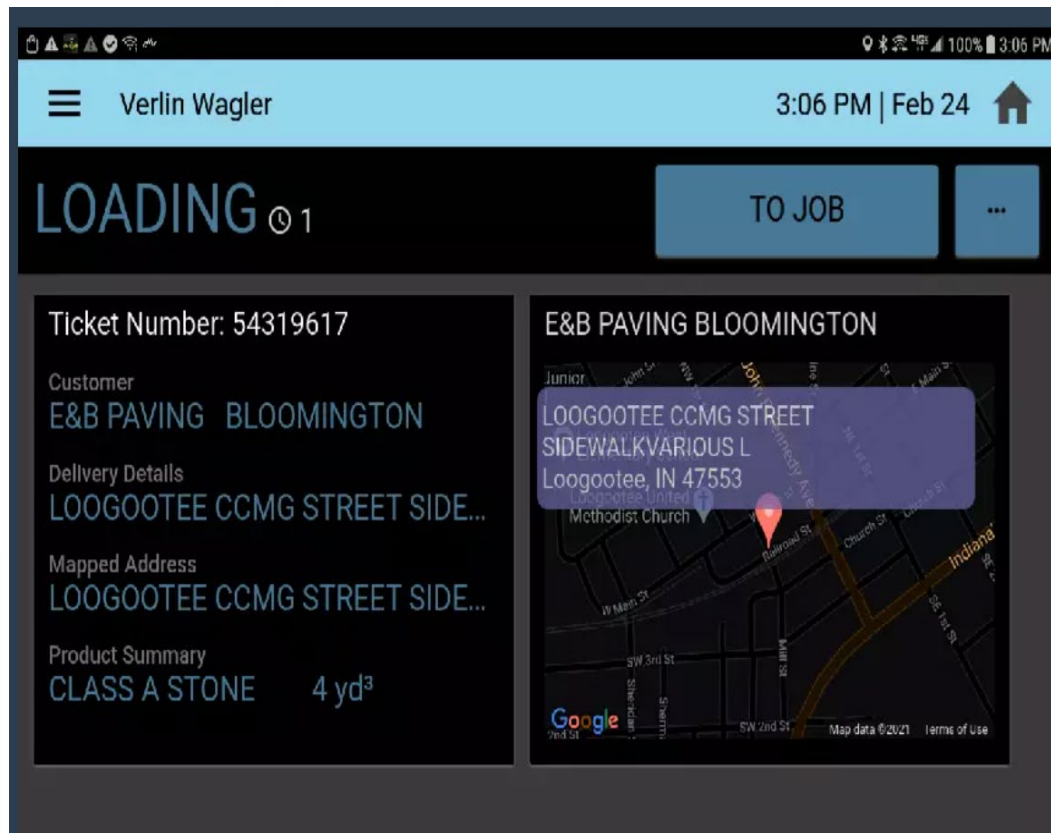


Paperless Ticketing Efficiency at its best

All the information available to the driver on a touch tablet showing ticket information that would be normally available via paper ticket.

Drivers can view the address, mix, quantity, and slump of the concrete to include any additional products.

Making deliveries contactless, safe, easy, and efficient



Driver Vehicle Inspection Report

Driving Safe & at ease

Checking for major defects on pre-trips, during trips, and post trips conveniently completed electronically. Providing site mechanics, plant managers, and dispatchers an instant notification of completed forms. Also, available to mechanics in real time where the forms can be reviewed and signed off on digitally.

Items of major defects, will alert drivers to contact their immediate Plant Manager and fleet maintenance will place the truck 'Out of Service' until the item in question is repaired and the truck is available for use.

Real time alerts on Major defects for Plant and Dispatch personnel provides direct attention to multiple people to pause ticketing, check the defects, and provide corrective action for safe travels and deliveries.

Driver Vehicle Inspection Report

PRE-TRIP

DURING

POST-TRIP

Carrier's name	Lafarge
Vehicle licence plate	02E27
Mileage	3500 mi
Major defect(s) / Out of service	None
Minor defect(s)	1
✗ Occupant compartment door fails to open	

Inspected by **Torrey Utne**




Wed, Jan 13 10:20 PM
Everett

E-Ticket

Paperless, Contactless, Touchless

No Plant-to- Driver-to- Customer contact necessary as companies go paperless. All tickets are available electronically. DOT regulations and acceptability is at each individual state's discretion.

Some companies reverted to electronic signatures and some have reverted to imagery where the electronic tickets show an image snapshot of the job delivery site or have an allowable feature on the driver's device to snapshot the site in which concrete was received.

Ticket 584939484						
VOLUME ORDERED IN CY 6.00	TOTAL BATCHES IN CY 6	VOLUME ORDERED IN CY 6.00	MIX CLASS 404500.	CUSTOM DESCRIPTION 4000 3/4	MIX DESCRIPTION 4000.REG.3060BL.2.3	SUMP 5
			ADDITIONAL CODE 906259	ADDITIONAL DESCRIPTION NCA 2.00%		
Extra charges						
1. EXTRA CHARGE WINTER 4.		2. EXTRA CHARGE FUEL CHARGE		3. EXTRA CHARGE -		4. EXTRA CHARGE -
Test results						
SLUMP 5		AIR CONTENT -		OTHER TEST -		CYLINDERS COLLECTED YES
Job times						
TICKET PRINTED 06:19	START LOAD 06:22	IN ROUTE 06:35	ON SITE 06:52	BEFORE POURING 07:18	ARRIVAL 08:30	
LEFT SITE 08:35	AT PLANT 08:55	TOTAL TIME ON SITE 01:43				
Subtotal:						
Tax:						
Total:						
Order details						
ORDER NO. #2	TICKET ID 56836086	DELIVERY DATE Mon, Jan 17 2021 07:00			TRUCK AND DRIVER 300	
PLANT ADDRESS				PLANT NO. 701		
CUSTOMER GWH CONCRETE CONTRS., INC.				CUSTOMER NO. 38449	PROJECT NO. 400773	PURCHASE ORDER GH001
SHIP TO 20 CHEVRE STREET BRIGHTON, MA 02133				JOB SITE St. Mary's Bldgs I & II		
LOT/BLOCK 2096	ZONE	FACE	POURING NOSE -	ELEMENTS TO POUR -		
DELIVERY INSTRUCTIONS SIDEWALKS						
Jobsite acknowledgement						
1. WATER ADDED 39 gallons		2. WATER ADDED -		3. WATER ADDED -		
TOTAL WATER ADDED 39 gallons						
Delivery confirmation						
						
TIMESTAMP Mon, Jan 17 2021 08:40				LOCATION 42.3465, -71.145		
SSD weights						
Material	Design quantity	Required	Batched	% Variation	% Moisture	
3/8"	780 lb	4712.76 lb	4720 lb	0.15 %	0.7 %	
CEM_Q	660 lb	3960 lb	3950 lb	-0.25 %	-	
AEA	3.75 oz	22.5 oz	22 oz	-2.22 %	-	
V2020	39.6 oz	237.6 oz	240 oz	1.01 %	-	
WATER1	35.6 gal	153.15 gal	151.23 gal	-1.25 %	-	

Field Level Risk Assessment Report

Drivers reporting safety risks and hazards on the job sites in REAL time, electronically.

Customers and Dispatchers can review the issue instantaneously and apply corrective action on-the-spot.

The speed of this tool provides the driver immediate assistance in making a safe decision prior to unloading on the jobsite.

Field level risk assessment (FLRA) ×

Check the following before unloading

Safety regulation	Yes	No
Truck can back up safely?	<input checked="" type="radio"/>	<input type="radio"/>
Ground level, compacted and clear?	<input checked="" type="radio"/>	<input type="radio"/>
Truck safe distance from excavation?	<input type="radio"/>	<input checked="" type="radio"/>
Safe space around truck?	<input type="radio"/>	<input checked="" type="radio"/>
Is location free of overhead hazards?	<input checked="" type="radio"/>	<input type="radio"/>

[+ Other hazard](#)

Please ask for assistance to correct the hazard before unloading

STOP THE SPREAD: Face covering, hand washing, and social distancing all reduce the spread of Covid-19

CONFIRM HAZARD

What does the Future Hold?

- **Smart Delivery Vehicles**
 - Real Time Data Transmitted about the product onboard.
 - Integration of multiple technologies to one device.
 - Driver Aids to monitor/ adjust concrete onboard.
- **Integration at the Plant**
 - Streamlining data into a single point.
 - Live metrics help decision be made with clarity and speed.
 - Efficiency Improvements
- **Customer Service**
 - Deliver quicker data to the end user.
 - Manage orders and communications in an efficient method.

Thank you!

