



SPOTLIGHT ON SCHOOL BUS SAFETY:
National Express Track Record Raises Concerns



Michael H. Belzer, PhD | Commissioned by the Stand up for School Bus Safety Coalition

Stand Up for School Bus SAFETY

INTRODUCTION FROM THE STAND OF FOR SCHOOL BUS SAFETY COALITION

The Stand up for School Bus Safety Coalition formed in Chattanooga the wake of the tragic crash that killed six elementary school students riding a bus operated by Durham School Services on November 21, 2016. Durham School Services, a subsidiary of National Express PLC (NEX), operates school buses under contract with the Hamilton County Department of Education. National Express operates school buses under approximately twenty subsidiary names, but Durham School Services accounts for approximately 75% of total vehicle miles travelled by all subsidiaries.

As parents, educators, professional drivers, and community members, the Coalition set out to understand the causes of this avoidable crash and ensure that safeguards are put into place to prevent any more parents from ever facing the grief at losing a child that six Chattanooga families have endured.

After researching the November 21st crash, and gathering information on a long list of additional accidents and problems on National Express buses across the country, the Coalition commissioned Dr. Michael H. Belzer at Wayne State University to analyze federal data on school bus inspections, violations, and crashes collected by the Federal Motor Carrier Safety Administration.

Dr. Belzer is a leading expert on the analysis of federal motor carrier data, and on the linkages between commercial motor vehicle (CMV) driver pay, fatigue, and turnover with safety and accident rates. He has written one scholarly book (*Sweatshops on Wheels: Winners and Losers in Trucking Deregulation*. Oxford, UK and New York, NY: Oxford University Press, 2000), authored or co-authored five additional monographs (including *Improving Motor Carrier Safety Measurement*, written by the Panel on the Review of the Compliance, Safety, and Accountability (CSA) Program of the Federal Motor Carrier Safety Administration, Washington: National Academies Press, 2017), and more than a dozen peer-reviewed book chapters and scholarly articles on trucking with a special focus on CMV safety issues.

An analysis of national data comparing National Express PLC, including Durham School Services, with its peers in the private school bus industry, along with additional research conducted by Dr. Belzer, offer important insights into key risk factors for National Express and Durham, and key steps that must be taken to improve school bus safety.

Numerous Warning Signs Prior to Fatal Crash

Details continue to emerge about the circumstances surrounding the November 21, 2016 fatal crash. Through both court proceedings and investigations by the National Transportation Safety Board,¹ several factors are very important to note:

- 1) Parents, students, and administrators had previously complained that the driver of the bus, 25-year-old Johnthony Walker, had been observed speeding and driving recklessly on multiple occasions. No action was taken in response to these calls.²
- 2) Walker had sideswiped a car only two months before the fatal crash.³
- 3) Cell phone records show that Walker was on his cell phone either at the time of, or immediately before the crash.⁴

- 4) Walker worked two jobs to make ends meet. In addition to driving school buses, he also worked at a nearby Amazon warehouse and had recently clocked in for an overnight shift. A fellow Amazon co-worker told reporters that he often appeared “tired” when he came to work⁵
- 5) Walker had received his Commercial Drivers’ License (CDL) in April of 2016 and therefore had less than a year of experience as a licensed CDL driver.⁶

On March 1, 2018, Walker was found guilty on 27 of the 33 charges brought against him, including six counts of criminally negligent homicide. He is scheduled to be sentenced April 24, 2018.⁷

In a subsequent review of school bus operations in Hamilton County, the Coalition found anecdotal evidence of turnover of at least 30% among drivers and monitors, and a pattern of failures to address vehicle maintenance violations reported by drivers.

Pattern of Safety Risks, Poor Service

Following the fatal accident, the Coalition delved further into the performance and safety record of Durham School Services and that of its parent company, National Express PLC, and identified a number of other accidents and incidents reported during the last two years alone that illustrate how the circumstances surrounding the Chattanooga tragedy are systemic to this company.

These incidents all point to a culture of mismanagement, disregard for safety concerns, and high turnover—all of which must be changed at all levels of the company to truly protect the young people who ride National Express and Durham buses every day.

In Keller, TX, NEX subsidiary Durham was forced to issue an apology after bus drivers revealed numerous vehicle maintenance issues to reporters including broken horns, stop signs, and failing brakes. Company management acknowledged that repairs were not being made in a timely manner, and that drivers did not feel comfortable reporting problems to management. Durham was also forced to replace its maintenance shop supervisor and bring in an outside firm, SGS,⁸ to inspect the entire bus fleet serving the Keller school district.⁹

In Eureka, MO, a bus operated by NEX subsidiary Durham School Services transporting 36 high school students burst into flames on an interstate and had to be evacuated. A subsequent investigation found that engine failure was the cause of the fire, but that no dashboard warning lights had illuminated to alert the driver.¹⁰ The Rockwood School District demanded full accounting of the incident; the Superintendent stated that “this degree of equipment failure is unacceptable.”¹¹

In Shelby County, TN, where NEX subsidiary Durham provides school bus service for Memphis students and the surrounding suburbs, Durham buses were involved in nearly 300 crashes in 3 years.²¹ A former state trooper and school bus inspector subsequently blew the whistle on Durham, alleging in a lawsuit that her concerns regarding unsafe buses, drivers with speeding violations being hired to transport children, and an incident of an employee being pressured to drive a bus with failing brakes were ignored by the company.¹³

In Dallastown, PA, a high school student stood up to exit the bus operated by NEX subsidiary Durham that she was riding in, only to find the floor give way due to a defective weld in the bus floor. Her entire leg was hanging out of the bottom of the bus just inches from the tires, which were in motion as the driver did not immediately hear her calls for help.¹⁴ The bus in question was a 15-year-old spare bus being used on the route because the regular bus was out of service. The bus had been inspected only 20 days before the incident and no issues were discovered or reported at the time of the inspection.¹⁵

In Topeka, KS, a deaf three year old was left alone on a bus operated by NEX subsidiary Durham with only the driver, who did not know American Sign Language, for several hours. The Durham driver had first transported other students to the Kansas School for the Blind, but did not have the proper address for Kansas School for the Deaf and could not connect by radio to the Durham dispatch office due to a weak signal. After multiple complaints from the child’s mother about late buses and bus breakdowns, the Topeka Unified School District 501 subsequently began providing in-house transportation with an ASL-fluent aide for the child.¹⁶

Taking Steps to Protect Our Children

Since the crash, the Stand up for School Bus Safety Coalition has engaged the Hamilton County Department of Education to raise concerns about safety and make recommendations to the District for how it can better administer its contract with NEX subsidiary Durham School Services to ensure transparency, accountability, and improved safety standards. The following expert report corroborates many of our findings and concludes with a series of important recommendations for improving school bus safety.

FEDERAL SAFETY INSPECTION DATA DEMONSTRATES NATIONAL EXPRESS' PROBLEMATIC TRACK RECORD

Michael H. Belzer, PhD

A significant portion of school districts today choose to contract out school bus services to private operators rather than maintain an in-house school bus fleet driven and serviced by school district employees. The private school bus industry is dominated by three players nationally: First Student, National Express (Durham School Services being its largest school bus subsidiary), and Student Transportation, Inc. Industry publications estimate that about a third of the school bus industry is privately owned and operated,¹⁷ and that First Student, National Express, and Student Transportation, Inc. hold, respectively, market shares of 20.1%, 10.4%, and 5% of the private-sector market.¹⁸

First Student and National Express/Durham School Services are subsidiaries, respectively, of the British multinational transportation operators FirstGroup PLC and National Express Group PLC. Student Transportation, Inc. is headquartered in Ontario, Canada.

Determining whether National Express is operating under a uniquely unsafe business model requires comparing its performance to that of its peers, namely, First Student and Student Transportation, Inc. These three companies are the only ones with a truly national footprint and ability to bid on work nationwide. After these top three operators, the fourth-largest company in the industry, North American Central School Bus, holds a much smaller market share of only 1.1%, with operations focused in Illinois, and therefore cannot be considered a wholly comparable peer of the top three companies. Therefore, this analysis focuses on national data for the top three private school bus operators in the country.

All private school bus companies operate with a unique identifying US Department of Transportation (DOT) number. The Federal Motor Carrier Safety Administration (FMCSA), charged with ensuring the safe operation of motor carriers on US roads, works with state and local police to inspect all transportation companies, their vehicles, and drivers, to identify violations of safe operating rules. The FMCSA allows visitors to its website to download the previous 24 months' worth of data on inspections, citations, violations, and crashes for each motor carrier with a DOT number, including the most recently submitted data on numbers of drivers, numbers of vehicles, and vehicle miles travelled (VMT).¹⁹

To conduct this comparison, the names of all possible subsidiaries and operating names of the top three companies were collected from annual reports and applications before the US Surface Transportation Board. Searches for each company name were then conducted on the FMCSA website and the relevant companies and DOT numbers were identified related to each of the three companies. Every effort was made to only compile data on the companies' school bus operations, not their transit subsidiaries.

Operational differences quickly became clear, as the data show that First Student operates all of its buses under one DOT number, while both National Express and Student Transportation, Inc. operate under multiple DOT numbers in different states, or retain the DOT numbers of acquired companies. This suggests that control of operations in these cases might be less centralized and hence less well-managed.ⁱ

For each company, the data associated with each DOT number were collected and combined to provide overall company-wide figures on fleet sizes, VMT per year, and numbers of drivers. The combined data also allowed for analyses of the number of violations found in inspections, violation severity rankings, and the number of violations and crashes per vehicle mile travelled, driver, and power unit. These ratios provide a consistent basis for comparison across companies.

The DOT dataset breaks down violations by type, i.e., driver fitness, unsafe driving, and vehicle maintenance. Yet, as noted further below, the vast majority of violations involve vehicle maintenance. Unless otherwise noted, data on all violations, violations with a high severity rank, and out of service (OOS) violations, include all three types of violations. Vehicle maintenance violations have been isolated, given the predominance of this type of violation in the data.

ⁱSee appendix for full list of DOT numbers included in the analysis for each company.

Table 1: Summary statistics from FMCSA data for trailing 24 months ending December 1, 2017

	NEX	First Student	STI
Power Units	19,709	39,786	10,571
Vehicle Miles Travelled (VMT)	208,242,411	581,000,000	174,617,174
Drivers	18,216	40,200	10,165
Sum of all violations	1,860	3,678	1,099
Sum of all vehicle maintenance violations	1,802	3,598	1,089
Sum of violations with severity rank 8-10	131	127	41
Sum of OOS violations	187	387	233
Crashes	388	851	260
VMT per power unit per year	10,566	14,603	16,519
VMT per driver per year	11,432	14,453	17,178

All violation, OOS, and crash data is for trailing 24 months ending Dec. 1, 2017.

Note: All NEX school bus operations are subsidiaries of National Express PLC; First Student is part of FirstGroup PLC; STI is Student Transportation, Inc.

Table 2: Violations per power Unit

	NEX	First Student	STI
Violations per power unit	0.094	0.092	0.104
Vehicle maintenance violations per power unit	0.091	0.090	0.103
OOS violations per power unit	0.009	0.010	0.022
Violations with severity rank 8-10 per power unit	0.007	0.003	0.004

Table 3: Violations per 1 million vehicle miles (VMT) travelled

	NEX	First Student	STI
Violations per 1 million VMT*	8.93	6.33	6.29
Vehicle maintenance violations per 1 million VMT	8.65	6.19	6.24
OOS maintenance violations per 1 million VMT	0.90	0.67	1.33
Violations with severity rank 8-10 per 1 million VMT	0.63	0.22	0.23

*Calculated by multiplying the numerator by 1 million & dividing by vehicle miles travelled.

Table 4: Crashes:

	NEX	First Student	STI
Crashes per power unit	0.020	0.021	0.025
Crashes per driver	0.021	0.021	0.026
Crashes per 1 million VMT	1.863	1.465	1.489

Comparison Metrics Highlight Areas for Concern

Although in many respects the data across the three companies are comparable, NEX has a substantially greater number of violations per VMT overall.ⁱⁱ The number of violationsⁱⁱⁱ per 1 million VMT is approximately 41% greater than the figure calculated for First Student and STI. Similarly, when focused only on vehicle maintenance violations, NEX has approximately 39% more vehicle maintenance violations per 1 million VMT than its peers. For all three companies, vehicle maintenance violations make up 95% or more of total violations.

Also notably, NEX's rate of violations with a severity rank of 8-10 per 1 million VMT was almost three times as high as First Student. Measured in terms of power units, NEX's rate of violations with high severity rankings per power unit was about double that of First Student and STI. Such violations, which include driver fitness, unsafe driving, and vehicle maintenance violations, are considered the most severe. They include infractions most likely to cause an accident, such as bald or damaged tires, drivers using a cell phone, or driving without a valid CDL.

Durham's violations with a severity rank of 8-10 are comprised of: 120 violations related to tires, 7 violations for operating a vehicle without a valid Commercial Driver's License (CDL) or while the driver's CDL was suspended for safety reasons, and 4 violations for using a cell phone while driving. Using a cell phone while driving has a severity ranking of 10, meaning it is one of the most dangerous behaviors behind the wheel.

The most recent data available online from FMCSA show that NEX's primary DOT number (350651), which covers about 15,000 vehicles and 13,000 drivers,²⁰ exceeds the DOT's intervention threshold for two of the seven key safety metrics: controlled substances and alcohol, and driver fitness.²¹

The FMCSA does not allow commercial motor vehicle (CMV) drivers to have any exposure to controlled substances. Employers are responsible for enforcing this regulation, which reads as follows:

No driver shall report for duty, remain on duty or perform a safety-sensitive function, if the driver tests positive or has adulterated or substituted a test specimen for controlled substances. No employer having knowledge that a driver has tested positive or has adulterated or substituted a test specimen for controlled substances shall permit the driver to perform or continue to perform safety-sensitive functions.²²

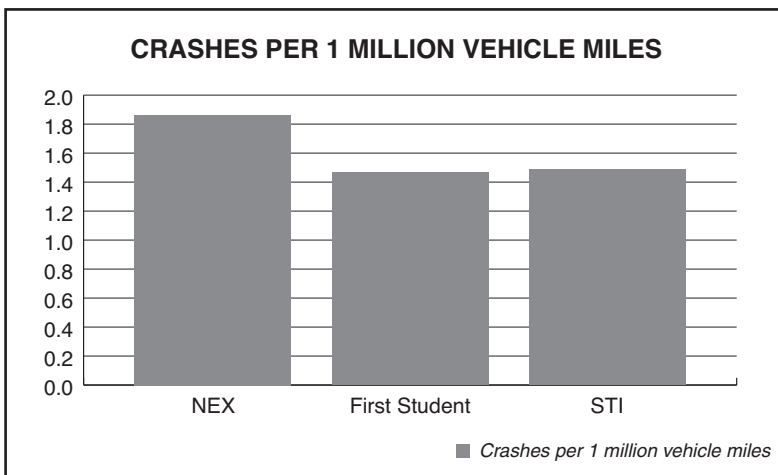
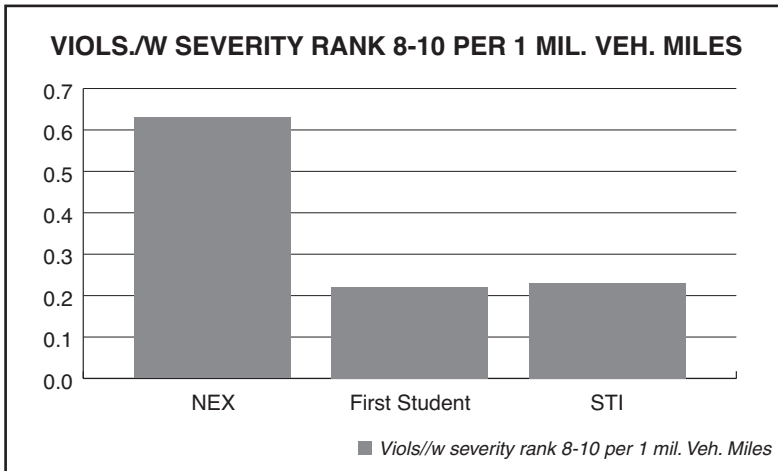
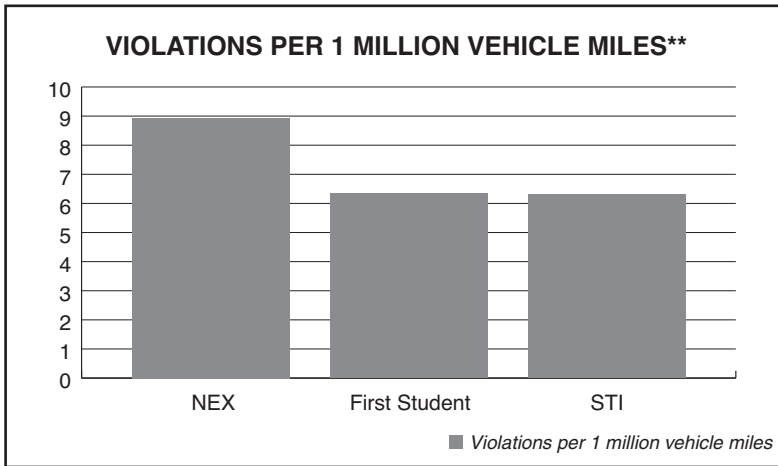
FMCSA closed an investigation into Durham on November 29, 2017 and levied a penalty of \$6,580 for a violation of 49 CFR 382.215: Controlled Substances Testing.²³ A recent news report confirms that the penalty was levied because Durham employed a driver who tested positive for a controlled substance.²⁴

With regard to driver fitness, NEX's Durham (DOT 350651) BASIC rating also exceeds the DOT's intervention threshold. While the intervention threshold is 65%, Durham is in the 84th percentile, meaning that "84% of motor carriers in the same safety event group²⁵ have better on-road performance than this motor carrier."²⁶ Note that this BASIC rating puts NEX among the 16% worst-performing motor carriers in its safety event group—not just school bus operations—in terms of driver fitness.

The bottom line is crashes. Data also show a 25% higher rate of crashes per 1 million vehicle miles travelled for NEX compared to First Student and STI.

ⁱAll types of violations, including driver fitness, unsafe driving, and vehicle maintenance violations.

ⁱⁱTrailing 24 months of data divided into most recent annual vehicle miles travelled data (or sum of vehicle miles travelled in the case of multiple DOT numbers).



**Calculated by multiplying the numerator by 1 million & dividing by VMT.

Extensive Motor Carrier Safety Research Points to Major Risks for National Express

There is an extensive body of research and evidence linking driver pay, work pressure, and safety in the transportation sector. Poor compensation of commercial drivers leads to frequent turnover and a perceived “driver

shortage,” which most economists do not believe can exist in a properly functioning labor market. In fact, increased compensation would go a long way to making CMV driving an attractive career and would eliminate the perceived shortage.²⁷

Research shows that higher pay is associated with better safety outcomes for CMV drivers. In other words, higher pay produces better carrier and driver safety.²⁸ A study of driver compensation at the trucking company JB Hunt showed that at the mean, a 10% higher compensation level led to a 34% lower month-to-month crash probability; a 10% raise also was associated with an additional 6% decline in crash probability.²⁹ In addition, a cross-sectional analysis of motor carriers showed that at the mean, carriers paying 10% more compensation had a 9.2% lower rate of crashes.³⁰

Furthermore, the offer of higher compensation attracts more qualified workers than lower compensation. This in turn can result in a more qualified pool of applicants and a more productive workforce.³¹ On the other hand, when compensation is low, truckers, for example, will work extremely long hours to reach their target earnings.³² Fatigue and sleepiness have also been linked to driver crashes, with pay method and level in the trucking sector associated with crashes and driver health issues.³³ In the case of Chattanooga, Johnthony Walker chose to augment his income by working a second job at Amazon, where he reportedly often arrived at work fatigued, in addition to driving for Durham School Services.

Driver tenure is another important factor in safety outcomes. It is “an important individual-level safety predictor...and driver tenure reduces crash probability *ceteris paribus*.”³⁴ Other studies have also linked young drivers to higher crash rates and a higher proportion of traffic violations, speeding, and reckless driving.³⁵ All of these figures are also relevant in the Chattanooga case. Johnthony Walker, only 24, had only held a Commercial Drivers’ License since April of 2016, and therefore had approximately 8 months of experience as a licensed CDL driver at the time of the fatal crash.

In sum, research has clearly linked a number of issues that NEX and Durham drivers face with higher crash rates: low compensation, fatigue, and low driver tenure.

Conclusion and Recommendations

My review and analysis of the DOT data, circumstances surrounding the Chattanooga crash, and the literature on driver and vehicle safety, all point to the fact that the safety record for NEX’s school bus operations, compared with that for its peers, raises serious safety concerns. The following recommendations lay out clear steps that should be taken to improve safety, transparency, and accountability on NEX school buses and to address crash risk factors comprehensively.

- a. National Express must improve training for drivers, including on how to manage unruly students effectively and safely.
- b. National Express must work to increase driver retention rates. Data show that an experienced driver is a safer driver. Experience costs more, but it pays off in both safety and productivity.
- c. National Express must pay a living wage so drivers do not need to seek out additional employment. This would allow drivers adequate rest and reduce the risks of driving while fatigued.
- d. National Express must develop fleet-wide maintenance standards and practices to ensure timely and adequate upkeep on vehicles, and must ensure that sufficient spare safe vehicles, in working order, are available at all bus yards.
- e. National Express must provide drivers with the opportunity to report vehicle maintenance problems or refuse to drive an unsafe bus without fear of retribution.
- f. National Express must collect and share all data related to complaints about drivers or vehicle maintenance. All complaints and their resolutions must be provided to the school district.

ENDNOTES

- 1 School bus accident in Chattanooga, TN (Accident No: HWY17MH009)
https://www.nts.gov/investigations/Pages/2016_chattanooga_tn.aspx
- 2 CNN, “Chattanooga School Bus Crash: What we Know about the Driver,” November 29, 2016,
<https://www.cnn.com/2016/11/29/us/johnthony-walker-school-bus-driver/index.html>.
- 3 CNN, “Chattanooga School Bus Crash: What we Know about the Driver,” November 29, 2016,
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- 4 Frank Miles, “Driver in deadly Chattanooga school bus crash was on his phone, prosecutor says,” Fox News, December 19, 2017, <http://www.foxnews.com/us/2017/12/19/prosecutors-driver-in-deadly-school-bus-crash-was-on-phone.html>.
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- 7 “Johnthony Walker found guilty of criminally negligent homicide in Woodmoor bus crash,” WTVC News Channel 9, March 1, 2018, <http://newschannel9.com/news/local/jury-continues-deliberations-thursday-in-trial-of-bus-driver-ac-cused-of-killing-6-students>.
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- 14 Matt Maisel, “Student describes terrifying trip—are your kids safe on the school bus?” Fox43, May 11, 2016,
<http://fox43.com/2016/05/11/i-could-lose-my-leg-student-describes-terrifying-trip-are-your-kids-safe-on-the-school-bus/>.
- 15 Matt Maisel, “Student describes terrifying trip—are your kids safe on the school bus?” Fox43, May 11, 2016,
<http://fox43.com/2016/05/11/i-could-lose-my-leg-student-describes-terrifying-trip-are-your-kids-safe-on-the-school-bus/>.
- 16 Angela Deines, “After bus ordeal, USD 501 takes responsibility for transporting 3-year-old to Kansas School for the Deaf,” Topeka Capital-Journal, August 26, 2017, <http://www.cjonline.com/news/local/education/2017-08-26/after-bus-ordeal-usd-501-takes-responsibility-transporting-3-year-old>.
- 17 “The Yellow School Bus Industry,” Industry White Paper prepared by the National School Transportation Association, 2013, p. 39, <https://s3-us-west-2.amazonaws.com/nsta/6571/Yellow-School-Bus-Industry-White-Paper.pdf>.
- 18 Kelsey O’Hollaran, “IBIS World Industry Report 48541: Public School Bus Services in the US,” *IBISWorld*, July, 2017, page 4.
- 19 <https://www.fmcsa.dot.gov/>
- 20 This DOT number accounts for about 76% of all Durham vehicles identified operating under all DOT numbers.
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- 30 Michael H. Belzer, Daniel A. Rodriguez, and Stanley A. Sedo (2002). *Paying for Safety: An Economic Analysis of the Effect of Compensation on Truck Driver Safety*. Washington, DC. Retrieved from: http://ai.fmcsa.dot.gov/CarrierResearchResults/WordFiles/PayAndSafety_Report.doc
- 31 Belzer, *op. cit.*, page 11. For empirical analysis, see Faulkner, Michael. (2015). *A Three Essay Examination of Current Pay and Safety Issues in the Truckload Sector of the Motor Carrier Industry*. (PhD), Wayne State University, Detroit, MI.
- 32 Michael H. Belzer, & Sedo, Stanley A. (2018). “Why Do Long Distance Truck Drivers Work Extremely Long Hours?” *The Economic and Labour Relations Review*, 29(1). See <https://goo.gl/M5Xx47>.
- 33 Belzer, *op. cit.*, page 30; Saltzman, Gregory M., & Belzer, Michael H. (2007). *Truck Driver Occupational Safety and Health: 2003 Conference Report and Selective Literature Review (2007-120)*. Washington, DC: Retrieved from <http://www.cdc.gov/niosh/docs/2007-120/>; Williamson, Ann, & Friswell, Rena. (2013). “The effect of external non-driving factors, payment type and waiting and queuing on fatigue in long distance trucking.” *Accident Analysis & Prevention*, 58, 26–34.
- 34 Belzer, Rodriguez and Sedo. *op. cit.*, 2002.
- 35 Belzer, *op. cit.*, page 34.

METHODOLOGY & DATA SOURCES

The primary source for this analysis is the Federal Motor Carrier Safety Administration's Safety Measurement System: ai.fmcsa.dot.gov/SMS/.

Data for each relevant carrier were downloaded and, where a company operates under multiple DOT numbers, aggregated to arrive at top-line sum figures for the company as a whole.

All data were downloaded on December 1, 2017. The inspection, violation, and crash data sheets all encompass the trailing 24 months of data.

Data were downloaded for the top three private school bus companies operating in the US—First Student, National Express (Durham School Services being the largest of its multiple school bus subsidiaries), and Student Transportation, Inc. Note that, respectively, the parent companies of each are: FirstGroup PLC, National Express PLC, and Student Transportation, Inc.

These companies are identified as the leading private school bus industry players by revenue according to the IBIS World Public School Bus Services in the US industry report with market shares of: FirstGroup PLC – 20.1%; National Express Group PLC – 10.4%; Student Transportation Inc. – 5.0%.

After the top three operators, North America Central School Bus LLC is the fourth largest business in the industry with a considerably smaller estimated market share of only 1.1%. Therefore, only the top three companies are included in this analysis.

Only data related to school bus operations were used in this analysis. Every effort was made to exclude subsidiaries identified as engaged in transit operations such as First Transit or National Express Transit from this analysis.

All companies identified as current subsidiaries of these three companies with DOT numbers are included in the analysis if data on the companies was available for download on December 1, 2017.

Subsidiary or individual DOT number operations were identified as follows:

First Student: First Student operates under only one DOT number for all North American school bus operations, so data on First Student encompasses only one DOT number, rather than a sum of all subsidiary numbers. The First Student DOT number and data are listed in Appendix II.

National Express: The names of subsidiaries of National Express active in school bus operations were compiled using the company's most recent National Express Annual Report and Accounts 2016 released March 24, 2017: www.nationalexpressgroup.com/media/3137/nex_ara2016.pdf; and the subsidiary names listed on recent (during calendar year 2017) filings regarding new acquisitions with the US Surface Transportation Board:ⁱ www.federalregister.gov/d/2017-24429/page-52092.

In a limited number of cases, specific company press releases or election results posted by the National Labor Relations Board confirm the names of certain National Express subsidiaries.

Each of these company names was checked in the FMCSA database. All subsidiaries appearing in the DOT data matching these company names were included in the analysis. A list of the company names and sources is included in Appendix I. A list of the DOT numbers included in this analysis can be found in Appendix II.

Student Transportation, Inc.: The names of subsidiaries of Student Transportation Inc. were compiled using the company's most recent annual report released September 28, 2017 (form 40-K with the US Securities & Exchange Commission),ⁱⁱ and those names were checked in the FMCSA database. A list of the company names from this source is listed in Appendix I. A list of the DOT numbers included in this analysis can be found in Appendix II.

If a company name listed in the appendix was not located via a search of the DOT data, that company was excluded from this analysis. Some of the subsidiaries of NEX are not DOT certified carriers because they are intrastate. We did, however, include data on subsidiaries that lack FMCSA operating authority for interstate operations. However, this could mean a substantial undercount of inspections. For this reason,

ⁱ National Express LLC-Acquisition of Control-Queen City Transportation, LLC, 82 Federal Register 216 (November 9, 2017). Federal Register: National Archives and Records Administration.

ⁱⁱ Student Transportation, Inc. (2017, September 28). Form 40-K, EX-99.1. Retrieved from SEC EDGAR website www.sec.gov/Archives/edgar/data/1419465/000119312517297942/d423108dex991.htm

we believe First Student will be overrepresented in the record and NEX underrepresented.

Because of the need to collect data reported by multiple subsidiaries, the summarized vehicle miles travelled data is the sum of the most recent annual data reported under each individual DOT number. In most cases, this data represent the most recent year reported, generally 2016, but in a few cases the data are more dated and were reported for a year between 2010 and 2015.

APPENDIX I: SUBSIDIARY NAME SOURCES

The following are the names of National Express Group PLC and Student Transportation Inc. subsidiaries that were used to search for and compile the DOT data used in the report.

National Express PLC

NATIONAL EXPRESS PLC SUBSIDIARIES			
Subsidiary Names	State	Source	Operations ⁱ
Beck Bus Transportation Corp	IL	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC ⁱⁱ	School
Carrier Management Corporation	PA	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Community Transportation Inc	PA	NLRB ⁱⁱⁱ	Transit
Cook DuPage Transportation Company Inc	IL	Durham School Services ^{iv} , Press ^v	Transit
Diamond Transportation Services Inc	VA	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Transit
Durham School Services LP	IL	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Forsythe Transportation Inc	TX	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Joint Venture TTI/YCN LLC	MA	National Express Group Annual PLC Press Release July 26, 2012 ^{vi}	Transit
MV Student Transportation Inc	MO	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
National Express Transit – Yuma	AZ	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Transit
National Express Transit Corporation	IL	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Transit
National Express Transit Services Corporation	IL	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Transit

NATIONAL EXPRESS PLC SUBSIDIARIES			
Subsidiary Names	State	Source	Operations ⁱ
New Dawn Transit LLLC	NY	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Petermann Ltd	OH	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC; NEX Annual Report ^{vii}	School
Petermann Northeast LLC	OH	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Petermann Northwest LLC	CA	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Petermann Southwest LLC	TX	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Petermann Stsa LLC	KS	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Queen City Transportation	OH	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Rainbow Management Services	NY	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Coach
Robertson Transit Inc	NH	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Safeway Training and Transportation Services Inc	NH	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Septran Inc	IL	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Smith Bus Service Inc	MD	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Suburban Charter Service Inc	NY	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Transit

NATIONAL EXPRESS PLC SUBSIDIARIES			
Subsidiary Names	State	Source	Operations ⁱ
The Provider Enterprises Inc	NH	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Trans Express Inc	NY	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Coach
Transit Express Inc	WI	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Transit
Trinity Coach LLC	MI	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	Coach
Trinity Inc	MI	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
Trinity Student Delivery LLC	MI	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School
White Plains Bus Company Inc	NY	US Federal Register: National Express LLC-Acquisition of Control-Queen City Transportation, LLC	School

Student Transportation, Inc.

STUDENT TRANSPORTATION, INC. SUBSIDIARIES (All School Bus operations)		
Subsidiary Name	State	Source
Annapolis Bus Company Inc	MD	US Securities & Exchange Commission
Dairyland - Hamilton Inc	WI	US Securities & Exchange Commission
Dairyland Buses Inc	WI	US Securities & Exchange Commission
Grand Island Transit Corp	NY	US Securities & Exchange Commission
Jordan Transportation Inc	NJ	US Securities & Exchange Commission
Lakeland Area Bus Service Inc	WI	US Securities & Exchange Commission
Lakeside Buses Of Wisconsin Inc	WI	US Securities & Exchange Commission
Ledgemere Transportation Inc	ME	US Securities & Exchange Commission
Mission School Transportation Inc	CA	US Securities & Exchange Commission
Ocean State Transit LLC	RI	US Securities & Exchange Commission
Positive Connections Inc	IL	US Securities & Exchange Commission
Rick Bus Company Inc	NJ	US Securities & Exchange Commission
Santa Barbara Transportation Corp	CA	US Securities & Exchange Commission
SchoolWheels Direct Inc	SC	US Securities & Exchange Commission
STA of Goldstar Transit Inc	TX	US Securities & Exchange Commission
STA of Colorado Inc	CO	US Securities & Exchange Commission
STA of Connecticut Inc	CT	US Securities & Exchange Commission
STA of Iowa Inc	IA	US Securities & Exchange Commission
STA of Missouri Inc	MO	US Securities & Exchange Commission
STA of New York Inc	NY	US Securities & Exchange Commission
STA of Oregon Inc	OR	US Securities & Exchange Commission
STA of Pennsylvania Inc	PA	US Securities & Exchange Commission
Student Transportation of America Inc	NJ	US Securities & Exchange Commission
Student Transportation of Florida Inc	FL	US Securities & Exchange Commission
Student Transportation of Nebraska Inc	NE	US Securities & Exchange Commission
Student Transportation of New Hampshire Inc	NH	US Securities & Exchange Commission
Student Transportation of Vermont Inc	VT	US Securities & Exchange Commission
<i>Source: www.sec.gov/Archives/edgar/data/1419465/000119312517297942/d423108dex991.htm</i>		

ⁱ Note that transit and coach subsidiaries are not included in the report.

ⁱⁱ A Notice of the Surface Transportation Board, Nov. 9, 2017. www.federalregister.gov/d/2017-24429/page-52092

ⁱⁱⁱ www.nlr.gov/sites/default/files/attachments/basic-page/node-4416/Total%20Elections%202015.pdf

^{iv} www.durhamschoolservices.com/AboutUs/Pages/Overview.aspx

^v <http://www.dailyherald.com/business/20170720/national-transit-express-acquires-cook-dupage-transportation>

^{vi} www.nationalexpressgroup.com/media/1229/212715-201207262012nexhalfyearreport.pdf

^{vii} www.nationalexpressgroup.com/media/3137/nex_ara2016.pdf

APPENDIX II: DOT NUMBERS INCLUDED IN ANALYSIS

FirstGroup

U.S. DOT#	Parent Company	Legal Name	City	State	Power Units	Drivers	Inspections	Crashes	Miles Travelled	Miles Travelled Year	Bus Type	Dec. 2017 FMCSA Operating Authority Y/N
354406	FirstGroup PLC	First Student Inc	Cincinnati	OH	39,736	40,200	10,738	851	581,000,000	2016	School	Yes

National Express

U.S. DOT#	Parent Company	Legal Name	City	State	Power Units	Drivers	Inspections	Crashes	Miles Travelled	Miles Travelled Year	Bus Type	Dec. 2017 FMCSA Operating Authority Y/N
277593	NEX	Beck Bus Transportation Corp	Mount Vernon	IL	248	233	0	2	2,509,400	2016	School	Yes
1245654	NEX	Carrier Management Corporation	Jefferson Hills	PA	249	232	9	7	2,460,000	2016	School	Yes
350651	NEX	Durham School Services LP	Warrenville	IL	15,014	13,806	5,666	312	157,417,000	2016	School	Yes
1707985	NEX	Forsythe Transportation Inc	Gainesville	TX	225	225	0	0	2,612,371	2010	School	Yes
1049130	NEX	MV Student Transportation Inc	Florissant	MO	134	120	0	7	1,782,875	2016	School	Yes
2794740	NEX	New Dawn Transit LLLC	Brooklyn	NY	164	164	4	3	300,000	2015	School	Yes
821384	NEX	Petermann Ltd	Cincinnati	OH	994	974	285	4	10,920,000	2015	School	Yes
2058860	NEX	Petermann Northeast LLC	Cincinnati	OH	334	357	0	1	3,994,000	2015	School	Yes
1743473	NEX	Petermann Northwest LLC	Oakland	CA	145	130	1	0	2,022,000	2013	School	Yes
1765359	NEX	Petermann Southwest LLC	Pflugerville	TX	153	143	236	7	1,840,000	2016	School	Yes
2133951	NEX	Petermann Stsa LLC	Overland Park	KS	172	198	8	5	2,041,647	2016	School	Yes
224683	NEX	Queen City Transportation	Cincinnati	OH	187	197	109	3	478,000	2013	School	Yes

U.S. DOT#	Parent Company	Legal Name	City	State	Power Units	Drivers	Inspections	Crashes	Miles Travelled	Miles Travelled Year	Bus Type	Dec. 2017 FMCSA Operating Authority Y/N
580046	NEX	Smith Bus Service Inc	Odenton	MD	173	90	0	0	165,000	2015	School	Yes
1129948	NEX	The Provider Enterprises Inc	Brentwood	NH	144	139	4	2	4,728,331	2016	School	Yes
822553	NEX	Trinity Inc	Wyandotte	MI	303	267	48	23	3,330,000	2014	School	Yes
2424638	NEX	Trinity Student Delivery LLC	Wyandotte	MI	68	48	0	1	446,887	2016	School	Yes
25675	NEX	White Plains Bus Company Inc	White Plains	NY	237	169	10	3	575,000	2016	School	Yes
924933	NEX	Septran Inc	Warrenville	IL	681	594	44	6	10,279,900	2016	School	No
1203741	NEX	Safeway Training and Transportation Services Inc	Kingston	NH	34	100	0	0	20,000	2011	School	No
260681	NEX	Robertson Transit Inc	Thornton	NH	50	30	3	2	320,000	2012	School	No
				SUM	19,709	18,216	6,427	388	208,242,411			

Student Transportation, Inc.

U.S. DOT#	Parent Company	Legal Name	City	State	Power Units	Drivers	Inspections	Crashes	Miles Travelled	Miles Travelled Year	Bus Type	Dec. 2017 FMCSA Operating Authority Y/N
122651	STA	Annapolis Bus Company Inc	Annapolis	MD	88	91	291	1	1,467,900	2014	School	Yes
1808358	STA	Dairyland - Hamilton Inc	Lannon	WI	63	49	0	4	757,620	2016	School	Yes
243241	STA	Dairyland Buses Inc	Milwaukee	WI	180	171	0	16	2,886,110	2016	School	Yes
26473	STA	Grand Island Transit Corp	Lockport	NY	15	29	46	2	677,014	2016	School	Yes

U.S. DOT#	Parent Company	Legal Name	City	State	Power Units	Drivers	Inspections	Crashes	Miles Travelled	Miles Travelled Year	Bus Type	Dec. 2017 FMCSA Operating Authority Y/N
1803455	STA	Jordan Transportation Inc	Butler	NJ	580	586	10	4	9,599,266	2016	School	Yes
840155	STA	Lakeland Area Bus Service Inc	Woodruff	WI	63	66	0	2	1,064,000	2016	School	Yes
709283	STA	Lakeside Buses of Wisconsin Inc	Milwaukee	WI	362	362	0	24	5,889,740	2016	School	Yes
271374	STA	Ledgemere Transportation Inc	Wells	ME	249	221	163	4	3,449,535	2016	School	Yes
2721165	STA	Mission School Transportation Inc	Los Angeles	CA	448	415	1,014	9	6,238,996	2016	School	Yes
2270207	STA	Ocean State Transit LLC	Exeter	RI	364	364	0	2	5,872,776	2016	School	Yes
714335	STA	Positive Connections Inc	Markham	IL	368	322	14	7	5,870,000	2016	School	Yes
818039	STA	Rick Bus Company Inc	Trenton	NJ	367	367	11	4	5,900,000	2016	School	Yes
677713	STA	Santa Barbara Transportation Corp	Goleta	CA	961	984	2,507	24	13,419,225	2016	School	Yes
2628670	STA	SchoolWheels Direct Inc	Daniel Island	SC	37	37	62	1	614,496	2017	School	Yes
2356208	STA	STA of Goldstar Transit Inc	Bastrop	TX	609	609	365	13	9,814,000	2015	School	Yes
2611625	STA	STA of Colorado Inc	Grand Junction	CO	140	140	1	1	1,732,155	2015	School	Yes
818334	STA	STA of Connecticut Inc	Gales Ferry	CT	660	660	5	21	10,961,280	2016	School	Yes
2901999	STA	STA of Iowa Inc	Johnston	IA	64	64	0	1	920,000	2016	School	Yes
2572712	STA	STA of Missouri Inc	Columbia	MO	212	212	42	13	3,413,000	2016	School	Yes
538086	STA	STA of New York Inc	Lockport	NY	786	786	9	7	12,745,776	2016	School	Yes

U.S. DOT#	Parent Company	Legal Name	City	State	Power Units	Drivers	Inspections	Crashes	Miles Travelled	Miles Travelled Year	Bus Type	Dec. 2017 FMCSA Operating Authority Y/N
2723698	STA	STA of Of Oregon Inc	Lake Oswego	OR	198	198	0	0	3,187,404	2016	School	Yes
818076	STA	STA of Of Pennsylvania Inc	Carnegie	PA	1,755	1,410	497	27	42,480,000	2016	School	Yes
817987	STA	Student Transportation of America Inc	Wall	NJ	220	220	2	12	2,384,000	2016	School	Yes
2486832	STA	Student Transportation of Florida Inc	Jacksonville	FL	280	280	1	9	4,404,858	2016	School	Yes
2390177	STA	Student Transportation of Nebraska Inc	Omaha	NE	524	524	152	41	8,785,155	2016	School	Yes
7286	STA	Student Transportation of New Hampshire Inc	Goffstown	NH	596	612	11	5	9,935,820	2016	School	Yes
378911	STA	Student Transportation of Vermont Inc	Middlebury	VT	382	386	32	6	6,219,618	2016	School	Yes
		Totals			10,571	10,165	5,235	260	180,689,744			