

OPERATIONS ANALYTICS & SERVICE PERFORMANCE

SQL-backed 30 / 60 / 90-Day Value Review

DISCLOSURE

Independent analytics case study using a fictionalized field-service organization and reproducible synthetic data. Historical rows are calibrated to approved scenario baselines; post-launch results are simulated only after implementation validation and are not employment accomplishments.

36,240

historical service orders

8,900

simulated post-launch orders

10

executed SQL analyses

8

primary KPIs

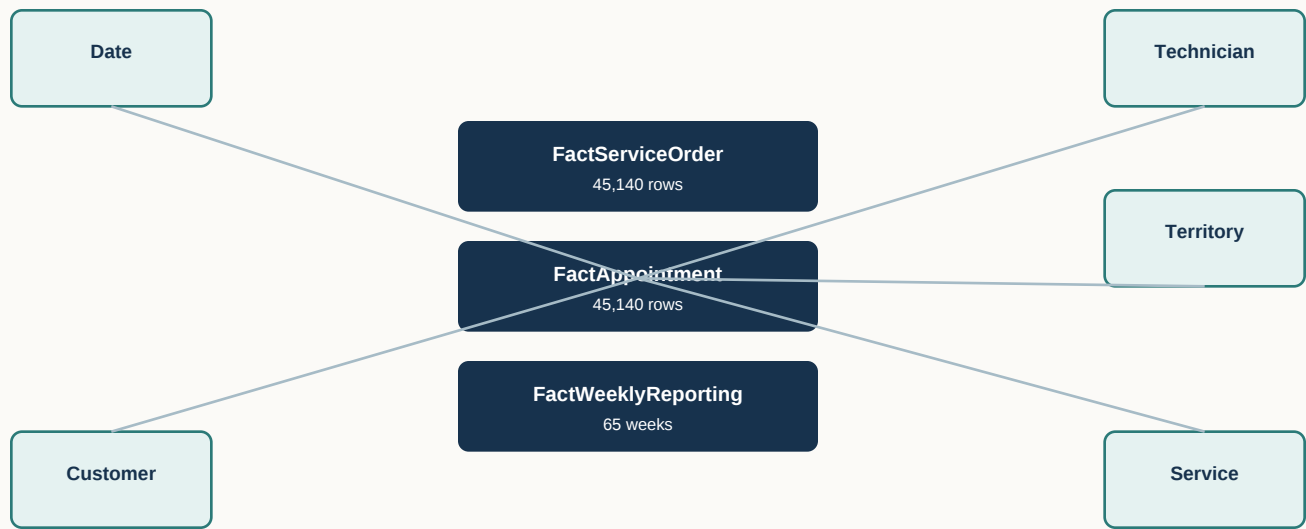
ANALYTICS OBJECTIVE

Create a governed measurement layer that can answer management questions consistently - without rebuilding definitions every week or turning the report into an all-green scorecard.

What is real in the case	What remains explicitly simulated / build-only
Executable SQL query pack and stored outputs	Historical and post-launch business data
Declared facts/dimensions and star-schema specification	90-day business outcomes
Eight KPI + four diagnostic measure specifications	Native Power BI PBIX file - not claimed
Management questions and report-page design	Any employer/client performance claim

Grain, relationships, management questions, and denominators came before visuals

STAR-SCHEMA DESIGN

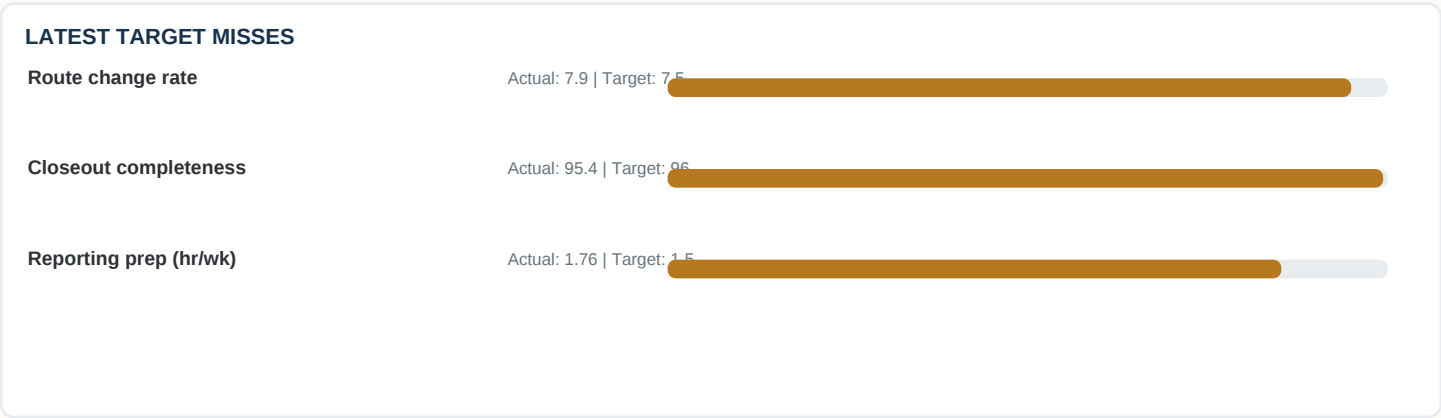
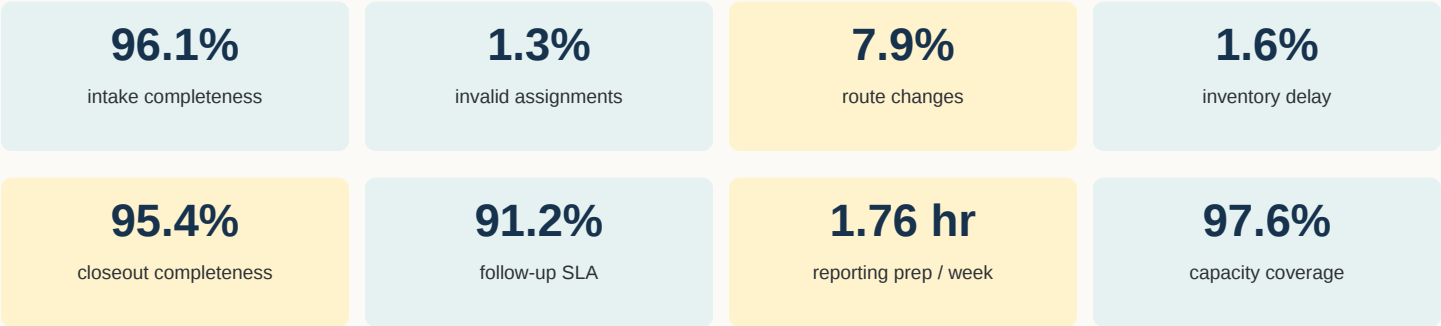


Layer	Grain / role	Management use
FactServiceOrder	One row per service order	Intake, inventory delay, closeout, follow-up, re-service
FactAppointment	One row per assigned visit	Invalid assignments, route changes, technician, capacity
FactWeeklyReporting	One row per modeled reporting week	Management-report preparation effort
Conformed dimensions	Customer, technician, service, territory, date	Consistent slicing without fact-to-fact ambiguity
Measure layer	8 KPIs + 4 diagnostics	Controlled denominator, direction, target, interpretation

CONTROL

Baseline, target, 30-day, 60-day, and 90-day values are separate fields. Target state is formula-driven from higher/lower direction; no result is manually painted green.

Five targets are met; three misses remain visible and actionable

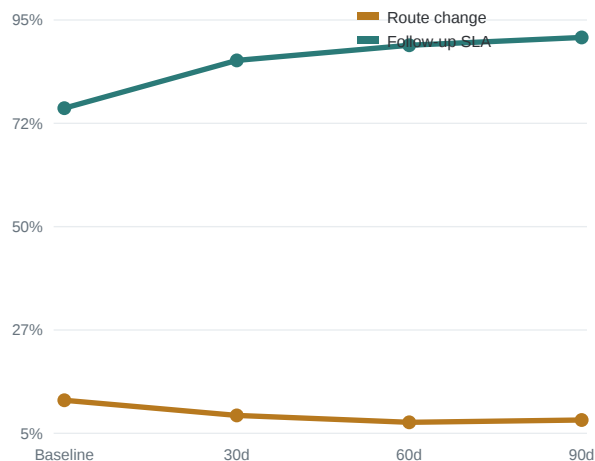


INTERPRETATION

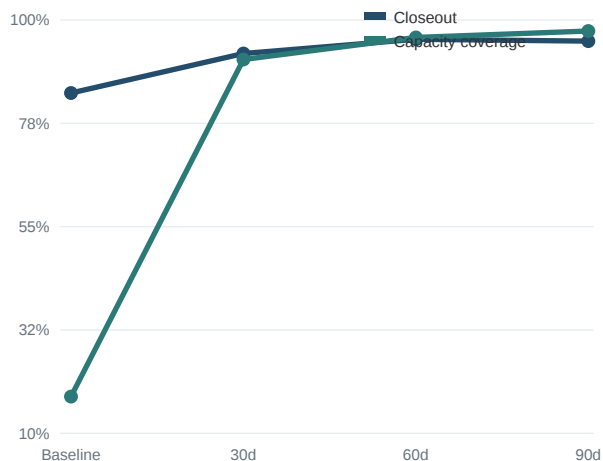
The latest review is intentionally mixed. Route stability improved substantially but slipped above target after a strong 60-day window; closeout is narrowly short; reporting still contains manual exception/quality review.

Improvement is not monotonic - the 60-day and 90-day windows tell different stories

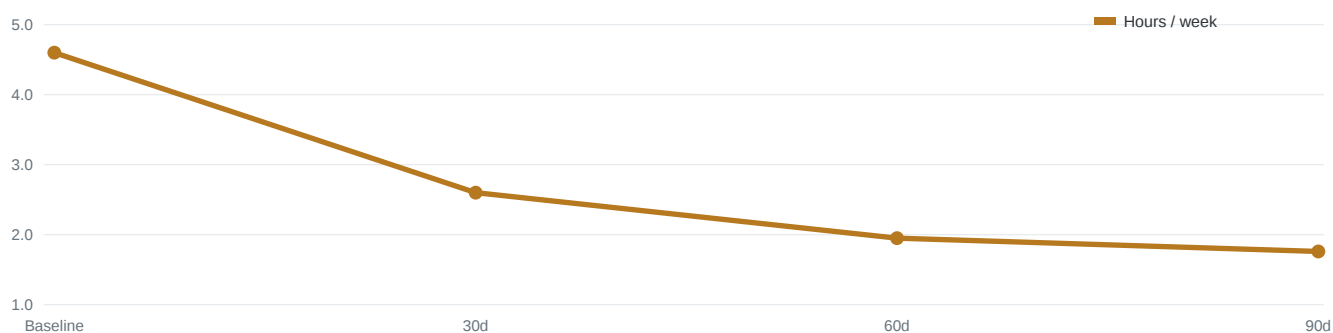
ROUTE STABILITY AND FOLLOW-UP



CLOSEOUT AND CAPACITY VISIBILITY



WEEKLY REPORTING PREPARATION TIME



WHY THIS MATTERS

A value review should reveal drift, narrow misses, and persistent manual work - not just confirm that the implementation was "successful."

The aggregate KPI is only the starting point - management action comes from the drivers



90-day territory	Appointments	Invalid assignment rate	Capacity status coverage
Cherokee	826	0.97%	97.70%
Cobb North	824	1.21%	97.57%
North Fulton	824	1.58%	97.33%
Forsyth	826	1.45%	97.82%

MANAGEMENT USE

Do not respond to the 7.9% route-change miss with a blanket hard block. Review customer-request, absence, urgent-insertion, and service-overrun patterns by territory and protected-work/capacity context first.

Inventory reaches target; closeout remains the narrowest operating-quality gap

3.4 -> 1.6%

inventory-driven delay

84.1 -> 95.4%

required closeout completeness

75.8 -> 91.2%

follow-up SLA

Priority	Evidence	Targeted action	Why not broader change
1 Route stability	7.4% at 60d -> 7.9% at 90d	Review latest change reasons / territories; tune protected work and absence / urgent handling.	Aggregate remains far better than 12.2% baseline.
2 Closeout quality	95.4% vs 96.0% target	Target lowest service types / incomplete reasons with supervisor reinforcement.	Gap is narrow; avoid broad field-entry burden.
3 Reporting effort	1.76 hr/wk vs <=1.5	Separate necessary management review from remaining manual validation.	Lower is not better if managers lose exception context.
4 Sustain gains	5 of 8 targets met	Keep intake, eligibility, consent, inventory, SLA, and capacity controls stable.	Do not destabilize controls already working.

MODELED PLANNING IMPLICATION

The 90-day simulated reporting workflow is 2.84 hours/week below the 4.6-hour baseline. If sustained for 52 weeks, that would be 147.7 modeled hours of reporting effort avoided - a scenario implication, not a labor-saving claim.

The analytics evidence is executable and build-ready without pretending a PBIX file exists

Evidence	Completed artifact
Data	45,140 service-order rows + 45,140 appointment rows; conformed dimensions; manifest and hashes
SQL	10 executable analyses with stored result outputs
Semantic model	Fact/dimension grain + seven conformed relationships
Measures	8 primary KPIs + 4 diagnostic DAX specifications
Power BI design	Six page build specification: Executive, Dispatch/Capacity, Quality, Follow-Up, Inventory, Data/Reporting
Value review	30 / 60 / 90 simulated results + management actions

NATIVE POWER BI BOUNDARY

A real PBIX file is not claimed. The next hands-on proof step is to build the governed model and six report pages in Power BI Desktop using the existing dataset, relationships, DAX specifications, and accessibility controls.

ACCESSIBILITY STANDARD

The build should keep pages simple and consistent, use at least 4.5:1 contrast, avoid color-only meaning, add alt text to meaningful visuals, set logical tab order, and keep important conclusions visible without relying on hover interactions.