

# Transportation Resource Scheduling Tool (TRST)

## Fleet optimization simplified

With the mission to provide customers with contemporary Logistics and Supply Chain Management software solutions that add a multiple of measurable value over the cost, Paradox Software Consulting offers a revolutionary approach to logistics software. Paradox' offering includes a tool kit available in the traditional licensing model as well as in the On-Demand or Software-As-A-Service (SaaS) model.

TRST is a fleet sizing tool that enables businesses optimize the use of their transportation assets to realize immediate savings from day one at a fraction of the cost.

TRST is a valuable and highly effective Fleet Utilization tool that maximizes the deployment of fleet by minimizing the number of resources on the road. It can be easily interfaced with routing and on-board computer systems.

*—TRST has been a great addition to Exel Integrated Logistics Design Group's tool set. It is the only stand-alone resource optimization tool that fits the requirements of many of our fleet solutions. TRST is a user friendly, short learning curve program that produces excellent results. The resource balancing works extremely well to even the work requirements, in turn creating operationally effective equipment and driver schedules.*

*— Paul Bugenstein,  
Director  
Logistics Design, Exel*



## Key Features

- ◆ Managerial tool that provides valuable and needed data to establish appropriate fleet parameters such as, size, type, mix, and number of drivers. With the ability to facilitate “what if” modeling, TRST helps reduce fleet operating costs.
- ◆ Provides ‘as-is’ (existing) and ‘should-be’ (optimal) operational views for comparison. Management can use the information to continually reduce costs through improved operation and resource utilization.
- ◆ Resource scheduling constraints include DOT hours of service regulations for drivers and operating horizon that can be defined in terms of calendar dates.
- ◆ Can accommodate any flat file import and export requirements to facilitate interfacing with client's systems.
- ◆ Multiple time formats including days of week and dates supported for departure and return data import. Other time attributes can be imported in military and decimal formats.
- ◆ User interface designed for ease-of-use and short learning curve. Presentation tools include resource utilization reports and Gantt charts.
- ◆ Quick and easy implementation. Understanding of and working with TRST requires very little training. Model setup takes only few minutes.

# Business Benefits

- ◆ Quick Return on Investment
  - Optimal resource requirements identified and redundant trucks and drivers eliminated
  - Operating costs reduced by 5 to 15%
- ◆ Plan faster
  - Respond quicker to bid proposals
  - Free planners for more value-added activities
  - Planners start using the tool after only one day of training
- ◆ No upfront investment
  - Pay-as-you-go usage of the software is an option
- ◆ Affordable software for ALL
  - Small fleet operators can now streamline their operations using the same tools typically used by large fleet operators

STATISTICS	BEFORE	AFTER
Number of Tractors	60	43
Number of Drivers	60	51
Number of Trailers	289	43
Utilized Time of Tractors	2225:33	2225:33
On-Duty Time of Drivers	00:00	00:00
Utilized Time of Trailers	2225:33	2225:33
Down Time of Tractors	7854:27	4998:27
Down Time of Drivers	3600:00	3060:00
Down Time of Trailers	46326:27	4998:27
Number of Routes per Tractor	5	8
Number of Routes per Driver	5	6
Number of Routes per Trailer	1	8

  

Number of Routes	346
Distance	45916.00
Drive Time	00:00
Load	6650580.00

**Resource Utilization Report**

**Tractor utilization**

**Utilization Information for Tractor-01**

Resource ID	Utilized Time	Total Down Time	Total Miles	Total Cost	Number of Routes	Start Time	Finish Time
Tractor-01	118:49	49:11	2845	0.00	3	Sun1 12:00	Fri1

**Routes Information for Tractor-01**

Route	Miles	Type	Load	Cost	Start Time	End Time	Elapsed Time	Trailer
Pool Point	2337	OTR	0.00	0.00	Sun1 12:00	Thu1 00:19	84:19	Trailer-01
Thu Davenport, IA	321	OTR	0.00	0.00	Thu1 04:00	Fri1 04:29	24:29	Trailer-05
Dekab, IL	187	LOCAL	0.00	0.00	Fri1 06:00	Fri1 16:01	10:01	Trailer-27

**Utilization Information for Tractor-02**

Resource ID	Utilized Time	Total Down Time	Total Miles	Total Cost	Number of Routes	Start Time	Finish Time
Tractor-02	100:03	07:57	2601	0.00	3	Sun1 13:00	Fri1

**Scheduling Parameters**

General Parameters | Driver Scheduling Parameters

	OTR	LOCAL
Max. Drive Time Per Day	11:00	11:00
Max. Work Time Per Day	14:00	14:00
Layover Duration	10:00	10:00
Max. Number of Routes Per Driver	100	100
Max. On-Duty Time Per Cycle	60:00	60:00
Max. Drive Time Per Cycle	55:00	55:00
Operating Cycle Length	7 days	7 days
Max. Time between Routes	03:00	
Min. Time Off Per Cycle	24:00	24:00
Min. Time between Routes	01:00	01:00

**TRST results - Data View**

Route	Miles	Type	Load	Earl Dispatch	Dispatch In
WE	692.00	OTR	0.00	Wed1 00:24	Wed1 00:34
WF	692.00	LOCAL	0.00	Wed1 00:53	Wed1 00:53
WG	1.00	OTR	0.00	Tue1 21:31	Tue1 21:31
WH	758.00	OTR	0.00	Wed1 02:43	Wed1 02:43
WI	694.00	OTR	0.00	Wed1 00:35	Wed1 00:35
WJ	652.00	OTR	0.00	Thu1 01:21	Thu1 01:21
WK	692.00	OTR	0.00	Thu1 00:35	Thu1 00:35
WL	653.00	OTR	0.00	Thu1 00:59	Thu1 00:59
WM	650.00	OTR	0.00	Thu1 00:45	Thu1 00:45
WN	628.00	OTR	0.00	Thu1 01:05	Thu1 01:05
WO	265.00	OTR	0.00	Thu1 00:51	Thu1 00:51
WP	812.00	OTR	0.00	Thu1 23:09	Thu1 23:09
WQ	922.00	OTR	0.00	Thu1 22:52	Thu1 22:52
WR	671.00	OTR	0.00	Thu1 23:06	Thu1 23:06
WS	837.00	OTR	0.00	Wed1 23:11	Wed1 23:11
WT	692.00	OTR	0.00	Fri1 00:42	Fri1 00:42
WU	418.00	LOCAL	0.00	Fri1 02:43	Fri1 02:43
WV	681.00	OTR	0.00	Fri1 00:34	Fri1 00:34
WW	678.00	OTR	0.00	Fri1 00:40	Fri1 00:40
WX	654.00	OTR	0.00	Fri1 01:05	Fri1 01:05
WY	701.00	LOCAL	0.00	Fri1 00:52	Fri1 00:52
WZ	1.00	OTR	0.00	Sun1 23:06	Sun1 23:06
XA	899.00	LOCAL	0.00	Sun1 22:56	Sun1 22:56
XB	866.00	LOCAL	0.00	Sun1 22:49	Sun1 22:49
XC	685.00	OTR	0.00	Mon1 01:02	Mon1 01:02
XD	716.00	OTR	0.00	Mon1 00:40	Mon1 00:40
XE	696.00	OTR	0.00	Mon1 00:35	Mon1 00:35
XF	698.00	OTR	0.00	Mon1 02:43	Mon1 02:43
XG	691.00	OTR	0.00	Mon1 01:05	Mon1 01:05
XH	693.00	OTR	0.00	Mon1 00:48	Mon1 00:48
XI	653.00	OTR	0.00	Tue1 00:51	Tue1 00:51
XJ	804.00	OTR	0.00	Mon1 23:09	Mon1 23:09
XK	907.00	OTR	0.00	Mon1 22:52	Mon1 22:52
XL	655.00	OTR	0.00	Tue1 00:59	Tue1 00:59
XM	654.00	OTR	0.00	Tue1 00:45	Tue1 00:45
XN	658.00	OTR	0.00	Tue1 01:05	Tue1 01:05
XO	907.00	OTR	0.00	Tue1 00:51	Tue1 00:51

**TRST results - Tractor Utilization Chart [1]**

ID	Tractor ID	Distance	Route	Stops	Week 0
1	Tractor-01	3124	104.42	0	MA, TU, W, TH
2	Tractor-02	2905	96.29	0	MO, TU, W, TH, FR, SA
3	Tractor-03	3221	96.22	0	MO, TU, W, TH, FR, SA
4	Tractor-04	3672	85.35	0	MO, TU, W, TH, FR, SA
5	Tractor-05	3375	80.18	0	MO, TU, W, TH, FR, SA
6	Tractor-06	3605	82.58	0	MO, TU, W, TH, FR, SA
7	Tractor-07	2715	74.14	0	MO, TU, W, TH, FR, SA
8	Tractor-08	2696	73.42	0	MO, TU, W, TH, FR, SA
9	Tractor-09	1979	47.19	0	MO, TU, W, TH, FR, SA
10	Tractor-10	1176	26.36	0	MO, TU, W, TH, FR, SA

**TRST results - Driver Utilization Chart [1]**

ID	Driver Name	Type	Drive Time	On duty Time	Week 0
2	Driver-02	OTR	61:58	86:45	MO, TU, W, TH, FR, SA
3	Driver-03	OTR	72:31	89:32	MO, TU, W, TH, FR, SA
4	Driver-04	OTR	62:15	79:35	MO, TU, W, TH, FR, SA
5	Driver-05	OTR	52:05	64:38	MO, TU, W, TH, FR, SA
6	Driver-06	OTR	69:57	88:07	MO, TU, W, TH, FR, SA
7	Driver-07	OTR	73:39	91:09	MO, TU, W, TH, FR, SA
8	Driver-08	OTR	54:04	67:51	MO, TU, W, TH, FR, SA
9	Driver-09	OTR	39:01	49:48	MO, TU, W, TH, FR, SA
10	Driver-15	LOCAL	16:01	19:42	MO, TU, W, TH, FR, SA
11	Driver-16	LOCAL	16:36	20:18	MO, TU, W, TH, FR, SA
12	Driver-17	LOCAL	16:05	18:57	MO, TU, W, TH, FR, SA

For more information on TRST contact Bob Glenn at 772-224-0016 or e-mail [info@paradoxsci.com](mailto:info@paradoxsci.com).

