White Paper

Calculating Savings and Return for an Enterprise Transportation Optimization and Automation Solution

See how Optimization and Automation can save Millions on Transportation via a Simple, 5-minute Process!

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Perhaps you're not convinced that transportation management and optimization will be beneficial to your organization. If so, you should take 5 minutes to read this paper!

Even if key stakeholders like the CEO, CFO, or CIO are not fully aware of current transportation management dynamics and the real benefits of implementing a leading transportation management tool. Here's a step-by-step process you can easily duplicate using the basic information and data from your company's existing transportation program. ***We even provide an interactive savings calculation tool!*** See how much you can save, how little it actually costs, and how quickly it pays for itself.

Determining savings and return is easy as 1-2-3!



DETERMINE EXISTING COSTS

IDENTIFY SAVINGS OPPORTUNITIES

PERFORM THE PAYBACK AND RETURN CALCULATION

Sound too easy to be true? Review the following real-world example of hard savings...







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CASE STUDY

WARWICKMANUFACTURING

(company name changed)

For this exercise, we'll look at transportation at Warwick Manufacturing Key Stats:

- *Transportation volume: 125,000 shipments annually*
- *Inbound shipments of raw materials and components arrive at two Northeastern US production facilities*
- *Finished, packaged products ship outbound on dry vans throughout the continental US*

Warwick Manufacturing generated impressive savings by investing in a Transportation Management System (TMS) and Transportation Optimizer solution.

Note: All calculations based on very conservative cost and savings estimates.



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Step 1: Determine Existing Costs

Simply stated, transportation departments spend money on:

- *Freight costs such as:*
  - *Line Haul*
  - *Fuel*
  - *Assessorials*
- *Staffing costs such as:*
  - *Logistics personnel*
  - *IT personnel*
  - *Freight audit and payment administrative costs*
  - *Procurement/carrier management costs*



*Warwick Manufacturing's existing **freight costs** are:*

- **112,500 SHIPMENTS PER YEAR**
- **550 MILE AVERAGE LENGTH OF HAUL**
- **$800.00 AVERAGE COST PER SHIPMENT**
- **$1.71 - COST PER MILE TO MOVE FREIGHT**

TOTAL ANNUAL FREIGHT COST: $90MILLION

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*Warwick Manufacturing's existing t**ransportation staffing costs** are:*

WARWICKMANUFACTURING

Total Staffing (Existing)				
Role	Number of Resources	Weekly Shipments Per Person	Loaded Salary per FTE	Total Monthly Cost
Transportation Manager	1	2,404	$84,500	$7,042
Load Planner	3	801	$65,000	$16,250
Logistics Coordinator	5	481	$58,500	$24,375
Customer Service	3	801	$45,500	$11,375
Transportation Analyst	1	2,404	$65,000	$5,417
Finance / Accounting	2	1,202	$65,000	$10,833
IT Server Management	0.25	-	$84,500	$1,760
IT Software Management	0.25		$84,500	$1,760
IT Software Changes	0.25		$84,500	$1,760
Carrier Procurement / Mgmt	1	2,404	$65,000	$5,417
Total	**16.75**			**$85,990**

To manage the transportation volume specified above and *without* a complete transportation solution in place, Warwick Manufacturing currently employs a transportation team comprised of the above 16.75 full time employees.

The labor cost of transportation management performed manually by the transportation staff is ***$85,990.00 per month or $1,031,880 per year.***

Note: This cost calculation considers the salary[1] and the "loaded cost" of each employee, which includes the cost of benefits and insurance coverage (estimated at 30%). It also includes 3 IT workers who apply 25% of their hours to maintaining a "homegrown" management system.

Step 1 Conclusion:

Total cost of Warwick Manufacturing's existing transportation program without any automation or optimization:

$90,000,000 ANNUAL TRANSPORTATION COSTS (FREIGHT & FUEL)

+$1,031,880 ANNUAL STAFFING COSTS

$91,031,880 TOTAL ANNUAL TRANSPORTATION

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Step 2: Identify Savings Opportunities

Identify the individual elements of a complete solution that reduce or eliminate both freight and staffing costs/expenses.

According to ARC Research a shipper can expect to save between 5% and 11% using a full, contemporary TMS solution including optimization tools.

Table courtesy of *"Transportation Management Systems Global Market Research Study"* from ARC Research 2

Savings Buckets	No Savings	Savings <2%	Savings 2%-4%	Savings 5%-7%	Savings 8%-10%	Savings >10%
Increased Usage of Preferred Carriers	32.7%		Most Common		Largest Possible	
Better Procurement Negotiations	42.3%		Most Common		Largest Possible	
Lower Cost Mode Selections	30.8%		Most Common			Largest Possible
More Fully Loaded Equipment	44.2%		Most Common		Largest Possible	
Better Routing	30.8%		Most Common			Largest Possible
Reduction in Carrier Overcharges	38.5%	Most Common	Largest Possible			

Note: Not every company produces improvement in every single one of these functional areas. An interactive savings calculator provided at the conclusion of this paper lets you select your current performance and capabilities by function and to derive a "possible savings range" specific to your organization

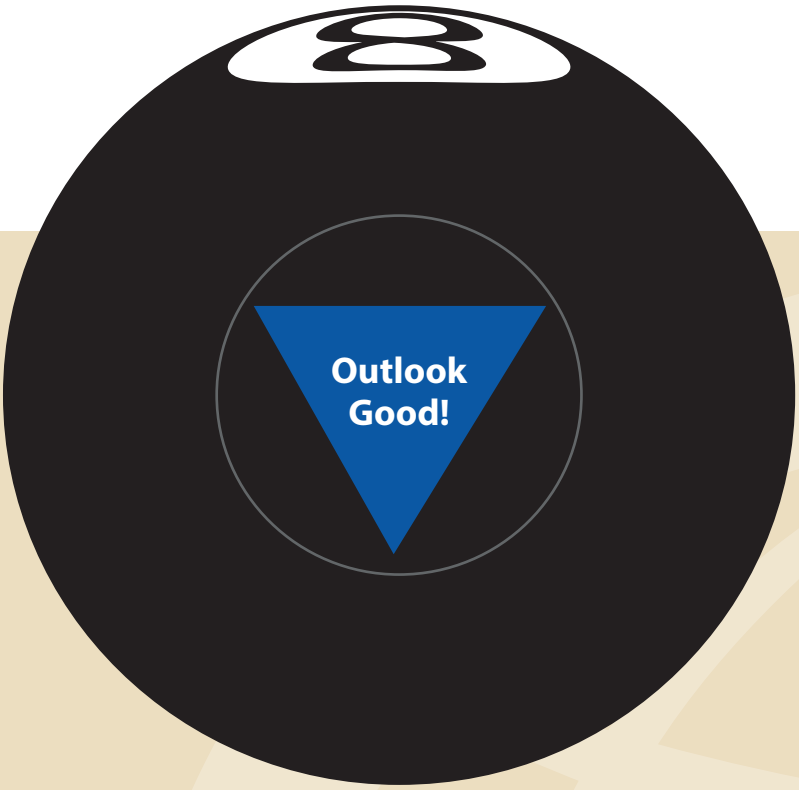
UltraShipTMS customers typically capture 7% to 15% implementing a world class optimization and automation solution. That range is in line with ARC findings.



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The Magic 8

*Ultra identifies **eight** transportation functions that fall under the heading "**Optimization and Execution**" defined as:*



Optimization

1. *Routing Effectiveness*
2. *Load Building Utilization*

Execution

3. *Mode Selection*
4. *Use of Preferred Carriers*
5. *Intelligent Procurement*
6. *Freight Payment Accuracy*
7. *Collaborative automated communication with sales ,customer, operations, and carriers*
8. *Business Intelligence (BI) capabilities and practices*

In Ultra's experience, load and routing optimization yields ***5% to 10% savings*** and transportation execution improvements yield between ***2% to 5% savings.***

So, What Condition Was Warwick Manufacturing In To Start?

The matrix shown here, taken from Ultra's savings calculator shows a completed assessment of Warwick Manufacturing's eight transportation functions (pre-solution) compared to peers in their industry. (note: The closer any capability draws to world class execution, the lower the savings one can expect to capture by implementing a contemporary solution. The farther away, the higher the potential for savings.)

Capabilities	Avg. Savings	Manual Processes	Below Avg.	Avg. to Peers	Best in Class	World Class	Savings Estimate %
Better Routing (Optimizer)	0% to 3%	○	○	○	◉	○	0%
Improved Payload/Cube (Optimizer)	0% to 3%	○	○	◉	○	○	2-3%
Mode Selection	0% to 2%	○	○	○	○	◉	0%
Increased Usage of Preferred Carriers	0% to 2%	○	○	○	◉	○	1-2%
Better Procurement Negotiation	0% to 2%	○	◉	○	○	○	0-2%
Payment Accuracy	0% to 1%	○	○	○	○	◉	0%
Sales & Customer Communications	0% to 1%	○	○	◉	○	○	1%
Scope of Business Intelligence and Tools	0% to 1%	◉	○	○	○	○	1%
Total	**0% to 15%**						**5-9%**

Calculate

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With a potential savings of 5-9% as a target Warwick Manufacturing decided a TMS solution was a solid investment opportunity.

Warwick's Savings Results

Transportation spend savings through optimization

SAVINGS FROM LOADS REDUCED THROUGH UTILIZATION IMPROVEMENT MOVING SHORTER TOTAL DISTANCES

Warwick's optimization savings was $2,909,300 for the first year!

TRANSPORT SAVINGS THROUGH AUTOMATION SUPPORTED EXECUTION

Warwick's preferred carrier usage savings was $300,180 for the first year.

SPEED OF TENDER AND USE OF PREFERRED CARRIERS

Warwick's Preferred Carrier usage savings was $405,100 for the first year!

COMMUNICATION AND BUSINESS INTELLIGENCE

Warwick's communication and business intelligence-generated process improvement savings was $1,349,680 for the first year!

Using UltraShipTMS, between transportation execution savings and optimization savings Warwick's overall transportation spend was reduced by 4,964,260 a year!



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Warwick Staffing Savings

TRANSPORTATION MANAGERS

No change to staffing levels recommended.



LOAD PLANNERS

Two of the three of Warwick's Load Planners however, would no longer be necessary. The freight and route optimization solution reduces the time spent building efficient loads and routes. ***What used to take three (3) full time employees many hours a day to accomplish is now performed by powerful algorithms few minutes.***



LOGISTICS COORDINATORS

Automation tools simplify the tendering process using an electronic routing guide while spot bidding tools automatically collect bids from the existing carrier base for freight in new lanes. ***Automation reduced number of logistics coordinators at Warwick from five (5) to two (2).***



CUSTOMER SERVICE

With full access to all information on the interaction between carriers and shippers captured via EDI, email and via web portals, ***Warwick Manufacturing was able to re-purpose two (2) customer service positions*** after having implemented a complete solution.



ANALYTICS, FREIGHT PAY / AUDITING

UltraShipTMS's robust ***reporting and analytics reduced the manual workload of dedicated finance and carrier management resources in half from two (2) to one (1)***



IT SUPPORT

The Ultra solution delivered in the Software-as-a-Service (SaaS) model requires very little involvement of Warwick's IT Staff. Training and support are handled completely by the SaaS provider. As such, ***Warwick no longer had to dedicate IT resources to transportation yielding a net savings of a half of a person assigned to transportation (0.5 FTE)***



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Table 5 illustrates the complete labor costs and levels of effort for both the manual process and the alternative automated proces

Table 5

Manual Processes				Automation Supported Execution		
Role	Resources	Loaded Salary	Total Annual Cost	Resources	Reduction	Savings
Transportation Manager	1	$84,500	$84,500	1	0	$0
Load Planner	3	$65,000	$195,000	1	2	$130,000
Dispatcher	5	$58,500	$292,500	2	3	$175,500
Customer Service	3	$45,500	$136,500	1	2	$91,000
Transportation Analyst	1	$65,000	$65,000	0.5	0.5	$32,500
Finance / Accounting	2	$65,000	$130,000	1	1	$65,000
IT Server Management	0.25	$84,500	$21,125	0	0.25	$21,125
IT Software Management	0.25	$84,500	$21,125	0.25	0	$0
IT Software Changes	0.25	$84,500	$21,125	0	0.25	$21,125
Carrier Procurement / Mgmt	1	$65,000	$65,000	0.5	0.5	$32,000
Total	**16.75**		**$1,031,880**	**7.25**	**9.5**	**$568,750**

Note: The post-solution implementation roster shows the remaining tasks of Transportation Analyst and Carrier Procurement are combined into a single full time position.

Using a conservative assessment of the work eliminated at warwick due to automation, a total of 9.5 FTEs could be redeployed outside of transportation for a savings of $47,396 a month or:

Staffing Savings of $568,750 for the year!



Total Savings Driven By UltraShipTMS

Warwick enjoyed first year savings well beyond the expectation of the initial assessment and they continue to derive benefit from the UltraShipTMS. Combining transportation and staffing savings,

Warwick saved a total of $5,533,010 a year!

In sum, the total transportation savings captured via Warwick Manufacturing's optimization and automation equals $5.53 million a year or seven (6%) of their annual spend of $90 million.

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Step 3: The Investment Payback/ROICalculation

With a Software-as-a-Service (SaaS) model transportation solution, there are modest implementation costs to consider. For this calculation, we'll assume a one-time implementation and configuration investment of $350,000. A flexible solution provider should be willing to amortize implementation costs over a portion of the contract. In this example Warwick amortized their investment over the first year of the contract. The resulting first year spend for the full transportation solution incurred by Warwick Manufacturing is the $20,000 monthly subscription fee, plus the implementation fee, for a year-one cost of (12 x $20,000 + $350,000) $590,000, or $49,100/month the first year. In year two and onward (with implementation fully paid) it is $20,000 a month.

Year 1 -	**Subscription fees $240,000 + Implementation $350,000**	**= $590,000**
Year 2, 3 -	**Subscription fees (per year)**	**= $240,000**



Annual Spend	**$91,031,880**
Savings	**($5,533,010)**
Solution Cost Year 1	**$240,000**
Savings Year 1	**$5,293,010**
Solution Implementation Year 1	**$350,000**
Net Company Benefit Year 1	**$4,943,010**
Payback	**2 Month**

In this example Warwick's payback was less than two months once a full transportation management solution was fully implemented!

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Conclusion

This exercise should provide supply chain and finance leaders with an easy to understand and execute process for performing a savings and payback calculation. It is important to keep in mind that this example only took into account the more tangible drivers of savings – looking at hard costs that are more easily quantifiable, and thus, easier to consider. There are other "soft benefits" most companies also recognize. Together these can be a strong argument:

- ***Hard transportation savings between 7-15%***
- *Tools to reduce manual staff workload*
- *Global visibility and elimination of surprises*
- *Business Intelligence (BI) for continuous improvement*
- *SaaS scalability to support growth*
- *Improved Transportation on-time delivery and customer service*
- *Ease of implementation at minimal investment*
- *Low monthly cost driving real savings and results*

The case for powerful optimization and automation to manage transportation spend is strong. A proven low cost, easy-to-implement solution like UltraShipTMS can give you the tools to achieve these benefits.

Perform your own calculation to see how much your organization can save using UltraShipTMS. Visit our online savings calculator at ***www.UltraShipTMS.com/savings-calculator/*** *and plug in your own values to see the potential results you could achieve.*

For more information or to arrange demonstration call (800) 731-7512 or visit www.UltraShipTMS.com.

[1]**Salary statistics sourced:** http://www.bls.gov/oes/current/oes113071.htm
[2]**Savings statistics sourced:** ARC Research's Transportation Management Systems Global Market Research Study by Steve Banker

UltraShipTMS

UltraShipTMS offers award winning software-as-a-service solutions to leading shippers in food production, packaging, retail and other industries. UltraShipTMS and the LoadFusion transportation optimizer provide a single-source solution for optimization, transportation and settlement for in- and out-bound shipping across all modes of transport. Built and supported by a brilliant team of transportation industry veterans and software developers, UltraShipTMS is an emerging leader in the supply chain management industry.

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