



North American Rail Shippers Association
www.railshippers.com



Rail Routing Protocols

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Shell Downstream, Inc.



"On Track For The Future"

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Downtown Chicago Marriott*

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How Routing Protocols could help...



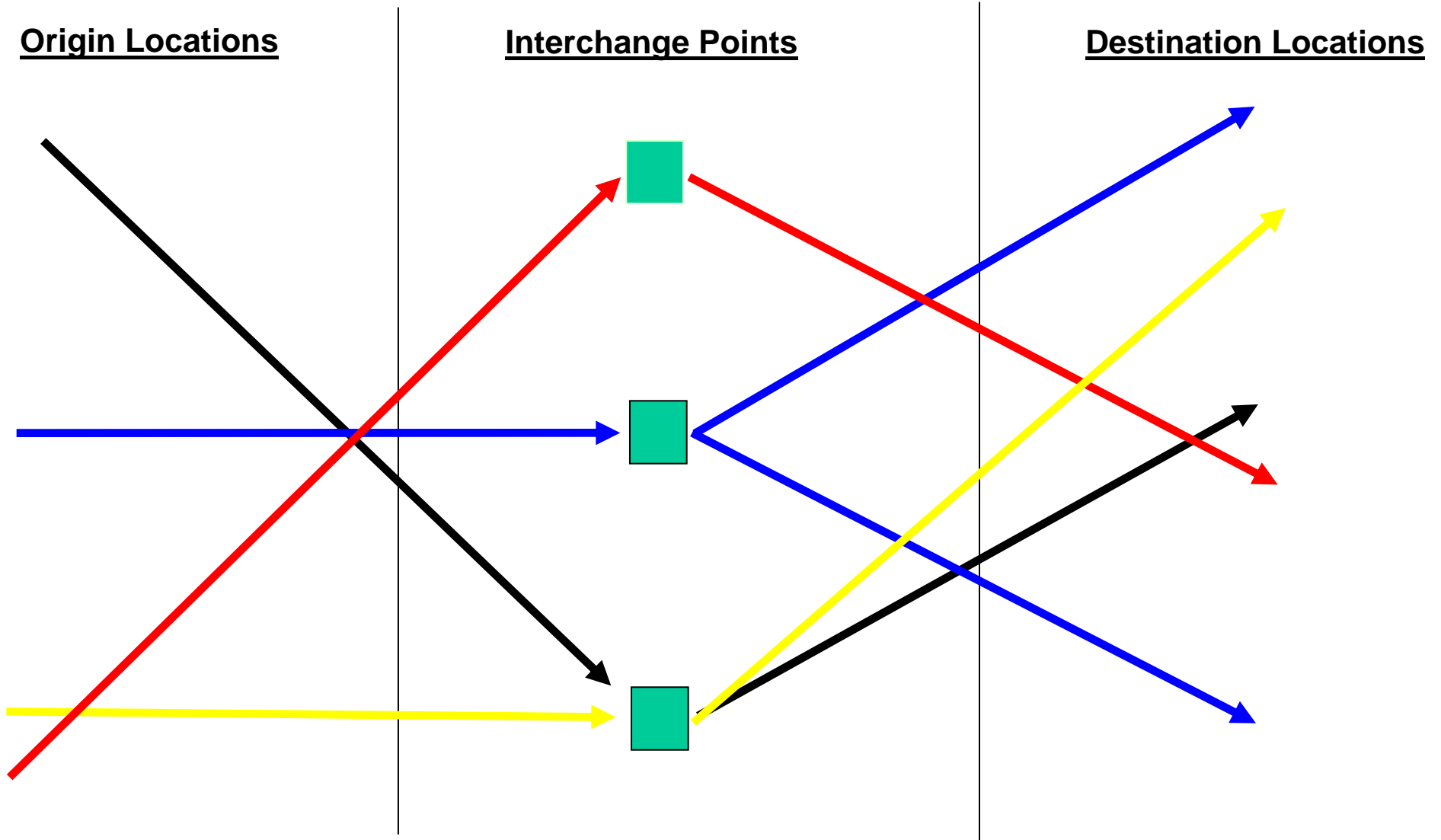
'Orlando to Atlanta, via Dallas and Tulsa with a layover in Nashville — there's no limit to what a man will put up with out of a pretty travel agent.'

Rail Routing Protocols

- **Before Routing Protocols**
- **After Routing Protocols**
- **Barometers of Rail Service Level Performance**
- **Private Fleet Performance**
- **Conclusion**



Before Routing Protocols



Before Routing Protocols

Operational

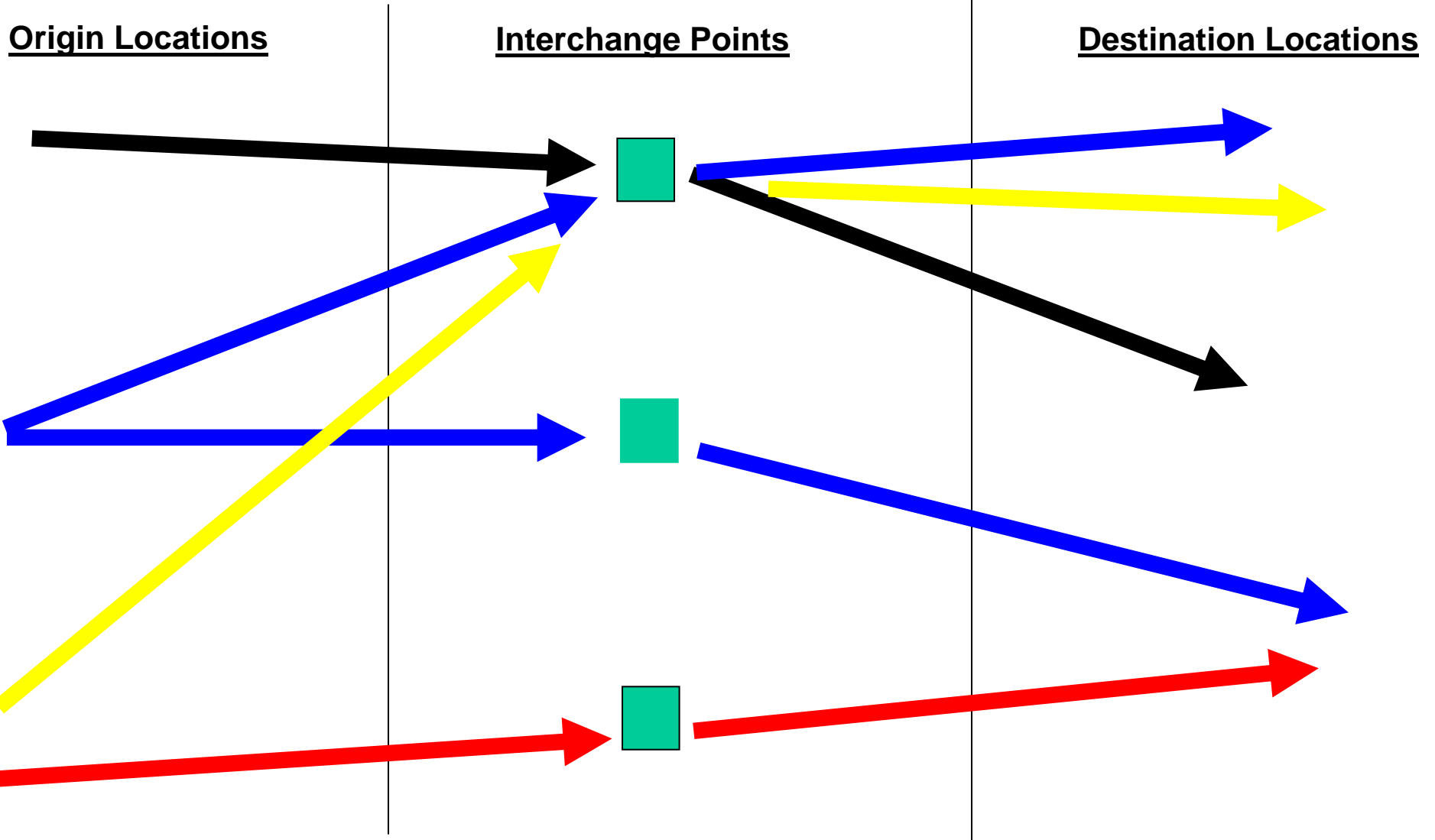
- Carriers incentivized to route on the longest haul
- Efficiencies were sub-optimized by each carrier
- No standardization for routes from one region to the another

Commercial

- Additional time required to obtain rate proposals



After Routing Protocols



After Routing Protocols

Operational

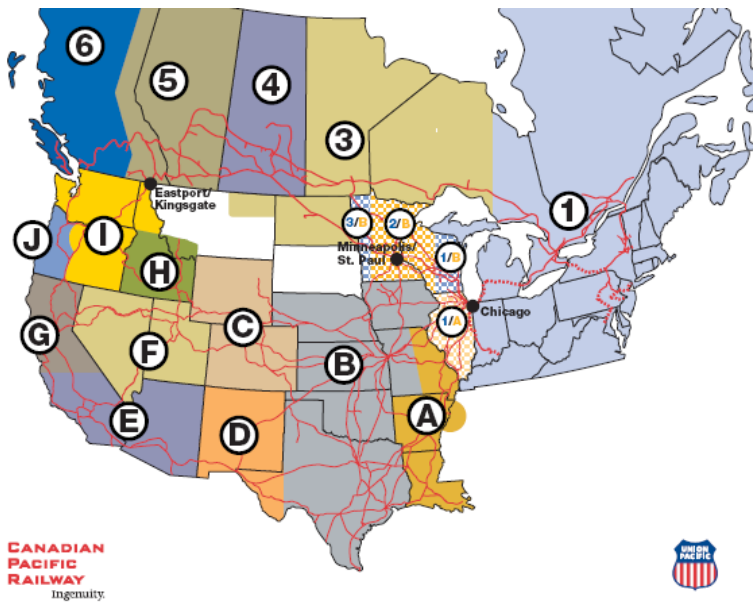
- Carriers incentivized to route on the most efficient route
- Efficiencies were optimized across the total route
- Standardized routings for traffic from one region to the another region

Commercial

- More expeditious response to rate requests
 - A + B pricing model



Example of Routing Protocol Guide from Union Pacific / Canadian Pacific



UP - CPR Junctions for Interline Pricing

CPR Regions	1	2	3	4	5	6
UP Regions						
A	Chicago	Chicago	Chicago	Chicago	Chicago	Chicago
B	Chicago	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul
C	Chicago	St. Paul	St. Paul	St. Paul	Eastport	Eastport
D	Chicago	St. Paul	St. Paul	St. Paul	Eastport	New Westminster
E	Chicago	St. Paul	St. Paul	Eastport	Eastport	New Westminster
F	Chicago	St. Paul	St. Paul	Eastport	Eastport	Eastport
G	Chicago	St. Paul	Eastport	Eastport	Eastport	New Westminster
H	Chicago	St. Paul	Eastport	Eastport	Eastport	Eastport
I	Chicago	Eastport	Eastport	Eastport	Eastport	Eastport
J	Chicago	Eastport	Eastport	Eastport	Eastport	New Westminster

March 2004

CANADIAN
PACIFIC
RAILWAY
Ingenuity.



Source: http://www.uprr.com/customers/shortline/interline_agree.shtml



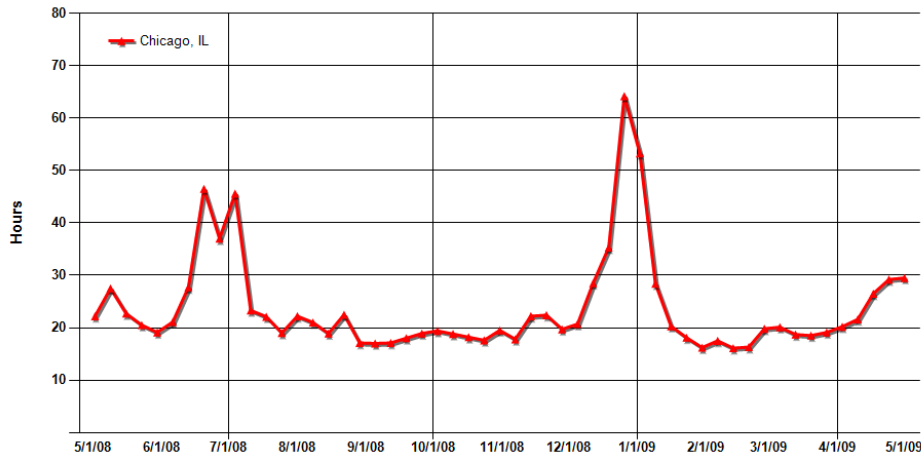
Barometers of Service Performance

- Rail Industry Data
- Shipper Route Performance Data
- Private Fleet Performance

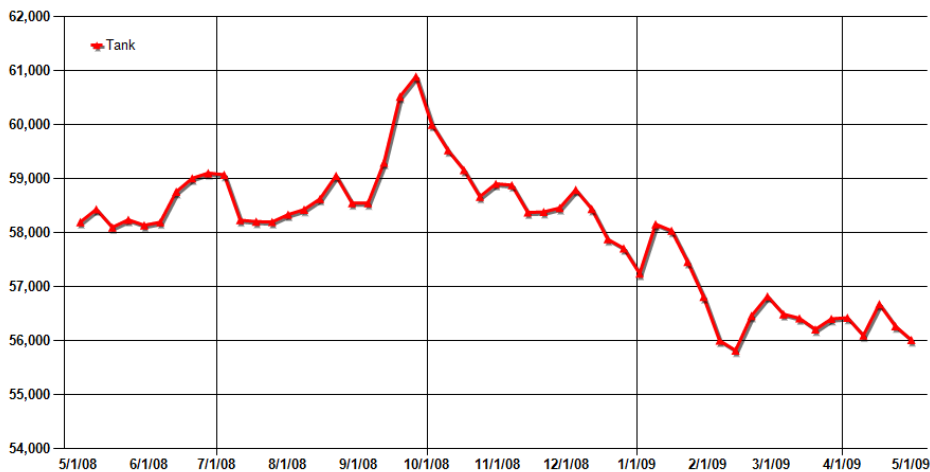


Rail Industry Service Data — (“vital signs” of the system)

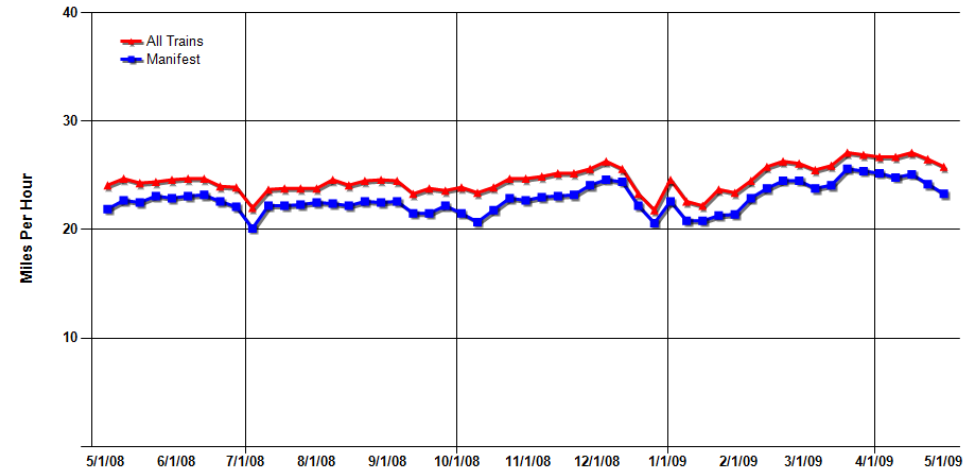
Terminal Dwell Time



Cars On Line



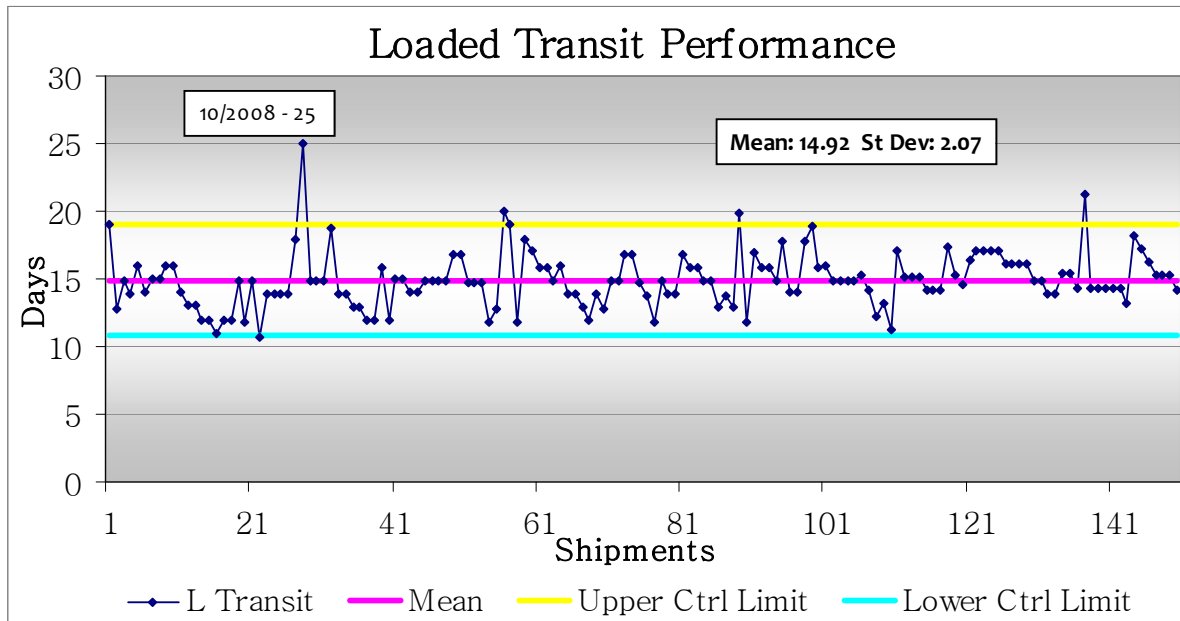
Train Speed



Source: AAR Website
<http://www.railroadpm.org/>



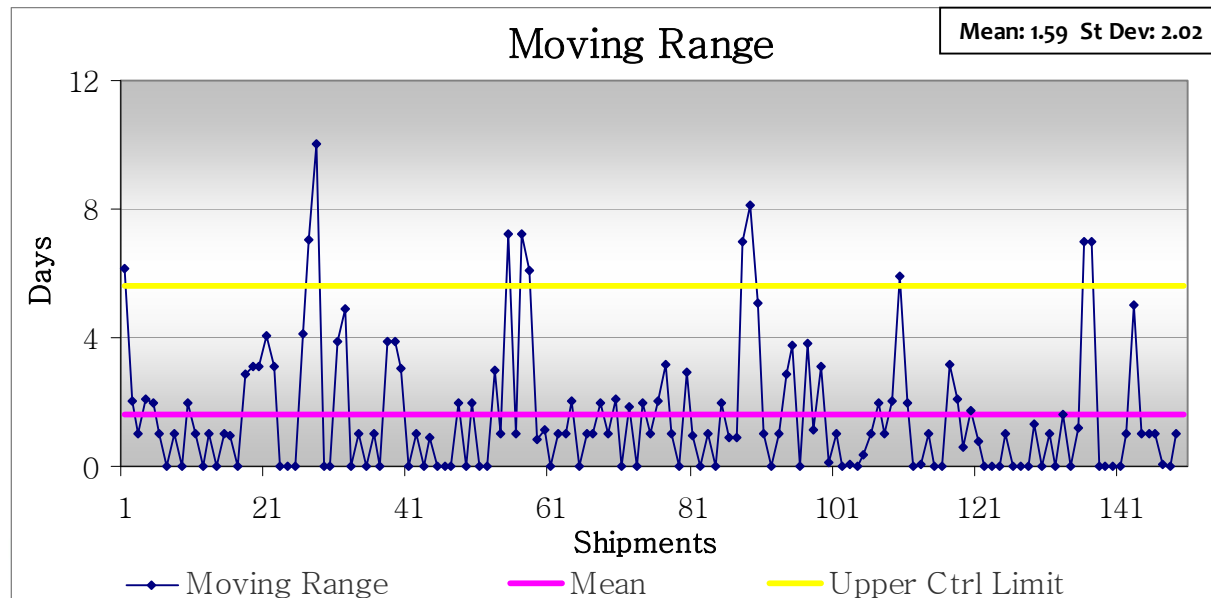
Shipper Route Performance



Statistical Process Control Charting

Actual transit performance over a period of time

Control limits = Mean +/- 2 standard deviations



Moving Range

Measures variability of transit from shipment to shipment

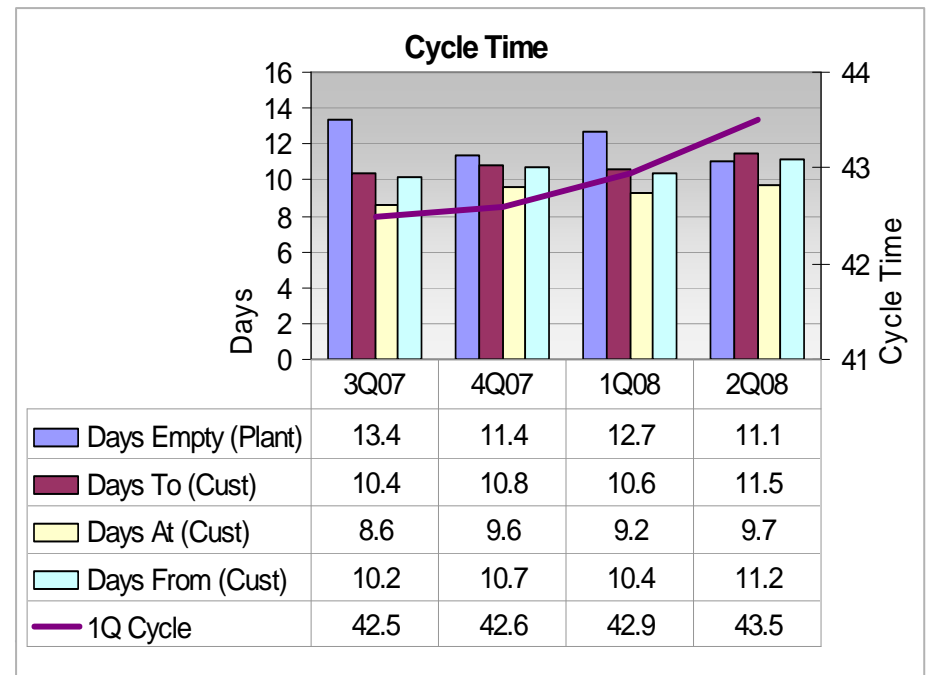
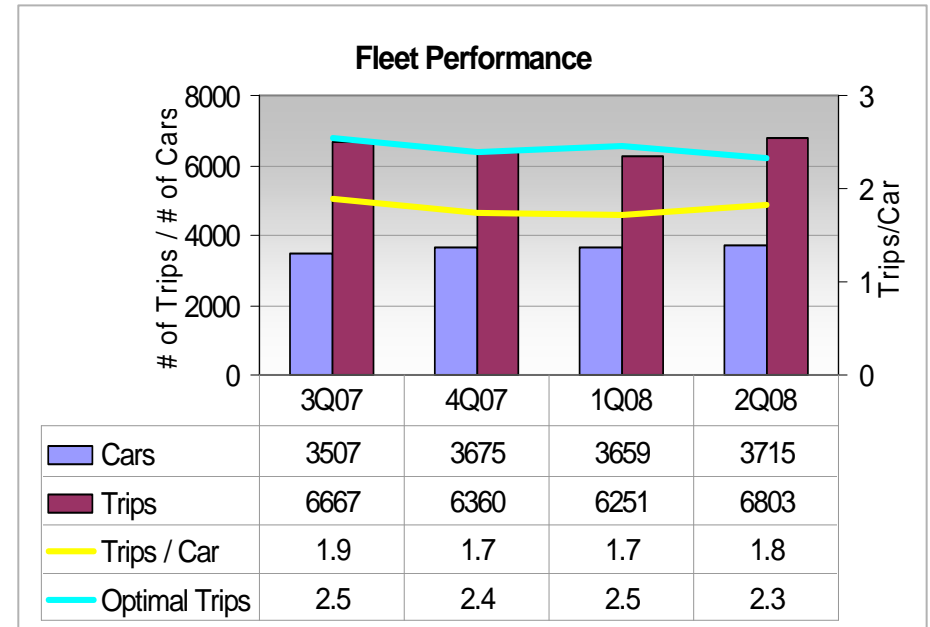
Mean of "0" would indicate no variability



Private Fleet Performance

- Fleet performance is best measured over a period of time (to minimize impact of seasonality, etc)
- Utilization is impacted by a number of factors:
 - Transit time (loaded/empty)
 - Timeliness/efficiency of interchanges
 - Transit variability
 - Customer hold time
- Variability causes unknowns for supply chains
 - Additional cars in the fleet
 - Higher inventory safety stocks

Downstream-One



Conclusion

The Routing Protocol model has many benefits:

- A+B pricing allows for faster response to rate requests
- Routing protocols provide efficiencies across the total route (e.g. additional capacity)
- Several KPIs can be used to gauge the performance of a route
- Routing protocols are one of many initiatives which can drive performance improvements in rail transit and variability
- More consistent rail transit can lead to improved rail car utilization



Thank You!

Joe Kelly
May 27, 2009

