Perkins Specialized Transportation Contracting
Agenda for Presentation

- Various Transportation Equipment Solutions,
- Considerations for Planning Super Load Shipments,
- Case Studies,
- Difficulties in permitting and movement of oversize and overweight cargo on public infrastructure
Common Types of Trailers

- Flatbeds,
- Single Drop,
- Double Drop,
- Stretch Trailers.
Custom Solutions

Perimeter Frame Trailers
Custom Solutions

Suspension Beam Trailers
Custom Solutions

Platform & Deck Trailers
Custom Solutions

Schnabel Trailers
Planning - Data Collection

- Accurate information from the customer:
  - Detailed drawings and cargo information
    - Projections
    - Support points
    - Cargo center of gravity
  - Estimated time of shipping
  - Delivery Expectations
  - Lead Time
Planning – Data Collection

• Complete and accurate information from the customer leads to:
  – Identifying a corridor
  – Selecting the right transport system
    • Minimizing the proper loaded dimensions
    • Weight mitigation (driven by corridor)
    • Cargo mass distribution
Planning – Equipment Selection

- Factors in selecting the right transport system:
  - How must the cargo be supported while in transit,
  - Minimizing the loaded height dimensions,
  - Height is time consuming and costly,
  - Wider is better than higher,
  - Weight management.
Planning – Corridor Selection

• Where is the cargo moving from and going to?
  – Different regions of the country will influence the transportation method and selection of equipment.
    • Vertical clearances,
    • Weight restrictions,
    • Procurement time for permits,
    • State acceptance of transport solutions.
Max Tandem Weights (USA)

*Weights Taken From SC&RA

Depending on axle spacing/width, different weights may be allowed see EPM for correct information

No given weights
Max Tandem Weights (CDN)

- **NT**: 17,640 kg (38,889 lbs)
- **AB+**: 21,000 kg (46,297 lbs)
- **QC***: 21,480 kg (47,355 lbs)
- **ON**: 22,700 kg (50,044 lbs)
- **MB**: 23,000 kg (50,706 lbs)
- **SK**: 24,948 kg (55,000 lbs)
- **YJ#**: 24,948 kg (55,000 lbs)
- **NL**: 24,948 kg (55,000 lbs)
- **NB**: 21,000 kg (46,297 lbs)
- **NS**: 21,000 kg (46,297 lbs)
- **PEI**: Unknown

- **Max Tandem Weights (CDN)**
  - **+ Summer weight, see EPM for seasonal increases/decreases**
  - **# Assumes spread of 1.6m; longer spreads will allow more weight**
  - *** Assumes 11” tires; thicker tires will allow more weight**

<table>
<thead>
<tr>
<th>Color</th>
<th>Weight Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>17,640 kg (38,889 lbs)</td>
</tr>
<tr>
<td>Red</td>
<td>21,000 kg (46,297 lbs)</td>
</tr>
<tr>
<td>Green</td>
<td>22,700 kg (50,044 lbs)</td>
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<tr>
<td>Orange</td>
<td>21,480 kg (47,355 lbs)</td>
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<tr>
<td>Yellow</td>
<td>24,948 kg (55,000 lbs)</td>
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<tr>
<td>Gray</td>
<td>23,000 kg (50,706 lbs)</td>
</tr>
<tr>
<td>Purple</td>
<td>Based on Bridge Formula</td>
</tr>
<tr>
<td>Black</td>
<td>26,308 kg (58,000 lbs)</td>
</tr>
<tr>
<td>White</td>
<td>Unknown</td>
</tr>
</tbody>
</table>
Max Tridem Weights (USA)

- Depending on axle spacing/width, different weights may be allowed.
- Weights taken from SC&RA.
- Subject to axle spacing & tire size.
- PSTC has been granted additional weight in the past.

Legend:
- 50,000 lbs.
- 51,450 lbs.
- 52,000 lbs.
- 53,000 lbs.
- 53,500 lbs.
- 57,000 lbs.
- 58,800 lbs.
- 60,000 lbs.
- 61,750 lbs.
- 63,000 lbs.
- 65,000 lbs.
- 66,000 lbs.
- 67,200 lbs.
- 67,500 lbs.
- 65,340 lbs.
- 70,000 lbs.
- 75,000 lbs.
- No given weights.
Max Tridem Weights (CDN)

Based on bridge formula

- 26,400 kg (58,334 lbs)
- 27,000 kg (59,524 lbs)
- 27,600 kg (60,848 lbs)
- 28,000 kg (61,729 lbs)
- 29,500 kg (65,036 lbs)

- 29,937 kg (66,000 lbs)
- 33,565 kg (74,000 lbs)
- 34,000 kg (74,957 lbs)

- 9 kgs/mm of tire width

+ Assumes 3m spread; longer spread will increase allowed weight

Unknown

Canada
Planning – Engineering

- Cargo support constraints,
- Center of Gravity,
- Nozzles, ladder clips, crating & coatings,
- Weight Distribution,
- Compliance with weight limitations within corridor.
Permit Application – Elevation

"PSTC push tractor shown"
Permit Application – Plan View

“PSTC dual-lane loading system”
Section View

“note difficult CG location”
Predictive Engineering – “what it will look like”
Engineering - Output
Planning – What do we know?

- Cargo details,
- Time period for execution,
- Origin & destination,
- Transport System,
- Corridor,
- Vehicle - planned weights & dimensions.
Planning The Move
Planning – Permit Processing

• Formal permit submissions,
  – Every state has a different process & duration.
• Construction, Seasonal & dimensional restrictions,
• Route Surveys,
• Neighboring States - Entry & Exit points,
• Utility notification requirements,
• Patrol & commercial vehicle inspections / scheduling,
• The permit process has an average life cycle of about three (3) months in most multi-state corridors.
Execution – Utility Coordination
Execution – Route Surveys
Execution – Height Related Challenges
Execution – Length Related Challenges
Execution – Length, Height Related Challenges
Execution – Trained Professionals
Execution - Ancillary Support

• Ancillary support:
  – Police: state, city, county,
  – Utility companies: telephone, cable & power companies,
  – Municipal: cities & county infrastructure,
  – Traffic Control,
  – Third party engineering.

All of these entities are unpredictable and add to the transportation cost as well as schedule.
Ancillary Support

• Limited BMP’s / guidelines for constraining resource allocation & costs,
• There is no oversight for the entities providing support,
• Utility identification & customer support,
• Helping our industry manage these requirements will not only help our customers control costs; it will also help make the move less obtrusive to the motoring public.
Ancillary Support Costs
Project Overview - Transformer

• 200 hours engineering support
• 400 hours project pre-planning
• 140 hours field surveys
• 180 hours equipment ready and assembly
• 10 hours night time travel to loading location (24 miles) 2 county permits, 2 city permits, 1 state permit, 2 bridges evaluated by 3rd party engineering firm
Project Overview - Transformer

• 10 man crew for loaded travel
• Loaded travel 43 miles
• 4 state patrol escorts
• 3 utility companies
• 1 state permit, 1 city permit and 1 permit for moving infrastructure
  – 1 Guard rail, 6 street and directional signs and 1 power pole relocation
Difficulties in Oversize / Overweight Transportation

• Lack of uniform rules and regulations between states.
• Barrier states – corridor moves / allowable weights / dimensional restrictions
• Matching entrance exit routes at state lines
• Permit restrictions – pilot cars, curfews and traffic control
• Hours of travel – night moves
• Utility Coordination & Constraints
Questions?

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...when execution matters most