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WHITE PAPER

The Coordination Gap in Unplanned OSP Work

Minimizing the cost of emergency callouts

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Executive summary

Coordination is the central problem in outside plant (OSP) construction, and it's worst in emergency callouts (ECOs) and unplanned maintenance, where a job arrives without the prints, specs, and defined scope that keep planned projects in order. An ECO lands without warning, disrupting your status quo. And it's unplanned work like this that exposes how well your team functions, or not.

We're focusing on ECOs and unplanned maintenance: work that starts with an alarm or a trouble report instead of a set of drawings. Section 1 describes what leads to confusion when there's no plan. Section 2 covers how much unplanned work there is, why it keeps rising, and where the money goes when coordination breaks down. Section 3 explains why existing software and homegrown fixes fall short, and Section 4 lays out six things that can take the plan's place, each tied to cost. The paper closes with a solution that works alongside the tools your teams already use.

The causes of unplanned work are outside your control. How your teams coordinate it is not.

This paper is for anyone who owns a communications network and hires contractors to fix it: carriers, cable operators, electric co-ops and utilities that run their own fiber or copper, municipal and open-access networks, and data centers with their own routes. It is also for the OSP contractors who do that work. For both, it introduces Constructured's *OspreyStrike* as a solution.

1. Working without a plan

On a planned OSP project, most of the coordination is done before the crew rolls. The prints show where the work is. The specs say what to build and with which materials. The scope defines what "done" means, and the schedule says who does the work and when. Everyone works from the same documents, so a crew can show up, do the job, and close it out without a string of phone calls. That is also why weak coordination can go unnoticed on planned work: the plan is carrying it.

An emergency callout (ECO) is the urgent, unscheduled dispatch that starts when a line goes down and ends when service is restored. It arrives as an alarm at the network operations center (NOC), with an approximate location and a short description, often at night or on a weekend. The causes are ordinary: a squirrel gnaws through cable sheath, a backhoe finds a buried cable, a storm drops a pole, or a car hits one. Added to these everyday causes is a fast-growing one: theft and vandalism. USTelecom counted more than 5,770 incidents against communications networks from June through December 2024, and 9,770 from January through June 2025. Copper networks are targeted for copper's scrap value, but fiber networks get damaged too when thieves search for metal.[1] None of these emergencies arrive with prints.

Maintenance adds two more versions of the same problem. Unplanned maintenance, such as a failing splice case or a damaged pedestal, has no plan either. If it's routed as an emergency, it pulls crews off planned production. Planned maintenance done by a third party does have a

plan: a method of procedure (MOP) that lists the steps and the maintenance window. But the plan stops at the company boundary. If an outside party is performing the MOP, the network owner still has to coordinate how the MOP is followed, step by step, with teams outside the normal communication and operational channels.

In each case, the work spans two companies: from the network operator's NOC, which sees the problem, to an operations and maintenance (O&M) or OSP contractor, which sends the crew. The operator may be a carrier, a cable company, a utility, a municipality, or a data center. These relationships can also run many to many. One NOC may work with several contractors, each contractor may serve several NOCs, and every pairing has its own call list and its own records. Each side runs capable software for its own work, but nothing connects the two, so the callout is made by phone, text or email. In our founders' experience, 90% of callouts arrive as phone calls, and a typical ECO spends 1 to 1¾ hours on clarifying calls and waiting for a dispatch email before a crew can roll.[2]

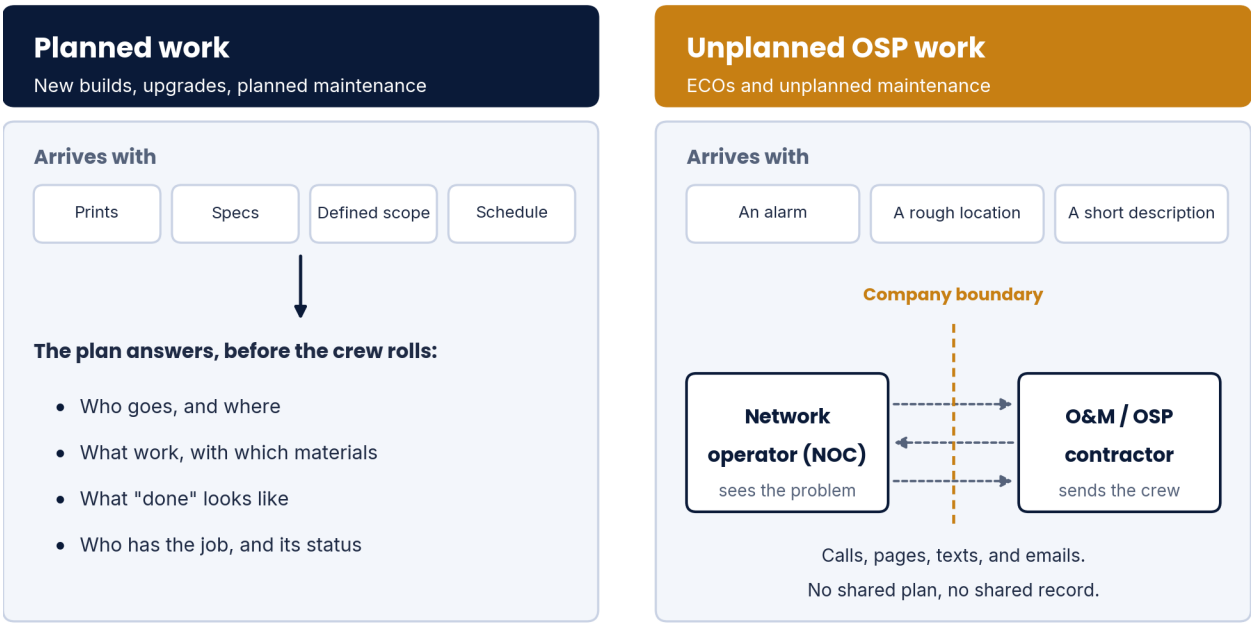


Figure 1. What planned and unplanned OSP work arrive with.

The job doesn't end when service comes back. The network operator first confirms the repair, often by checking that the signal is back at the required decibel (dB) level, and the ECO can close. When the repair changes the network itself, such as replacing poles after a rockslide moves the cable's route, the operator's network engineers must also review the work for compliance before the contractor is paid. That review depends on as-builts or redlines and photos, it can come well after the crew has left, and it can end with a demand to redo the fix to new requirements.

2. A big problem today, and a growing one

Unplanned work is one of the largest and least visible costs in outside plant. Every cable cut, storm, and failed splice sets off the same chain of calls, trips, and overtime, for network operators and contractors alike. The repair itself is only part of the cost. Much of the cost builds up around it: in the time it takes to find the right crew, get them the right information, and keep everyone informed until service is back.

Our founders' data from one OSP contractor's 2025 emergency work shows where that money goes:[3]

- **Wrong or incomplete dispatch.** About 35 to 40% of ECOs were poorly coordinated because information at dispatch was missing or wrong, and about half needed crews beyond the first one sent.
- **Wasted trips.** In one case, two fiber splicers drove to a job and learned on arrival that the MOP had been cancelled. The contractor billed the full trip, and no work was done.
- **Premium time.** About 60% of ECOs ran into after-hours time, billed at 1.5 times the normal rate for labor and equipment.
- **Crews pulled off planned work.** Maintenance routed as an emergency took crews away from the projects they were scheduled to build.
- **Billing rebuilt after the fact.** With no digital record keeping system onsite, work details had to be reconstructed from handwritten notes and memory, which left billers estimating job costs (Section 3).

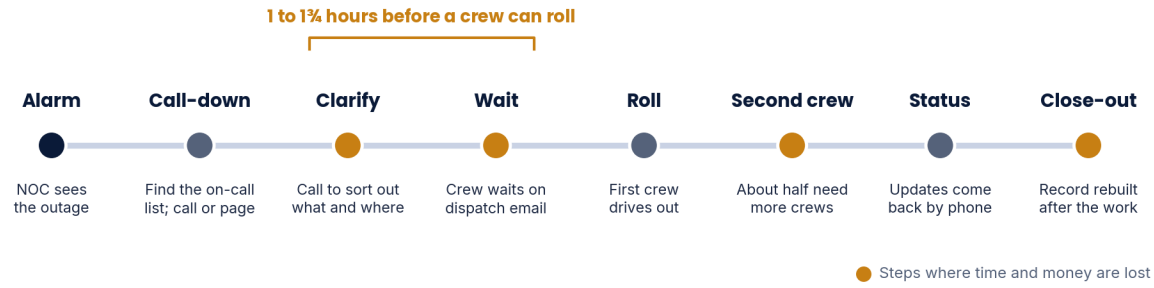


Figure 2. One ECO, from start to finish. Figures from our founders' experience with one OSP contractor, 2025.

Across 185 billed ECOs, the average cost was about $5,400, and this one contractor and its carrier customer were on pace for about 1,300 ECOs in the year (Figure 2). The splice and the materials in that average cost what they cost. The rest, including clarifying calls, waiting for the dispatch email, second mobilizations, premium time, and billing rebuilt after the fact, rises and

falls with how well the job is coordinated. The waiting alone adds up: at 1 to 1¾ hours per callout, this one pairing was on pace for roughly 1,300 to 2,300 hours a year of calls and waiting before a crew could roll. To size the gap in your own operation, multiply your callouts per year by the time each one waits to dispatch, and then by what an hour of that delay costs you in crews standing by, overtime, and outage. That is what the gap costs before any work starts.

The network's customers pay too. Economist Edward Lopez, in a study for NCTA and three other industry associations, put the cost to the public of the 5,770 theft and vandalism outages from June through December 2024 at $38 million to $188 million, or about $6.25 per household for each day without service.[4] Uptime Institute, which tracks data center outages, reported that in its 2025 annual survey, 57% of respondents said their most recent major outage cost more than $100,000, and one in five said it cost more than $1 million. Uptime also reports that outages linked to fiber and connectivity problems are rising.[5]

The causes of unplanned work are also growing, and no single company controls them (Figure 3). The network keeps growing: new fiber is going in alongside copper and coax that are still in service, and a record 11.8 million U.S. homes were passed with fiber in 2025, bringing total fiber passings to about 100 million.[6] Copper is shrinking, but slowly. AT&T plans to retire its copper by the end of 2029 and spends about $6 billion a year to keep it running in the meantime. Copper fails more often than fiber, so until it's gone it keeps generating callouts.[7] Dig-ins aren't falling: the Common Ground Alliance recorded 196,977 underground damages in 2024, and telecommunications lines were the most-damaged facility type, at 49%. CGA reports that progress has plateaued and that voluntary best practices may not be enough to change that.[8] Theft and vandalism nearly doubled from one reporting period to the next.[9] And the U.S. had 27 billion-dollar weather and climate disasters in 2024, three times the 1980–2023 average of nine a year.[10]



Figure 3. Why unplanned work keeps growing.

At the time of writing this paper, the industry needs about 28,000 more construction workers and 30,000 more technicians to carry out planned federal and state broadband programs.[11] These problems won't solve themselves. A bigger network means more to damage, and the

other causes are rising or holding steady. What you control is how the work is coordinated once it arrives.

3. Why unplanned work doesn't fit the tools you have

Most operators and contractors try to fit unplanned work into what they already have: the construction management software that runs planned projects, or a tool someone builds in-house. Neither holds up over time, and the record of the work ends up scattered across different systems.

Construction management software is built for the plan

Construction management software is good at what it was designed for: planned work. It expects a project to exist before the work starts, with prints, a scope, tasks, and a budget. An ECO has none of those when the call comes in, and no one will spend the time to create a new project at 2 a.m. for a job that may take four hours. The software also sits on the contractor's side of the company boundary, which leaves four gaps: the NOC can't see it, it doesn't page an on-call crew or confirm that someone accepted, it doesn't record the direct messages between the two parties, and the NOC has no single place to look because each contractor may run a different system. So the emergency happens outside the software, and someone enters the details of the job afterward, if at all.

Homegrown fixes don't hold up

The next step is usually a homegrown fix: a spreadsheet, a shared inbox, a group text, a whiteboard in the dispatch office. These work until the load changes, for four reasons.

- **They break under volume.** A spreadsheet that handles a few callouts a week can't keep up with a storm season. In our founders' experience, one contractor went from about 37 ECOs in the first quarter of 2025 to 425 between March 10 and June 23.
- **They depend on one person.** The tool usually lives in one dispatcher's files and memory. When that person is off shift, on vacation, or gone, so is the system.
- **They stop at the company boundary.** Each side builds its own, and two homegrown tools don't talk to each other. A NOC with five contractors ends up with five ways of working.
- **They aren't built for the job.** Paging crews around the clock, confirming who accepted, working from a phone in a truck, and keeping a record that stands up to an audit or an outage report takes software that has to be built, secured, and supported. That is more than an operations team can take on as a side project.

The record ends up on scrap paper

Even when the work gets done, the record of it often doesn't. Details land in texts, voicemails, personal notebooks, and the crew's memory. Call times and durations have to be worked out

backward. Work that was done never gets written down. And the people who price and bill the job are left to piece it together.

Our founders have watched this happen. A splicer works through the night on an ECO. The next afternoon he comes into the office, tired, with notes scribbled on scrap paper, and only a partial idea of what was done and by whom. He leaves the notes with the biller and heads home to sleep.

The biller does what they can, and the result is slow, incomplete billing. At one contractor, only 30% of completed ECOs had been billed by mid-year.[12] Work that isn't documented can't be billed. When a repair needs engineering approval, a pile of notes without redlines or photos can hold up payment, or send the crew back to redo the fix.

4. What unplanned work needs

Without a plan, the basic questions still need answers, and they have to come from a shared record of the job that the network operator and the contractor can both see and update while the work is underway. That record has six parts. Each one replaces something a plan would normally provide, and each removes a cost described in Section 2.

One record for every callout

On a planned job, the job number and scope document tell everyone what the work is. An ECO starts with a phone call, so the first thing to go missing is the job itself: no shared description, unclear work assignment, and billing rebuilt from notes after the crew goes home. The fix is to open each callout once, as a record with the job details, location, description, and attachments, and have everyone work from that reference. The record removes duplicate calls and billing disputes, and it produces the history that audits and outage reports require. That history matters most to anyone who sells communications service. In 2024, Charter Communications paid $15 million to settle an FCC investigation that included hundreds of planned maintenance outages it had not reported and a failure to notify more than 1,000 911 call centers during another outage.[13] Maintenance needs a record as much as an emergency does. When a repair changes the plant, the same record carries what the network operator's engineers need to approve it: as-builts or redlines, and photos taken on site. If engineering comes back later with new requirements, the history of what was done, where, and by whom is already there.

Contact that confirms itself

The plan names the crew. Without one, a NOC operator works down a call list, placing calls and pages and waiting for someone to answer. In our founders' experience, a crew commonly waits half an hour to an hour for the dispatch email before it can roll. The fix is structured contact: on-call lists and automated ring-down that record who was contacted, who accepted, and whether dispatch succeeded. No one has to reconstruct the phone tree, and a missed page is recorded as a missed page instead of no record. Every minute taken out of the call-down comes off the outage and off the overtime clock.

Ownership and progress everyone can see

A project schedule shows who owns each task and how far along it is. On an ECO, that information lives in people's heads and phones; one dispatcher our founders worked with tracked about three dozen active jobs at once, by hand. The fix is a record that shows the assigned contractor, the paging outcome, the current status, and a timeline of events, so operators can see what happened without chasing updates. The same record solves the third-party maintenance problem from Section 1: the network owner can see progress against the MOP instead of calling to ask. The record also closes the job cleanly. Two yes-or-no answers, whether the signal is back at the required level and whether the crew is done for the night, mark the ECO as restored or still in progress, so no one has to guess whether the work is finished. Fewer status calls result in less interrupted work on both sides.

Follow-on work that stays with the incident

A plan keeps every task under one project. An ECO often turns into several pieces of work: an investigation, a second crew with different skills, a return visit. About half of the ECOs in our founders' data needed crews beyond the first dispatch. Unless those tasks stay tied to the original callout, they drift into separate records, and the full cost of the incident is hard to see or bill. The fix is to link the investigation and follow-on tasks in the crew's construction management software back to the callout. Crews keep the software they already use, and the link keeps the incident whole.

One picture for the NOC and the field

On planned work, everyone reads the same drawings. On an ECO, the NOC pieces the situation together from calls and texts, and the crew works from whatever made it into the dispatch. That's how the wrong crew, or a crew with the wrong skills, ends up on site, and how two splicers drove to a job and learned on arrival that it had been cancelled. The fix is one shared view: a list of open callouts, a detail view, a map, task status, crew notes, and photos, all updated as the situation changes. When the NOC and the field see the same thing, fewer trucks roll on bad information.

A process that recovers, with a history

A plan includes contingencies. A phone tree doesn't. When a page goes unanswered or the shift changes, the effort often starts over, or stops without anyone noticing. The fix is a call-down that operators can stop, restart, or re-page when a run fails or no one responds, with every attempt kept on record. The next shift picks up where the last one left off, and the history is there for billing and review.

Coordination can't fix everything that makes unplanned work expensive. It doesn't add crews to an industry that needs more of them, and it doesn't stop a backhoe or a storm. What it does is stop wasting the crews you already have and shorten the time before they can start work. That matters more every year: with the industry needing tens of thousands more construction

workers and technicians, every wasted dispatch ends up costing more than what's billed in the invoice.[14]

OspreyStrike

OspreyStrike gives every emergency callout one trackable record, shared by the NOC and its contractors from the first alarm through close-out. In place of a chain of phone calls, scattered updates, and uncertain ownership, everyone works from a common operating picture, built for the moments when the normal workflow breaks down. *Strike* handles ECOs and maintenance. It records the network operator's close-out checks, and it keeps the photos and as-builts that engineering needs when a repair has to be approved.

Strike works alongside the monitoring and ticketing in the NOC and the construction management software the crews use. The coordination gap isn't a failing of either system. It sits between them, where neither one reaches, and that is where *Strike* works, so neither side has to replace the tools it already relies on. Teams can start using it on the next callout without retraining, and the savings start there.

Strike delivers all six elements from Section 4: one record for every callout, contact that confirms itself, ownership and progress everyone can see, follow-on work that stays with the incident, one picture for the NOC and the field, and a process that recovers, with a history. Together they target the costs from Section 2: mis-coordinated dispatch, second mobilizations, wasted trips, overtime, and billing rebuilt after the fact.

Our founders built *Strike* from deep experience in OSP construction, including the emergency work behind the figures in this paper.

Next steps

Unplanned work isn't going away, but the cost of coordinating it can come down. To see how *OspreyStrike* handles a callout from alarm to close, book a demo at https://constructured.com or email us at info@constructured.com.

Notes

1. USTelecom, “Protecting Critical Communications Infrastructure Report – Fall 2025,” October 9, 2025, https://ustelecom.org/research/protecting-critical-communication-infrastructure-report-fall-2025/.
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4. Edward J. Lopez, “The Real Costs of Communications Outages due to Infrastructure Theft or Vandalism” (underwritten by NCTA, CTIA, USTelecom, and WIA, October 2025), https://www.ncta.com/wp-content/uploads/2025/10/Economic-Impact-Study_1001_2025.pdf.
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12. Constructured, internal ECO analysis.
13. Federal Communications Commission, Enforcement Bureau, Charter Communications, Inc., Order and Consent Decree, DA 24-708 (July 29, 2024), https://docs.fcc.gov/public/attachments/DA-24-708A1.pdf.
14. Fiber Broadband Association and PCCA, “Broadband Market Workforce Needs.”

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