

Steven Needham

I build environments — at work and in life — where people feel safe, seen, and able to move forward.

URBAN SYSTEMS LEADERSHIP

Operations made legible through systems, data, and design.

A cross-functional practice connecting field operations, civic technology, geospatial intelligence, automation, product thinking, and public communication.

01 / OPERATIONS & LEADERSHIP

Field systems and service delivery

Fleet operations · asset tracking · battery programs · warehouse systems · safety programs · incident response · 311 coordination · workforce workflows

- Mobility operations
- Process design
- Safety
- Accountability

03 / SOFTWARE & AUTOMATION

Tools that reduce friction

Git · GitHub · HTML · CSS · JavaScript · Progressive Web Apps · APIs · Google Apps Script · Tasker · automated reporting · QR workflows

- Web products
- Automation
- APIs
- Workflow engineering

02 / DATA & GEOSPATIAL

Operational intelligence

SQL · Python · Pandas · Metabase · Tableau · Google Sheets · GBFS · GTFS · GeoJSON · ArcGIS · Kepler.gl · pydeck · heat mapping

- Analytics
- GIS
- Forecasting
- Decision support

04 / AI, PRODUCT & COMMUNICATION

Systems people can understand

ChatGPT · Claude · Gemini · prompt engineering · AI workflow design · UX · design systems · accessibility · technical writing · executive briefings · visual storytelling

- Applied AI
- UX
- Documentation
- Public communication

Three systems built to make operations legible

Each example follows the same operating logic: problem → inputs → processing → decision rules → outputs → users → operational outcome.

01 / SELECTED SYSTEM

311 monitoring & response

ROLE / WORKFLOW DESIGN + OPERATIONAL ANALYSIS

Problem
Scattered public complaints made prioritization, routing, and provider accountability difficult.



INPUTS	Service address, date/time, provider, status, ADA relevance, photos
PROCESSING	Structured sheet, operator inference, geocoding, recency filtering
DECISION RULES	Complaint concentration, provider exposure, repeat locations, route efficiency
OUTPUTS	Daily brief, heatmap, My Maps route, future-risk locations
USERS	Field teams, operations leadership, city coordination
OUTCOME	Faster response and a repeatable evidence trail for accountability

CADENCE / DAILY + WEEKLY

Google Sheets · OneView · CSV · GIS · My Maps

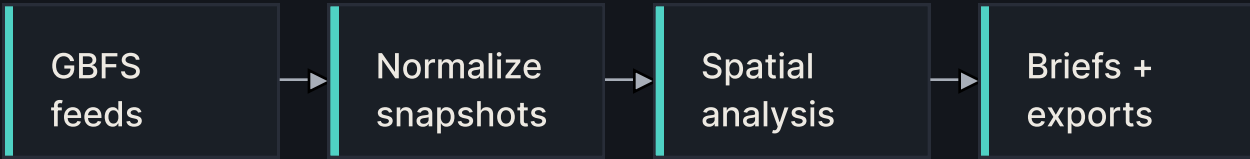


02 / SELECTED SYSTEM

GBFS fleet intelligence

ROLE / DATA PIPELINE + GEOSPATIAL DECISION SUPPORT

Problem
Raw citywide availability feeds did not directly explain supply, movement, or neighborhood opportunity.



INPUTS	Spin, Veo, CoGo vehicle and station feeds; polygons; weather and events
PROCESSING	Timestamped snapshots, type inference, movement deltas, polygon counts
DECISION RULES	Density, concentration, change over time, operator comparison, opportunity zones
OUTPUTS	Ranked insights, heatmaps, movement matrix, map-ready CSV
USERS	Operations planning, deployment teams, city-facing analysis
OUTCOME	A repeatable view of where supply exists, moves, and under-serves demand

CADENCE / DAILY SNAPSHOT + WEEKLY ANALYSIS

Python · Pandas · GBFS · GeoJSON · pydeck · Kepler.gl

03 / SELECTED SYSTEM

Battery accountability

ROLE / PROCESS ARCHITECTURE + FIELD CONTROL

Problem
Shared battery inventory lacked a single accountable chain from warehouse release to field return.



INPUTS	Battery type, worker, timestamp, charge level, check-in/out status
PROCESSING	Before/after deltas, overdue checks, type-level reconciliation
DECISION RULES	Missing return, <95% release, unusual variance, unpaid swap flags
OUTPUTS	Daily exception list, accountability summary, weekly inventory trend
USERS	Drivers, warehouse leads, operations management
OUTCOME	Clear ownership, faster anomaly detection, and fewer invisible handoffs

CADENCE / REAL-TIME CAPTURE + DAILY REVIEW

QR workflows · Google Forms · Sheets · Slack / WhatsApp

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