



NTSB National Transportation Safety Board

Office of Highway Safety

**Motorcoach Run Off
Bridge and Rollover
Sherman, Texas
August 8, 2008**



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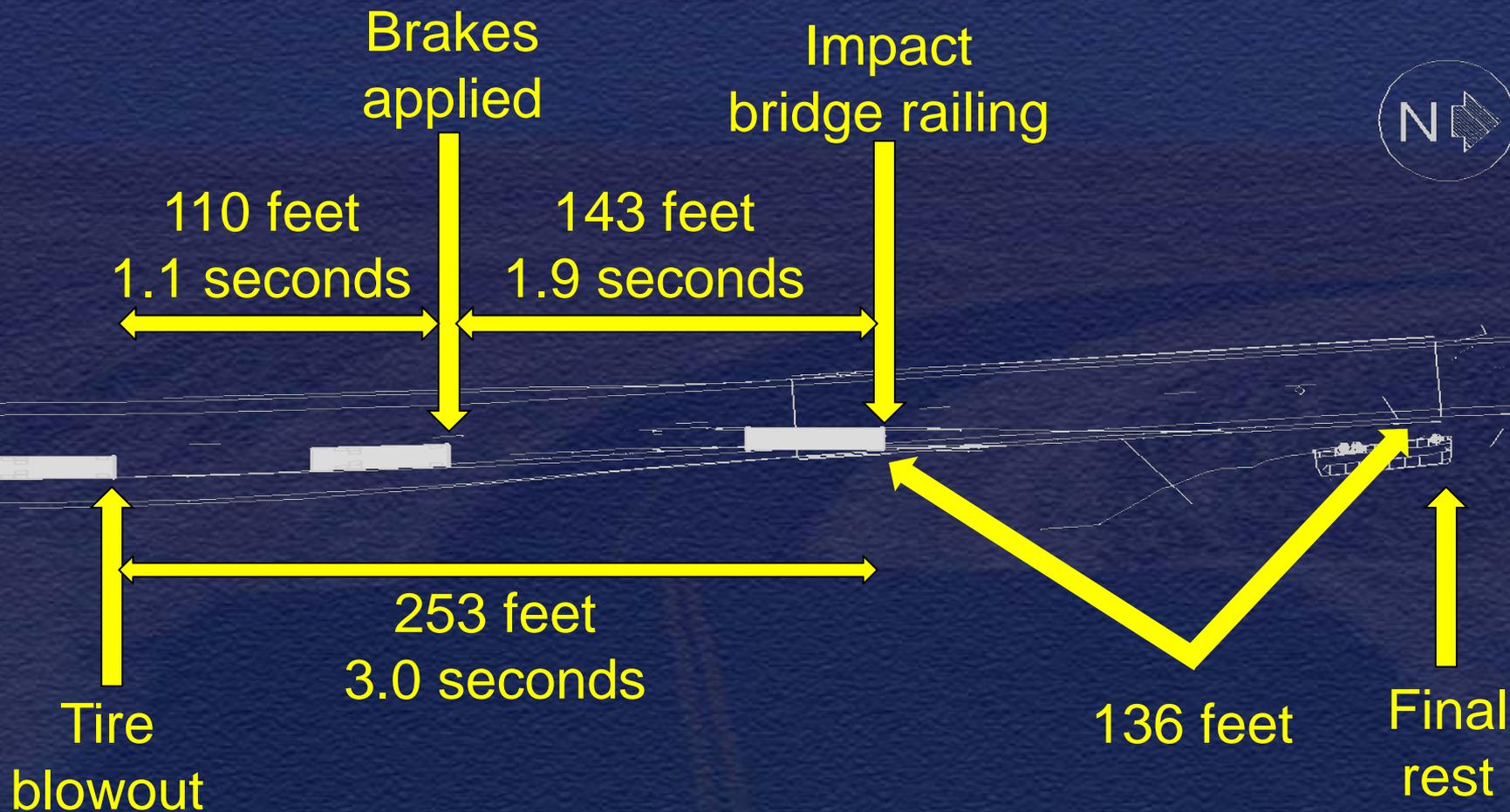
Introduction

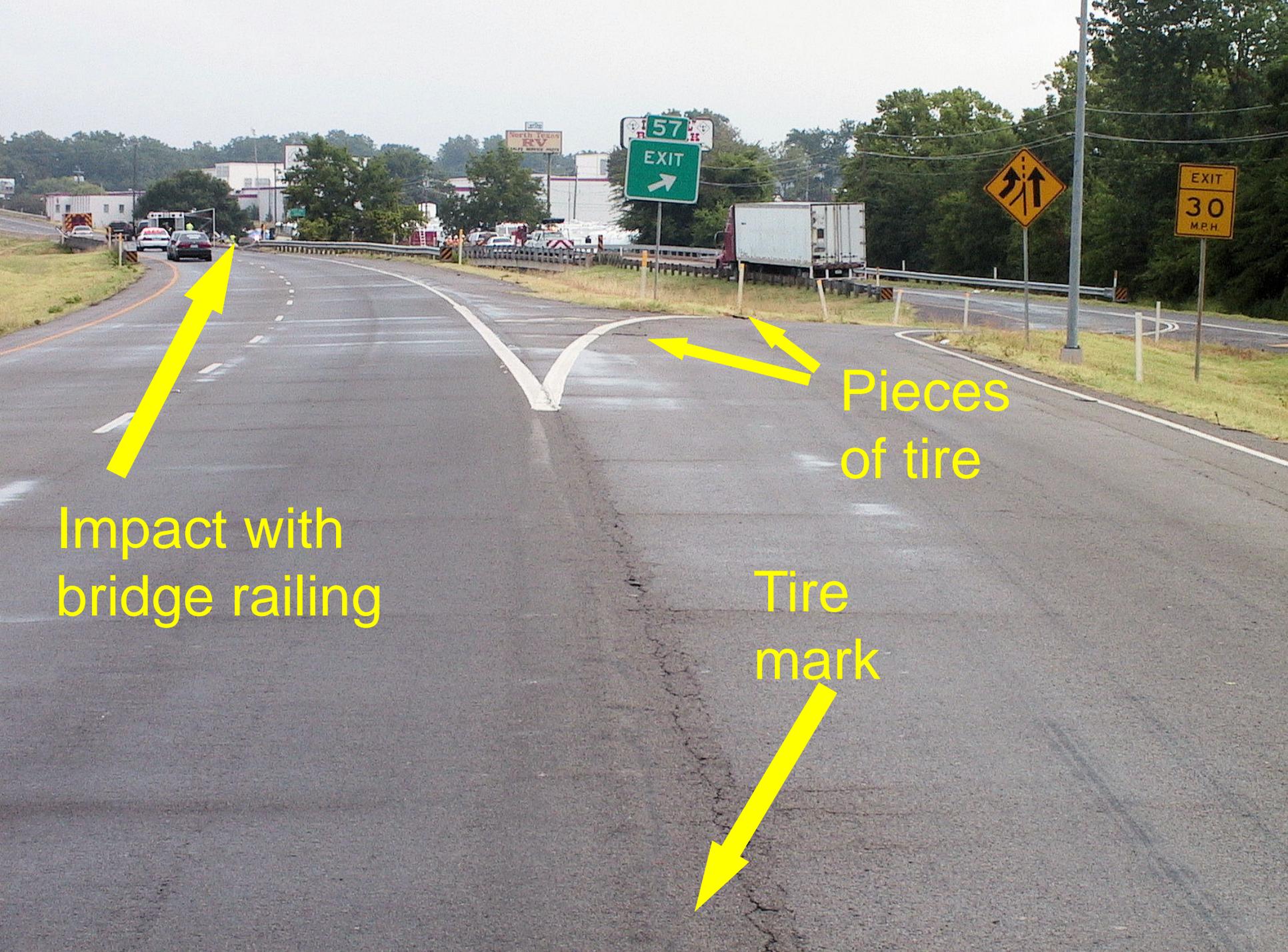
Robert Accetta

Background Information

- 2002 MCI 56-passenger motorcoach
- Operated by Iguala BusMex
- Left 8:30 p.m., August 7, 2008
- 55 passengers
- Completed 309 miles (600-mile-trip)
- Right front tire failed
- 12:45 a.m. - August 8, 2008
- Recorded speed of 68 mph

Collision Sequence





Impact with
bridge railing

Pieces
of tire

Tire
mark

Area of displaced
bridge railing





Source: Sherman, Texas Police Department

8 feet to the
earthen median

Displaced
railing

Orientation and final rest
position of motorcoach



Front of
motorcoach



Bridge
railing



Detached overhead luggage rack

Failed tire

8 9:07AM



Injuries

- 17 Passenger fatalities
- 38 Passengers injured,
minor to serious injuries
- Driver serious injuries

On-scene Staff

- Chris Voeglie – Vehicle & Recorder Factors
- David Rayburn – Highway
- Jim LeBerte – Motor Carrier
- Hank Hughes – Survival
- Paula Sind-Prunier, PhD – Human Performance
- Eric Grosos – Family Assistance
- Bridget Serchak – Media Relations
- Robert Accetta – IIC
- Chairman Hersman – Member On-Scene
- Nancy Lewis – Special Assistant

Report Development

- Deborah Bruce, PhD – Project Manager
- Gwynne O'Reagan – Editor
- Julie Perrot – Safety Recommendations
- Dr. Mitch Garber – Medical Analysis
- Kristin Poland, PhD – Biomechanical Engineer
- Avis Clark – Audiovisual Support

Parties To Investigation

- Federal Motor Carrier Safety Administration
- Texas Department of Public Safety
- Sherman Police Department
- Texas Department of Transportation
- Motor Coach Industries (MCI), Inc.
- Bridgestone Tire Company

Safety Issues

- Tire Pressure Monitoring Systems
- Commercial Vehicle Inspections
- Bridge Railing Standards
- FMCSA Oversight
- Occupant Protection



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Tire Failure
Tire Pressure Monitoring
Vehicle Inspections
Chris C. Voeglie

Tire Failure



Source: Bridgestone

Puncture location on failed tire

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Tire Failure



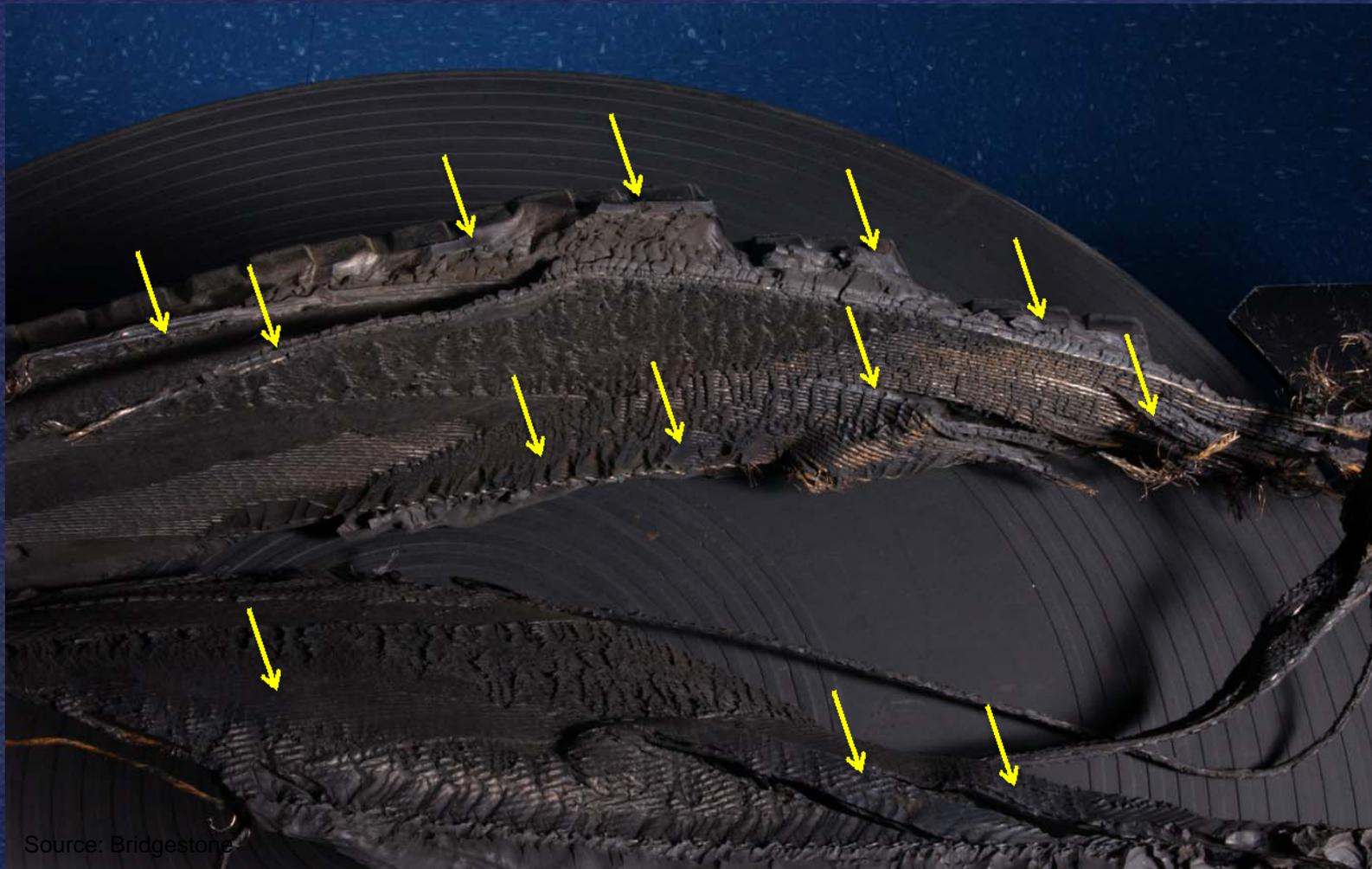
Source: Bridgestone

Close-up Exterior View of Puncture Location

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Evidence of Excessive Heat



Source: Bridgestone

Tearing within 2nd and 3rd belts & areas of excessive heat discoloration

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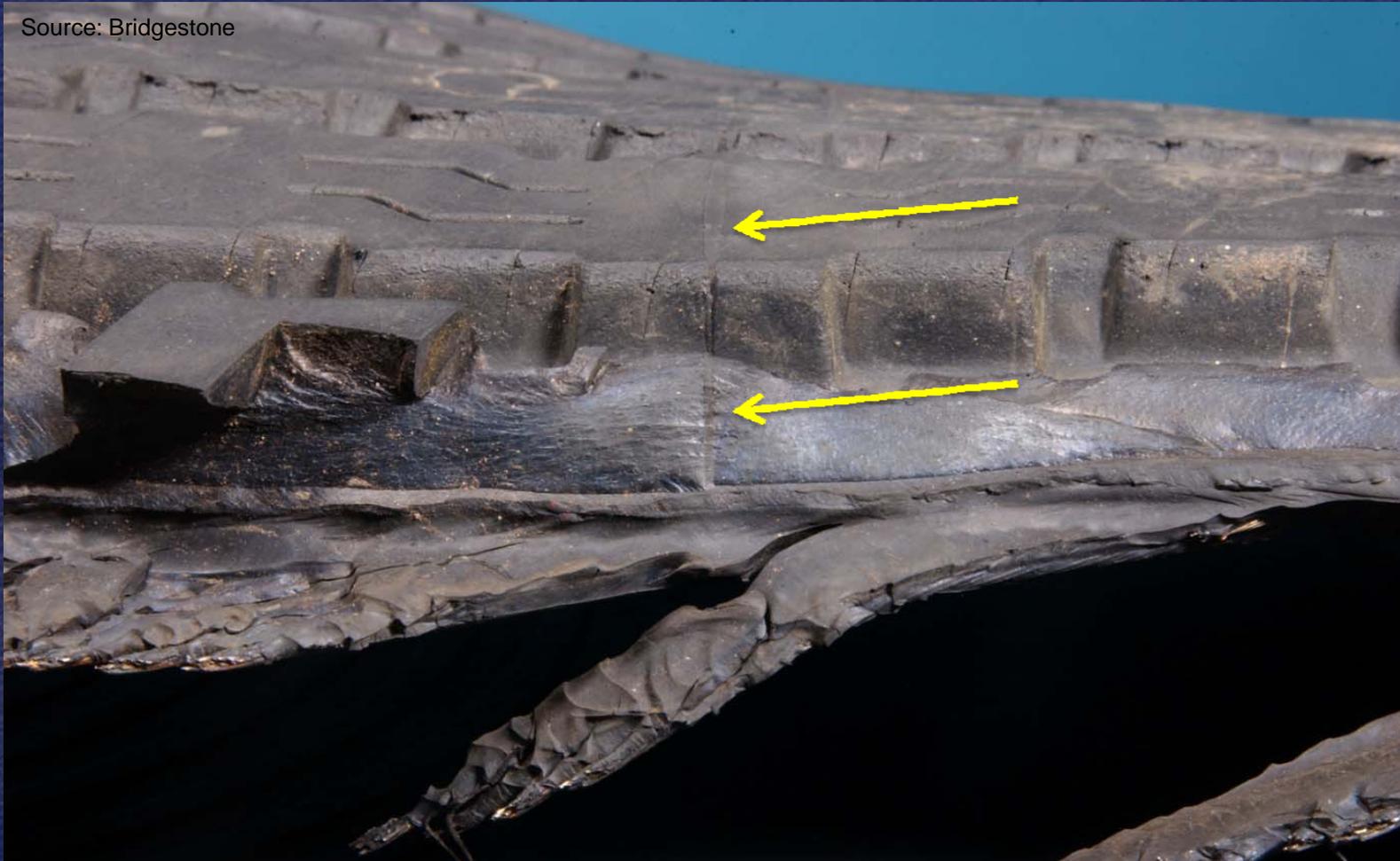
Evidence of Over-Deflection



Circumferential Rim Flange Compression
Grooving & Diagonal Undulations

Investigative Findings

Source: Bridgestone



Tread Splice Interface and Heat-Related
Discoloration Within the Torn Shoulder

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Summary

- Retread did not cause failure
- Failure caused by excessive heat
- Heat caused by under-inflation
- Under-inflation caused by slow leak





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Tire Failure

Tire Pressure Monitoring

Vehicle Inspections

Importance of Proper Inflation

- Under-inflation is the leading cause of tire failure
- Pretrip inspection
- TREAD Act
- TPMS for passenger vehicles
- TPMS for commercial vehicles

Visual Inflation Inspection



32 psi



16 psi

Visual Inflation Inspection

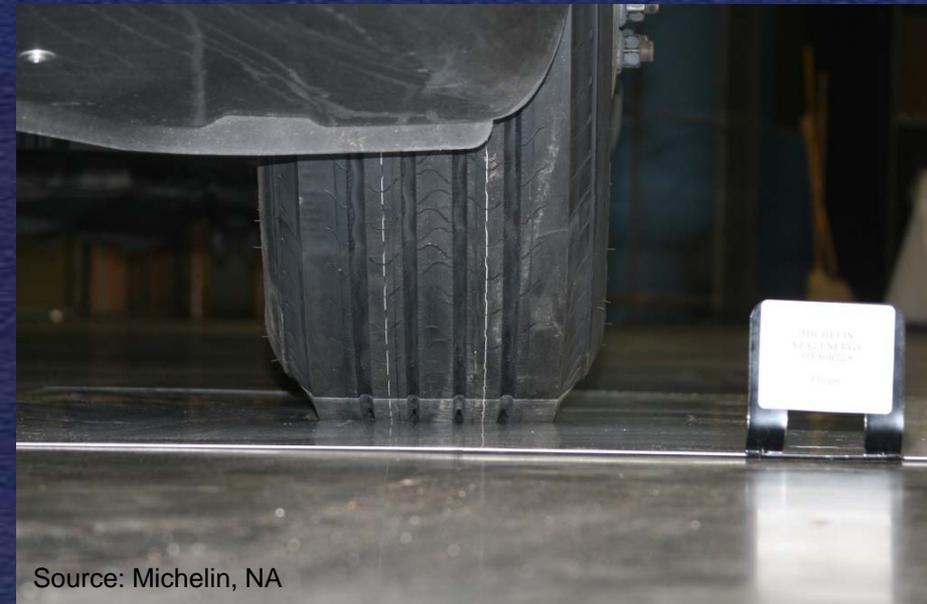


130 psi



85 psi

Visual Inflation Inspection



130 psi



85 psi



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Tire Failure

Tire Pressure Monitoring

Vehicle Inspections

Commercial Vehicle Inspection

- FMCSRs require annual inspection
- FMCSA certifies state criteria
- Texas program approved in 1994
- No quality assurance and oversight program

Commercial Vehicle Inspection

- Certificate issued 8 days before the accident
- “5-Minute Inspections” Texas state-certified facility
- Numerous unsafe conditions
 - Retreaded tire on steer axle
 - Under-inflated tag-axle tires
 - Wrong tag-axle wheels
 - Grossly contaminated brake assembly

Commercial Vehicle Inspection

- Placed out-of-service next day
- Reports contained errors & omissions
- Not equipped for commercial vehicles
- Not enough time to inspect
- Inspection fee restricted to \$62
- Insufficient oversight of inspection facilities

State Oversight of Inspections

- “5-Minute Inspections” recertified
- Lack of an official audit process
- No review of inspector knowledge or experience
- Inadequate inspection of facility/equipment

State Oversight of Inspections

- Texas Department of Public Safety
 - Took no action with the facility or inspector
 - Audit insufficient to provide meaningful information
 - No oversight of inspection facilities or inspectors it authorizes

Summary

- FMCSA performs inadequate oversight of approved state equivalent inspection programs
- FMCSA requires no oversight or quality control by the states



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