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# **Brake Transmission Shift Interlock**

# Definition and Effect

- Requires driver to depress the brake to shift from “park”
- Lower rates of sudden acceleration complaints
  - Aerostar: 16.6 vs. 1.7
  - Town Car: 15.0 vs. 4.1
  - Thunderbird/Cougar: 17.3 vs. 2.9

# BTSl and Heavy Vehicles

- Falls Township started from parked position, revving engine, no defects
- Asbury Park started from parked position, revving engine, no defects
- Newtown started from parked position, accelerated after releasing parking brake, no defects

# BTSI Requirements

- Currently voluntary per 2006 agreement
- Cameron Gulbransen Kids Transportation Safety Act of 2007 would not have prevented these accidents because it excludes heavy vehicles

# BTSl Summary

- Falls Township, Asbury Park, and Newtown
- BTSlS shown to reduce pedal misapplication in light vehicles
- Current efforts do not apply to heavy vehicles
- Accidents unlikely had vehicles been equipped with BTSlS



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# **Pedal Design and Familiarity**

# Pedal Design

- Inconclusive research on pedal design as a factor
- NHTSA undertook, abandoned pedal standardization effort
- Some pedal arrangements provide same feedback
- Little research in heavy vehicles



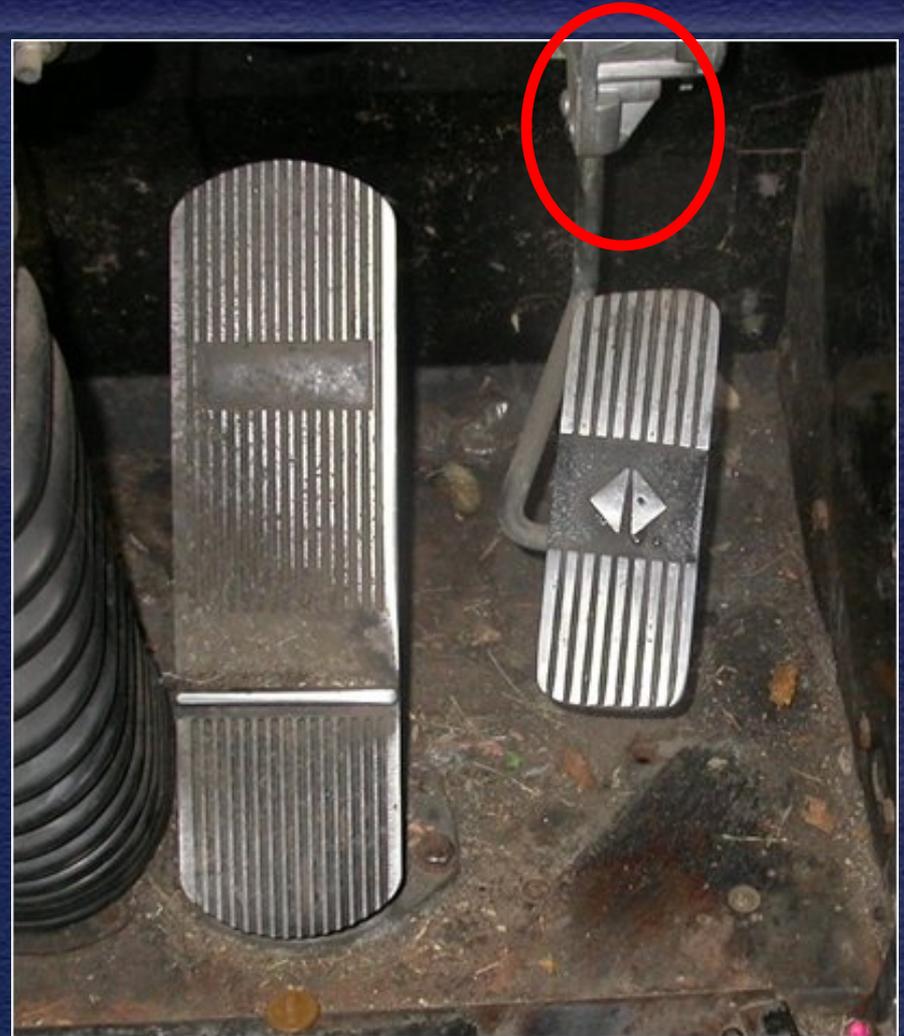
# Familiarity

- Rely on nonvisual information
- Drivers develop habitual responses
- Resorting to habits when under stress may mean error
- Two accidents involve different pedal configurations

# Falls Township Pedals



Accident bus pedals



Usual bus pedals

# Nanuet Pedals



Accident pedal configuration



Usual bus configuration



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# Mitigation and Event Data Recorders

# Mitigation

- Positive separation (bollards)
- Recommended for transit facilities in 1998
- New Orleans and Pennsbury School District
- Loading/unloading at school can pose risk of injury



# Event Data Recorders

- Bus crashworthiness investigation in 1999
- Reiterated in 2008
- Would provide specific factual information and evidence
- Proposed reiteration and reclassification of 1999 recommendations



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