

Field Safety Assessment Report by OZMOS, LLC

Date of Assessment: May 16, 2026
Location: Pittsburgh, Fox Chapel Area
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1. Executive Summary (NIW-Oriented)

This field assessment was conducted in the Fox Chapel area to evaluate tire conditions among regional commercial fleets operating under different duty cycles compared with previously assessed industrial fleets.

Two fleets were observed:

- Local delivery operation (Rigid truck fleet)
- Long haul operation (Tractor head + trailer fleet)

Unlike previous investigations in industrial environments, the fleets in this assessment operated primarily from paved facilities with reduced exposure to gravel and debris.

The assessment identified:

- F-axle irregular wear
- Base rubber exposure
- Dual tire mismatch
- Localized tread damage
- Tire age management opportunities
- Sustainability-oriented maintenance practices

These findings demonstrate opportunities to improve:

- Transportation safety
- Fleet operational efficiency
- Tire life extension
- Environmental sustainability

This assessment was conducted independently without prior engagement from the fleets observed.

2. Purpose of Visit

The purpose of this assessment is to:

- Evaluate tire safety conditions in suburban fleets
- Compare operating environments with prior industrial fleet assessments
- Identify maintenance trends and cost-reduction opportunities
- Support transportation safety initiatives
- Continue independent field activities supporting national interest objectives



This assessment is part of OZMOS LLC's ongoing efforts to reduce tire-related incidents and enhance fleet safety nationwide.

3. Overview of Fleet Observations

3.1 Observed fleets

<Fleet A>

- ✓ Rigid truck fleet
- ✓ Local delivery

<Fleet B>

- ✓ Long haul operation
- ✓ 2DD + 3T configuration

3.2 Inspection summary

- Facilities visited: 2
- Vehicles inspected: 8
- Interviews: none
- Visual inspections performed

3.3 General observations

< Positive maintenance indicators included >



- ✓ Premium tire brands
- ✓ Retread utilization
- ✓ Hub odometers
- ✓ Environmental tire products
- ✓ Reduced stone trapping
- ✓ Better pressure management

< Comparison with previous assessments >

Hopewell:

- Underinflation
- Stone trapping
- Foreign objects

Neville Island:

- Severe service
- Stone trapping
- Sidewall damage



Fox Chapel:

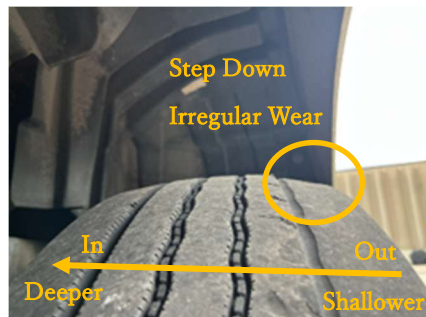
- Better managed environment
- Higher sustainability awareness

4. Detailed Findings with Photographic Evidence

4.1 F-Axle Irregular Wear / Base Rubber Exposure

<Description>

Multiple steer tires exhibited outer-rib step wear. Two tires had already progressed to base rubber exposure. The wear pattern appeared predominantly on one side, suggesting that factors beyond tire design alone may be contributing.



Potential contributing factors include:

- ✓ Alignment condition
- ✓ Camber deviation
- ✓ Inflation variation
- ✓ Tire design interaction

<Safety Impact>

- ✓ Accelerated wear progression
- ✓ Increased risk of belt exposure
- ✓ Potential reduction in steering performance
- ✓ Increased likelihood of tire-related service interruptions

<Economic Impact>

Premature tire removal may reduce usable tire life. Based on a preliminary simulation using a Bridgestone R268 Ecopia steer tire, estimated tire life loss could potentially exceed 20%, depending on removal criteria and operating conditions. Estimated economic impact may reach approximately \$180 per tire under certain assumptions.

<National Interest Relevance>

Premature tire removal increases transportation costs, reduces fleet efficiency, and contributes to unnecessary resource consumption across the U.S. freight industry.

4.2 Tire Age Management Opportunity

<Description>

Drive tires installed on one vehicle were manufactured during Week 23 of 2019, while front axle tires were manufactured in 2025. Although no immediate safety concern was identified, inventory rotation opportunities may exist.

<Safety Impact>

- ✓ Potential long-term casing durability concerns
- ✓ Reduced flexibility for future retread planning

<National Interest Relevance>

Improved tire life management contributes to efficient resource utilization and reduced operating costs.



4.3 Trailer Dual Tire Mismatch

<Description>

Different tire products with visibly different diameters were observed in a dual assembly position.



<Safety Impact>

- ✓ Uneven load distribution
- ✓ Accelerated wear
- ✓ Increased casing stress
- ✓ Reduced vehicle stability

<Economic Impact>

Dual mismatches may shorten tire service life and increase replacement frequency.

<National Interest Relevance>

Improved tire matching supports transportation safety and operational efficiency.

4.4 Localized Drive Tire Damage

<Description>

Localized circumferential tread damage was observed on a drive tire.

The damage pattern suggests that a rigid object may have been trapped between the tire and a vehicle component during operation.



<Safety Impact>

- ✓ Potential tread chunking
- ✓ Accelerated localized wear
- ✓ Possible future casing damage

<National Interest Relevance>

Preventive identification of tire damage reduces maintenance costs and minimizes the risk of roadside failures.

4.5 Steer Axle Tire Mismatch

<Description>

Different steer tire products were installed on the left and right steering positions.



Average tread depth: 10/32"



Average tread depth: 13/32"

<Safety Impact>

- ✓ Different steering response characteristics
- ✓ Uneven tread wear progression
- ✓ Reduced directional consistency
- ✓ Potential handling concerns

<Economic Impact>

Uneven wear progression may result in premature replacement and increased operating costs.

<National Interest Relevance>

Proper steer tire management contributes directly to vehicle control, highway safety, fleet reliability, and efficient freight transportation.

5. Environmental & Sustainability Findings

<Positive observations included>

- Retread utilization
- Ecopia products
- Premium low rolling resistance tires
- Tire life extension efforts

<Environmental contribution>

- Reduced waste generation
- Lower tire disposal volume
- Improved resource efficiency

These findings align with national goals for sustainable transportation.

6. Professional Assessment

Unlike industrial fleets previously evaluated, the Fox Chapel fleets demonstrated:

- Higher maintenance awareness
- Better environmental conditions
- Stronger sustainability practices

However, advanced wear mechanisms and tire mismatch conditions were still present. The findings suggest that tire replacement alone may not fully resolve irregular wear concerns.

Integrated evaluation involving:

- Tire selection
- Alignment
- Inflation
- Operating condition

is recommended.

7. Contribution to U.S. National Interest

This activity supports national interest by:

1. Improving transportation safety
2. Reducing economic loss from premature tire removal
3. Supporting environmentally sustainable fleet operations
4. Expanding independent field-based transportation safety assessments
5. Building knowledge applicable to future nationwide fleet programs

This report provides objective evidence of ongoing activities that directly support U.S. national interests.

8. Planned Follow-Up Actions

1. Return visit with fleet managers
2. Share summary findings
3. Prepare cost impact analysis
4. Develop Technical Insight article: **Understanding F-Axle Step Wear in Long Haul Operations**
5. Continue regional assessments

9. Conclusion

This field assessment demonstrates that even well-maintained commercial fleets can experience tire-related safety, economic, and sustainability challenges.

Unlike previous assessments conducted in severe-service environments, the Fox Chapel fleets demonstrated strong maintenance awareness and environmental stewardship. However, irregular wear, tire mismatch conditions, and tire life management opportunities were still observed.

These findings reinforce the importance of proactive tire management programs, technical training, and field-based safety assessments.

OZMOS LLC will continue supporting U.S. fleets through independent assessments, technical education, and preventive maintenance initiatives that contribute to transportation safety, economic efficiency, and environmental sustainability.

This assessment was conducted based on visual observation only.

No fleet operator was formally engaged.

This report is for informational purposes.