

# Application of AnyLogic to Railroad Operations Analysis

**Roger Baugher**

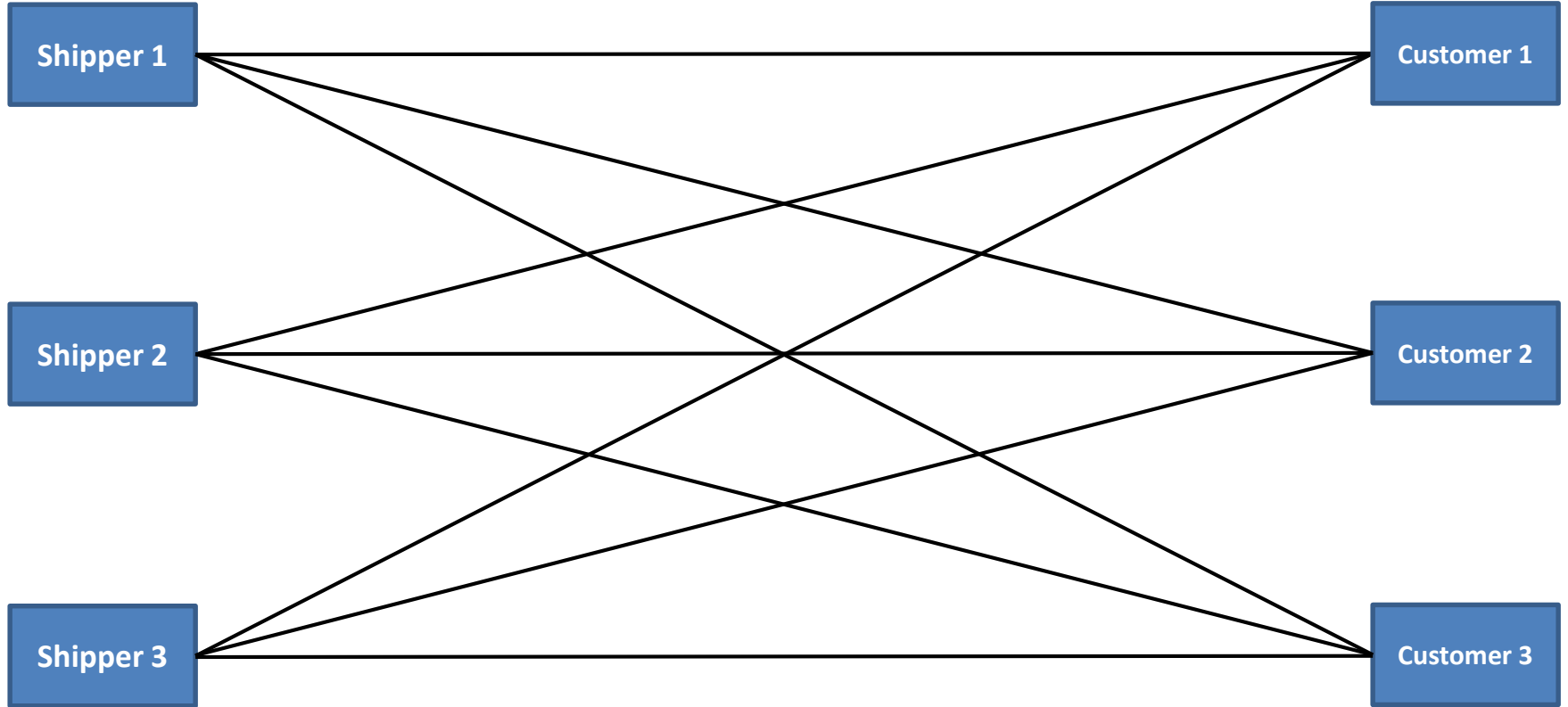
**TrAnalytics, LLC**

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# Outline

- **Introduction**
- **Background on the problem**
- **Description of the simulation**
- **Demonstration**
- **Examination of simulation logic**
- **Next steps**
- **Questions**

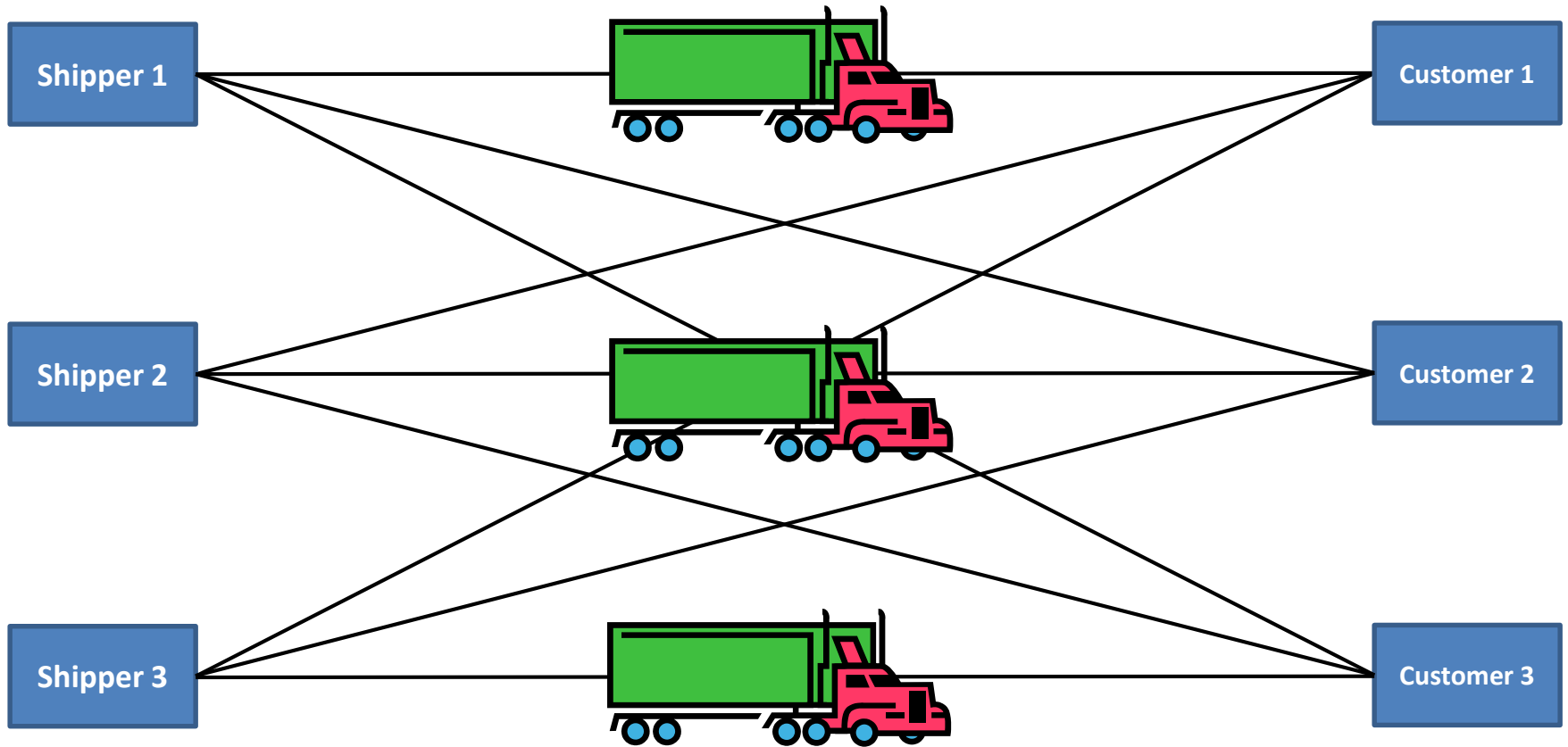
# Background on the Problem



Los Angeles

New York

# Background on the Problem

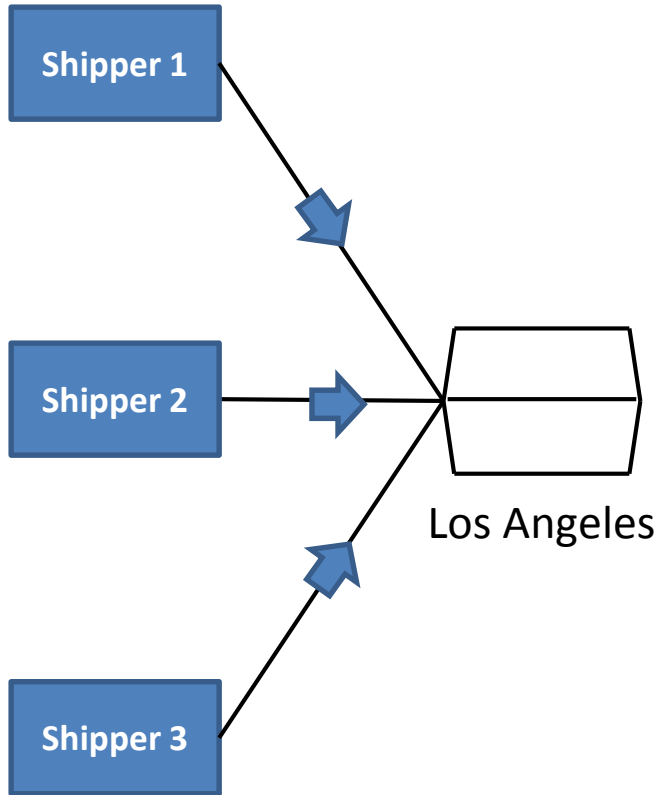


Los Angeles

If I were a trucker ...

New York

# Railroading 101

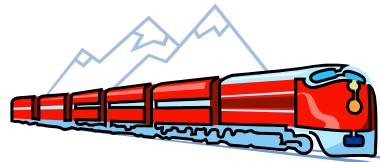


Customer 1

Customer 2

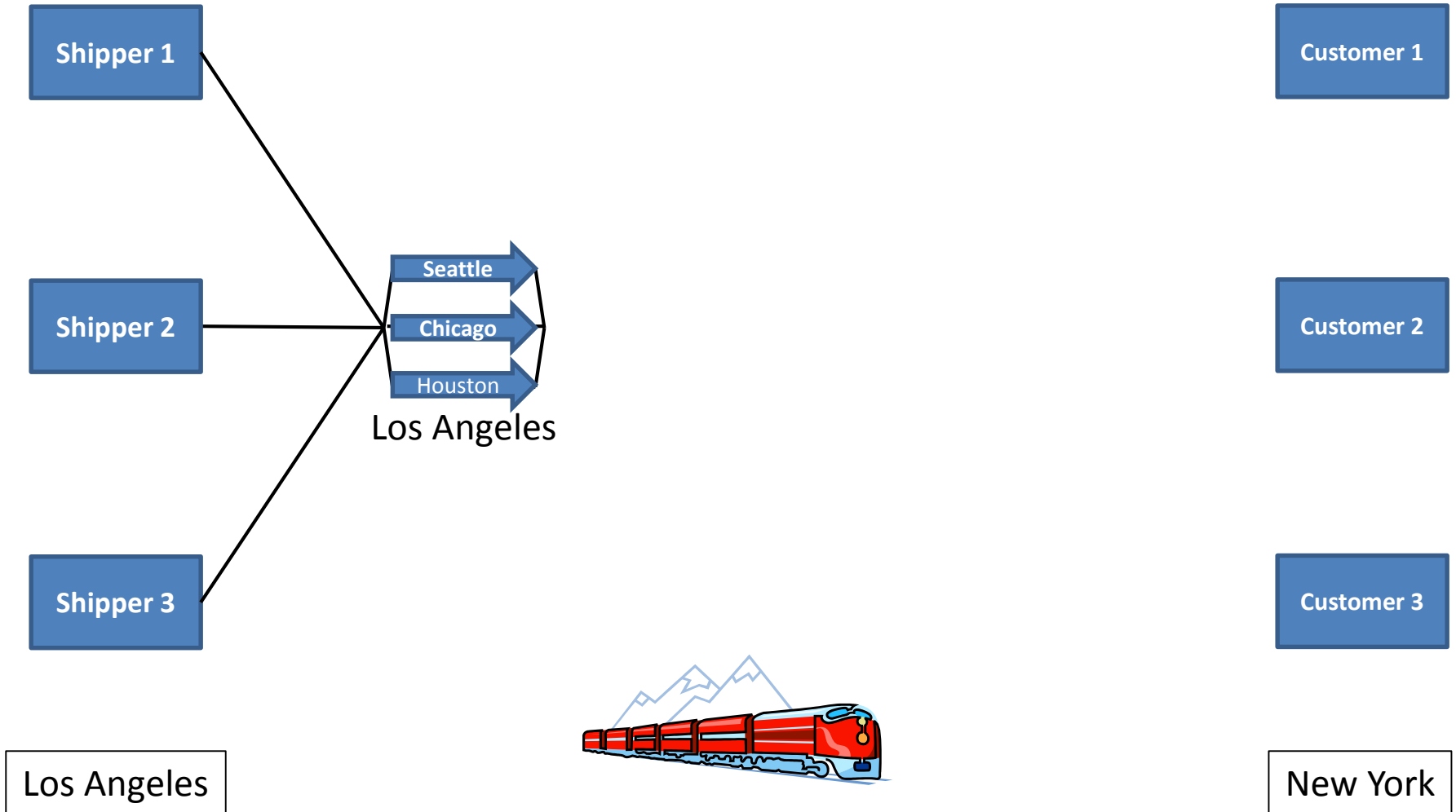
Customer 3

Los Angeles

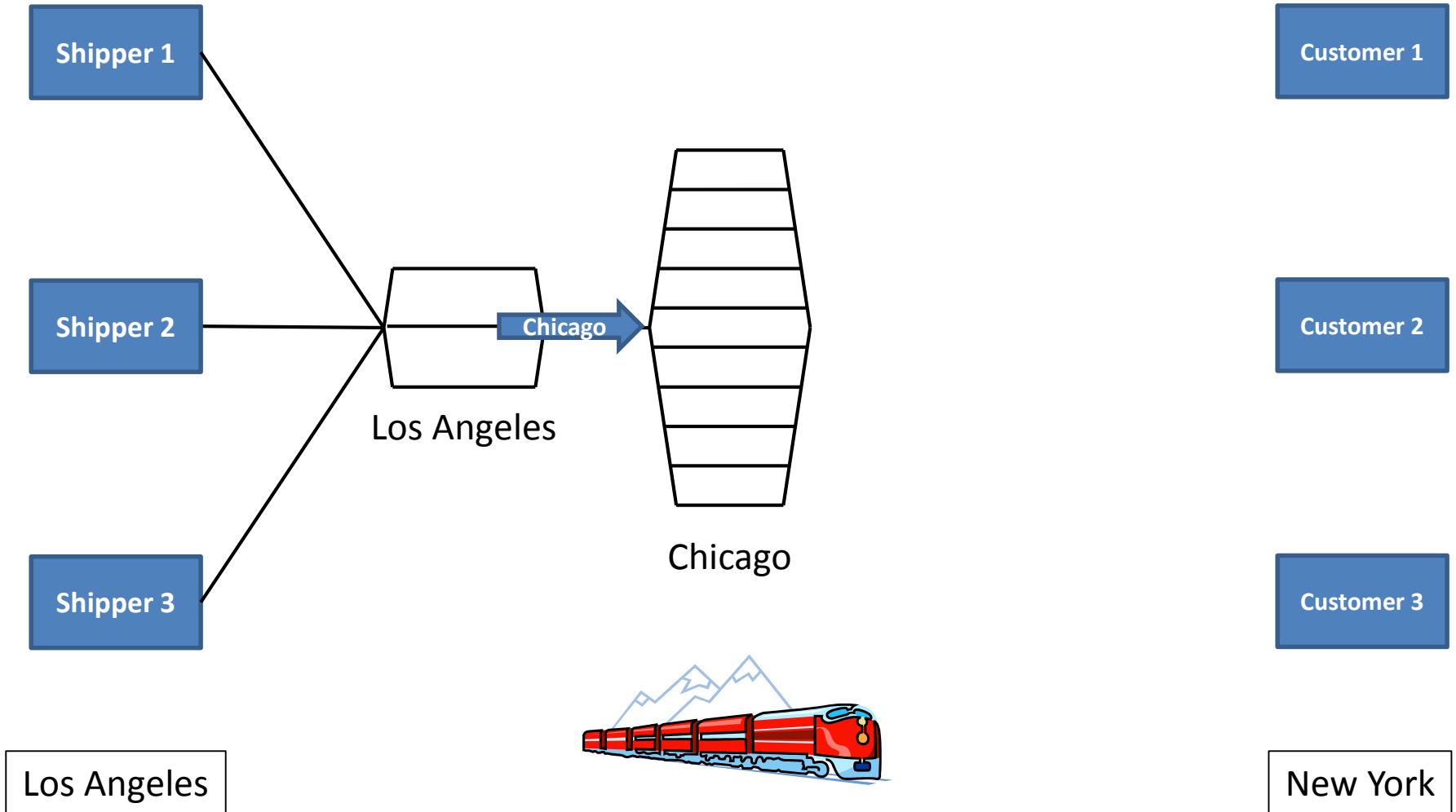


New York

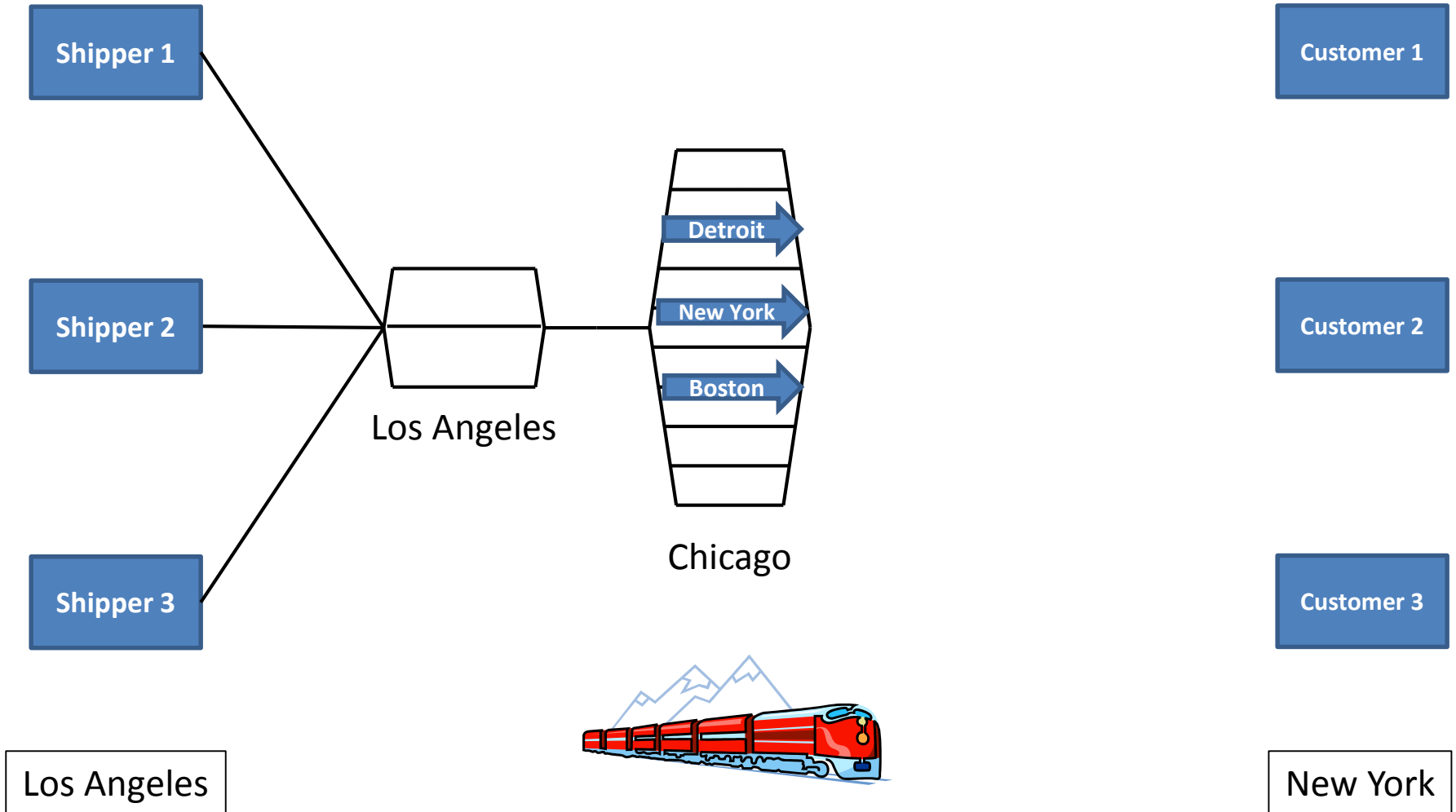
# Railroading 101



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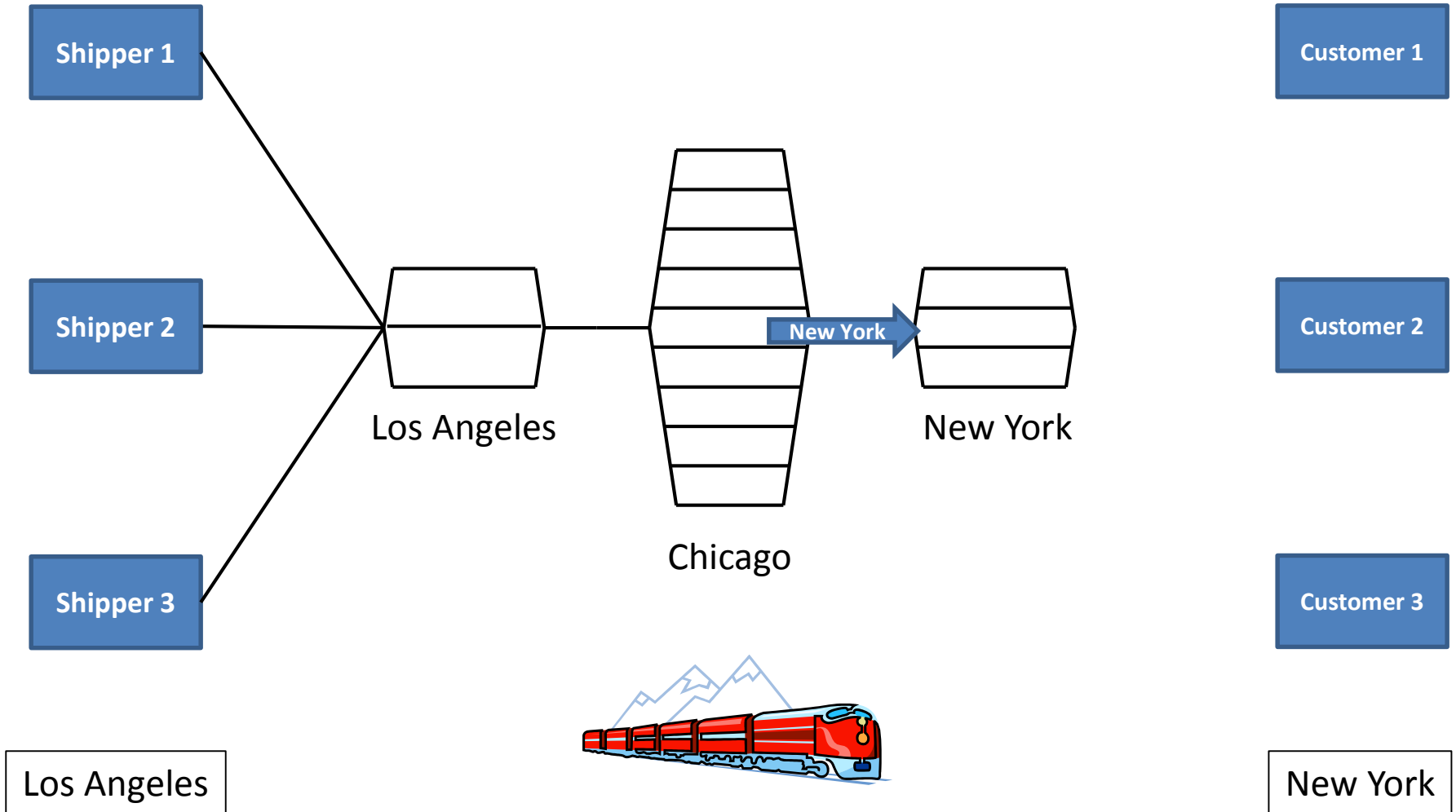


# Railroading 101

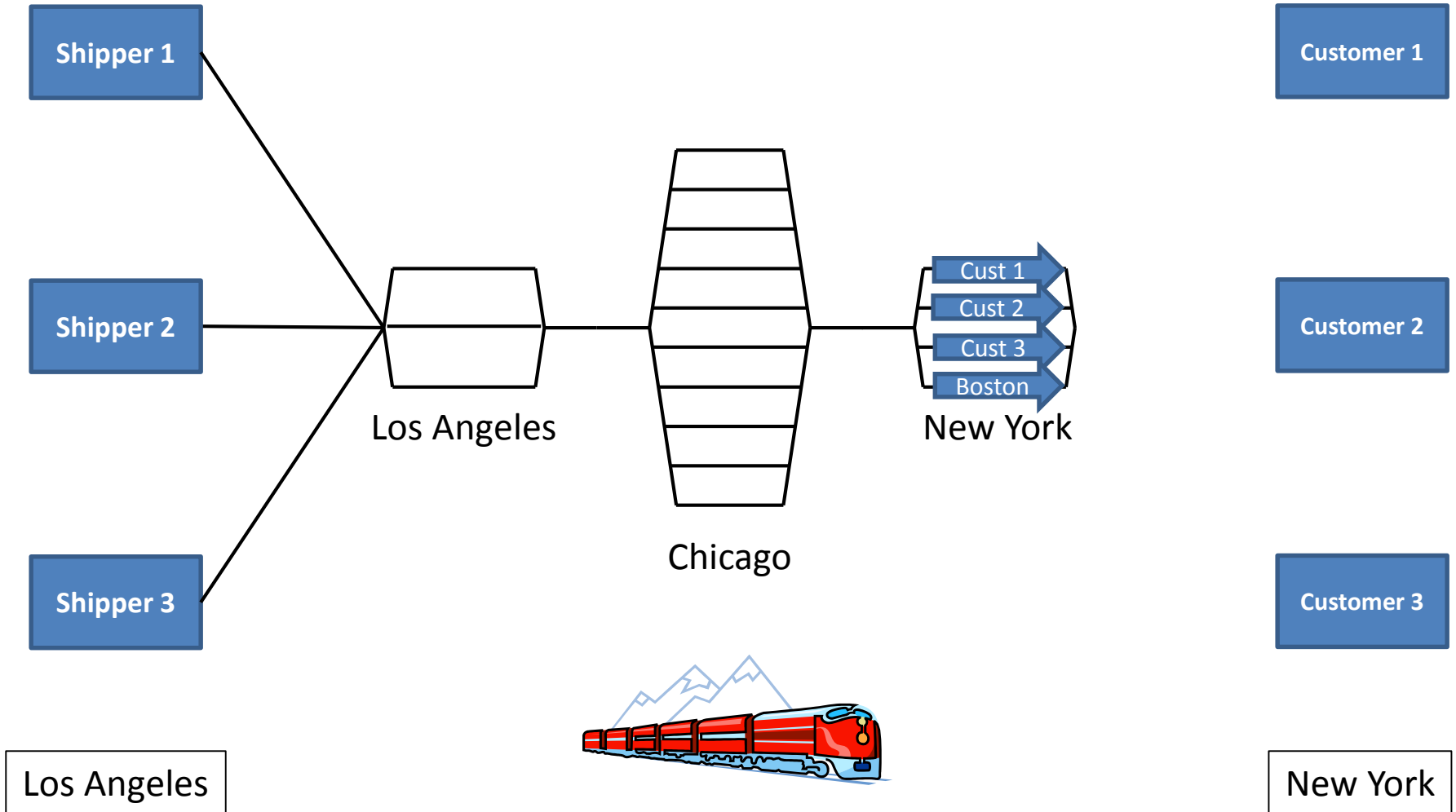




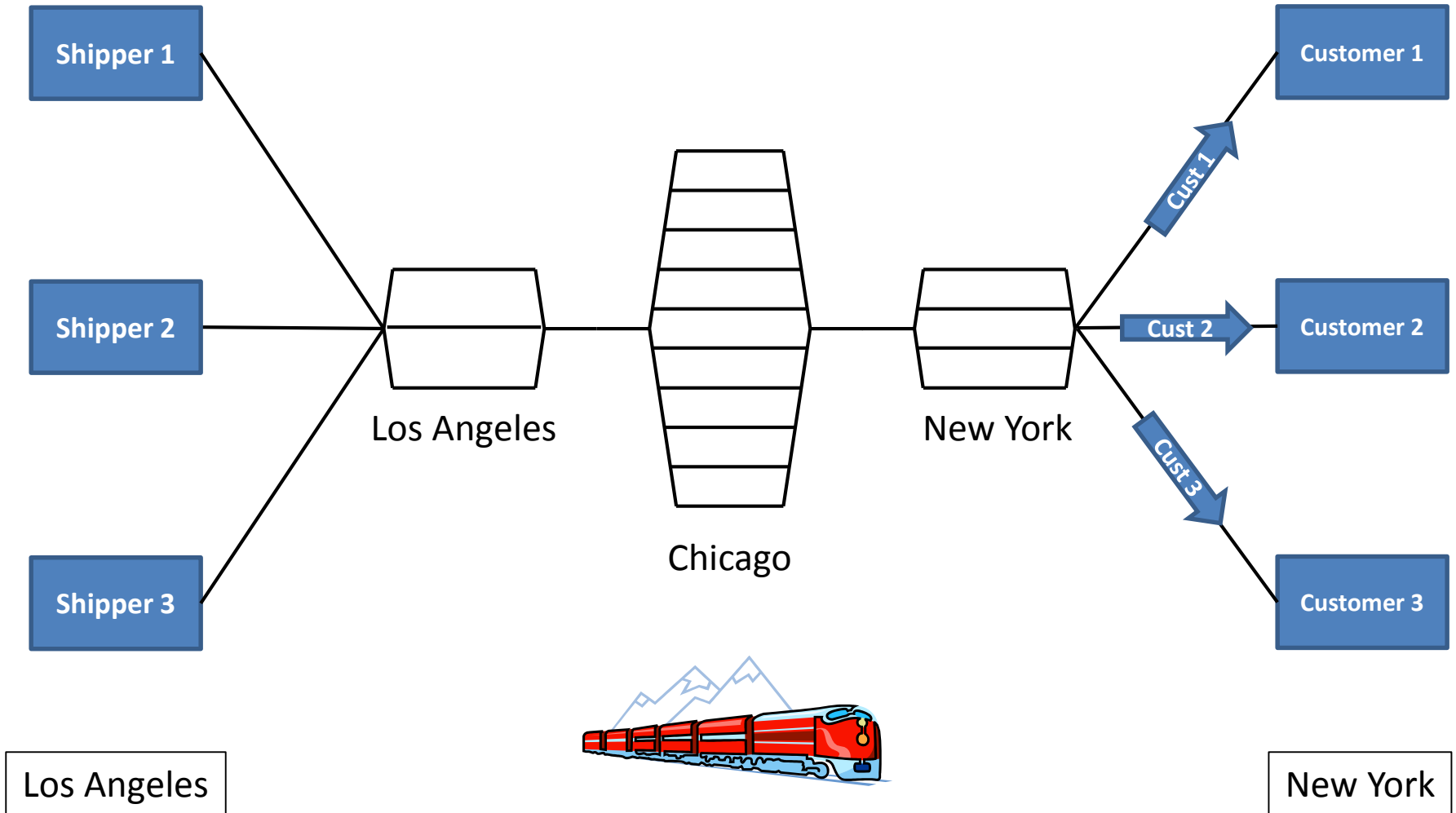
# Railroading 101



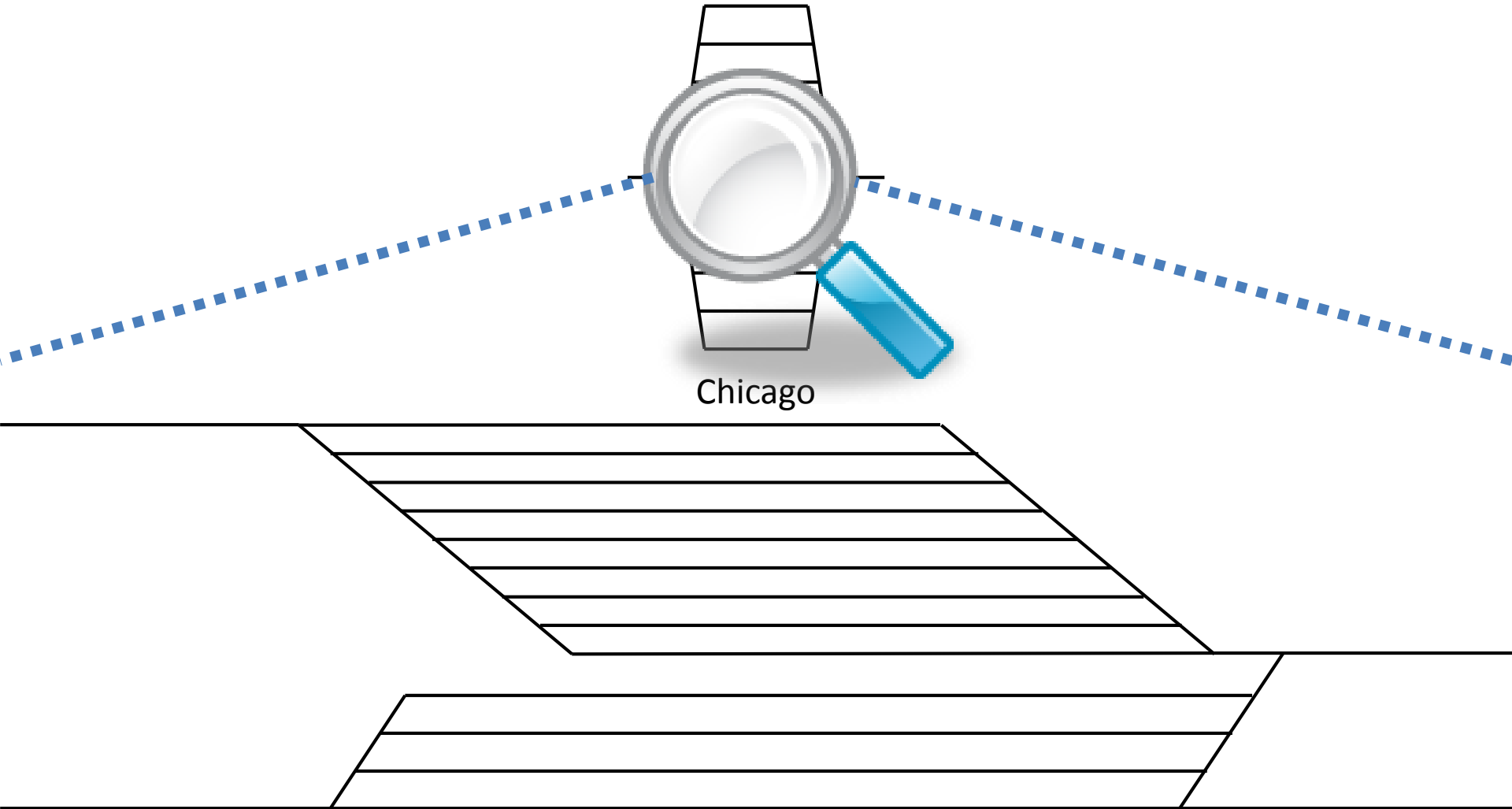
# Railroading 101



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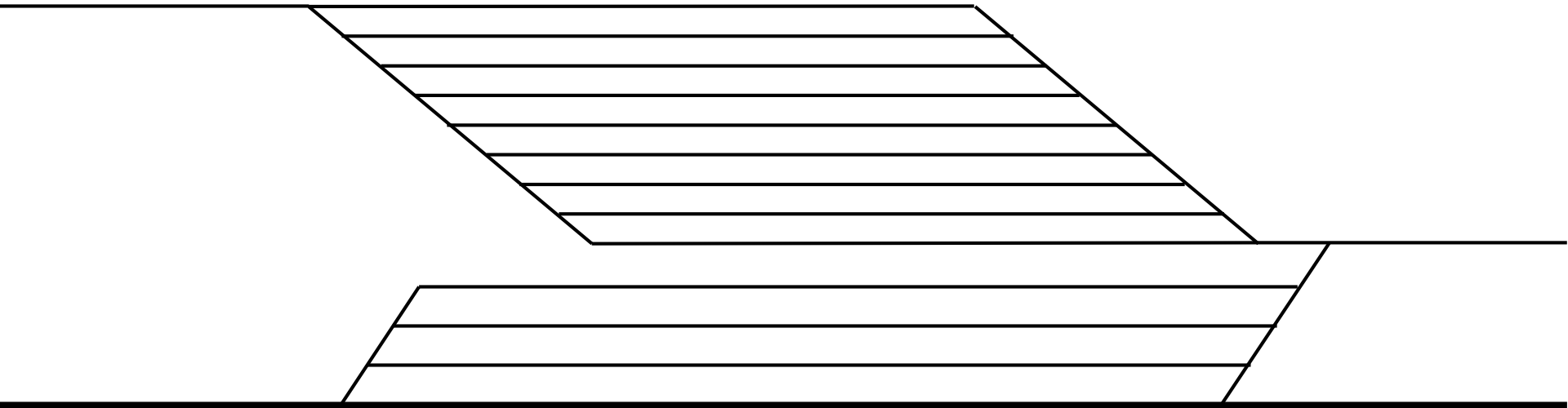


# Railroading 101

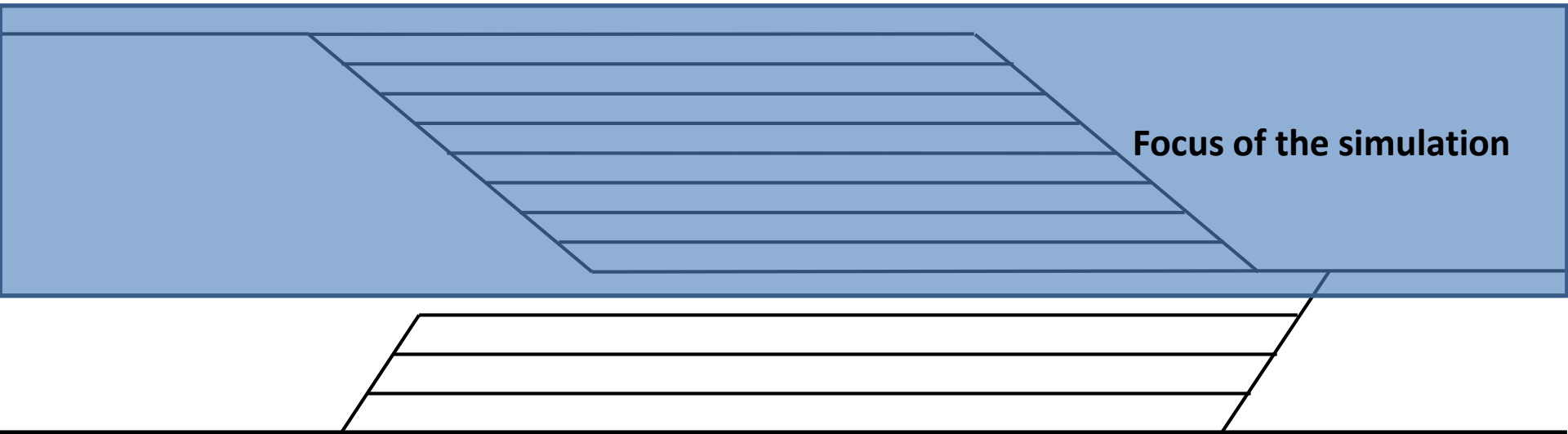


Chicago

# Description of the Simulation



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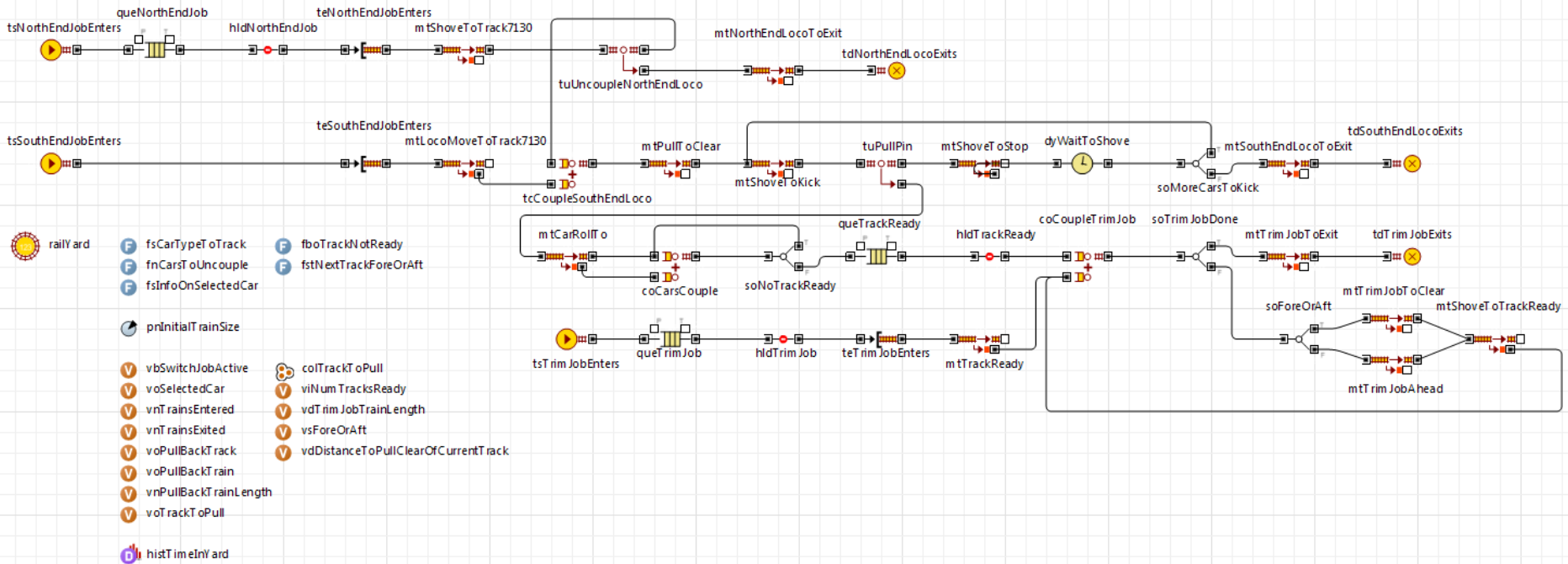
# Demo

- Cars enter from the lower right and are shoved to the track at upper center
- A switch engine enters from the upper left, couples to the cars, pulls them clear of the ladder and “kicks” them to the tracks
- When five or more cars are in a track, the switch engine returns from the lower right to pull the cars on the track to build a train
- If more than one track is ready to be pulled, the switch engine pulls one, then “doubles” to another

# Examination of Simulation Logic

## Simple Flat Classification Yard

[2D Animation](#) | [Logic](#) | [3D Animation](#)



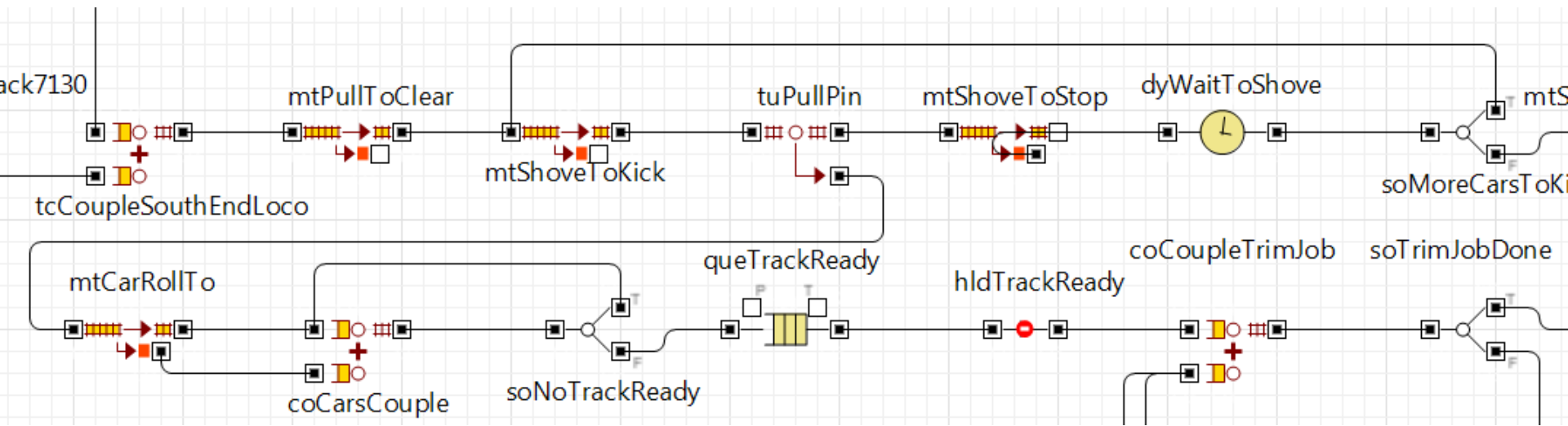


# Next Steps

- Improve the railcar shapes – done
- Improve depiction of track – done
- Create the ability to import track from GIS/CAD systems – under discussion
- Build higher level Rail Library objects

# Next Steps

## Create a High Level Object



Questions?