



TOMAZOS TRANSPORT

**The CATERPILLAR Continuous
Improvement Award**

Application Submitted August 2015



**Brad Donald
August 2015**

Over View

Tomazos Transport was established in November 2011, we are part of the Tomazos Group, which have been in operation as a building and Construction Company since the 1970's owned by a local family.

Tomazos has increased the original fleet from, 8x Triple Road Trains, 2x Double Road Trains & 2x Body Trucks, the fleet currently consists of 3 x Quad Side Tipping Road Trains, 9x Triple Side Tipping Road Trains, 3x Double Side Tipping Road Trains, 6x Single Side tipper and 1x Rear Tipping Body Truck with room and intentions of expanding to a larger diverse fleet.



Maintenance

Maintenance is a vital part of running a Transport Company; ensuring the fleet is running at maximum potential at all times with little to no delays.

When first established all fleet maintenance was out sourced to a dealership for the likes of Servicing, Minor Repairs and Major Repairs.

As an initial set up worked at a massive cost to the company as well as limiting the amount of vehicles on the road at any one time as the maintenance would only be conducted during normal working hours of the dealership not only costing the company loss of income due to down time but repair bills as well.

In September 2012 Tomazos Transport hired a Sub Contractor for all servicing and Minor Repairs. The Contractor agreed that all servicing would be completed at Night ensuring the prime mover was available to be put to work the next day and Tomazos as a whole had more control over the Fleet Maintenance and Management while being able to service the customers to our maximum capability.

Major Repairs would still be out sourced yet controlled by Tomazos to ensure the repair would not take longer than required and warranty for the work completed could be utilised if need be at no extra cost to our company.

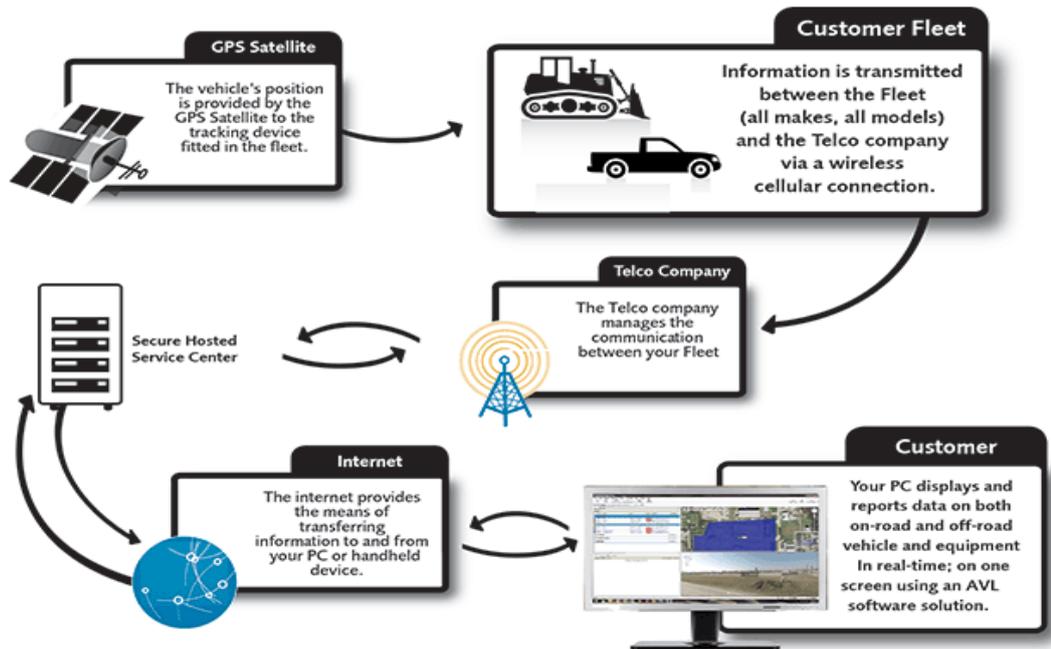
Servicing the prime movers would normally be completed every 10,000Km's for a 'B' Service and every 50,000km's for a 'C' Service, this is has changed to be completed by the hour meters on the prime mover. A 'B' Service to be conducted every 250 Hours and a 'C' Service to be conducted every 1,000 Hours due to the condition and environment the prime movers would be travelling on a daily basis. This in turn has meant Tomazos are able to run the

trucks at a cost effective and efficient state as it maximised productivity covering the Service Kits.

The unexpected advantage of changing the Services from Kilometres to Hourly is the trucks started running a lot more efficiently with less breakdowns.

IVMS

In September 2012, Keith Joy coordinated the installation of a Navman System to the entire fleet for the purpose of knowing exactly where the entire fleet is, tracking the speeds and stoppages at any given time and being able to keep in constant communication with a Driver without relying on phone coverage or two ways.



I started as the Tomazos Transport Supervisor in October 2013, before this I had spent 8 years in the Australian Army Transport Corp, coordinating Transport and Logistics in areas of Australia, Afghanistan and Malaysia.

One of the first roles given to me was to identify other uses of our Navman Wireless fleet tracking and management system to blend and utilise this information into our daily operations. After a few think tank meetings with senior management, I completed some on line courses to increase my knowledge of the system.

Alongside the primary use of vehicle location, I start tracking the diagnostic and behavioural patterns of each driver through the use of reports, alerts, logs and maps, it now offers an accurate insight to informing decisions that have improved our day to day business often putting us above our competition with regards to Health and Safety, Event Management, Fatigue Management, Time in Motion Surveys, Maintenance Monitoring, Fuel Efficiency, Tyre Efficiency, Driver Management and Communication as well as easily collating the required data for the Government Fuel Rebate.

File View Vehicle Messaging Drivers Geofences Sites Reports Help

Show Query Send Message Messaging Center Training Portal Dynamic Dashboard Add Geofence Add Site

Detach Map Print Address Search

Search for: Vehicle Enter Vehicle Name Search

Fleet: Tomazos Group

Ignition Status	Group Name	Display Name	Vehicle Type	Time	Ignition Duration	Speed
	Tomazos Group	TK 10 CA42FY		26/08/2015 3:5...	1h:35m	0.0 krr
	Tomazos Group	TK 11 CA64OT		26/08/2015 3:0...	2h:25m	0.0 krr
	Tomazos Group	TK 12 CA64OS		26/08/2015 4:0...	1h:30m	0.0 krr
	Tomazos Group	TK 13 CA92MW		26/08/2015 4:4...	42m	0.0 krr
	Tomazos Group	TK 14 CA92NU		26/08/2015 8:5...	8h:34m	0.0 krr
	Tomazos Group	TK 15 CA47UC		26/08/2015 9:2...	12h:29m	90.8 krr
	Tomazos Group	TK 16 CA36UW		26/08/2015 3:5...	1h:40m	0.0 krr
	Tomazos Group	TK 17 CA36UW		26/08/2015 2:3...	2h:57m	0.0 krr
	Tomazos Group	TK 18 CB31BZ		26/08/2015 5:2...	9m	0.0 krr
	Tomazos Group	TK 19 CB02KZ (SV)		26/08/2015 1:3...	4h:0m	0.0 krr

Vehicle Activity - TK 15 CA47UC As at Wednesday, 26 August 2015

E..	Priority	Time	Speed	Trip	Site	Location
Low	5:29 PM	90.0	768.3...	630-638 Arrhem Highway, Humpty Doo NT 0836		
Low	5:28 PM	93.0	767.5...	645-705 Arrhem Highway, Humpty Doo NT 0836		
Low	5:28 PM	90.0	767.1...	645-705 Arrhem Highway, Humpty Doo NT 0836		
Low	5:28 PM	93.0	766.9...	645-705 Arrhem Highway, Humpty Doo NT 0836		
Low	5:28 PM	90.0	766.4...	960-986 Arrhem Highway, Humpty Doo NT 0836		
Low	5:25 PM	97.0	761.9...	1265 Arrhem Highway, Lambells Lagoon NT 082:		
Low	5:20 PM	94.0	753.6...	2155 Arrhem Highway, Middle Point NT 0822, AL		
Low	5:19 PM	74.0	751.7...	2187-2215 Arrhem Highway, Middle Point NT 08		
Low	5:17 PM	89.0	750.3...	2215 Arrhem Highway, Middle Point NT 0822, AL		
Low	5:14 PM	93.0	744.6...	3220 Arrhem Highway, Wak Wak NT 0822, Aust		

Ready. Lat: -12.61949 Lon: 131.07904

Dynamic Dashboard Refresh Help

Custom Tab 1 LAYOUT + EXPAND ALL - COLLAPSE ALL KEY: Off Target On Target No Target Set

Site Stops EDIT

Average stops at selected sites for the week starting August 24 **13.4**

Vehicle Activity EDIT

In Use **1** In Site - In Use **0** In Site - Not In... **17** Not In Use **2**

Load and Load Out EDIT

Average stops at selected sites for the week starting August 24 **11.9**

KM Report EDIT

Average mileage for the week starting August 24 **548.5 km**

Idle Time EDIT

Average idling time for today **1h:53m**

Carbon Emissions EDIT

Average carbon emissions for the week starting August 24 **1102.5 kg**

Continual Improvement

With a slow Economy throughout 2014-15 daily running cost seemed to be getting more expensive while the return has not been available. I posed to Senior Management that we run in house studies, using four different brands of trucks in our fleet, to best utilise truck and trailer combinations over different distances.

I conducted a Time in Motion Study over the period of July 2014 Until December 2014 incorporating the Darwin Climate of both the Dry Season and the Wet Season.

During the Dry Season the weather is cooler with little to no humidity, During the Wet Season we get heavy rain 4 times per day at a minimum whilst the Humidity sits at an average of 95%.

With the use of the Navman System I was able to conduct a Time in Motion study of speeds and Fuel Tracking of each vehicle while running a sister truck the majority of the time for the same run from Boral Mt Bundy to the LNG Gas Project or Boral Howard Springs to the LNG Gas Project.

The main purpose of running this time in motion study was to run two of the same trucks against each other with different speed restrictions, limiting one driver to 90km per hour and the other to the sign posted speed limit.

The results of the time in motion study showed me that I was able to save an average of 10% per month on fuel running at 90km over the truck that was running at the posted speed limit, while still completing 3 Runs from Boral Mt Bundy in a 12 hour shift, or 5 Runs from Boral Howard Springs in a 10 Hour Shift with all mandatory fatigue management breaks in place.

Vehicle: TK 01 CA05VK 1203E12920107		Group: Tomazos Group			
Total Time in Geofences: 2hr 06 min		Total Trip in Geofences: 19.4 km			
Geofence: Mt Bundy					
Event Type	Event Date	Speed	In Geofence	Trip	Driver Name
Geofence Entered	23/04/2015 7:09 AM	24 km/h			Unknown Driver
Geofence Exit	23/04/2015 7:55 AM	21 km/h	46 min	5.8km	Unknown Driver
Geofence Entered	23/04/2015 10:41 AM	22 km/h			Unknown Driver
Geofence Exit	23/04/2015 11:20 AM	22 km/h	39 min	6.8km	Unknown Driver
Geofence Entered	23/04/2015 2:04 PM	24 km/h			Unknown Driver
Geofence Exit	23/04/2015 2:45 PM	21 km/h	41 min	6.8km	Unknown Driver
		Total:		2hr 06 min	19.4km

Vehicle: TK 02 CA89ZC 1203E12920307		Group: Tomazos Group			
Total Time in Geofences: 1hr 52 min		Total Trip in Geofences: 18.8 km			
Geofence: Mt Bundy					
Event Type	Event Date	Speed	In Geofence	Trip	Driver Name
Geofence Entered	23/04/2015 7:25 AM	18 km/h			Unknown Driver
Geofence Exit	23/04/2015 8:07 AM	19 km/h	42 min	6.0km	Unknown Driver
Geofence Entered	23/04/2015 10:50 AM	20 km/h			Unknown Driver
Geofence Exit	23/04/2015 11:24 AM	17 km/h	34 min	5.9km	Unknown Driver
Geofence Entered	23/04/2015 2:01 PM	16 km/h			Unknown Driver
Geofence Exit	23/04/2015 2:37 PM	17 km/h	36 min	6.9km	Unknown Driver
		Total:		1hr 52 min	18.8km

Vehicle: TK 04 CA59IT TK 4		Group: Tomazos Group	
Total Time in Geofences: 1hr 20 min		Total Trip in Geofences: 12.8 km	

When the Trial started I was getting an average of 1.04Km per litre of fuel on the overall fleet speed at the posted speed limit, changing half of the fleet to 90km we met an average of 1.17 Km per litre of fuel.

This was enough evidence for me to limit every vehicle we have to a maximum speed of 90km as we had saved on average of 6,155Lts of fuel per month while still meeting our customer and fatigue management requirements without any extras added cost to the company, less wait time and less idle time.

Throughout the trial the average savings had a predicted saving of 1.17km per 1 litre of fuel, with a predicted fuel saving of 147,720 Litres per Financial year. Upon speed restricting all prime movers through the ECU, I have kept monitoring the fuel efficiency of each prime mover in each combination. In June 2015; I had an Average of 1.21Km's per 1 Litre of fuel

with a monthly saving of 19,693 Litres for the month saving an extra 7,383Lts than first predicted.

Cost Cutting Measures

Other unforeseen effects of limiting all vehicles to 90km was that had prolonged the Tyre life, Trailer Brakes that would usually be changed every 12 months are now looking to be at 18 months saving on Repairs and Maintenance, Vehicle Break Downs have dropped dramatically due to driver mentality and slowing down the trucks, Health and Safety.

I had proved that with the new limits on the trucks and the constant tracking of maintenance I had saved the company money, but I felt we could do more.

So by informing our Insurance Company of everything we have in place with the use of the Navman System, Limiting the Speeds of each Vehicle, tracking Pre-Employment / Yearly Employee Medicals, All Registrations, Tyre Changes, Brake Changes, Bearing Changes and also running a fatigue management system that was live 24hr a day. We asked to have an audit by our insurance company and also by NT Work.

As a result of these audits the Insurance Company re-evaluated our standard coverage and issued us with a saving of 52% on our Insurance Premiums.

Future Planned Improvement's

Keith Joy and I are actively working in with Telstra and Navman Wireless Australia to yet again improve and upgrade other uses for this system.

1. The next level is to roll out having electronic pre-start using the GPS Interface eliminating the paper trail yet still covering off on all aspects of the drivers pre and post inspections.

2. Installing a Dash Cam system linked into the Navman System, that will record through the front windscreen as well as the Driver that will store the daily recordings. Unlike other systems on the market this is an event system, which means it records all the time but only becomes active if an event is triggered.

Events that will trigger the system are harsh breaking, sudden stops, roll over, harsh acceleration, and will notify an Administrator either Live or Post Event.

There is an override button which allows the driver to record an event that he needs the administrator to see, i.e. Bad or erratic driving from other road users, accidents, black spots or dangerous road or weather conditions.

Along with recording of 60 seconds before an incident, the Actual Incident, 60 Seconds after an Incident being automatically sent to our computer system with an Emergency Alert.

The driver over ride event will record and send live feed for 5 minutes before needing to be refreshed.

3. We have floated the idea of creating a "Driver out of the Vehicle" Alert system.

This works for all vehicles with the Navman System, it will link a driver's phone via an app to the system.

As soon as a driver gets out of his truck while it is running (to trap or untarp) the connection between the phone and Navman is broken therefore triggering an event.

This event will be displayed to any truck within 50 metre of the driver; the alert will be either a sound or small light in the cab of the approaching vehicle to notify the driver there is a vehicle pulled over ahead with the driver out of the cab within a 50 metre radius.

The driver will have an alarm and vibration through his phone to warn when another vehicle is approaching enhancing driver awareness and safety.

This is likely to be in use early 2016.

In conclusion, over the past 18 months I have taken a GPS tracking system, have added and utilised its programs to cut costs, increase our fleet efficiency , prolong parts life, promote good driver behaviour, track OHS and fatigue management on top of what the system was designed to do.

With our ideas and backing of Navman wireless I believe that this project is a good example of continuous improvement.