Passenger and Transit Rail Vehicles: The U.S. Supply Chain

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Good Jobs/Green Jobs
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Pent-up demand

- Over $248 billion in new fixed guideway projects

Based on data from Reconnecting America
...after decades of little or no investment

- Amtrak needs $11 b. in new rolling stock 2010-2033

Based on data from Amtrak
Who has the largest rail equipment market?

- **Total market:** $159 billion
- **“Accessible”:** $111 billion
- **Rolling stock:** $48 billion
- **Rolling stock for passenger & urban rail:** $19 billion (estimate)

Based on data from Roland Berger/UNIFE
Our focus: 6 rail types

<table>
<thead>
<tr>
<th>Regional</th>
<th>Intercity</th>
<th>High-Speed Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger rail:</td>
<td><img src="image1" alt="Regional Train" /></td>
<td><img src="image2" alt="Intercity Train" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transit rail:</th>
<th>Metro</th>
<th>Light rail</th>
<th>Streetcar</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="Metro Train" /></td>
<td><img src="image5" alt="Light Rail Train" /></td>
<td><img src="image6" alt="Streetcar Train" /></td>
<td></td>
</tr>
</tbody>
</table>
### Who are the U.S. players?

<table>
<thead>
<tr>
<th>Railcar firms</th>
<th>Locomotive firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alstom</td>
<td>Alstom</td>
</tr>
<tr>
<td>AnsaldoBreda</td>
<td>Kawasaki</td>
</tr>
<tr>
<td>Bombardier</td>
<td>Bombardier</td>
</tr>
<tr>
<td>Nippon Sharyo</td>
<td>Electro-Motive Diesel (EMD)</td>
</tr>
<tr>
<td>Brookville</td>
<td>Siemens</td>
</tr>
<tr>
<td>CAF</td>
<td>General Electric (GE)</td>
</tr>
<tr>
<td>Gomaco</td>
<td>US Railcar</td>
</tr>
<tr>
<td>Hyundai Rotem</td>
<td>National Railway Equipment</td>
</tr>
<tr>
<td></td>
<td>Motive Power (Wabtec)</td>
</tr>
</tbody>
</table>
Who else is in the supply chain?

Passenger & transit rail:
- 13 railcar firms
- 6 locomotive firms

Including freight:
- 150 – 200 firms

Including freight:
- > 300 firms
**Tier 2**

**Propulsion systems**
- Truck
  - Suspension (2)
  - Wheel set (13)
  - Brake system (10)
- Engine (6)
- Fuel system (4)
- Traction motor (11)
- Electric generator (5)

**Electronic systems**
- Auxiliary power units (3)
- Electric collector (2)
- Security system (6)
- Driving control systems (11)
- Communication system (9)

**Body & Interior**
- Hatch covers (5)
- Coupler (10)
- Body (9)
- Bathroom (2)
- Horn, bells (3)
- Seating (8)
- Door system (9)
- Windows (2)
- HVAC (9)

**Related manufacturing**

**Related rail equipment**
- Signaling/ info. Systems (23)
- Rail track (24)
- Tie (4)

**Tier 1**

**Passenger & transit railcar OEMs**
- Railcar firms (13)
- Locomotive firms (6)

**Repair, maintenance, refurbishing**
- Most OEMs and transit agencies
- Small/ medium-sized companies

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30 firms that pledged to expand U.S. manufacturing if they received HSR grants
More to come, in early June 2010
Thank you for your attention!

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