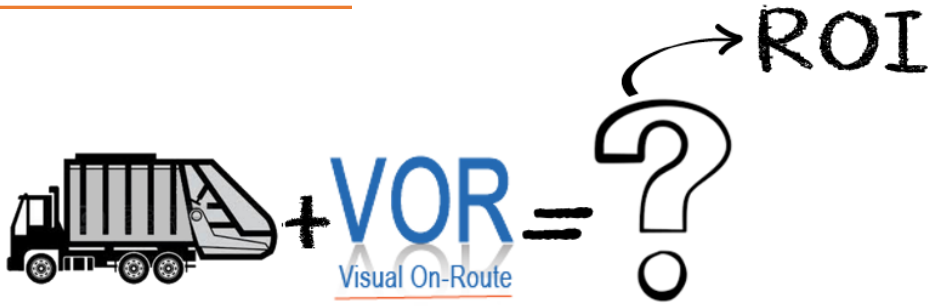
Turning Technology into Income
A Case Study

Steve Fleming
Alpine Technology Corporation

Running a Hauling Operation is an expensive, asset-heavy, venture. If the upfront costs of a truck are not enough, you also have ongoing fuel and maintenance costs for your trucks that you must absorb. In addition, your labor costs, if not controlled and coupled with efficiencies, can be an exorbitant expense. For this type of business and for this very reason retaining every customer should be of paramount concern; capturing every efficiency is necessary; realizing savings where one can is absolutely critical; generating optimal income from your operations is imperative.

Haulers have progressed in how they view their fleet; increasing their fleet's longevity through maintenance and training and managing driver behavior through on-board diagnostics. In the past few years, there has also been an increased presence of in-cab computer systems that integrate with the office. These powerful systems purport to save you time and money as well as bring a level of transparency and safety to your operation. Also, regulatory compliance is forcing haulers in many states to adopt these in-cab solutions; a trend that will only grow.



As an owner, you understand that investments in such assets should produce some level of return to your business. The difficulty in determining this return typically lies in quantifying exactly what gains or losses should be expected with the introduction of that asset. Some returns are easier to calculate than others. In-cab solutions, like any other asset, can be an expensive investment and needs to be evaluated in light of what it can return to your business. Beyond the obvious efficiencies you will gain by implementing it, should you expect more? For some business owners, the efficiencies are the main reason they purchase software solutions and that those gains are enough. However, if you want more than just efficiencies and are willing to dig deeper, this paper will walk you through all the various facets that should be considered if you are interested in determining the true Return on Investment of implementing in-cab solutions into your hauling operation.

"…should you expect more?"

Couched in two case studies (real companies with names changed) it is the goal of this white paper to help owners better understand those **true** gains that contribute to the ROI of in-cab solutions, particularly Visual On-Route. Any ROI must encompass four areas: costs of the investment, cost savings, income generated, and other intangible gains/losses.

Costs of Investment (initial and ongoing) – estimations based on the implementation of 5 tablets.

There is a typical outlay of capital to secure the tablets and cover the implementation costs. The costs of the tablets can vary, but here are the typical costs:

Ruggedized Equipment (including Modem, Cameras, Warranty, Shipping and Installation)
$4,672.00 per tablet-$23,360 for 5 tablets
Implementation of VOR software-$20,292.00 on average (includes data conversion, project management, tablet set up, training, and travel)
Ongoing Licensing Fees-$740/month
VOR-$690/month
Cell Service- $50/month/tablet
To get a true pulse of what your return would be on this initial capital outlay, it is helpful to gauge what it would cost you over the life of the tablet. With the life of the in-cab computers at **4** years, the monthly amortized amount of the hardware comes to $487. With the life of the implementation at **10** years, the monthly amortized amount comes to $169.

In English, if you were to break down the true cost of your investment (tablets, software and implementation in this case) over the life of the tablets it would cost you around $656/month or $18.39/route/day.

Cost savings and efficiencies gained

Time Savings

1) Time saved by drivers not having to manually enter not –outs, extras, bin blocked, etc… Without VOR would they accurately do this?
2) Time saved by CSR not having to manually:
    a. Create work-orders
    b. Input extras or not-outs (70% reduction with VOR)
    c. Update routes when there is a change, etc…
3) Time saved by Drivers not having to:
    a. Manually track not-outs, extras, etc…
    b. Locate new services
    c. Call office with changes to sequence
    d. Call office with blocked bin or blocked access to a street, etc…
4) Time saved when a swing driver or replacement driver takes over a route, VOR makes it easy to do this. Without this, what mistakes would occur, extra fuel costs expended, or missed pick-ups would happen?
5) Time saved when customers are confident that not-outs and extras were recorded accurately and do not call the CSR. Also, the camera picture that can be emailed to them substantiating the extra charge discourages customers from calling in and debating the service.

"With in-cab solutions, you can expect, conservatively, $90 per route per day savings."

In our experience, we have seen that cost savings (based on efficiencies and automation) on a residential route conservatively run at around $90/route/day.

Income generated

Income directly generated from Visual On-Route comes in the form of the following:

1) Large extras that are billed the customer (couches, tables, etc.…)
2) Small extras that are billed the customer (Televisions, chairs, etc.…)
3) Charges for a Not Out return trip

Other intangibles gains

6) Income generated when you can charge for "not-out" return trips. Without VOR, customers will most likely argue that the bins were out and that you should not charge for the return trip.

7) Fuel saved when routes are sequenced correctly, engine isn't idling while manual notes are taken, and multiple trips are driven on account of an error or unbilled extra stop.
8) The absence of human error on account of auto entry, seamless integration with VRP, etc.…
9) Accountability of drivers to putting in extras (which translates into revenue). Without VOR would they do this every time?
10) Safety is tantamount. Driver receives real-time route updates from dispatch when they are stopped instead of being interrupted while driving.
11) VOR provides incredible productivity and efficiencies in an operation. On account of these efficiencies, less support staff is typically necessary so its presence could reduce labor costs.

THE CASE OF MANNING DISPOSAL:

Manning Disposal is a local hauler that offers residential, commercial and drop box services to its community. Though it has Visual On-route in all of its trucks, the data below only represents its three (3) residential service trucks that they run 5 days a week.

Case #1-Manning Disposal (name changed)

Residential Customers:	30,000
Trucks	3
Exceptions generated monthly	3,400
Not-Outs recorded monthly	2,700
Monthly Revenue Generated from billable exceptions	$2,500 ($30,000/year)
Monthly Cost Reductions with VOR	$5,400 ($64,800/year)
Total monthly Revenue and Savings from VOR	**$7,900 ($94,800/year)***

*This does not include the intangible gains mentioned in #6 through #11

Analysis of Annual Return on Investment:

Annual Income generated	$94,800.00
Amortized costs (includes VOR subsc.)	$13,233.60
Ongoing monthly costs (annualized) of VOR (Software, Cell Service)	$ 8,952.00
Net Revenue from VOR	**$72,614.40**
Return on Investment (ROI) of VOR	**327% ROI**

THE CASE OF ELWAY GARBAGE SERVICES:

Elway Garbage Service is located in a less dense community as Manning Disposal and provides only residential curb side services. Below represents the five (5) residential service trucks that run 5 days a week.

Case #2- Elway Garbage Service (name changed)

Residential Customers:	32,500
Trucks:	5
Average Exceptions Generated/month	5,600
Not-Outs recorded/month (no charge)	5,000
Monthly Revenue Generated from billable exceptions	$ 3,200 ($38.400/year)
Monthly Cost Reductions with VOR	$ 9,000 ($108,000/year)
Total monthly Revenue and Savings from VOR	**$12,200($146,400/year)**

*This does not include the intangible gains mentioned in #6 through #11

Analysis of Annual Return on Investment:

Annual Income generated	$146,400.00
Amortized costs (Hardware, Implem.)	$ 16,644.00
Ongoing monthly costs (annualized) of VOR (Software, Cell Service)	$ 10,676.04
Net Revenue from VOR	**$119,079.96**
Return on Investment (ROI) of VOR	**436% ROI**

While the returns on in-cab computing solutions is impressive, the implementation and management process is an arduous task wrought with obstacles. Any owner that plans to adopt this emerging technology must do so with eyes wide open. This article only evaluates the financial implications, not the operational challenges. In spite of the challenges, experience demonstrates that a properly managed implementation will prove successful and will show how these technologies are a powerful tool that any hauling operation can benefit from.