



MUNICIPAL BUSINESS CASE

The Business Case for Verifiable Waste Collection

Strengthening operational control, contractor oversight and payment-support evidence in South African municipalities.

**ONE PLATFORM.
THREE PARTNERS.
STRONGER COMMUNITIES.**

Real-time visibility. Immutable evidence.
Better decisions. Cleaner wards.



KNOW THE PLAN
Scheduled routes
and assignments



SEE THE WORK
Live tracking and
route progress



PROVE THE SERVICE
Time-stamped
verified evidence



INFORM THE COMMUNITY
Updates and
issue resolution

VERIFY

Every scheduled collection

PROVE

Service delivery with evidence

IMPROVE

Cleaner, more accountable operations

Cleaner communities. Verified collections.

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Why service assurance matters

The business case is not primarily for another tracking system. It is for the ability to manage and verify waste collection as a municipal service obligation.

Municipal waste collection is a visible public service delivered through vehicles, crews, depots, contractors, routes, disposal facilities and multiple administrative processes. A municipality may already have GPS, spreadsheets, contractor reports and complaint systems, yet still struggle to answer one deceptively simple question:

THE DECISION QUESTION

Was the scheduled waste-collection service delivered as required, what explains any variance, and what evidence supports the municipality's subsequent operational, contractual and financial decisions?

CleanWard addresses the gap between data about operations and a connected record of the service obligation. It creates a service-assurance layer that links the approved plan to execution evidence, operational exceptions, municipal verification and subsequent action.

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municipalities achieved clean audits
in 2024-25 [5]

123

municipalities had material findings
on usefulness or reliability of
performance information [5]

7 layers

in the CleanWard Municipal
Evidence Stack

1 record

connecting plan, evidence,
exception, verification and action

Important qualification. CleanWard does not make statutory, contractual or payment decisions on behalf of a municipality. It strengthens the operational evidence available to authorised officials applying municipal policy, delegation, contract and financial controls.

The municipality may have the data - but not the service record

Waste collection information is often legitimate but fragmented across operational, contractor, fleet, finance and citizen-service environments.

Information required	Typical source	Management risk when disconnected
Approved collection plan	Route schedule / spreadsheet	No common baseline for comparing planned and actual service
Vehicle movement	GPS / telematics platform	Strong movement evidence but limited service or contract context
Vehicle allocation	Depot / fleet records	Substitutions may be difficult to reconcile retrospectively
Contract obligation	Contract / SLA	Operational evidence may not be linked to the obligation being claimed
Breakdown / access issue	Phone / WhatsApp / supervisor	Exception evidence may depend on memory or informal messages
Citizen complaint	Call centre / councillor / CRM	Complaint may not be reconciled with route evidence
Payment claim	Contractor invoice	Finance may need to reconstruct service evidence at month end
Verification decision	Supervisor / manager / finance	Decision and source evidence may live in different records

The result is not necessarily a shortage of information. It is a shortage of connected evidence. When the service event has to be reconstructed after the fact, operations become reactive, contract discussions become subjective and supporting information becomes slower to retrieve.

THE CLEANWARD PROPOSITION

Every scheduled collection should be capable of becoming a structured, explainable and retrievable service record.

Five municipal value levers

Service assurance has value because a single evidence chain can support several municipal functions without replacing their authority.

Value lever	What improves	What the municipality gains
Operational control	Visibility of scheduled, completed, partial, delayed, missed and recovery services	Earlier intervention and less retrospective reconstruction
Contract control	Objective comparison of service obligation and execution evidence	A common basis for SLA discussions, variance management and contractor performance review
Financial control	Structured operational evidence linked to service claims	Better supporting information for authorised invoice assessment
Governance evidence	Traceable record of source data, exceptions, verification and action	Faster retrieval for management review, internal audit and oversight
Citizen service	Link between service status, exceptions, recovery and complaints	More meaningful responses than a complaint reference number alone

The constitutional and policy context is clear: refuse removal, refuse dumps and solid-waste disposal are local-government functions, while the Waste Act and National Domestic Waste Collection Standards establish a national framework for waste services [1]-[3]. The strategic opportunity is therefore to strengthen how municipalities know, manage and evidence the service they are already responsible for delivering.

Governance context. AGSA's 2024-25 local-government report found persistent weaknesses in the credibility of financial and performance reporting. These findings are not specific to waste collection, and CleanWard does not claim to produce a particular audit outcome. They do underline the importance of credible, retrievable supporting information for municipal management and oversight [5].

From an approved obligation to a verified record

The service-assurance chain preserves both what systems recorded and what authorised municipal officials subsequently decided.

THE CLEANWARD SERVICE ASSURANCE CHAIN



Figure 1. CleanWard Service Assurance Chain.

The central design principle is separation of evidence from decision. GPS coordinates, timestamps, field photos, sensor events and exception reports are evidence. Whether that evidence constitutes verified, partial, disputed or non-compliant service is an administrative conclusion governed by municipal policy, delegation and contract terms.

Stage	Core record	Example content
Service obligation	Approved baseline	Route, ward, date, service window, vehicle, provider, contract, checkpoints
Execution evidence	Observed activity	GPS trace, route coverage, stop/dwell behaviour, field records, relevant sensor events
Exception context	Reason for variance	Breakdown, inaccessible road, capacity, disposal-site delay, authorised substitution
Municipal verification	Authorised conclusion	Verified, partial, exception accepted, recovery required, disputed, rejected
Subsequent action	Workflow outcome	Recovery, contractor review, invoice support, reporting, complaint resolution

GPS is essential - but it is one layer

Modern telematics can provide powerful evidence of asset movement and operational events. Service assurance gives that data municipal context.

Telematics can establish or infer	Service assurance adds
Live and historical location	The approved route, ward and service obligation to which movement should be compared
Ignition, speed, stop and dwell events	Whether observed activity occurred within the relevant service window
Geofence entry and route deviation	Whether the geofence or route was the authorised service geography
Digital or physical input events	How sensor events relate to collection obligations and checkpoints
Vehicle history	Which provider, contract and municipal assignment applied at the time
Movement anomalies	Structured exception context and municipal review outcome

A more precise proposition

Telematics can provide strong evidence of vehicle movement and operational events. What it does not establish on its own is the complete relationship between those events and the municipality's service obligation, exceptions, verification decision, contract context and citizen-service record.

This positioning matters because CleanWard is designed to integrate with specialist tracking and telematics infrastructure rather than diminish it. The municipality should extract more value from existing fleet data by connecting it to the service that the fleet exists to perform.

A better evidence base for contractor invoice review

The purpose is not automated payment approval. It is to make the operational evidence associated with a claim coherent before or during authorised municipal review.

Fragmented month-end process	Service-assurance process
Invoice arrives before a complete operational record is assembled	Service records are progressively built during execution
Finance requests GPS exports and route schedules separately	Approved plan and vehicle evidence are already linked
Supervisor is asked to remember breakdowns or blocked roads	Exceptions are time-stamped and associated with the route event
Discrepancies trigger email and document requests	The reviewer sees planned, actual, exception and recovery evidence together
Different parties work from different evidence sets	A common service record becomes the basis for review and dispute
Supporting information is reconstructed on demand	An Evidence Pack can assemble relevant records for the billing period

Payment authority remains municipal. The MFMA establishes the framework for municipal financial management and accountability, while National Treasury guidance emphasises SCM performance monitoring, contract performance and accountability of accounting officers [4], [6]. CleanWard supports these processes with operational evidence; it does not replace them.

A CleanWard Evidence Pack can include service identity, the approved schedule, vehicle and route evidence, checkpoints, exceptions, recovery activity and the municipality's recorded verification status. This gives finance and contract-management personnel a structured operational record against which their own controls can be applied.

Measure first. Then quantify value.

Public-sector investment cases are stronger when projected benefits are grounded in the municipality's own baseline rather than generic vendor savings claims.



Baseline cost area	Measure during onboarding	Potential improvement to test
Invoice verification effort	Claims x review hours x blended staff cost	Reduction in manual reconciliation and document requests
Operational reconstruction	Supervisor hours spent investigating previous routes	More time spent managing current operations
Dispute administration	Number, duration and staff effort of service disputes	Faster resolution against a shared evidence base
Routine reporting	Hours compiling daily, weekly and monthly reports	Reduced manual collation from spreadsheets and messages
Complaint investigation	Time required to establish service status after a complaint	Faster route-to-complaint reconciliation
Evidence retrieval	Time to produce a complete sampled service record	More reliable and faster audit/management response

PILOT BENEFIT HYPOTHESIS

Can a structured service-assurance record reduce verification effort, shorten evidence retrieval time, improve exception completeness and provide a more objective basis for contractor and citizen-service decisions?

The pilot should establish the answer empirically. Only after a measured before-and-after comparison should CleanWard and the municipality convert operational improvements into a quantified ROI or payback case.

Measure assurance, not dashboard activity

The platform should be judged by the quality and timeliness of the service record - not simply by the number of vehicles visible on a map.

KPI	Definition	Why it matters
Service Evidence Completeness	% of scheduled service events containing the required evidence	Tests whether the operational record is complete
Verification Turnaround	Time from service completion to municipal verification	Tests whether assurance happens while events are still operationally relevant
Unexplained Service Variance	% of scheduled services that differ from plan without a documented reason	Separates legitimate variance from unexplained non-performance
Exception Capture Rate	% of known interruptions formally recorded	Tests contemporaneous operational discipline
Recovery Closure Rate	% of missed/partial services recovered within agreed period	Measures the municipality's ability to close the loop
Invoice-Support Completeness	% of sampled claims linked to required operational evidence	Tests payment-support readiness
Evidence Retrieval Time	Time to retrieve a complete sampled service record	Measures practical audit and management usability
Complaint-to-Route Correlation	% of relevant complaints reconciled to operational evidence	Tests citizen-service integration

A phased path to municipal adoption

Start with a defined service problem, prove the operational record, then expand integrations and intelligence.



Phase	Purpose	Indicative scope
1 - Operational Assurance Pilot	Prove the service-assurance model	One municipality; one depot/operating area; selected wards/routes; municipal and/or contractor vehicles; core telematics; exceptions; verification; Evidence Pack
2 - Operational Expansion	Scale the proven workflow	Additional wards, routes, vehicles and contractors; broader dashboards; recovery management; contract-performance views
3 - Integrated Service Assurance	Connect wider municipal processes	Finance/SCM integration where justified; advanced analytics; citizen service-status and complaint linkage; executive reporting

The implementation principle is integration, not unnecessary replacement. Where effective GPS, telematics, ERP, finance, GIS or customer-care systems already exist, CleanWard should consume or complement their data rather than recreate specialist functions.

- Baseline the current process before configuration.
- Agree the service obligation and route/ward data model.
- Configure roles and municipal verification authority.
- Train for exception capture as seriously as route execution.
- Run operational and finance review in parallel during the pilot.
- Measure KPIs weekly and review benefit hypotheses at pilot close.

What CleanWard is - and what it is not

Clear positioning reduces procurement ambiguity and protects municipal authority.

CleanWard is	CleanWard is not
A Municipal Waste Service Assurance layer	A replacement for every municipal system
A connector between plan, telemetry, field evidence, exceptions and verification	Merely a GPS tracker
A structured operational record supporting contract and finance review	An automated payment authority
A basis for service recovery and citizen-status workflows	A substitute for municipal delegations or contract terms
An evidence architecture capable of integrating multiple data sources	A promise of a clean audit or predetermined financial saving

THE STRATEGIC CASE

A municipality does not merely need data about its waste fleet. It needs a reliable chain between the service it authorised, the service that occurred, the exceptions that affected it, the verification decision that followed, and the evidence supporting subsequent action.

CleanWard turns waste collection from an activity that must repeatedly be reconstructed into a service that can progressively be evidenced and verified. The result is a stronger foundation for operations, contractor oversight, payment review, governance and citizen service.

CleanWard - Cleaner communities. Verified collections.

CleanWard

Municipal waste collection assurance and service verification.

CleanWard is a South African municipal technology platform focused on connecting waste-service planning, vehicle data, field evidence, exceptions, verification, recovery and reporting into one trusted operational record.

Corporate detail	Information
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References

- [1] Constitution of the Republic of South Africa, 1996. Schedule 5B: refuse removal, refuse dumps and solid-waste disposal.
- [2] National Environmental Management: Waste Act 59 of 2008.
- [3] Department of Environmental Affairs. National Domestic Waste Collection Standards, Government Notice 21 of 2011.
- [4] Local Government: Municipal Finance Management Act 56 of 2003.
- [5] Auditor-General South Africa. Consolidated General Report on Local Government Audit Outcomes 2024-25, tabled 24 June 2026.
- [6] National Treasury. Supply Chain Management: A Guide for Accounting Officers of Municipalities and Municipal Entities. See especially supply chain performance monitoring and supplier performance assessment.
- [7] Department of Forestry, Fisheries and the Environment. National Waste Management Strategy 2020.

Publication note. This document presents a decision framework and proposed benefit hypotheses. Quantified savings and ROI should be established from a municipality-specific baseline and measured pilot, not assumed as universal CleanWard outcomes.