

# **2004 AAR CAR REPAIR BILLING WHEEL REMOVAL ANALYSIS**

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# **RWMEC**

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**Who we are**

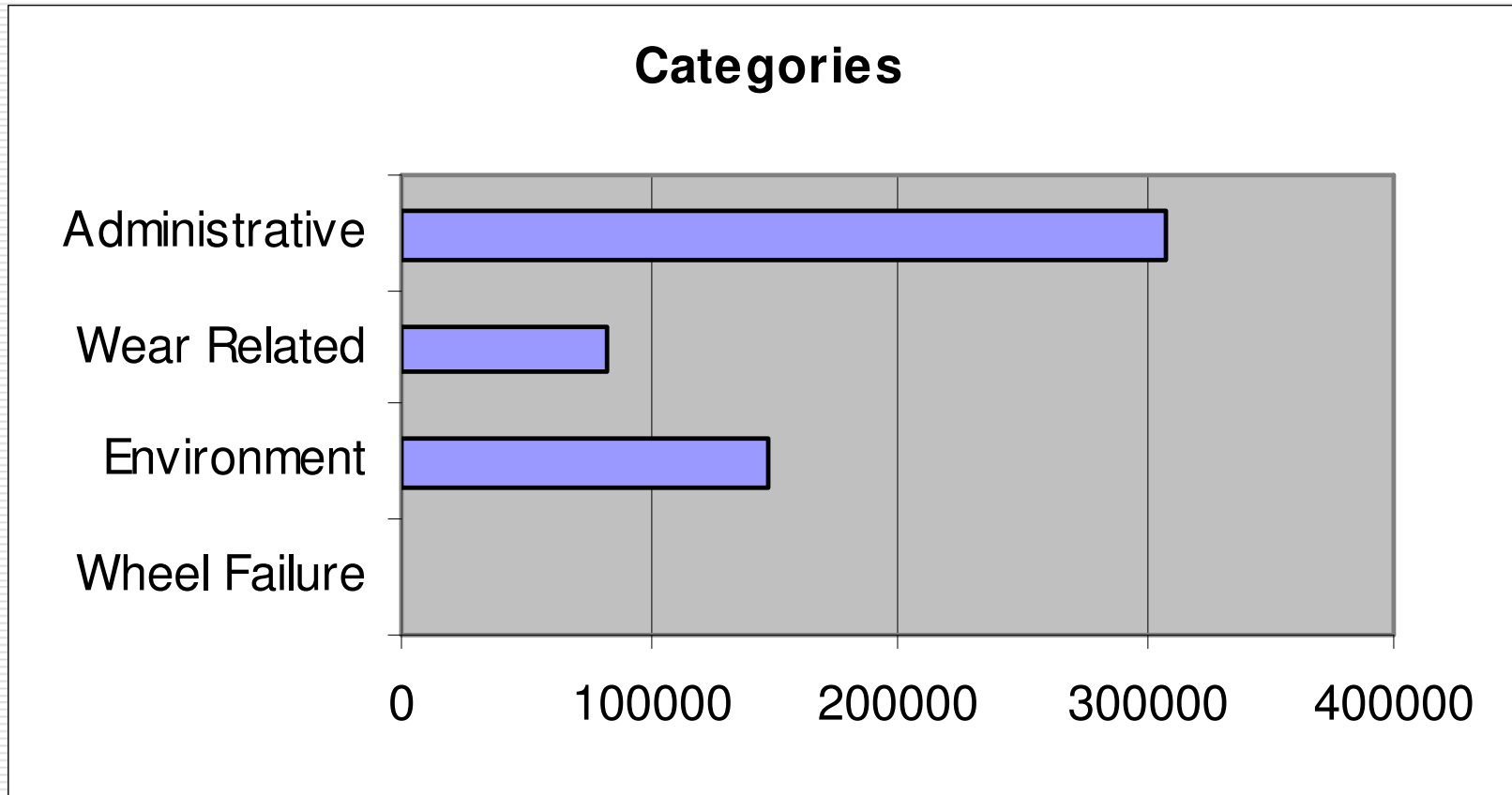
**Approved AAR Wheel Manufacturers**

**Mission - Support the WABL  
Committee  
and the Railroad Industry**

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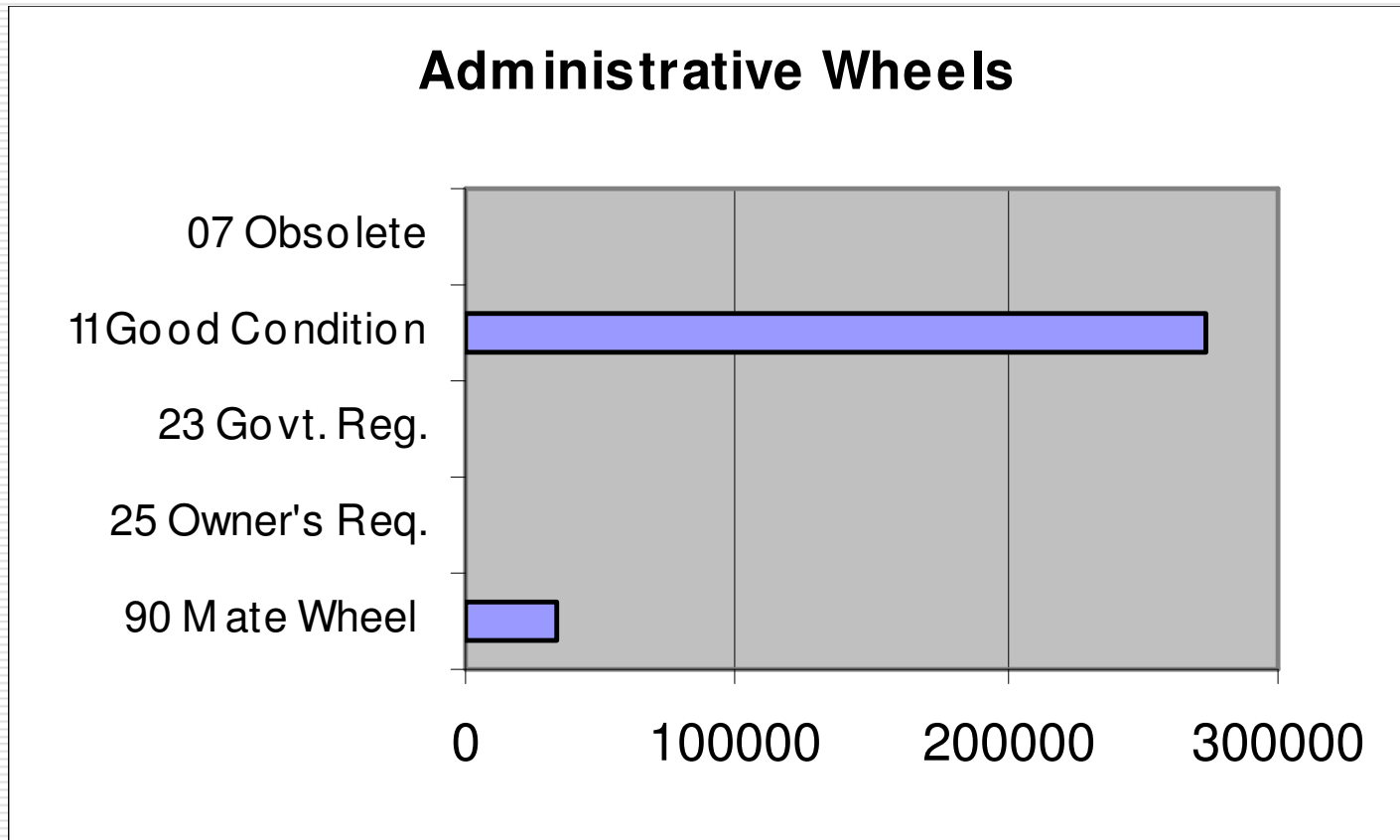
# WHEEL REMOVAL CATEGORIES

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# Administrative

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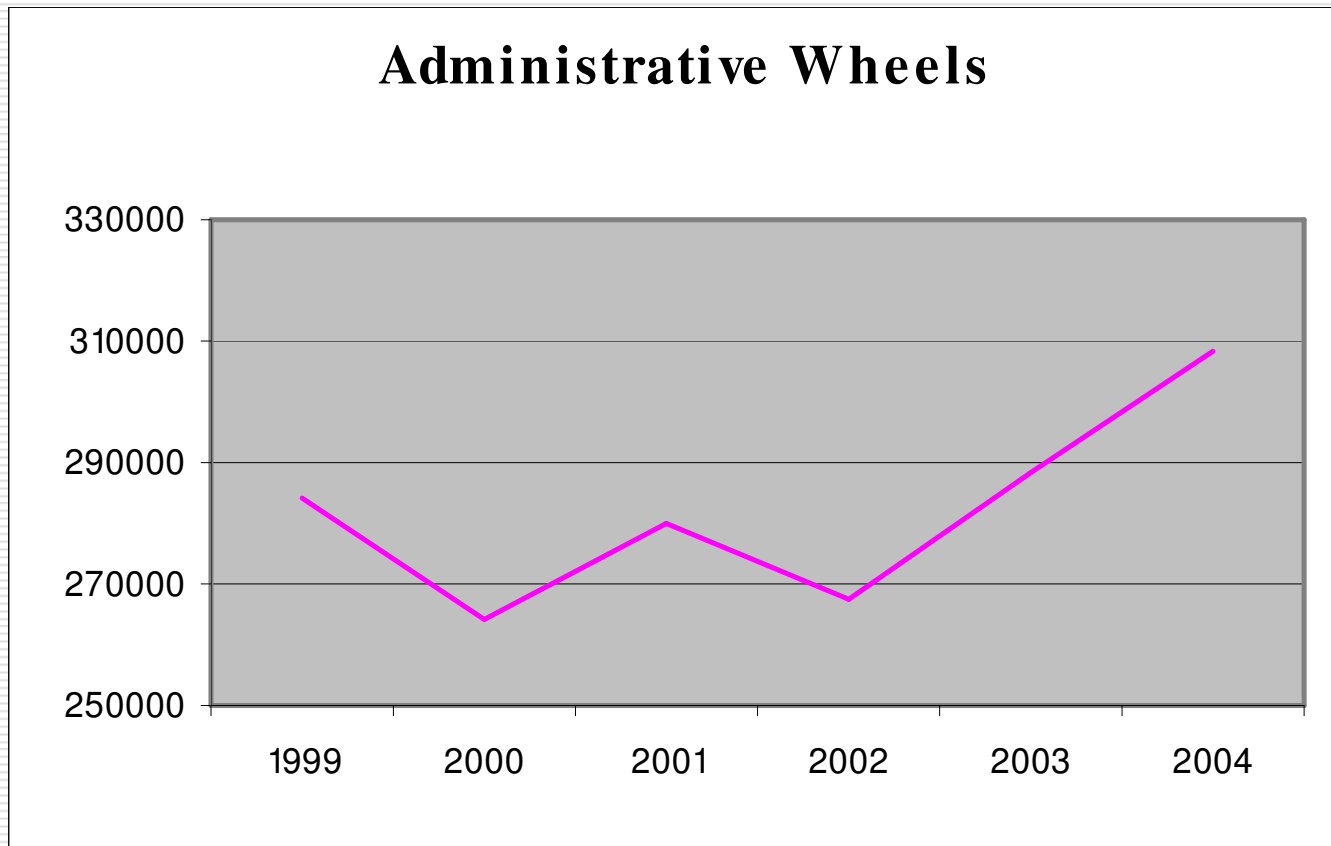
# Unusual Trends

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- Why Made Code 11 Removals have increased 75,000 during the past three years.**
  - Why Made Code 90 removals have decreased 55,000 during the past five years.**
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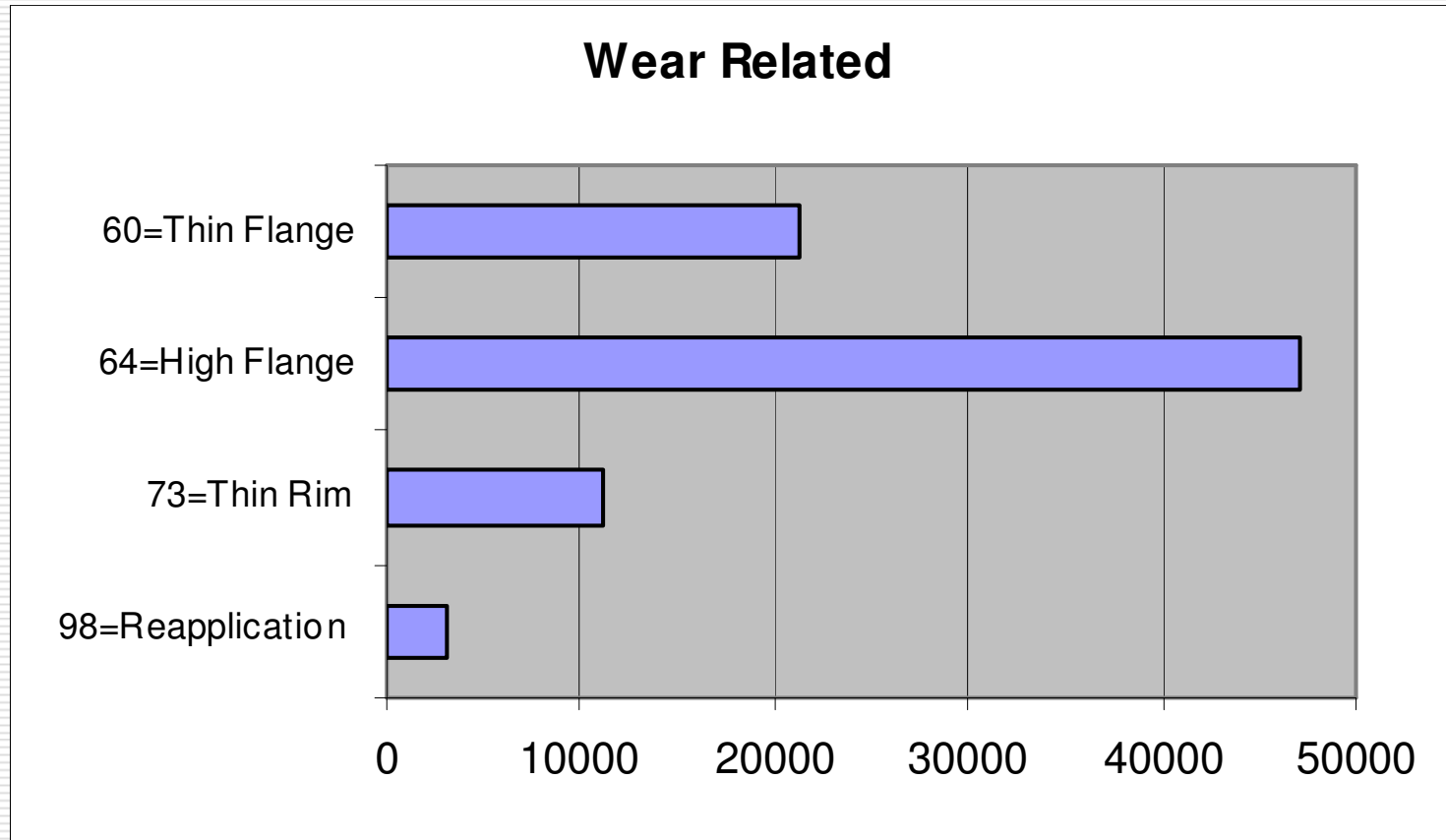
# 6 Year Trend – Administrative Wheels

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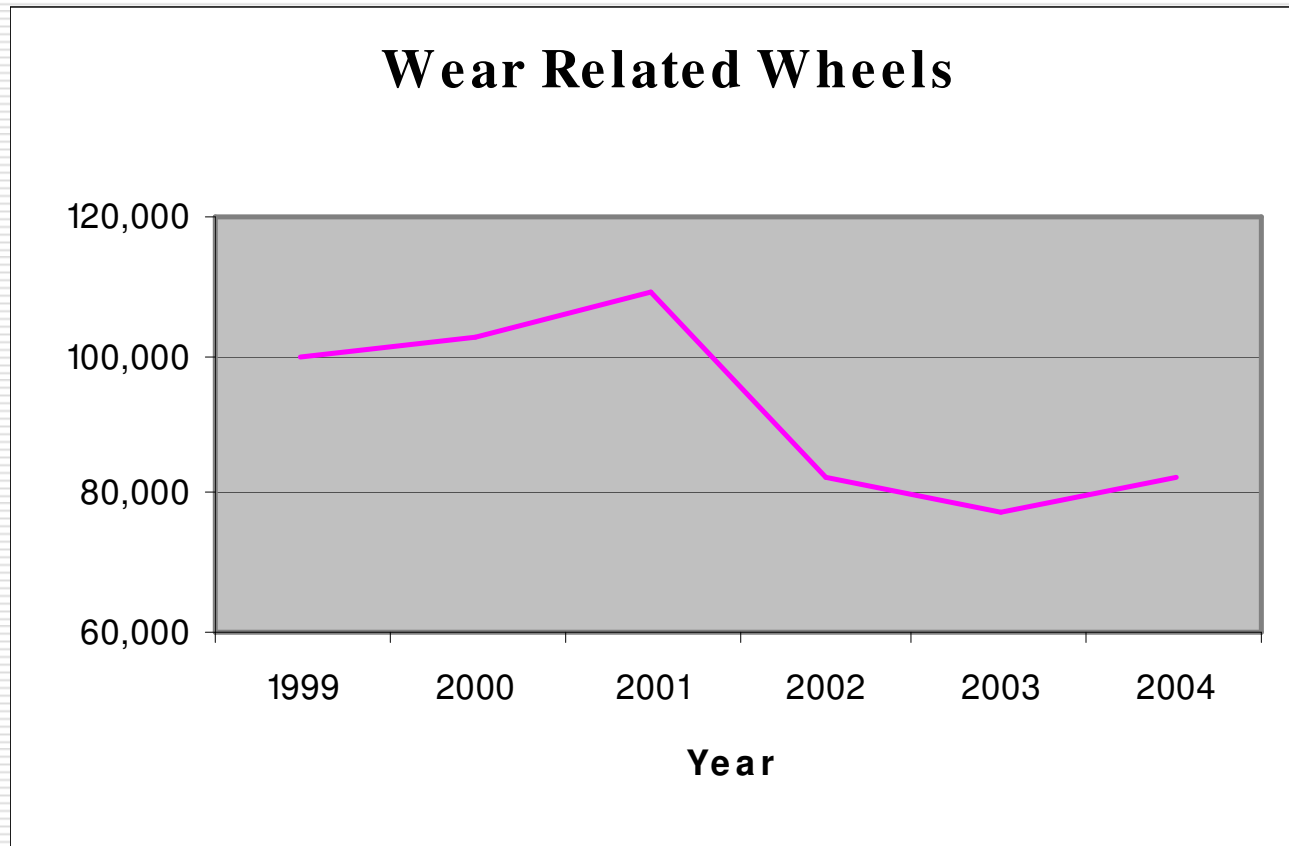
# Wear Related

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# 6 Year Trend – Wear Related Wheels

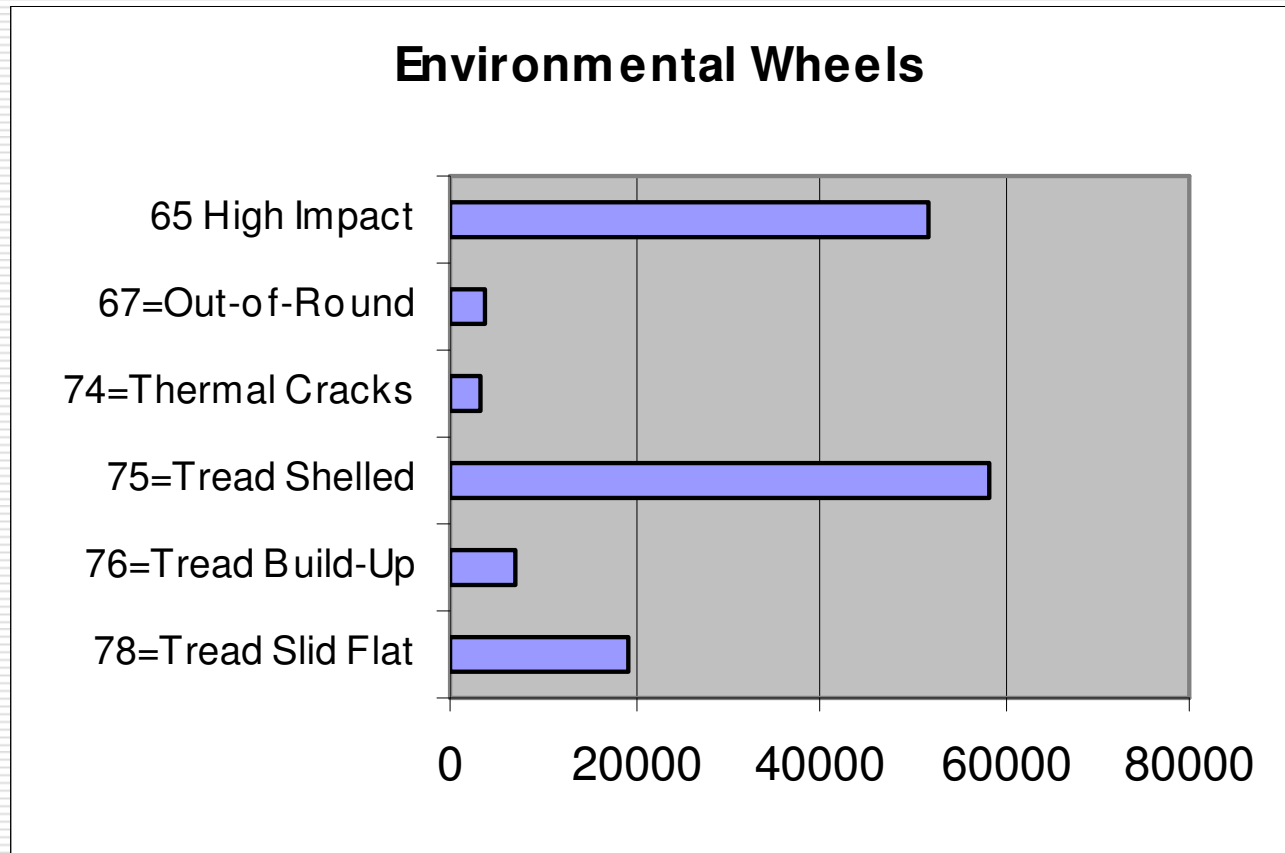
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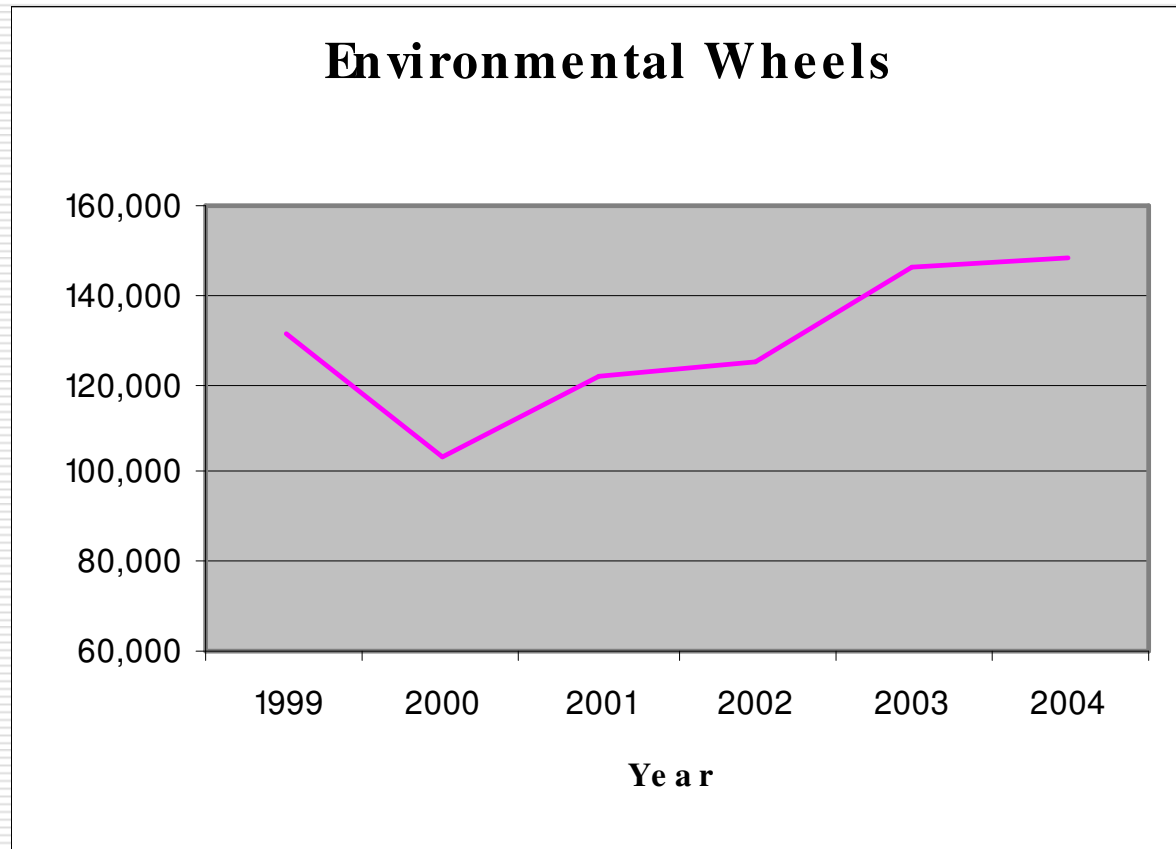
# Environmental

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# 6 Year Trend- Environmental Wheels

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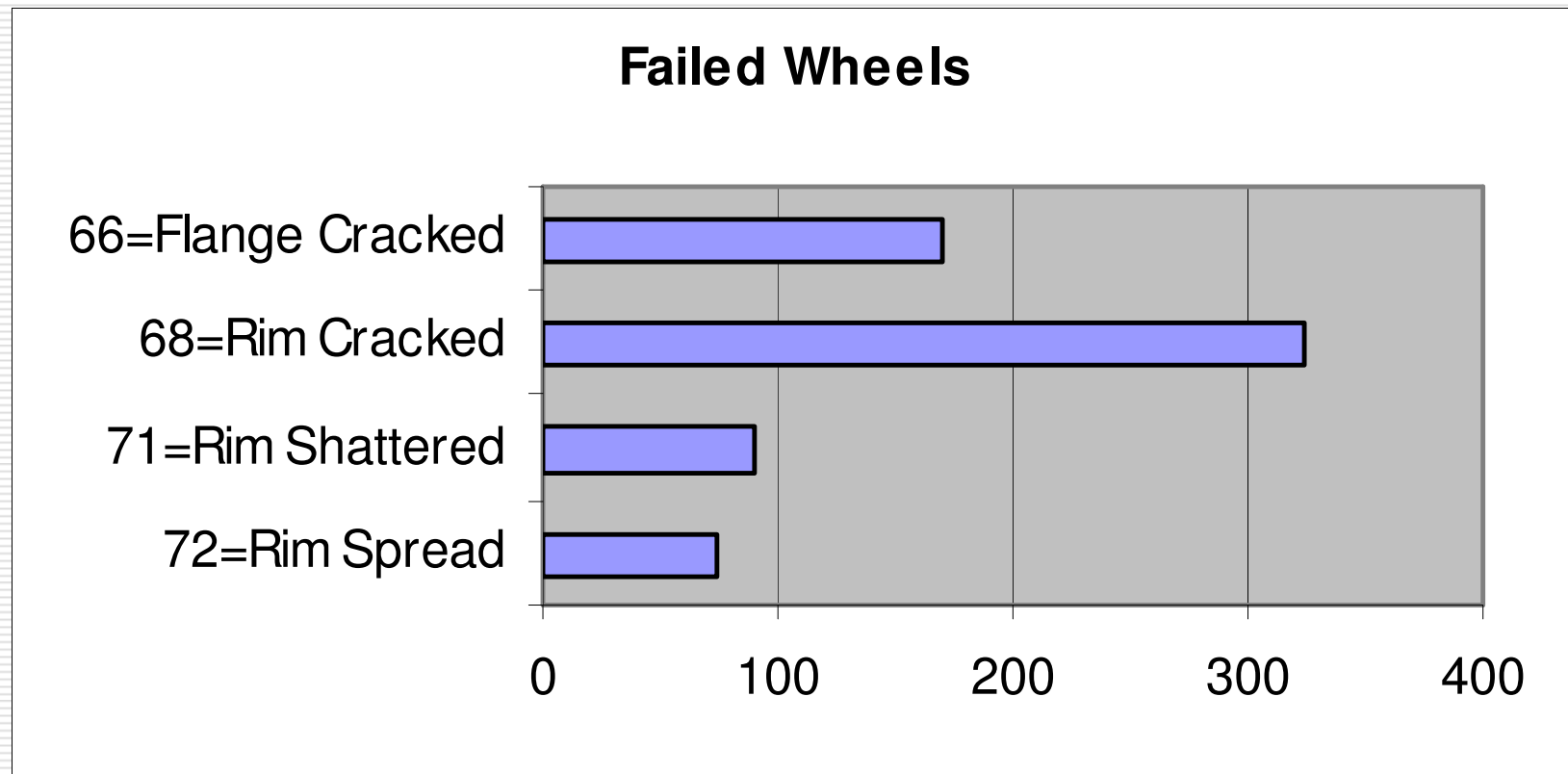
# Cause for Removal

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- 3 Most Frequent Cause for Removal of Environmental Wheels
    - Shelled
    - High Impact
    - Slid Flat
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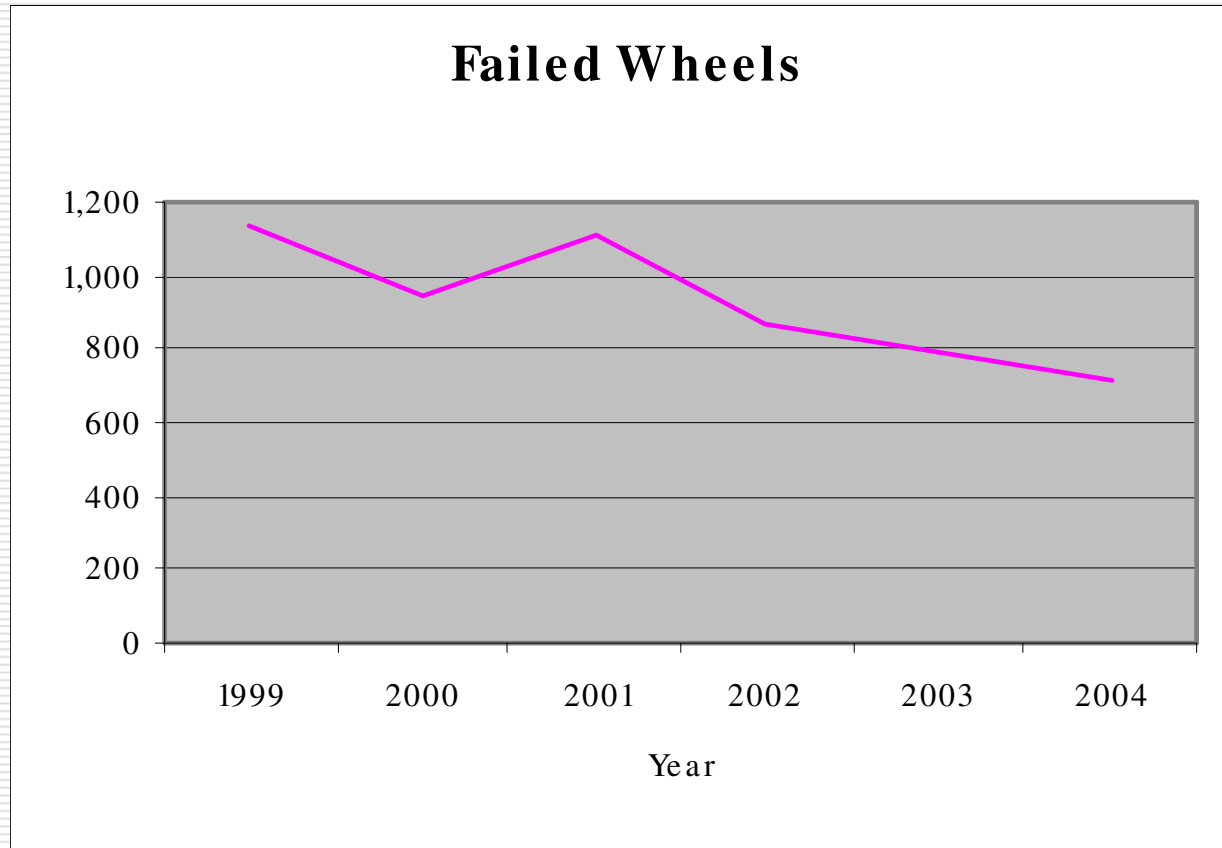
# Wheel Failures

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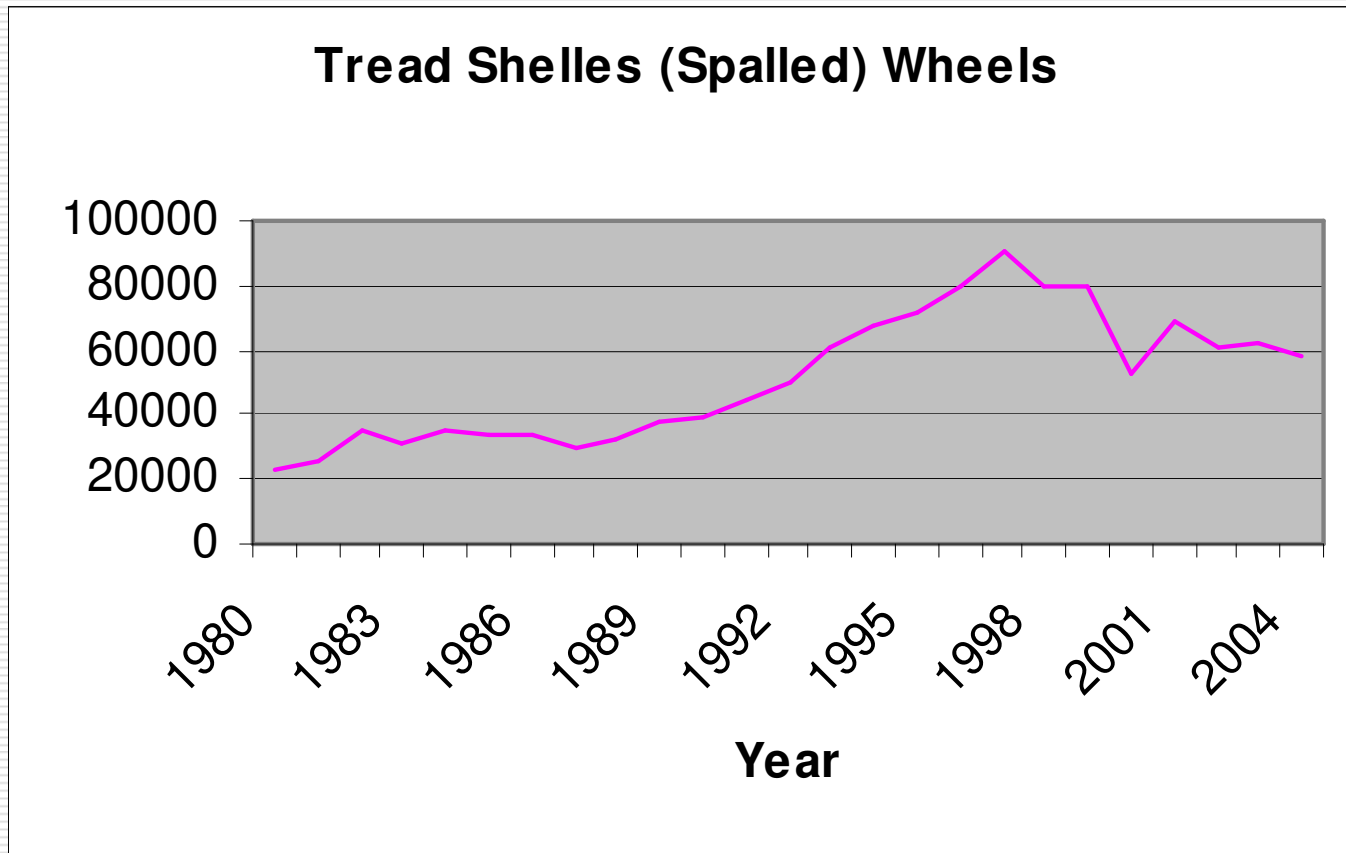
# 6 Year Trend – Wheel Failures

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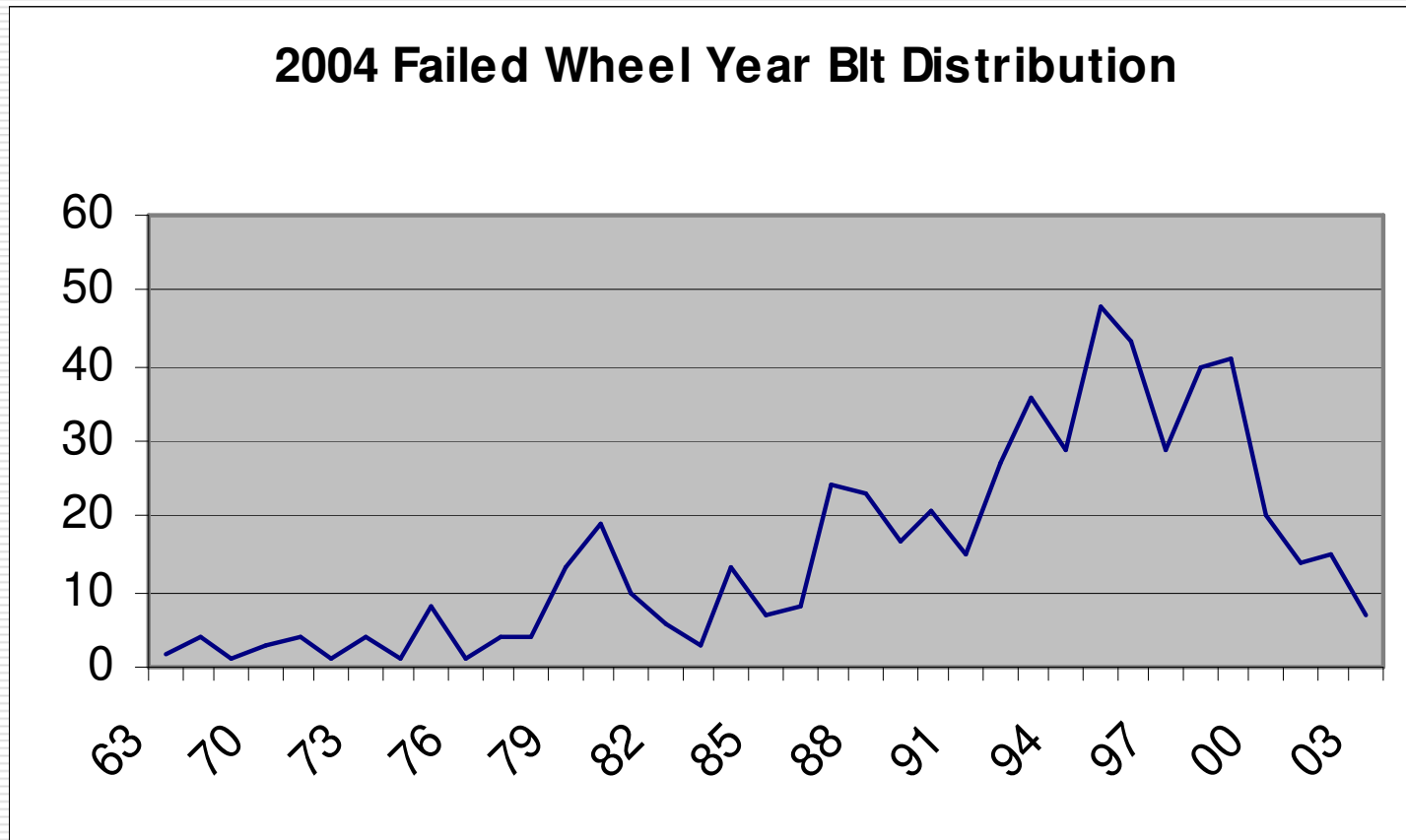
# 25-Year Trend Shell/Spall Wheels

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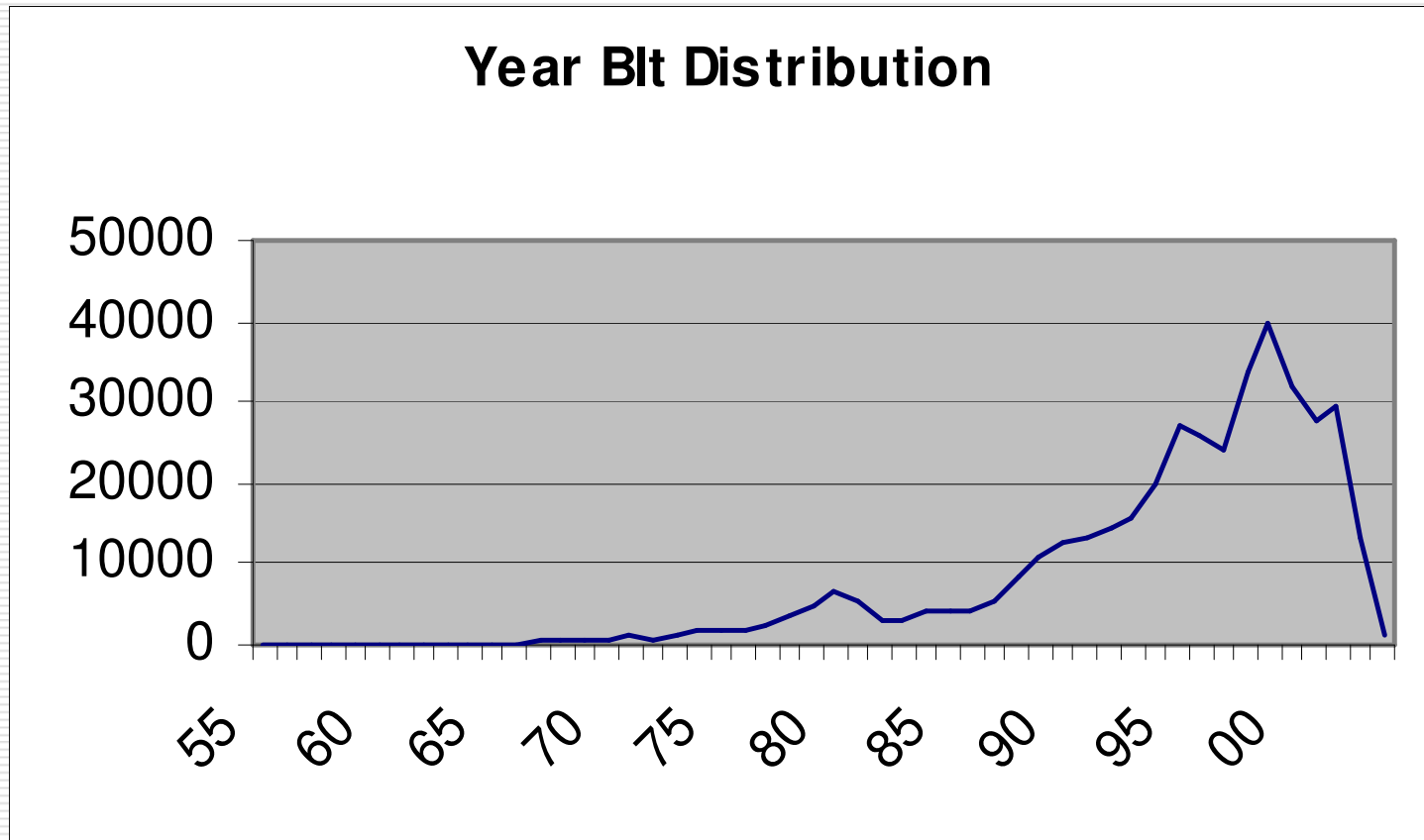
# Distribution of Failed Wheels by Year

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# Wheel Removals by Year Manufactured

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# Average Wheel Life/Category

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<input type="checkbox"/> Administrative	8.2 Years
<input type="checkbox"/> Wear Related	10.0 Years
<input type="checkbox"/> Environmental	7.1 Years
<input type="checkbox"/> Wheel Failure	10.7 Years

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# Average Wheel Life/Car Type

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<input type="checkbox"/> Type of Car	Wheel Life, Years
<input type="checkbox"/> Box	9.6
<input type="checkbox"/> Gondola	6.9
<input type="checkbox"/> Hopper	7.9
<input type="checkbox"/> Covered Hopper	10.0
<input type="checkbox"/> Tank	10.3
<input type="checkbox"/> Flat	6.8
<input type="checkbox"/> Articulated	4.4

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# Distribution of Wheel Types

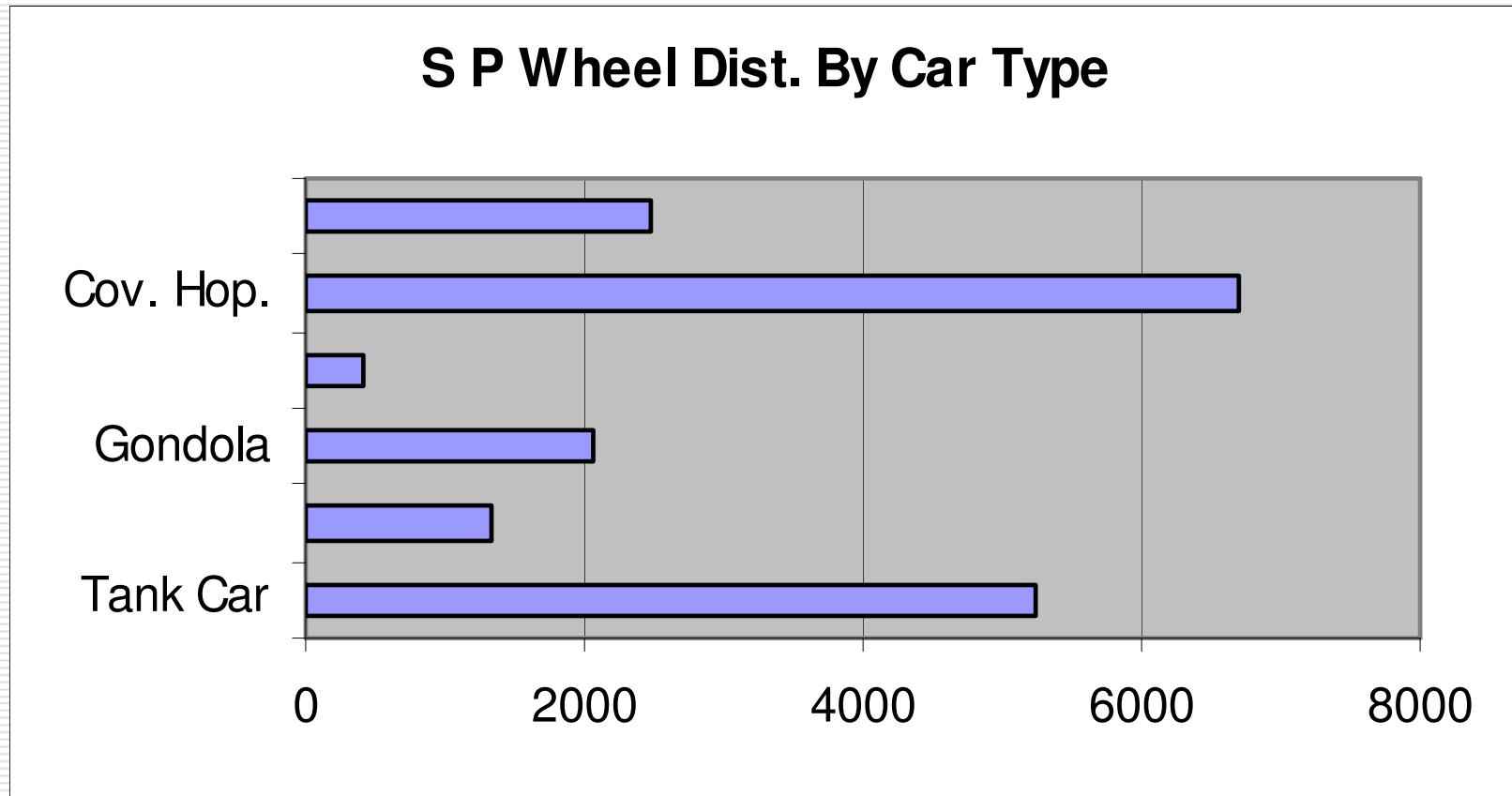
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Wheel Type	HT-CP	NHT-CP	HT-SP	NHT-SP
AAR Raw	89.3%	7.2%	1.1%	2.4%
AAR Accel.	90.5%	7.3%	0.7%	1.5%

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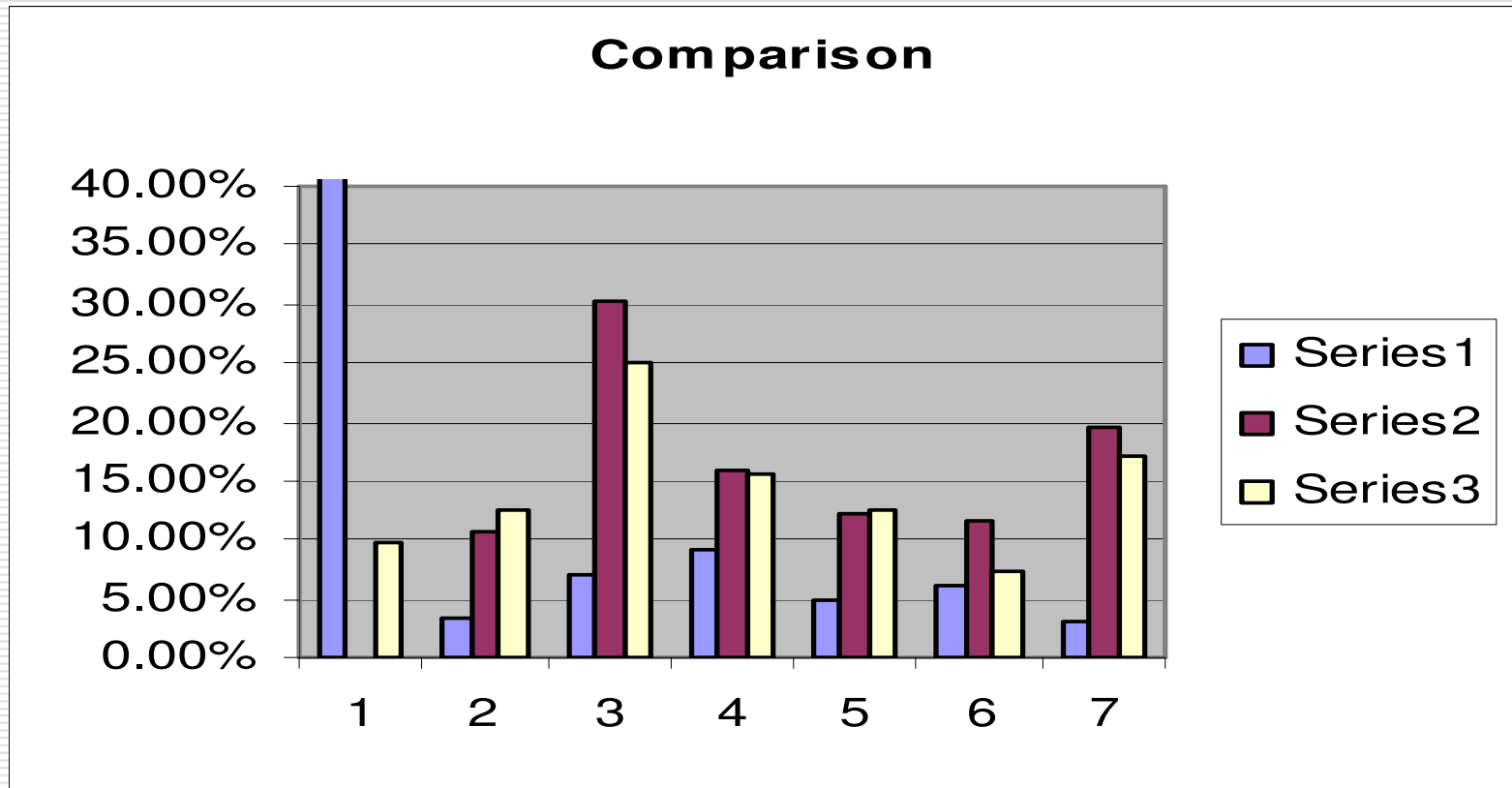
# Distribution of SP Wheels

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# Comparison of Proposals to Normalize Wheel Data

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# RWMEC Recommendations

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## Already Implemented

- accelerate removal of straight plate wheels
  - improving their wheel marking procedures
  - Proposal to accelerate earlier removal of Non-Heat Treated Curve Plate Wheels
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# RWMEC Recommendations

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- Improve air brake testing methods.
  - Train employees about the proper use of hand brakes.
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# Comparisons

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- ❑ Removals for high impact are more common for 36-inch and 38-inch wheels.
  - ❑ 36-inch wheels have a higher percentage of wheels removed for slid flat, thin flange, built-up-tread and out-of-round.
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# Comparisons

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- ❑ Covered Hopper Cars have the most wheels for all causes.
  - ❑ Tank cars and covered hopper cars have the most wheel removals for shelling
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# Future

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- ❑ Wheel manufacturers continue to revise their wheel designs and process controls
  - ❑ RWMEC continues to review information from the CRB database
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# THANKS

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- RWMEC thanks the AAR for providing 2004 wheel repair data for this analysis and report.
  - RWMEC thanks the Railway Supply Institute and MARTS for the opportunity to present this information at the 2005 RSI conference.
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