

Enterprise software for  
the smart grid.

*How Punch built a smart  
app to ensure your lights  
are always on.*

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**Dispatchr**

**punch case study**

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## *About Dispatchr*

**DISPATCHR IS THE WORLD'S MOST SOPHISTICATED GRID RESILIENCE SOFTWARE, PROVIDING PREDICTIVE ANALYTICS, MOBILE FLEET MANAGEMENT, AND INTEGRATED WEATHER, VEGETATION AND GRID IMPACT ANALYSIS FOR THE ELECTRICAL UTILITY INDUSTRY.**

### **AN ELECTRIC SOLUTION**

Dispatchr's electric utility solution required a high level of expertise across a variety of design and technical disciplines.

Punch worked as Dispatchr's user interface, experience, and engineering services partner to help the Dispatchr team move their goals for the electric utility industry forward. We focused on resolving predictive analytics, fleet management, and grid impact analysis.

The result is an exciting partnership as Dispatchr grows to become the global standard solution for grid-resilience software.

## PUNCH SERVICES PROVIDED

Punch provided expertise in engineering, design, marketing, and staffing to help Dispatchr meet deadlines and goals for rapid development.

Architecture,  
full-stack dev,  
Android, branding,  
marketing, graphic  
design, UI/UX, QA,  
staffing



## *A fleet working blind*

**DISPATCHR'S CLIENTS — THE BIG ELECTRIC COMPANIES — FACED A PROBLEM: HOW DO WE CREATE AN OPTIMIZED FLEET ACROSS A HUGE GEOGRAPHIC REGION?**

The smart grid sent troves of data to the client but the tools their team used to understand and act on that data were stuck in the past. Punch worked with Dispatchr to solve the biggest and costliest issues.

- 1 Resource allocation.** Utilities struggle to keep track of their field workers. Especially during a storm, where it might take hours for the right person to arrive at the site, it's essential to move people predictively to the right spot before the issues happen.
- 2 Unconnected data.** Utilities make every effort to consolidate multiple data sources: internal, operational, and external. Retrieving and analyzing the data leaves gaps and teams fail to communicate with each other efficiently.
- 3 Human error.** Utilities process data and resource allocation in time-consuming and manual ways. Spreadsheets, emails, and pen-and-paper took the responsibility of managing thousands of people and tens of thousands of square miles of coverage area. Errors are rampant — and costly.

# 70,000 <sup>M<sup>2</sup></sup>

COVERAGE AREA IN SQUARE MILES

Deployment in key areas of the grid helped Punch test and refine the software so it could work in a huge geographic area.



# *The fix for Dispatchr*

**PUNCH WORKED WITH DISPATCHR TO SOLVE THESE THREE KEY ISSUES. WE IMPLEMENTED A LARGE-SCALE UI ANALYSIS AND REDESIGN OF THEIR FLAGSHIP PRODUCT IN FIVE PILLARS.**

Punch worked closely with Dispatchr and the public electric utility to research, design, code, and launch solutions using predictive machine learning and geospatial analytics. We identified five key areas that formed the pillars of the web app.

## **WEB APP CORE FEATURES**

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<b>Prioritize</b>	In an emergency, disaster, or routine maintenance, the system can intelligently allocate the right people for the job.
<b>Schedule</b>	Juggling existing schedules, special requests, and union limits, the app makes predictive scheduling decisions.
<b>Dispatch</b>	Mobile devices on each member of the fleet notify and direct individuals to their next site — barking dog warnings included.
<b>Route</b>	The app ensures that the right person is sent to the job site — and more importantly — they are nearby to ensure fast arrival.
<b>Monitor</b>	Once at the site, the app allows fleet members to record, analyze, fix, and report with full support for rich media and mobile.

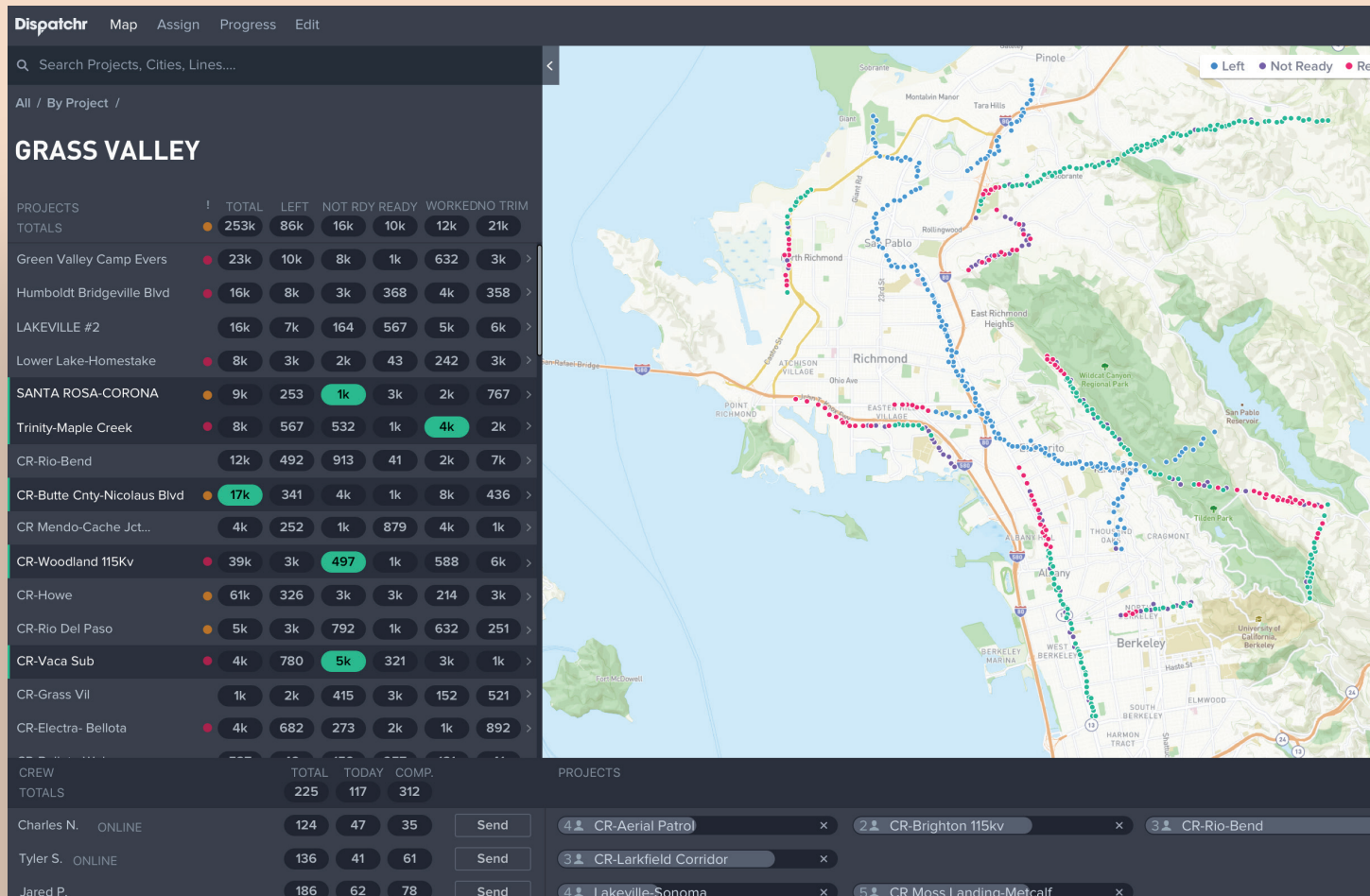
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# 1

## PRIORITIZE

SEE WHERE ISSUES MAY OCCUR AND FIND ONES THAT NEED HELP.

Predictive machine learning helps the Dispatchr app identify and prioritize issues. Oftentimes, electric failures of a similar type occur at the same time, and Dispatchr has to help recommended the one that is quickest to fix.



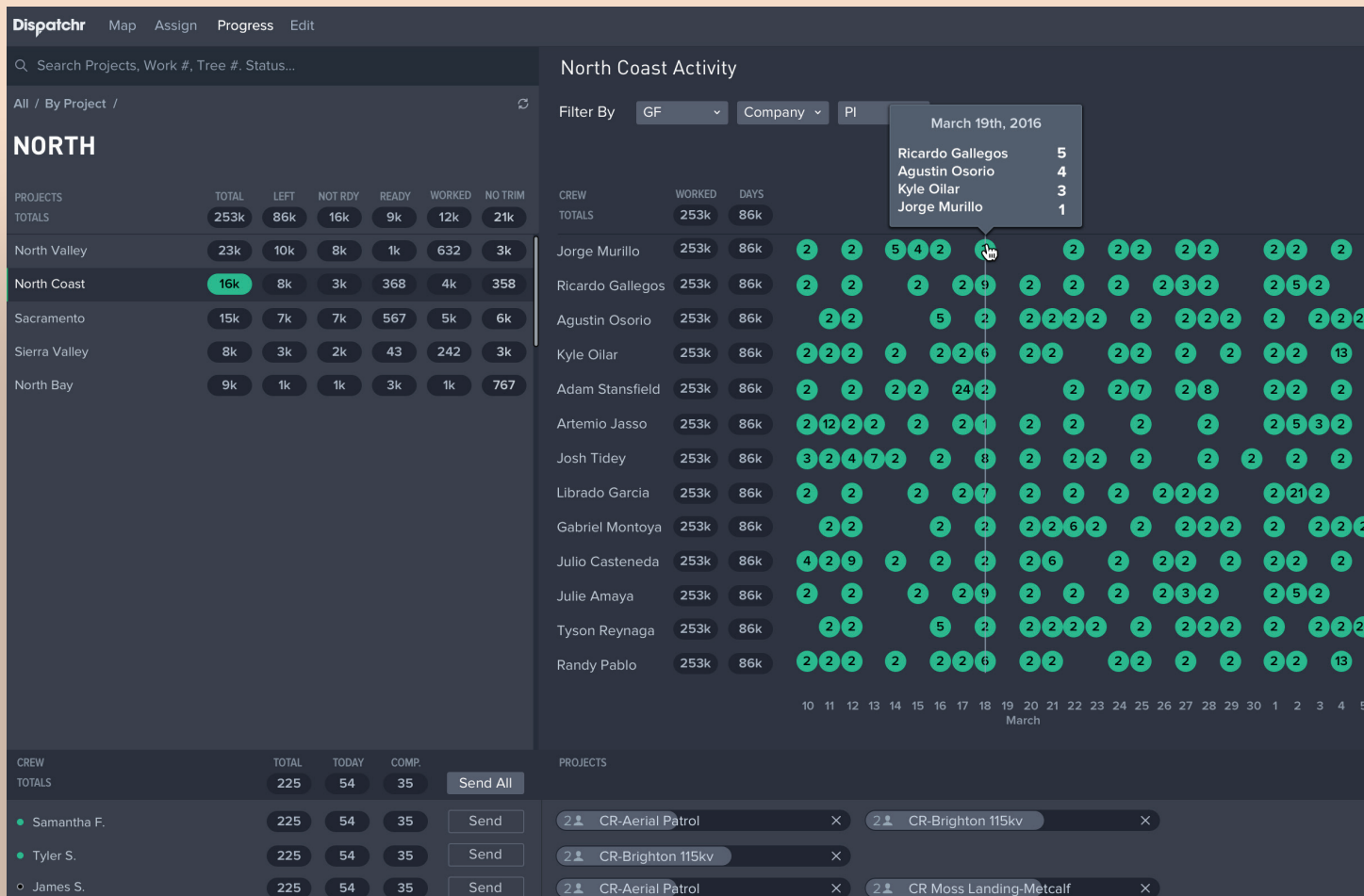


# 2

## SCHEDULE

MAKING SURE THE RIGHT PEOPLE ARE AVAILABLE

Scheduling involves two main components: seeing what needs to be fixed and who is available to fix it.



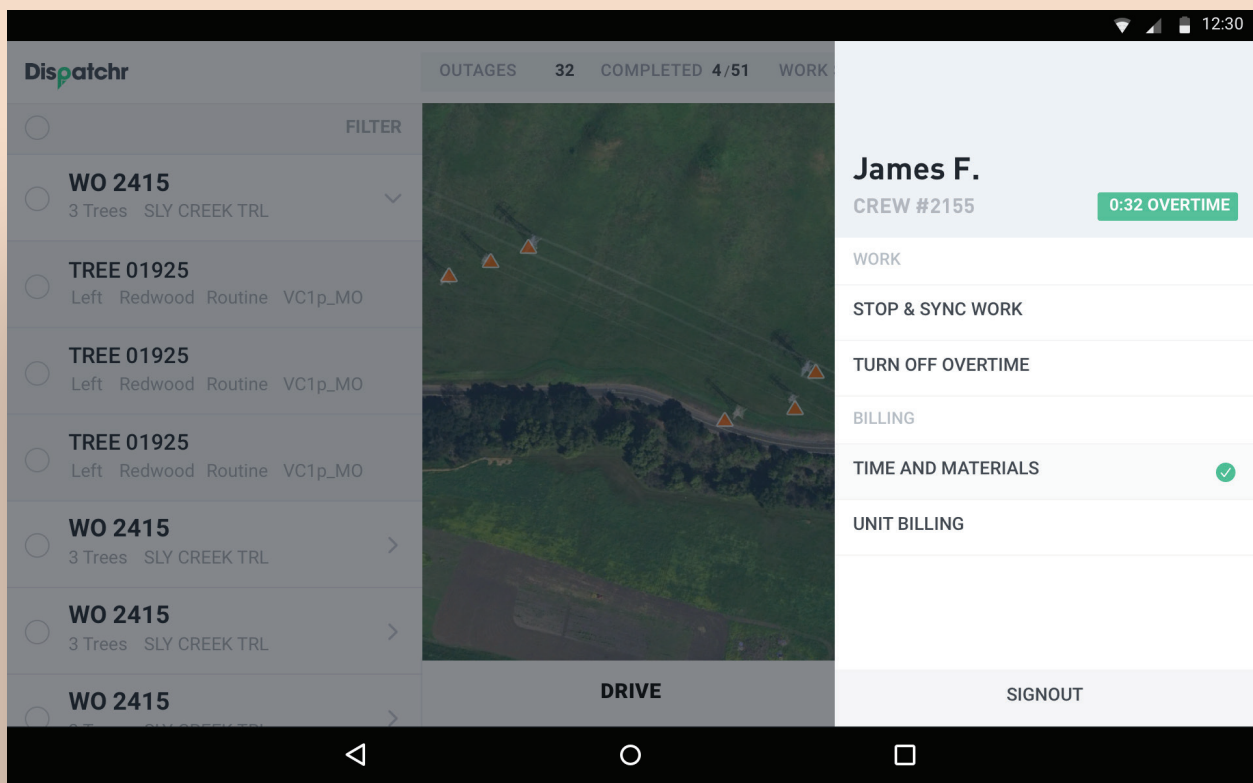
Admin-viewable reports put key employee records at easy reach. Teams can more effectively monitor cost and employee performance across the grid.

### LAST WEEK'S PROGRESS

Week of June 25th - June 29th

TREE CREW	HOURS 45 ▼	UNITS 45 ▼	LEFT 45 ▲	NOT RDY 45 ▲
North	45 ▼	45 ▼	45 ▲	45 ▲
Darvey Tree	45 ▼	45 ▼	45 ▲	45 ▲
North Valley	45 ▼	45 ▼	45 ▲	45 ▲
North Bay	45 ▼	45 ▼	45 ▲	45 ▲
Mtn Est	45 ▼	45 ▼	45 ▲	45 ▲
Sacramento	45 ▼	45 ▼	45 ▲	45 ▲
Sierra	45 ▼	45 ▼	45 ▲	45 ▲
South	45 ▼	45 ▼	45 ▲	45 ▲
Wright Tree	45 ▼	45 ▼	45 ▲	45 ▲
Mission	45 ▼	45 ▼	45 ▲	45 ▲
San Jose	45 ▼	45 ▼	45 ▲	45 ▲
Windy Tree	45 ▼	45 ▼	45 ▲	45 ▲
Easy Bay	45 ▼	45 ▼	45 ▲	45 ▲
Fresno	45 ▼	45 ▼	45 ▲	45 ▲
PI	HOURS 45 ▼	UNITS 45 ▼	READY 45 ▲	
North	45 ▼	45 ▼	45 ▲	
Darvey Tree	45 ▼	45 ▼	45 ▲	
North Valley	45 ▼	45 ▼	45 ▲	
North Bay	45 ▼	45 ▼	45 ▲	
Mtn Est	45 ▼	45 ▼	45 ▲	
Sacramento	45 ▼	45 ▼	45 ▲	
Sierra	45 ▼	45 ▼	45 ▲	
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Windy Tree	45 ▼	45 ▼	45 ▲	
Easy Bay	45 ▼	45 ▼	45 ▲	
Fresno	45 ▼	45 ▼	45 ▲	

In-app notifications let fleet workers and on-site managers monitor working hours and overtime.



**“***Your team is working magic! The UI/UX and design teams are doing us a solid, thanks for the help!”*

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**RAUL**

*Director of Engineering  
Dispatchr*

CLIENTS HELP US TRANSLATE IDEAS INTO  
PRODUCTION-READY WORK

Hand-drawn map of the Peninsula area. The map shows a coastline with several locations marked. A large red circle highlights a central area. A box labeled "Lost from Center Impact" is connected to the map. A table titled "NORTH" provides data for different locations. A table at the bottom left shows project data for "Peninsula". A map of the "Richmond District" is shown in the bottom right corner.

**Map Labels:** Dipatchr, Map, Progress, Optimize v, Lost from Center Impact, North, Sierra, North, R&P, W7, W8, W9, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W20, W21, W22, W23, W24, W25, W26, W27, W28, W29, W30, W31, W32, W33, W34, W35, W36, W37, W38, W39, W40, W41, W42, W43, W44, W45, W46, W47, W48, W49, W50, W51, W52, W53, W54, W55, W56, W57, W58, W59, W60, W61, W62, W63, W64, W65, W66, W67, W68, W69, W70, W71, W72, W73, W74, W75, W76, W77, W78, W79, W80, W81, W82, W83, W84, W85, W86, W87, W88, W89, W90, W91, W92, W93, W94, W95, W96, W97, W98, W99, W100.

**Table: NORTH**

	North	Center	West
W1	12.11	12.11	60%
W2	24.11	12.11	75%
W3	36.11	0	0%
W4	48.11	0	0%

**Table: Project Data**

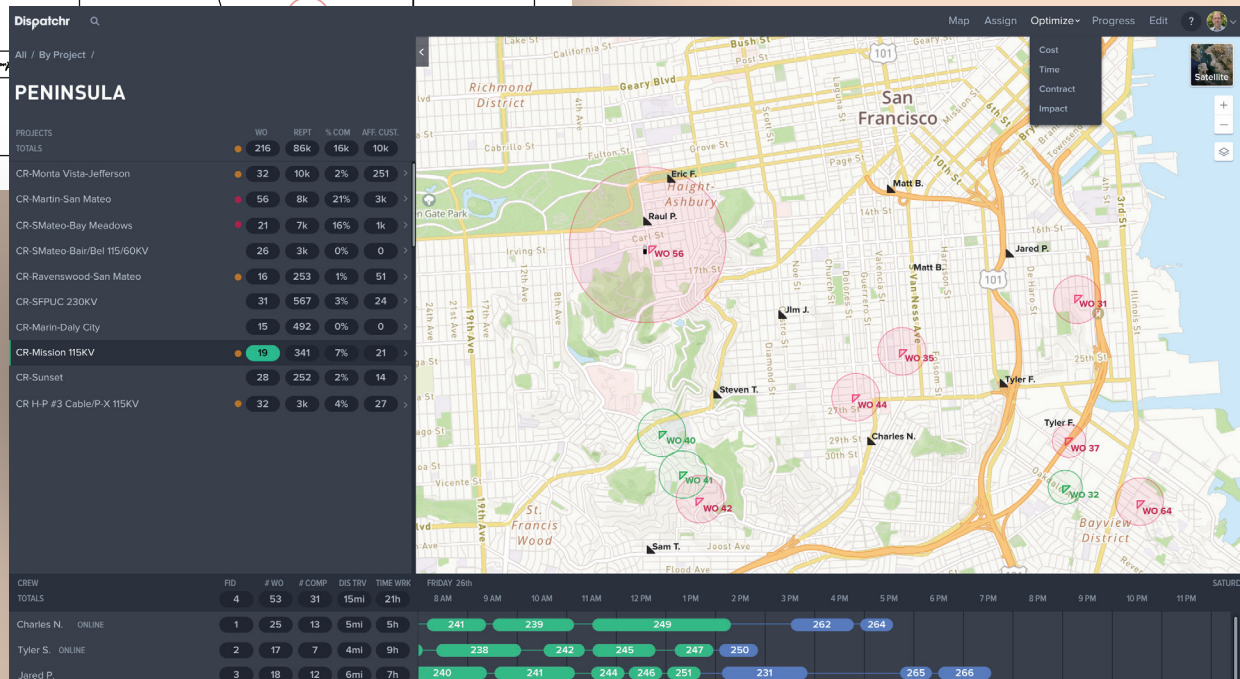
Area	Time	Qty	# Areas	Comp
Rawl P.	19	8	0	
North B.	18	8	0	

**Table: Project Totals**

PROJECTS	W/O	REPT	% COM	AFF. CUST
TOTALS	215	86k	16k	10k
CR-Monta Vista-Jefferson	32	10k	2%	251

**Map: Richmond District**

Map showing the Richmond District area, including Lake St, Cabrillo St, and other streets.

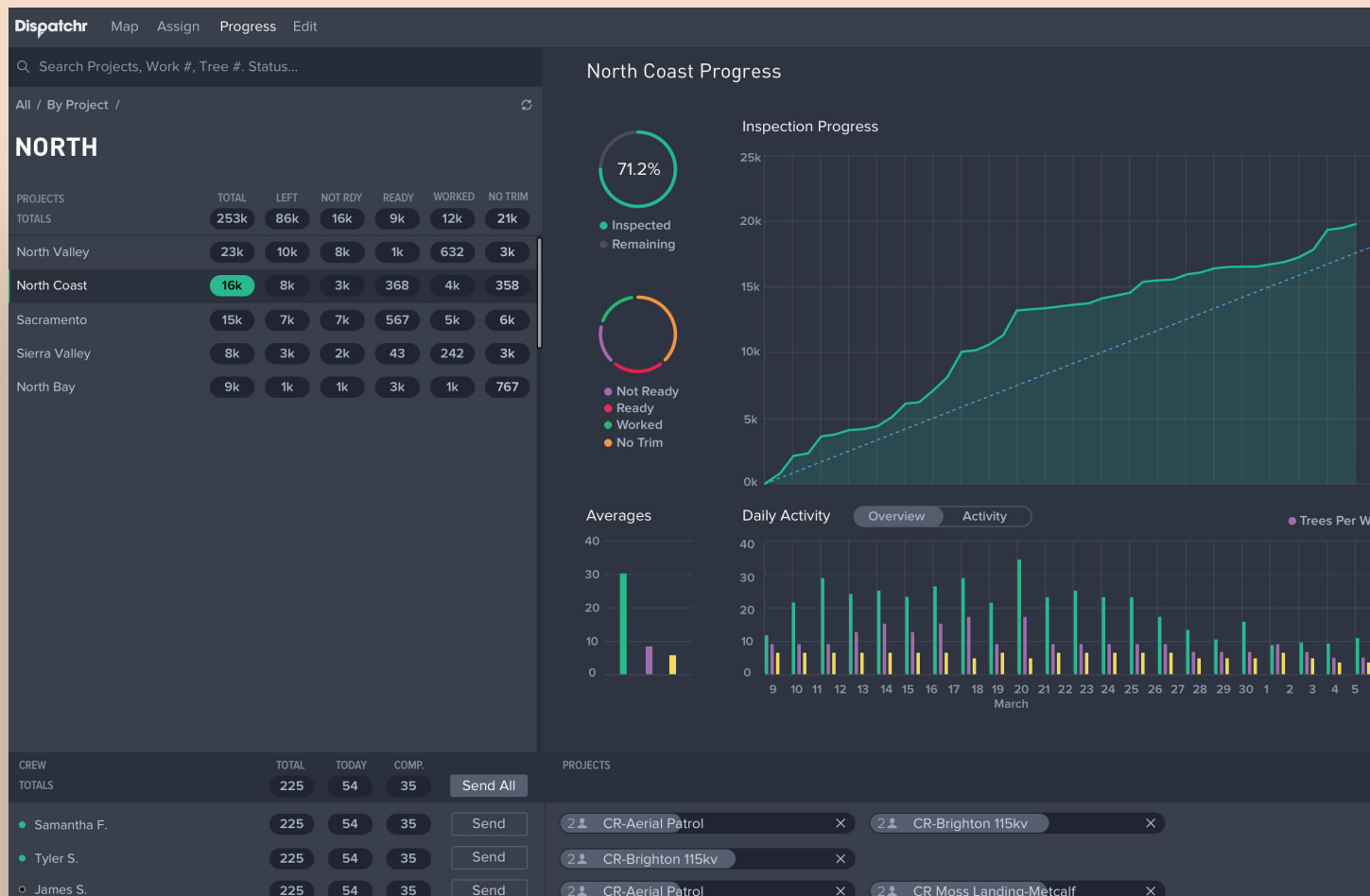


# 3

## DISPATCH

### EFFECTIVE SMART GRID MANAGEMENT IS ABOUT SPEED

The dispatching tools help move fleet members without disrupting normal operations and keeping everything within cost. Mobile device support on Android was essential to cheap, and fast deployment.



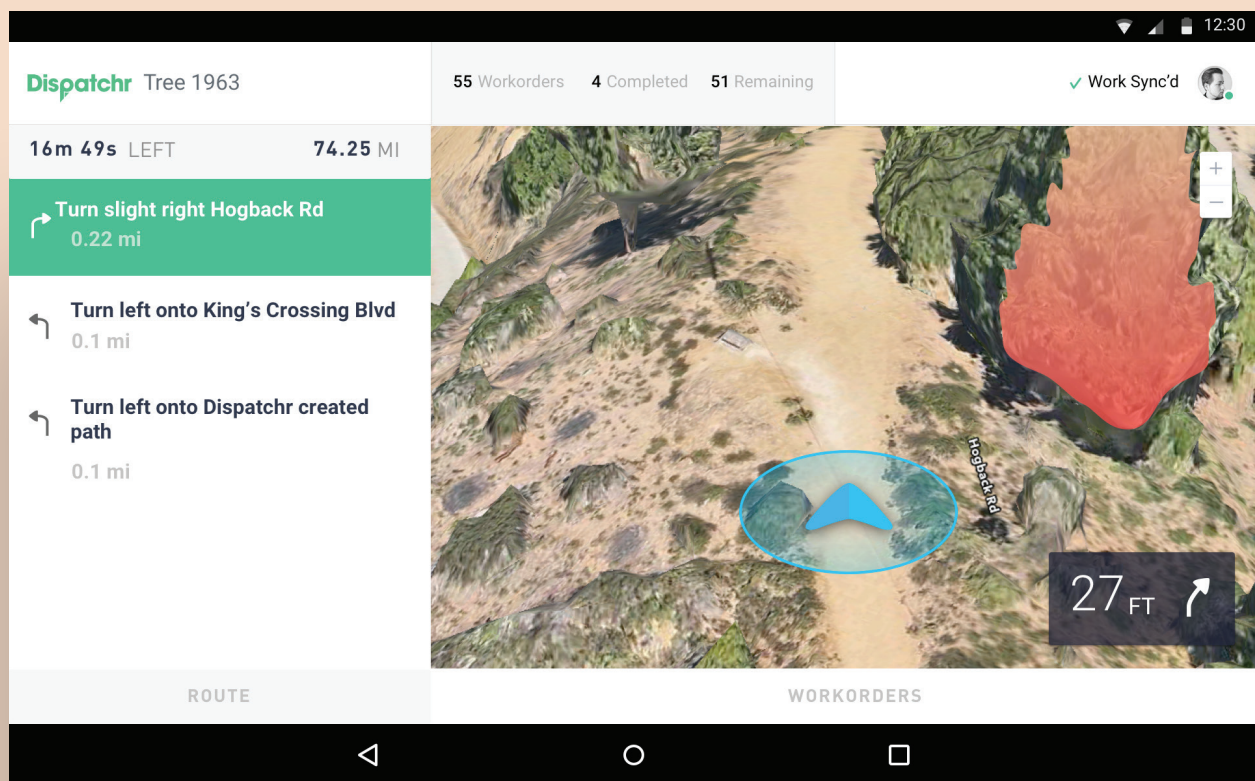




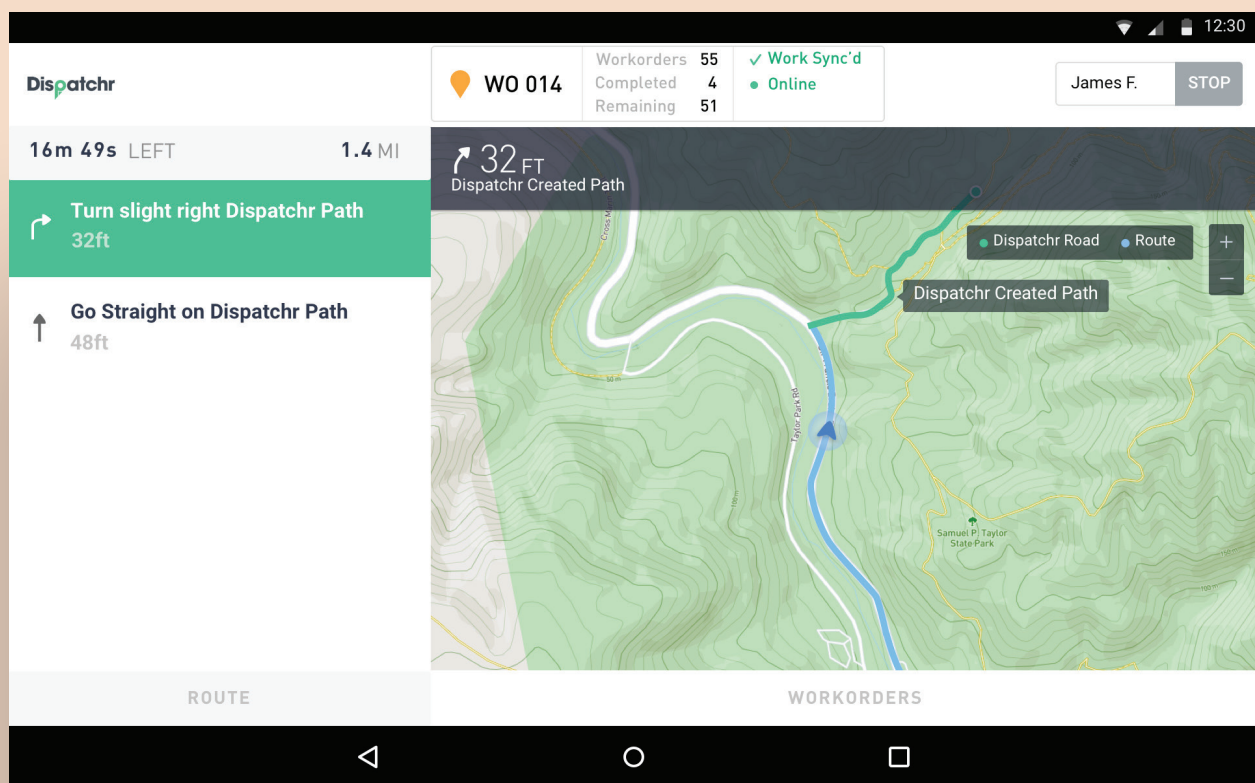
## ROUTE

### BALANCING EXPERIENCED FLEET WORKERS AND GETTING THEM TO THE RIGHT SPOT

Routing involves finding the right person to fix the job and getting them there. They are notified, the schedule is adjusted, and they are dispatched to fix the issue — all with very little human intervention. Barking dogs, private land, and difficult terrain are all visible inside the app.

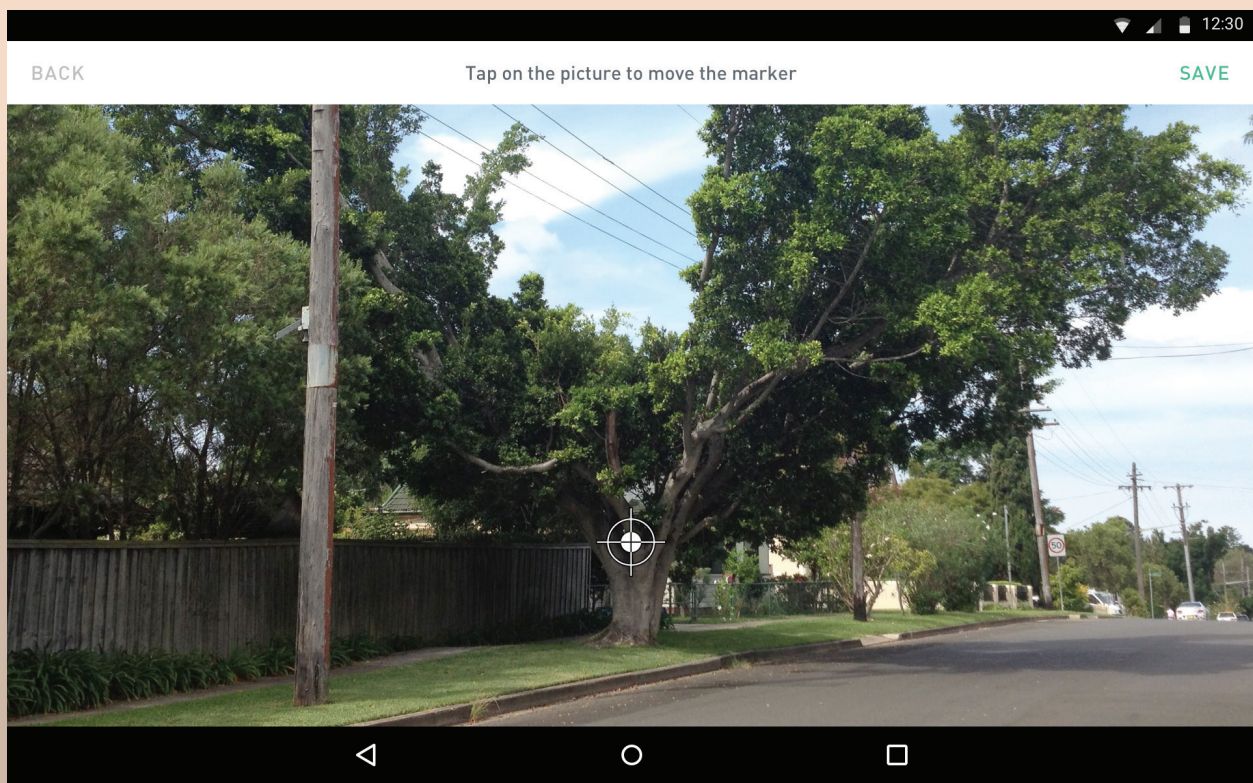


Detailed mapping tools help fleet workers find difficult and out-of-reach service spots without prior knowledge of the terrain.

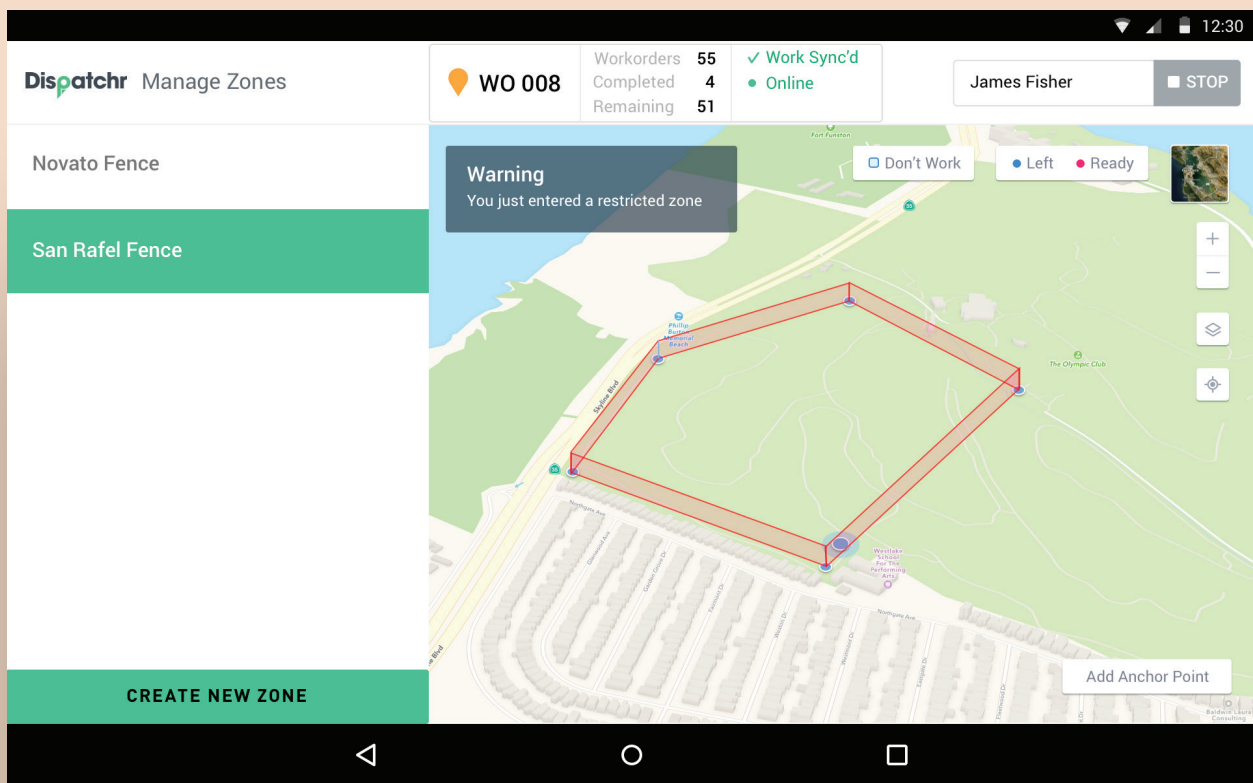




In-app tools on Android, allow fleet workers to annotate and share real-time images of sites to managers and operators so work can be done quickly and in full-view.



Helpful tools on the site help fleet works avoid pitfalls and dangerous zones including restricted or private land that isn't clearly visible on the ground.

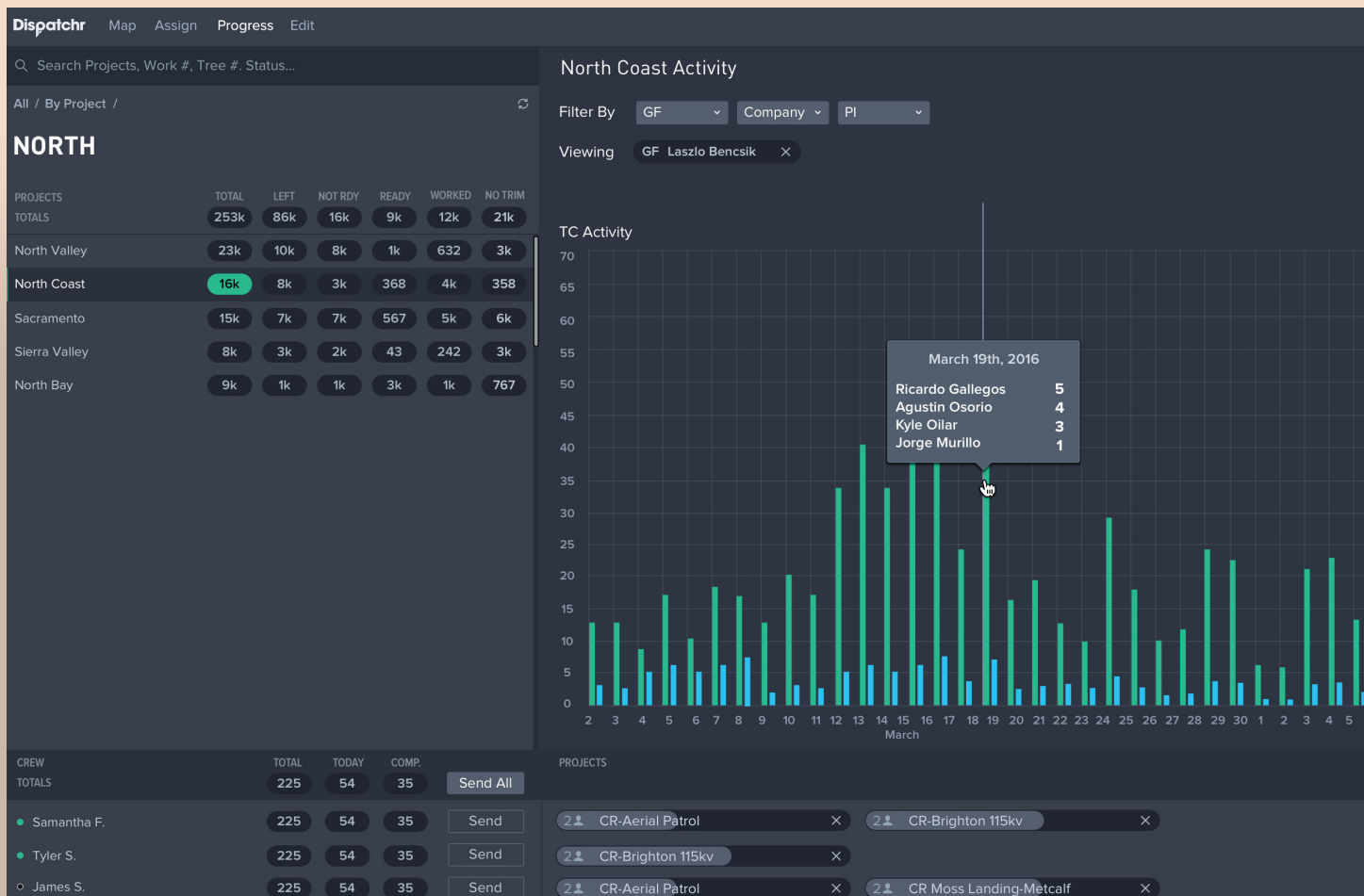


# 5

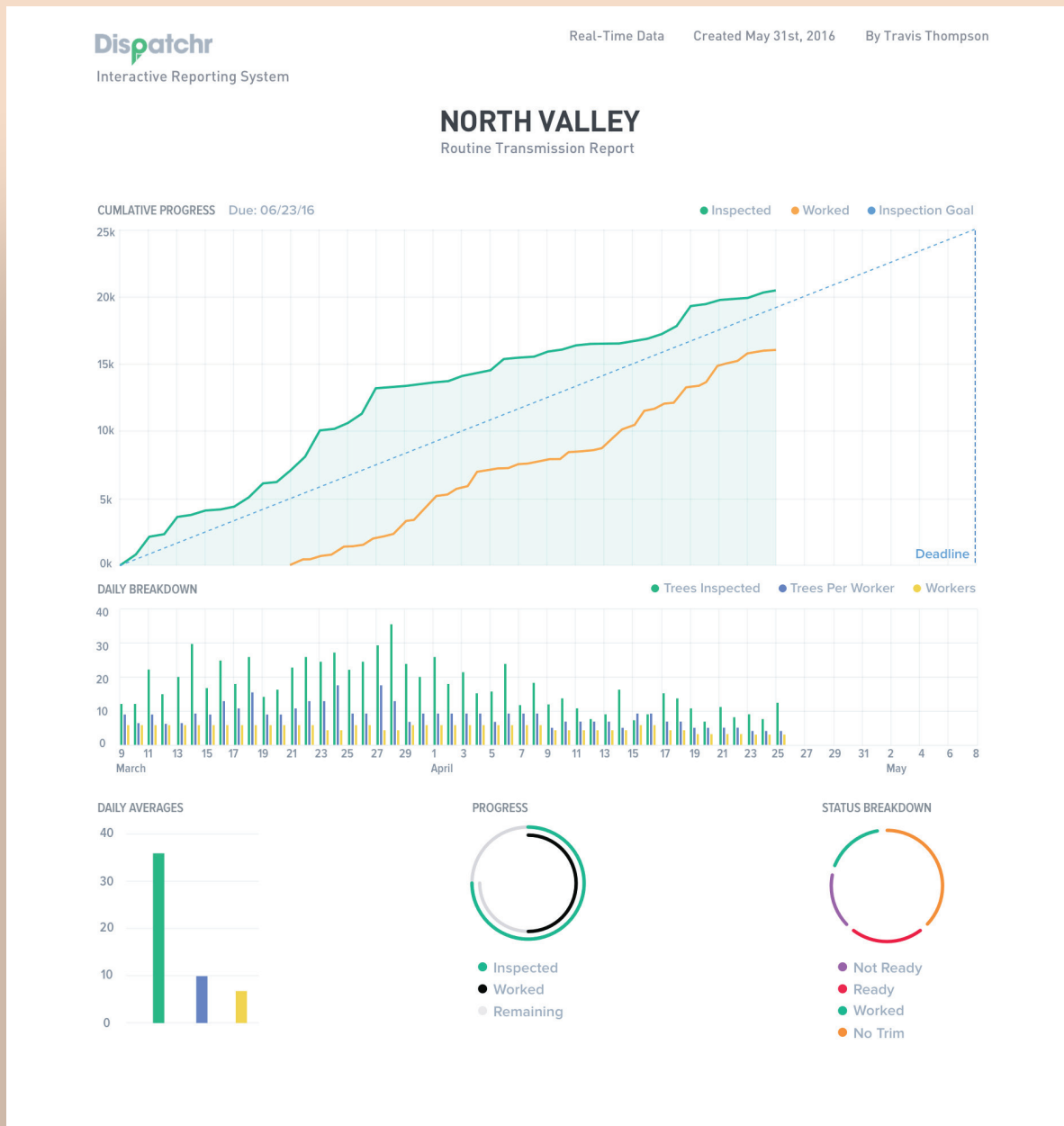
## MONITOR

### KEEPING AN EYE ON RESULTS

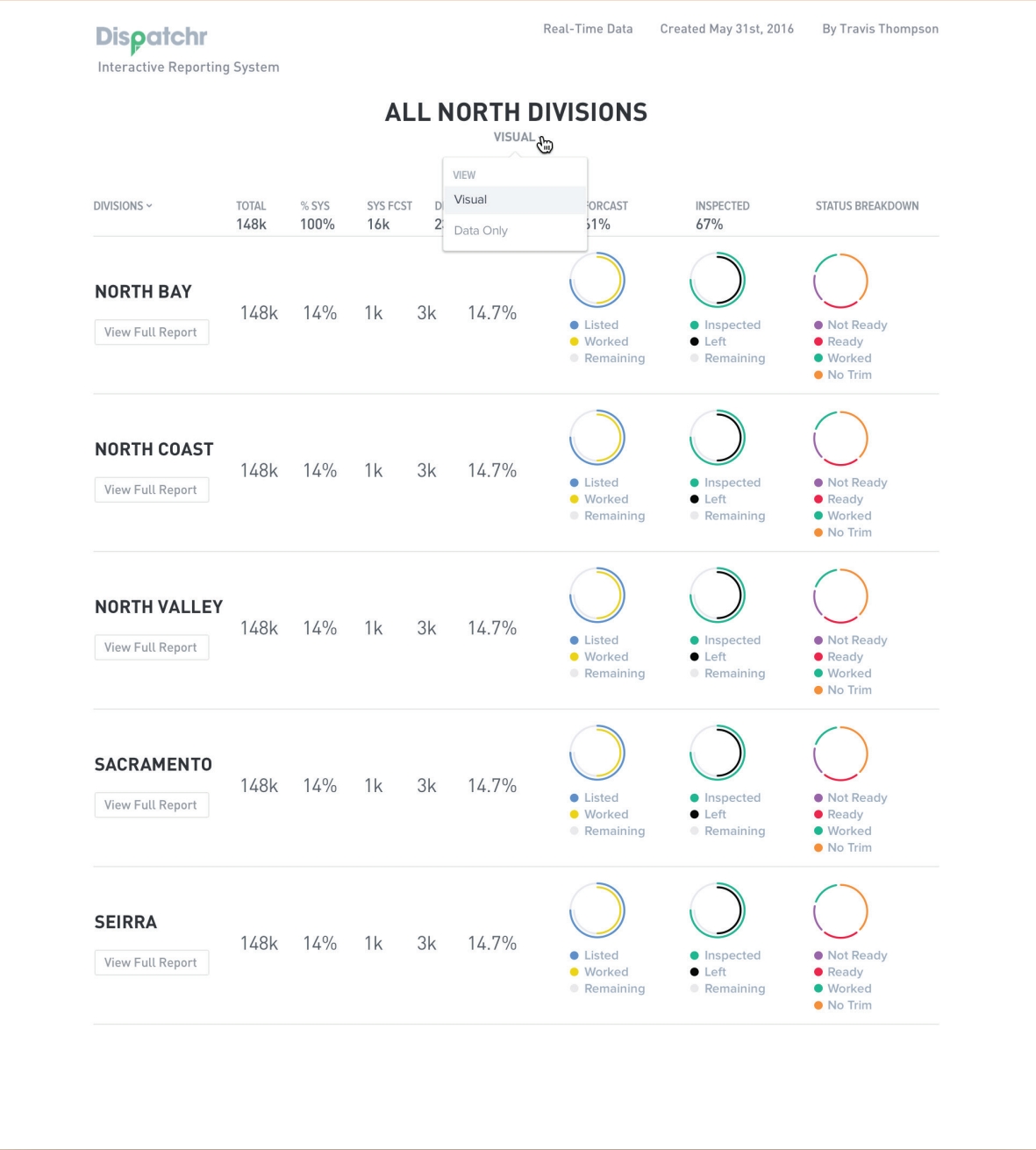
Monitoring solutions inside Dispatchr allow teams at corporate offices and managers in the fleet to make sure work is being completed correctly.



Performance reports are generated that allow people outside active fleet management — like the corporate office — to understand how their teams perform across the grid.



Reports offer multiple ways over slicing the data based on our research of user needs.





## Results

PUNCH PRODUCED A LARGE-SCALE ENTERPRISE APP SOLUTION FOR DISPATCHR TO HELP POWER AND MANAGE THE SMART GRID.

### APP STATISTICS

	Items
UI Views created	750
Length of project	1 year
Tech stack	Web & Android
Teams involved	San Francisco & Lahore

#### **Legal**

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**punch**