

# TransportationGuru™

Software for Transportation Network Design



- *Define Efficient Routes*
- *Model Asset Utilization*
- *Optimize Mix and Model*



- *Reduce Landed Cost*
- *Determine Facility Footprint*
- *Simulate Service Levels*

**LLamasoft®**  
*Supply Chain By Design*

# TransportationGuru™

## Software for Transportation Network Design

Transportation Guru™ is the only application that gives supply chain designers the tools to integrate network design and transportation routing. By designing with these integrated technologies, users are able to:

- **Simulate near-term cost and service improvements to existing transportation operations**
- **Identify longer-term strategic improvements to the global transportation network**
- **Run continuous what-if analysis of new strategies, disruptions constraints and business challenges**

The Transportation Guru design engine includes a wide range of analysis techniques, enabling users to identify optimal DC-to-customer assignments, determine the ideal mode mix, create optimal multi-stop delivery or pick-up routes, determine the best utilization of assets, evaluate driver work schedules, or even perform service-based greenfield analysis.

Using Transportation Guru, you can continuously improve your end-to-end transportation network and quickly adapt to business changes to stay ahead of the competitive curve.

### With Transportation Guru, Network Designers and Analysts Have the Tools To:

#### **Challenge Legacy Transportation Networks**

Is your best option to optimize 'as-is' or to re-engineer a new network? Test the effects of new modes or product flow patterns. Evaluate importing through new ports or adding cross-docks. Answer these questions with concrete data and visual references.

#### **Determine Lowest Overall Landed Cost**

Incorporate inventory, sourcing, production, service levels and other constraints to understand the true lowest landed cost solution for your global transportation network.

#### **Identify Optimal Mode Mix**

Test and understand trade-offs for ocean vs. air, truckload vs. LTL, or rail vs. OTR given your global supply chain network flows and costs. Scale the model to include all required SKUs and shipments.

#### **Prove Optimal DC-to-Customer Assignments**

Determine the optimal assignment of DCs to customer or retail locations to achieve the lowest cost solution that still meets service level targets. Rebalance assignments as new customers or stores are added to the network.

#### **Measure All Constraints For Most Efficient Routings**

Develop efficient multi-stop routes and locate backhaul opportunities to reduce empty miles and labor requirements. Choose from various vehicle sizes and carriers and consider multiple cost types related to distance, stops, surcharges and discounts, driver time and overnight hauls.

## Design a More Sustainable Transportation Network

Calculate the emissions associated with 'as-is' and new transportation network strategies or optimize the network to achieve a specific reduction target while also meeting performance criteria.

## Evaluate Network Footprint and Greenfield Locations

Identify the optimal structure and footprint of distribution, production, or sourcing sites or use advanced greenfield technology to identify the ideal location for new facilities.

# Solve Complex Problems

...Through a Wide-Range of Modeling Options

## Vehicle Routing

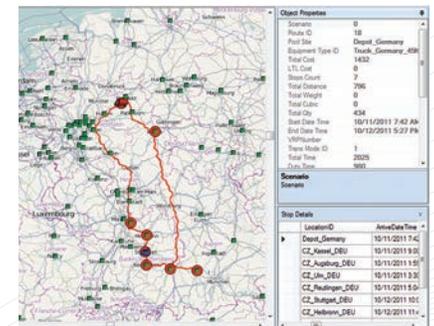
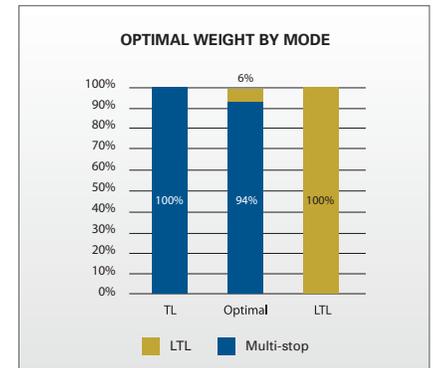
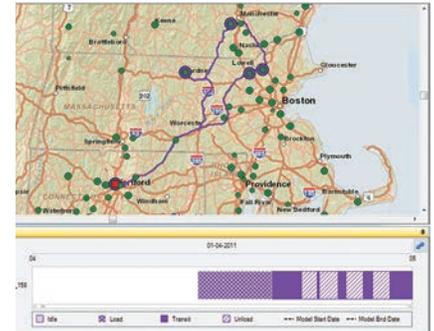
- Compare optimal multi-stop routes to less-than-truckload shipment costs to determine the ideal mode mix
- Identify the savings achieved by continuous moves on inbound and outbound loads, mode selection and DC location
- Develop alternative routes based on various vehicle sizes and carriers
- Analyze multiple cost types related to distance, stops, surcharges and discounts, driver time and overnight hauls
- Include constraints related to shipment time windows, business hours, and trip characteristics such as maximum route time or number of allowed stops by vehicle type
- Designate vehicle routes as round trip or one-way
- Enforce relationships to prevent incompatible products from being combined on the same route

## Network Optimization

- Identify the optimal number and location of distribution, production, or sourcing locations
- Determine ideal mode and flow path for each product or business unit
- Optimize the network to ensure required service levels for each product
- Use multi-time period analysis to determine the right time to shift product flow or to add capacity
- Use advanced greenfield technology to locate new facility locations

## Simulation

- Test for actual service and cost of any design by running historical or forecasted demand through a discrete-event simulation calendar
- Perform detailed 'what-if' analysis to identify risks or bottlenecks
- Identify the likelihood of unwanted occurrences such as late deliveries, missed delivery windows, or expedited shipments
- Incorporate probability distributions for all key time and quantity variables, such as demand, transportation time, load/unload, etc.
- Scale models to include all required SKUs, shipments, and points
- Animate shipments to visualize the performance of each scenario



Transportation Guru provides concise, easy to understand mapping, charting and reporting on thousands of variables to help designers, analysts and transportation managers see the alternatives in a global network.

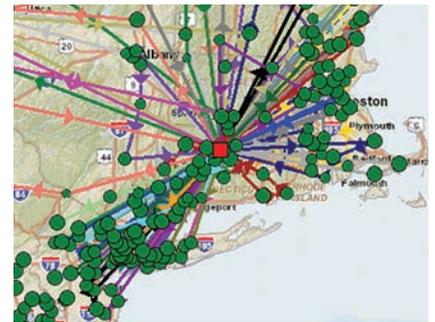
# Features

## Integration Features

- Includes numerous data integration technologies to seamlessly connect to any type of enterprise data source
- Provides fully integrated visualization tools including maps, charts, and one-click connections to Tableau™ and Google Earth.
- Integrates vehicle route optimization modeling with network optimization or simulation within the same data model
- Includes optional certified SAP Data Connector for direct connection to ERP transaction data

## Modeling Features

- Leverages advanced geocoding and mapping capabilities to build models and display vehicle routing results on maps in a visual, intuitive way
- Uses extensive scenario management capability to quickly run many “what-if” scenarios, altering cost or route parameters
- Models can be driven from shipment history, optimization results, or demand files.



## Design, Simulate, and Validate Transportation Network Optimization and Vehicle Routing All in One Application

### Carriers, Dedicated and Private Fleets

Haul more freight per mile with greater asset utilization, consolidating loads and creating continuous moves for higher operating efficiency. Know your cost-to-serve.

### Shippers and Retailers

Determine ideal mode and flow path for each product or business unit, using predictive analysis to determine inventory position, timing, and needed capacity.

### 3PLs and Intermediaries

Identify and test stand-alone or collaborative best practices for your customer base, demonstrating proficiency in design as well as management.

**SupplyChainGuru**

Supply chain modeling, optimization and simulation software

**TransportationGuru**

Transportation network design and vehicle routing software

**SupplyChainSherpa**

Mobile app for supply chain design and visualization

**LLamasoft**  
*Supply Chain By Design*

LLamasoft, Inc.  
201 South Main Street, Suite 400  
Ann Arbor, Michigan, USA  
Phone: +1 734.418.3119  
Fax: +1 734.418.3138  
LLamasoft.com  
Info@LLamasoft.com

**SAP** Certified  
Integration with SAP Applications

© 2013 LLamasoft, Inc. All rights reserved. v.01022013