



TUXEDO UNION FREE SCHOOL DISTRICT

School Transportation Efficiency Study

June 2019

**Futures Education
136 William Street
Springfield, MA 01105**

TUXEDO UNION FREE SCHOOL DISTRICT

School Transportation Efficiency

DEMOGRAPHICS

Tuxedo is a town located in Orange County, New York along the Ramapo River. As of the 2010 census, the town had a total population of 3,624. The town is in the southeastern part of the county in the Ramapo Mountains. New York State Route 17 and the New York State Thruway (Interstate 87) pass through the town.

According to the United States Census Bureau, the town has a total area of 49.4 square miles. 47.4 square miles of it is land and 1.9 square miles of it is water.

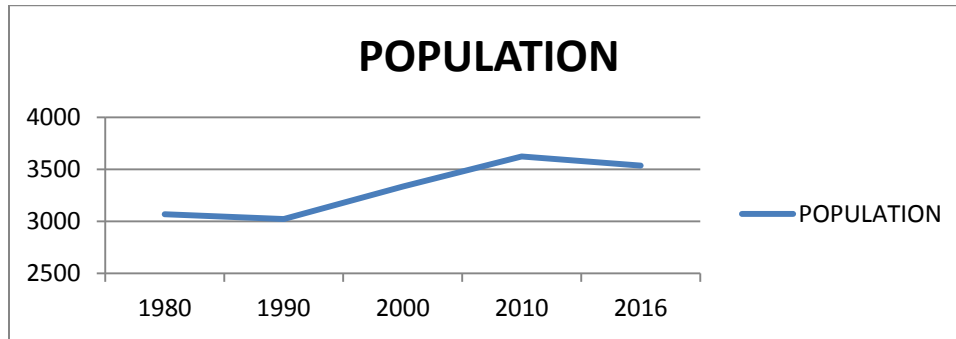
As of the census of 2010, there are 3,334 people, 1,337 households, and 962 families residing in the town. The population density is 76.16 inhabitants per square mile. There are 1,457 housing units at an average density of 30.7 per square mile.

The following communities are located within the Tuxedo school district:

- Arden – A hamlet near the north town line.
- Eagle Valley – A hamlet in the south part of the town.
- Harriman State Park – Part of the state park is in the town.
- Indian Hill – A hamlet in the north part of the town.
- Tuxedo Farms – A new large development that will break ground in 2015.
- Southfields – A hamlet north of Tuxedo Park on highway NY-17.
- Sterling Forest – A hamlet north of Tuxedo Park on highway NY-17A. Location of Sterling Forest State Park.
- Tuxedo Lake – A lake in the south part of the town.
- Tuxedo Park – A village in the south part of the town near highway NY-17.

POPULATION

	1980	1990	2000	2010	2016
POPULATION	3069	3023	3334	3624	3536



As can be seen from the preceding, the Town is experiencing a recent population growth, which is projected to remain relatively stable for the next several years.

Therefore, for school transportation purposes, the District is considered to be relatively lightly populated. As such, transportation efficiency may be determined by other than student loading, such as school bell schedules (tier time), school distances, drive time traffic and District policies relative to student ride time and/or earliest pick up or latest acceptable drop off times.

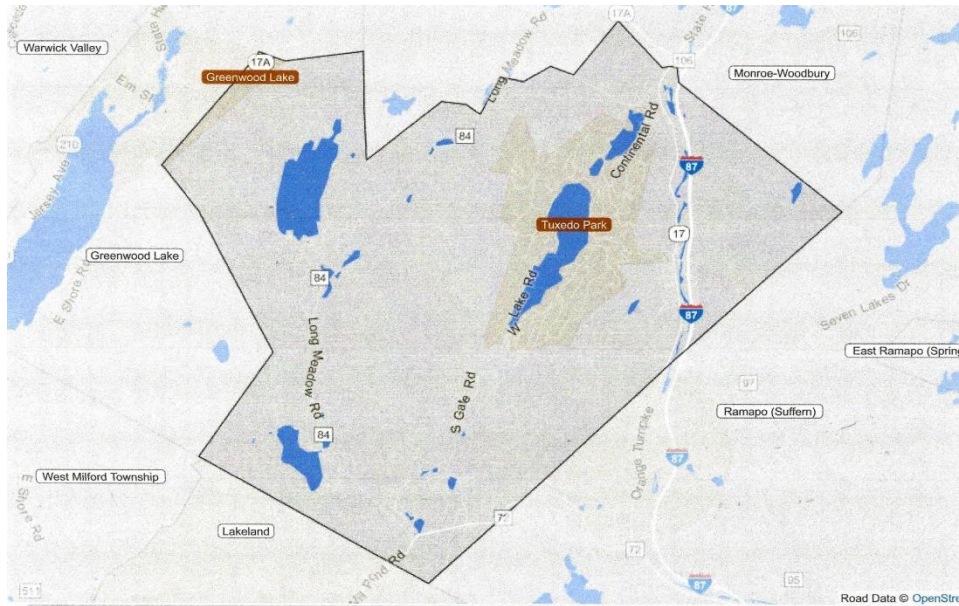
TUXEDO SCHOOLS

The Tuxedo District is K-12 and is comprised of two campuses, the George Grant Mason Elementary School, serving students in kindergarten through grade six, and the George F. Baker High School, serving grades 7 through 12 as well as students from other districts on a tuition basis. Both schools are located on the same campus. The Tuxedo Park School, a private school (K-9), is located within the village of Tuxedo Park and serves the general area.

DISTRICT SCHOOLS

SCHOOL/ADDRESS	START	END	LENGTH DAY	GRADES	ENROLL.*
GEORGE GRANT MASON ELEMENTARY SCHOOL 1 Tornado Drive Tuxedo Park, NY	8:00	2:48	6'48"	K--6	139
GEORGE F. BAKER HIGH SCHOOL 1 Tornado Drive Tuxedo Park, NY	8:00	2:48	6'48"	7--12	111

*Includes out of district placement special education students



Since the schools share the same campus, the district schools operate in a very integrated manner, sharing resources to create efficiencies whenever possible. The district has integrated systems for administration, staff, transportation, and facilities.

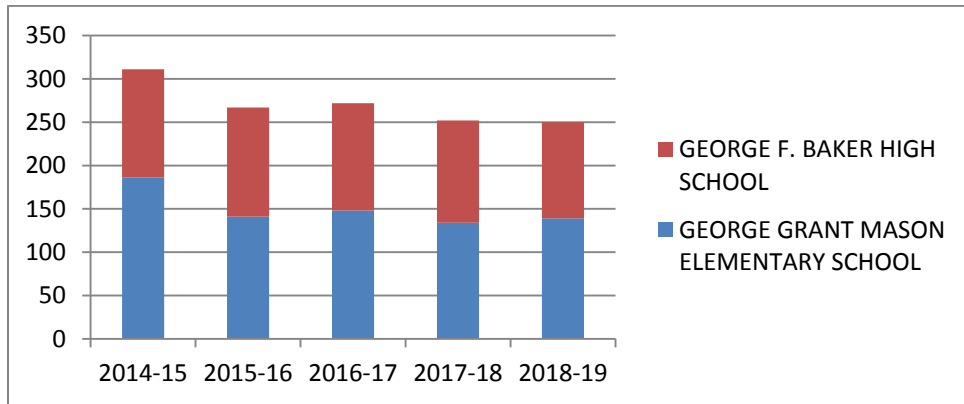
The schools are located relatively close in proximity, allowing the routes and schedules to operate within the transportation time available.

DISTRICT SCHOOL ENROLLMENTS**

SCHOOL	2014-15*	2015-16	2016-17	2017-18	2018-19
GEORGE GRANT MASON ELEMENTARY SCHOOL	186	141	148	134	139
GEORGE F. BAKER HIGH SCHOOL	125	126	124	118	111
TOTAL ENROLLMENT:	436	267	272	252	250

*Estimated 2014-15 High School

**Includes out of district placement special education students



FINDING: While the Town expects to continue to see a relatively stable population, the school district enrollment is also expected to continue to remain relatively stable over the next several years.

DEFINITIONS

TIER TIME: A tier is defined as that time which is available prior to the start of the earliest school, the time between the starting time of the earliest school and the starting time of the next earliest school and the time between the starting time of the second earliest and that of the third earliest school.

ROUTE TIME: The time from the bus depot to the actual school drop off time (includes 6-7 minutes of disembarking time).

RIDE TIME: The time from the time of the first student pick up to the last student drop off (either at school or at home).

DEAD HEAD TIME: Time from the end of 1 route to the start of the next route in which there are no students.

TRANSPORTATION OPERATIONAL EFFICIENCY

School transportation efficiency is generally determined by the following factors:

- Manual vs. computerized routing and scheduling
- The person who does the routing and scheduling determines the number of buses required
- Student Riders: Scheduled vs. Actual Riders (Student Loading)
- Time available between school starting and ending times (Tier Time)
- Distance and travel time between schools
- Population density, i.e. number of students per mile of bus travel
- Highway/road infrastructure and traffic patterns and congestion
- Community expectations for quality of service, i.e. short routes and/or convenient bus stops
- A.M. routes generally drive the number of buses required, as more students ride in the morning than in the afternoon due to after school activities.

CAUTION: Transportation management can sometimes “over consolidate” routes in order to eliminate a bus, only to have to reinstate it during the year or the following year due to required changes or routes which are too long. As a result, an efficient transportation system requires some “excess” capacity in order to manage the route and schedule changes from year to year in order to not have to add a bus and driver during the year and after the budget has been set. This is especially true for specialized transportation, which changes almost daily based upon the transportation requirements of the students.

SCHOOL BELL SCHEDULES – TRANSPORTATION TIER TIMES

IN DISTRICT SCHOOLS

The District currently operates a Single Tier Transportation system; students from all grade levels are transported together. Since the District operates a single campus for both schools, both schools have the same start and end times.

The following describes the various tier times available for school transportation under the current school bell schedules:

SCHOOL/ADDRESS	START	END	LENGTH DAY	A.M. TIER	P.M. TIER
GEORGE GRANT MASON ELEMENTARY SCHOOL 1 Tornado Drive Tuxedo Park, NY	8:00	2:48	6'48"	60	60
GEORGE F. BAKER HIGH SCHOOL 1 Tornado Drive Tuxedo Park, NY	8:00	2:48	6'48"	60	60

Since the District operates a single tier transportation system the available tier time is 60 minutes in both the morning and in the afternoon. However, while permissible, this length of student time on vehicle is not recommended.

SCHOOL TRANSPORTATION COSTS

The District is self-operated for school transportation services. It employs its own drivers and owns and maintains its own school buses. Recently, because of the age and condition of the bus fleet, the District has had to rent buses for the remainder of the school year.

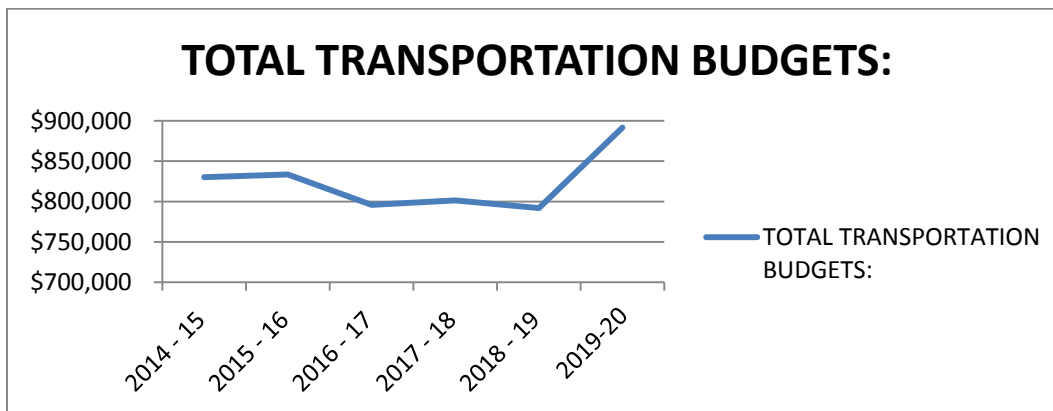
The following represents the expenditures vs the amounts budgeted for transportation services over the past several years:

DISTRICT TRANSPORTATION BUDGETS

	2014 - 15	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019-20
Instructional Salaries	\$28,250	\$29,262	\$29,104	\$21,000	\$21,000	\$23,000
Non-Inst. Salaries	\$528,952	\$512,090	\$453,314	\$494,068	\$475,000	\$450,000
Overtime Salaries	\$30,000	\$30,000	\$30,000	\$31,370	\$30,000	\$25,000
Contractual/Leasing	\$1,500	\$1,500	\$1,500	\$1,530	\$1,561	\$191,500 *
Membership Dues	\$125	\$200	\$200	\$204	\$208	\$212
Travel & Conference	\$1,500	\$1,000	\$1,000	\$1,020	\$1,040	\$1,061

Parking & Tolls	\$5,000	\$8,000	\$5,000	\$5,100	\$5,202	\$5,306
Trans. Fleet Insurance	\$11,000	\$11,936	\$12,143	\$12,386	\$12,634	\$12,886
Radios	\$25,368	\$25,368	\$27,945	\$28,504	\$29,074	\$29,656
Medical Services	\$2,000	\$2,500	\$2,000	\$2,000	\$2,000	\$2,000
Repairs	\$80,000	\$90,000	\$110,000	\$110,000	\$120,000	\$30,000
Advertising	\$50	\$250	\$250	\$250	\$250	\$250
BOCES Transportation	\$15,000	\$15,000	\$15,000			\$34,806
Gasoline/Diesel Fuel	\$90,000	\$90,000	\$90,000	\$75,000	\$75,000	\$70,000
Supplies	\$5,500	\$5,500	\$7,500	\$8,000	\$8,000	\$5,000
Tires & Chains	\$5,500	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Uniforms	\$500	\$950	\$950	\$950	\$950	\$950
TOTAL:	\$830,245	\$833,556	\$795,906	\$801,382	\$791,919	\$891,627

*Represents a one year lease cost for buses. Other budget areas, i.e. maintenance, repairs, etc. were reportedly reduced in order to minimize the total transportation budget impact.



Other than next year, the transportation budgets have been relatively stable for the past several years. The projected increase for next year is primarily due to the one-year cost of leasing buses (12), as opposed to an amortized capital purchase. The lease cost is currently included in the transportation budget as an operational cost, as opposed to a bonded purchase which would be included in another section of the District budget.

DISTRICT vs. TRANSPORTATION BUDGET ANALYSIS

YEAR	2014 - 15	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019-20*
DISTRICT BUDGET	\$15,919,099	\$14,167,143	\$13,497,279	\$13,742,849	\$13,181,372	\$13,479,103
TOTAL TRANSPORT. BUDGETS:	\$830,245	\$833,556	\$795,906	\$801,382	\$791,919	\$891,627
%	5.22%	5.88%	5.90%	5.83%	6.08%	6.61%

*Includes bus leases of \$ 191,500 which is included in the transportation budget as opposed to a capital purchase

FINDING: District transportation has averaged approximately 5.92 % of the total District budget over the past five (5) years. For similar school districts, a ratio of 5.7 % or less is considered cost effective by both industry and NYSEP standards. Therefore, based upon State NYSEP standards, the District transportation operation is considered to be relatively cost effective. The slight cost disparity can be accounted for by the relative low District enrollment and the relatively small economy of scale, as compared to larger school districts.

TRANSPORTATION AID

YEAR	2014 - 15	2015 - 16	2016 - 17	2017 - 18	2018 - 19
TRANSPORTATION AID	\$50,746	\$53,629	\$52,403	\$50,493	\$48,740

Transportation aid represents approximately 6.16% of the total District transportation expenditures and has been relatively stable over the past 5 years.

COMMENDATION: District management should be commended for maintaining a relatively cost-effective school transportation operation, while receiving a relatively low amount of State aid.

DISTRICT TRANSPORTATION POLICIES/PAST PRACTICE

- Kindergarten-pick up and drop off on right side of street in the morning and at their residence in the afternoon, to the extent possible.
- Past practice has been that no student should be on a bus longer than 60 minutes.
- Due to parent demands, school bus stops should be as convenient as possible.
- Student loads should be no more than 2 students per seat for High and Middle School students.

TRANSPORTATION ROUTING and SCHEDULING

The District does not utilize a computer routing software program. As such, route information is developed and maintained “by hand” utilizing driver recorded information and various spreadsheets. As such, actual route data was not comprehensive in single report, but had to be extrapolated from several reports provided by management.

TUXEDO DISTRICT SCHOOL BUS ROUTE 2018-19

The following represents a typical bus route provided by transportation management:

Tuxedo UFSD - AM
(Bus T-29)

7:20 Table Rock @ # 7

7:22	Table Rock @ # 24
7:24	Table Rock @ Island
7:26	Salierno Rd @ # 24
7:27	Salierno Rd @ # 42
7:28	Salierno Rd @ # 78
7:29	Salierno Rd @ # 17
7:32	Constitution Ct @ Cul-de-sac
7:34	Constitution Ct @ # 17
7:36	Alexander Dr @ Mid-Block
7:38	Heritage Ct @ # 14
7:40	Heritage Ct @ # 49
7:42	Alexander Dr @ West End
7:44	Eagle Valley Rd @ # 710
7:48	Sterling Mine Rd @ Shepherds Pond

As is evident from the previous route, other than Bus Stop times, there is relatively little information, such as driver directions, student loading at each stop, miles between stops, total bus loading, bus capacity, etc.

Appendix A represents a typical route sheet generated from a robust computer routing software program.

COMPARISON COMPUTER GENERATED vs. MANUAL ROUTING METHODS*

N=231 Districts	Utilize Routing Software?	Average Number of Buses per 100 Students
YES	141 districts	1.82
NO	90 Districts	2.4
	Variance	0.58
	Variance %	31.87%

*Source: Student Transportation Benchmarking Survey, Pennsylvania Association of School Business Officials, Management Partners Services, May 2008

Transportation personnel who do not use or are not proficient with routing software spend an inordinate amount of time manually developing and managing routes and schedules.

Because route efficiency ultimately determines the number of routes and buses and drivers required, it is critical to the overall management of transportation cost effectiveness. In the current economic climate it is important to maximize the dollars going into the classroom and to minimize the dollars used for transportation, without compromising quality or safety. In order to increase reimbursements, a district must reduce its route mileage and/or increase the number of eligible riders. Given declining enrollments in many districts, increasing route efficiency might be the only option.

In the absence of computerized routing system, staff must rely on hand developed and/or computer spreadsheets to maintain student and route data. This data is often difficult to maintain and manipulate because student needs and routes continually change. As a general rule, because routing software can significantly reduce the number of man-hours, the transportation supervisor becomes more efficient in managing the day to day transportation operation. In short, computer routing systems can help districts:

- Develop and manage bus routes, student data, and drivers;
- Visualize bus stops, routes, and students;
- Generate state reports;
- Manage redistricting issues;
- Design routes with integrated mapping system in collaboration with area school districts for common out of district placements.

Once installed and personnel properly trained, computer routing systems are relatively inexpensive to maintain. In fact, most pay for themselves through savings and future cost avoidance. When comparing system costs, many districts report an immediate savings in consideration of the cost of the man-hours necessary to operate the previous manual routing system.

Application of computer routing will also provide the opportunity to develop “what if” scenarios, such as changes in bell schedules that would provide a larger window of transportation times between tiers. The change, in turn, may allow the district to reduce the overall number of buses in simultaneous operation and consequently reduce the overall cost of transportation. Frequently, a change of only 10-15 minutes of a single bell schedule can result in the elimination of several buses.

A computer generated Fleet Management Schedule would provide more accurate and detailed information on each route, including student loading, bus capacity, total time and miles. This would make route management easier and more accurate and reduce reliance on the Contractors to manage route changes.

The following Transportation Fleet Schedule is one of the management tools available through a computer routing system:



Each tier, both a.m. and p.m. is shown as a separate schedule block. These time blocks can then be manually adjusted. This tool will provide management with additional information relative to route schedules and potential route/schedule revisions and impact. Red blocks indicate a scheduling problem and a blue block suggests the necessary correction.

The preceding Fleet Schedule depicts the times of all scheduled routes. It allows management, at a glance to identify all bus routes on a single screen. It is therefore relatively easy to revise bus route assignments and consolidate routes by literally moving the route blocks from one bus to another. Clicking on any block automatically provides the data for that route, including, vehicle loading, and vehicle capacities, start and end times. This alone provides transportation management with a tool necessary for contract management and verification of driver route times.

RECOMMENDATION: Should the District elect to purchase its own routing software, a robust computer routing and scheduling software, such as Traversa would allow for the electronic transfer of student data and therefore save time and energy during the critical late summer months. It would allow the transportation management to work smarter as opposed to working harder, especially with the management of changes in program locations/placements, etc. In addition, route information would be readily available and verifiable. In addition, it would allow management to investigate various options relative to school transportation, i.e. route change impact, school schedule revisions impact or school redistricting impact. In addition, should a change in management personnel occur, the route data and "institutional knowledge" would not be lost.

RECOMMENDATION: As the District considers both driver management and increasing school transportation efficiencies, it may wish to consider acquiring both the computer hardware and computer routing software, such as Traversa (Tyler Technologies). Computer routing software will

allow transportation management to work smarter and to better utilize the analytical tools available, as opposed to harder to maintain the required driver and other transportation data. Traversa is a local company (Latham, NY) and is relatively inexpensive, easy to learn and use and is highly intuitive relative to routing efficiency.

CAUTION: Transportation management can sometimes “over consolidate” routes in order to eliminate a bus, only to have to reinstate it during the year or the following year due to required changes or routes which are too long. As a result, an efficient transportation system requires some “excess” capacity in order to manage the route and schedule changes from year to year in order to not have to add a bus and driver during the year and after the budget has been set. This is especially true for specialized transportation, which changes almost daily based upon the transportation requirements of the students.

TRANSPORTATION VEHICLE CAPACITIES

School bus safety requires all students to be safely seated without legs in the aisle or blocking the bus aisle or rear emergency door. For upper grade students, this standard reduces the seating capacity to 2 students per seat. Current manufacturer 13” bus seats will not typically accommodate 3 students per seat for older (HS/MS) students.

Given current industry standards and required student safety, the following represents the safe seating capacity for school buses for the various student age groups:

Industry Standard- Adult (High School Students) School Bus Seating Capacity

“The seating capacity of a school bus is based on three students per 39-inch school bus seat. However, the generally accepted industry standard for adults and high school age students is that only two (2) adults/students will safely fit into a 39-inch school bus seat. Students may not hang over the edge of the seat, as doing so eliminates the compartmentalization safety for those students.” (New England Transit Sales, Inc.)

Therefore, based upon the preceding industry standard, the following would be the safe seating capacity for adult and high/middle school age students:

SCHOOL BUS CAPACITIES*

BUS SIZE	TIER	83	77	71	66	47	27	21	16	7
K TO 5	TIER 2	83	77	71	66	47	27	21	16	7
6 TO 8	TIER 1	55	51	47	44	31	18	16	11	5
9 TO 12	TIER 3	55	51	47	44	31	18	15	11	5

* According to Accepted Industry Standards

TRANSPORTATION OPERATIONS

The District operates a single tier transportation system, which includes several “feeder” or shuttle routes. The District service area consists of over 47 square miles. Fewer buses could be utilized if it ran a multi-tier system. However, this increased efficiency would require a change in bell schedules of the District schools with both earlier and later starting and ending times for one of the two schools. Eliminating buses would also result in longer walking distances to bus stops and longer routes for students.

FINDING: It is generally the morning routes which determine the size and number of buses required to provide safe and efficient school transportation, as students often remain after school for various activities.

FINDINGS: With regard to transportation efficiencies, route information provided was inconsistent, at best. We therefore analyzed the route information provided and have made the assumption that it is representative of all the routes being operated:

The following route information was extrapolated from various reports provided by transportation management:

REGULAR TRANSPORTATION A.M. ROUTES

BUS NO.	START TIME	END TIME	ROUTE TIME	TIER TIME	NO. STOPS	ROUTE MILES	SCHED. LOAD	ACTUAL LOAD*	ACTUAL CAPACITY
T29	7:20	7:48	0:28	60	15	24	33	35	44
T30	7:18	7:50	0:32	60	10	31	56	35	44
T31	7:20	7:50	0:30	60	15	32	42	35	44
T32	7:14	7:51	0:37	60	19	38	44	35	44

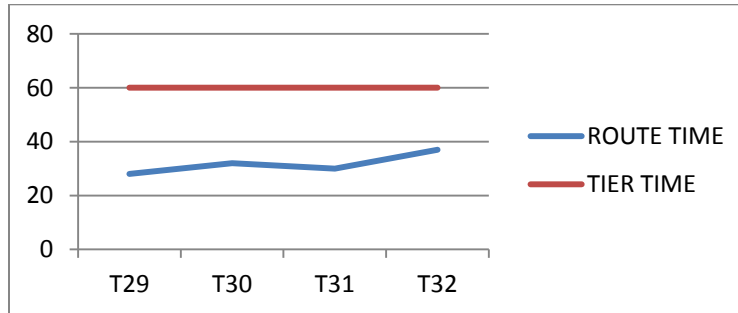
*Estimated for a typical school day

METRICS A.M. ROUTES

No. Buses	4
No. Rts.	4
Rts/Bus	1.00
No. Stops	59
Sched Load	175
Bus Capacity (Adjusted)	176
Miles	125
Ave. Time/Rt.	31.75
Ave. Time/Bus	31.75
Ave. Miles/Rt.	31.3

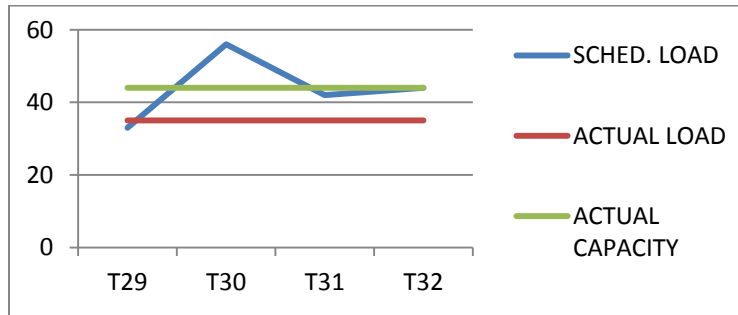
Ave. Miles/Bus	31.3
Ave. Sched. Load/Rt	43.8
Ave. Actual. Load/RT	35.0
Sched/Load Capacity	99.4%
Actual/Load Capacity	79.5%

ROUTE – TIER TIME ANALYSIS



FINDING: Based upon a 60-minute maximum route time, it appears that all routes operate within the tier time available, with an average route time of 32 minutes.

SCHEDULED vs. ACTUAL LOAD CAPACITY ANALYSIS



FINDING: While most routes are overscheduled, actual route loads are less than the bus capacities.

P.M. ROUTES

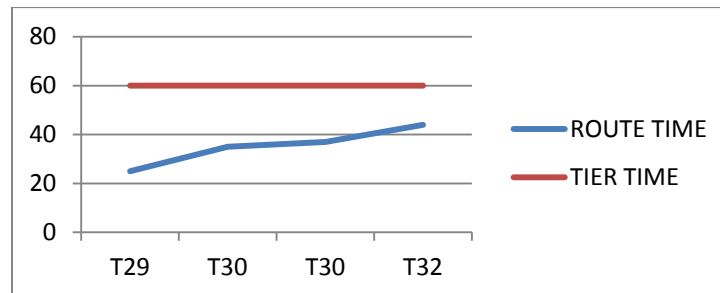
BUS NO.	START TIME	END TIME	ROUTE TIME	TIER TIME	NO. STOPS	ROUTE MILES	SCHED. LOAD	ACTUAL LOAD*	ACTUAL CAPACITY
T29	3:05	3:30	0:25	60	15	24	33	35	44
T30	2:55	3:30	0:35	60	10	31	56	35	44
T30	2:55	3:32	0:37	60	42	32	42	35	44
T32	3:05	3:49	0:44	60	44	38	44	35	44

*Estimated for a typical school day

METRICS P.M. ROUTES

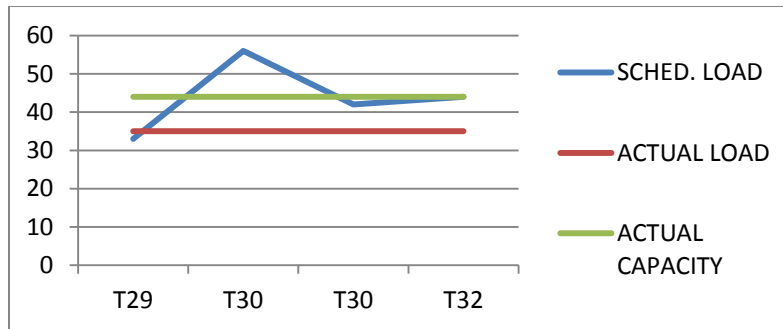
No. Buses	4
No. Rts.	4
Rts/Bus	1.00
No. Stops	111
Sched Load	175
Bus Capacity (Adjusted)	176
Miles	125
Ave. Time/Rt.	35.25
Ave. Time/Bus	35.25
Ave. Miles/Rt.	31.3
Ave. Miles/Bus	31.3
Ave. Sched. Load/Rt	43.8
Ave. Actual. Load/RT	35
Sched/Load Capacity	99.4%
Actual/Load Capacity	79.5%

ROUTE- TIER TIME ANALYSIS



FINDING: Based upon a 60-minute maximum route time, it appears that all routes operate within the tier time available, with an average route time of 35 minutes.

SCHEDULED vs. ACTUAL LOAD CAPACITY ANALYSIS



FINDING: Based upon the routing and scheduling data provided, it appears that those routes, for which data was available, operate within available bus capacities.

Typically, for high school routes and since many eligible high school students do not ride the bus, high school routes are generally scheduled at 100%+ of eligible riders. However, for school districts with similar demographics, the current actual student load to capacity ratio of approximately 79.5 % in the morning and afternoon is considered highly efficient by current industry and State standards.

COMMENDATION: Recognizing that not all High School students ride the bus, Transportation management should be commended for over scheduling some of their routes in order to achieve the highest actual utilization of their buses.

COMMENDATION: Transportation management should be commended for scheduling and utilizing shuttle buses in order to reduce the overall number of buses required to provide safe and efficient school transportation.

OUT OF DISTRICT /SPECIAL EDUCATION TRANSPORTATION

In addition to the previous regular school transportation routes, the District also provides transportation for students enrolled at the following:

PRIVATE PLACEMENTS	START	END	NO. STUD.	
OU BOCES-STRIVE Chester, NY	8:05	2:05	1	PARENT
ROCKLAND BOCES:COVE AT TAPPAN ZEE Orangeburg, NY	8:15	3:00	1	
ROCKLAND BOCES: JESSE KAPLAN/KCDC Nyack, NY	8:45	2:45	2	Contracted BOCES Transport.

ROCKLAND BOCES: PEARL RIVER MS Pearl River, NY	7:45	2:15	1	
ROCKLAND BOCES: CABAS New City, NY	8:00	2:15	3	PARENT (1)
ROCKLAND BOCES: CHERRY LANE ES Airmont, NY	9:05	3:20	1	PARENT
ROCKLAND BOCES: MILLER ES Nanuet, NY	9:00	3:30	1	PARENT
ROCKLAND BOCES: LINCOLN AVE. ES Pearl River, NY	8:30	2:45	1	
ROCKLAND BOCES: SUFFERN HS Suffern, NY	7:30	2:05	2	
ROCKLAND BOCES: RIVER VIEW HS Nyack, NY	7:50	1:53	3	PARENT (1)
ROCKLAND BOCES: MONTEBELLO ES Suffern, NY	8:35	3:05	1	
ROCKLAND BOCES: COVE AT SOUTH ORANGETOWN MS South Orangetown, NY	8:15	2:50	1	
ROCKLAND BOCES: SUFFERN MS Suffern, NY	8:00	2:35	1	
TOTAL:			19	

COMMENDATION: District management should be commended for utilizing parents to transport their own children to/from private school placements. The cost of parent transportation is significantly less than that of providing daily school bus transportation.

NOTE: Parents are required to provide their own transportation for students placed more than 15 miles outside the school district,

OVERALL FINDINGS

FINDINGS:

- Overall, the District reported transporting approximately 149 general education students and 19 special education students in the morning.
- The average number of scheduled student per route was 45 and actual was approximately 35 students.
- The average miles per route were 31.3 miles in both the morning and afternoon.
- The average number of bus stops is approximately 15 per route, with an average of 1.25 students per stop.
- The average route time is approximately 32 minutes in the morning and 35 minutes in the afternoon.
- The average number of actual riders was not available, but was estimated at approximately 140 students on a typical school day.
- The actual load to capacity ratio is 79.5 % in the morning and afternoon.
- Given the relatively small number of outside placements, special education transportation is provided on almost an individual basis. Without a large economy of scale it is impossible to create more efficient routing and scheduling, with acceptable student time on vehicles.

PERSONNEL

Transportation operates with one full time Coordinator, who is very knowledgeable of routes and schedules, as well as operational limitations. Other than unreliable equipment, there were no reported performance issues.

The buses are parked in a vacant area located approximately 3 miles from the schools, with limited parking for both buses and driver cars. Minimal onsite maintenance is performed by a full time driver. There is no maintenance or repair facilities on site, as all of the bus repairs are outsourced to a local vendor. Also, driver accommodations are “Spartan” with a wooden shed type structure utilized by drivers. It does not have bathroom facilities and running water.

FINDING: There are four Regular Transportation Drivers who are full time (10 months) and are paid by salary, as opposed to an hourly rate. In addition to their salary, they also accrue overtime for after-hours field and activity trips. They typically split their time (50/50) between driving and District maintenance activities. In addition, because they are considered full time, they receive the District negotiated benefits, which in FY’2017 was 39.7% of salary (NYSED 2017).

The negotiated benefits include:

- | | |
|-------------------|---------|
| • Death in Family | 3 Days |
| • Personal | 3 Days |
| • Call Back | 3 Hours |

- Uniforms Provided
- Sick Days 11 Days
- Work Year +5 Work Days
- Health Insurance 89% Paid by District
- Health Insurance Buy Out \$ 1500
- Paid Holidays 14 Days
- Trip Wait Time \$ 10-\$15 per Hour

The following represents the recent salary schedule for full time bus drivers:

BUS DRIVER WAGE RATES

BUS DRIVER/UTILITY	2015-16	2016-17	2017-18
ENTRY	\$40,739	\$41,350	\$42,074
BASE	\$45,433	\$46,114	\$46,921
EXPERIENCED	\$47,849	\$48,566	\$49,416
AVERAGE INCREASE			
ENTRY		1.5%	1.8%
BASE		1.5%	1.8%
EXPERIENCED		1.5%	1.8%

Current driver salaries average \$49,266 (including overtime) with a high of \$53,784 and a low of \$35,917.

COMMENDATION: District management should be commended for recognizing driver experience on their salary/wage schedule. This helps in both recruiting and retaining quality drivers.

TRANSPORTATION PERSONNEL WAGE RATES

	STATUS	SALARY
DIRECTOR	F.T. 12 Month	\$ 88,602
DRIVERS		
Driver 1	F.T 10 Month	\$ 49,416
Driver 2	F.T 10 Month	\$ 34,290
Driver 3	F.T 10 Month	\$ 49,416
Driver 4	F.T 10 Month	\$ 46,921
		\$ 180,043
	AVE.	\$ 45,011
	STATUS	RATE
Driver 5	P.T.	\$19.96
Driver 6	P.T.	\$18.13

Driver 7	P.T.	\$19.96
Driver 8	RESIGNED	\$19.48
Driver 9	P.T.	\$18.98
Driver 10	P.T.	\$18.48
Driver 11	RESIGNED	\$17.82
Driver 12	P.T.	\$17.82
Driver 13	P.T.	\$18.00
Driver 14	P.T.	\$17.55
Driver 15	P.T.	\$17.82
BUS MONITORS		
Bus Monitor 1	P.T	\$12.24
Bus Monitor 2	RESIGNED	\$12.24
Bus Monitor 3	P.T.	\$12.24
Bus Monitor 4	DRIVER	\$12.24
Bus Monitor 5	P.T.	\$12.24

The part time drivers are paid hourly. The hourly wage rate is \$17.55 to \$19.96, with no appreciable benefits. Part time Bus Monitors are paid \$12.24 per hour, with no appreciable benefits.

FINDING: In addition to salary, full time drivers are routinely paid overtime for additional work outside of their normal day, i.e. athletic trips. Year to date overtime, as of May 31, 2019 totaled \$13,643 and a total overtime charge of \$17,020 in FY' 2018.

RECOMMENDATION: Rather than accrue overtime, management may wish to assign field and activity trips to the part time drivers. This could ultimately reduce overall cost by approximately \$10,000-\$12,000 annually. In addition, it would provide the part time drivers with increased hours and higher annual wages. This would also help in both recruiting and retaining quality drivers.

ACCRUED LEAVE WITH PAY

	DAYS	RATE	COST
ACCRUED LEAVE WITH PAY	544.8	\$15.00	\$8,172.00

FINDING: In addition to annual wages and benefits, the District carries liability cost of approximately \$8172, which is primarily unused vacation and sick days carried forward from year to year. In the event the District chooses to outsource their transportation services, this liability would become due and payable.

FINDING: While split between two areas, the full time driers appear to be well compensated for their transportation responsibilities, especially when over time and benefit cost are included. This payment method is generally unprecedented in the private sector.

VEHICLE INVENTORY

The following describes the current District owned bus fleet:

REGULAR TRANSPORTATION BUSES

BUS NO.	CAPACITY	YEAR	MILEAGE	MILES/RT.	AGE	STATUS	CONDITION
T29	66	2007	119676	24	12	Routed	
T30	66	2007	139804	31	12	Routed	
T26	66	2006	144417	45	13	Routed	
T27	66	2006	148515	0	13	Spare	
T33	66	2007	108456	n.a.	12	Field Trips	
T31	66	2007	140555	37	12	Routed	Not Pass DOT
T32	66	2007	146585	38	12	Routed	Not Pass DOT
T25	66	2006	159098	0	13	Spare	Rusted
T28	66	2006	152699	0	13	Spare	

METRICS

AVE. AGE	12.4
AVE. MILES	139,978
LESS THAN 5 YEARS	0
UNDER WARRANTY	0

FINDING: The District does not have or maintain a capital plan for the periodic replacement of their school buses. Consequently, the cost of either leasing or purchasing is carried as an operational cost in their annual budget.

FINDING: The average age of the buses was 12.4 years old with an average accumulated mileage of 139,978 miles.

SPECIAL EDUCATION VEHICLE FLEET

BUS NO.	CAPACITY	YEAR	MILEAGE	MILES/RT.	AGE	STATUS	CONDITION
T18	20	2012	164084	110	7	Routed	
T19 WC	12	2011	153919	102	8	Routed	
T2	7	2006	158047	75	13	Routed	No DOT Pass
T17	20	2013	118233	105	6	Routed	
23	34	2004	160218		15	Routed	
24	34	2004	153914		15	Spare	OOS
20		2005			14	Service	
T21	10	2006	243512	90	13	Routed	Rusted
T22	10	2006	238551	55	13	Routed	Needs Repairs

METRICS

AVE. AGE	11.6
AVE. MILES	154,498
LESS THAN 5 YEARS	0
UNDER WARRANTY	0

FINDING: The District does not have or maintain a capital plan for the periodic replacement of their school buses. Consequently, the cost of either leasing or purchasing is carried as an operational cost in their annual budget.

FINDING: The average age of the special education buses was 11.6 years old with an average accumulated mileage of 154,498 miles.

LEASED BUSES

Due to the age and condition of the current bus fleet, the District is leasing, at an annual cost of \$191,500, the following buses on a one year basis:

LEASED BUSES

YEAR	TYPE	CAPACITY	VALUE
2019	MINI	20	\$ 47,348
2019	MINI	20	\$ 47,348
2019	MINI	20	\$ 47,348
2019	MINI	20	\$ 47,348
2019	MINI	34	\$ 54,337
2020	MINI	30	\$ 54,337
2020	C2 BUS	66	\$ 118,447
2020	C2 BUS	66	\$ 118,447
2020	C2 BUS	66	\$ 110,000
2020	C2 BUS	66	\$ 110,000
2020	C2 BUS	66	\$ 110,000
2020	C2 BUS	66	\$ 110,000
TOTAL:			\$ 974,960

RECOMMENDATION: As opposed to leasing, the District may wish to consider a lease-purchase method of acquiring new buses. The Lease purchase (7 year amortization) allows the District, at the end of the lease period to retain the best of the fleet and trade in the balance on new buses. In this method, the District does not have to finance the cost of spare buses. In addition the trade value of the 7 year old buses is significantly higher than that of 10 years+ buses. This would allow for a level funded budget and minimize the budget impact from the replacement of the complete fleet every 10 years.

RECOMMENDATION: Should the District choose to continue to be self-operated for school transportation, and in order to minimize repair and maintenance costs, the District may wish to consider purchasing an extended warranty (7 years/100,000 miles) for any new buses purchased. The extended warranty would then coincide with the term of the lease purchase agreement.

COMPARATIVE COST ANALYSIS

In New York approximately one third of the school districts contract or outsource their school transportation, one third are self-operated (own and operate) and one third rely on public transportation. The average transportation cost per pupil in New York was \$1,141 last year, as compared to the national average of \$459. New York is one of the most expensive states relative to the per pupil cost of school transportation. This can be partly attributable to the fact that much of New York is considered rural and with therefore relatively light population density. In addition, New York has relatively large consolidated school districts, which transport students over large geographic areas. While this transportation may be both cost effective and efficient, it remains relatively expensive.

The following represents the District cost for transportation services compared to other New York small school districts:

AREA SCHOOL DISTRICTS (Orange County) 2016-17

DISTRICT	ENROLLMENT	RNT BUDGET	COST/ STUDENT
CHESTER	1779	\$1,526,999	\$1,395
CORNWALL	3254	\$3,773,642	\$1,160
FLORIDA	824	\$1,001,005	\$1,215
GOSHEN	2968	\$3,059,652	\$1,031
GREENWOOD LAKE	795	\$1,590,400	\$2,001
HIGHLAND FALLS	1042	\$2,302,304	\$2,210
MIDDLETOWN	7507	\$8,445,038	\$1,125
MINISINK VALLEY	3933	\$5,825,658	\$1,481
MONROE-WOODBURY	6721	\$9,221,718	\$1,372
NEWBURG CITY	11627	\$14,059,615	\$1,209
PINE BUSH	5315	\$7,618,516	\$1,433
TUXEDO	256	\$692,731	\$2,706
VALLEY STR UF	1533	\$882,466	\$1,329
WARWICK VALLEY	3633	\$4,122,287	\$1,135
WASHINGTONVILLE	3933	\$5,030,132	\$1,260
AVERAGE:	55120	\$69,152,163	\$1,254.57

FINDING: Based upon an average transportation cost per pupil, the District is more than twice the average cost of other area school districts.

CAVEAT: However, the District is significantly smaller than those area school districts and consequently does not have the economy of scale to distribute its fixed operational costs and, therefore would be expected to have a significantly higher cost than those of larger school districts.

**SMALL DISTRICT COMPARISONS
2016-17**

DISTRICT	ENROLLMENT	RNT BUDGET	COST/ STUDENT
PUTNAM	61	\$152,742	\$2,504
MINERVA	123	\$250,696	\$2,038
WELLS	143	\$320,617	\$2,242
QUOGUE	169	\$222,611	\$1,317
WYOMING	180	\$415,485	\$2,308
WHEELERVILLE	184	\$338,662	\$1,841
BOLTON	203	\$493,868	\$2,433
VAN HORNSVILLE	204	\$470,303	\$2,305
SCHROON LAKE	224	\$341,751	\$1,526
SHELTER ISLAND	224	\$293,396	\$1,310
WHITESVILLE	226	\$247,275	\$1,094
WESTPORT	227	\$290,410	\$1,279
BROOKFIELD	237	\$653,091	\$2,756
JEFFERSON	239	\$227,506	\$952
CAMASERAGA	249	\$439,340	\$1,764
ROSCOE	253	\$611,383	\$2,417
WEBB	255	\$488,951	\$1,917
WILLSBORO	261	\$251,298	\$963
WEST VALLEY	272	\$394,551	\$1,451
ELIZABETH TOWN	275	\$371,088	\$1,349
HAMMOND	276	\$531,976	\$1,927
ST. REGIS FALLS	276	\$283,947	\$1,029
FRANKLIN	282	\$441,815	\$1,567
CROWN POINT	291	\$352,262	\$1,211
CLIFTON FINE	296	\$712,218	\$2,406
SHARON SPRINGS	298	\$380,637	\$1,277
AVERAGE COST:			\$1,738

TUXEDO	256	\$692,731	\$2,706
---------------	------------	------------------	----------------

DIFFERENCE: \$968

FINDING: Based upon an average transportation cost per pupil of other small districts, the District cost appears to be relatively comparable to that of other relatively small school districts. In comparing costs between the District and other small Districts we calculated that the District cost was approximately \$968 more per student than the average cost for those districts.

We then compared the District cost to that of small school districts with similar demographics:

**SIMILAR SMALL DISTRICT COMPARISONS
2016-17**

SIMILAR DISTRICTS	ENROLLMENT	RNT BUDGET	COST/ STUDENT
WYOMING	180	\$415,485	\$2,308
BOLTON	203	\$493,868	\$2,433
BROOKFIELD	237	\$653,091	\$2,756
ROSCOE	253	\$611,383	\$2,417
WEBB	255	\$488,951	\$1,917
CLIFTON FINE	296	\$712,218	\$2,406
VAN HORNSVILLE	204	\$470,303	\$2,305
WHEELERVILLE	184	\$338,662	\$1,841
AVERAGE COST:			\$2,309

TUXEDO	256	\$692,731	\$2,706
---------------	------------	------------------	----------------

FINDING: Based upon an average transportation cost per pupil of other small districts with similar demographics, the District cost appears to be relatively comparable to that of other relatively small school districts. In comparing costs between the District and other small Districts we calculated that the District cost was approximately \$397 more per student than the average cost for those districts with similar demographics.

As part of the study, we calculated the comparative cost of the District transportation operation to that of outsourcing or contracting out for the same level of services. We utilized the regular bus data for our analysis, as it represents the base from which private bids are calculated and it represents the more expensive portion of the transportation operations.

The following represents this analysis:

SELF OPERATED COST ESTIMATE REGULAR BIG BUS TRANSPORTATION

CAP COST FACILITY	ANNUAL BUS COST (7 Yr. Amort)	AMORT. COST/BUS	INSURANCE FAC+BUS	PROPANE BUSES	DRIVER HRS/DAY	DRIVER RATE
HIGH SCHOOL	66 PAX	186 DAYS	\$12,886.00			
\$-	\$18,147.17		12 BUSES-220 Days			
		\$97.57	\$4.88			
DRIVER	DRIVER \$	DRIVER	NYSED BENEFITS	SUB	COORD.	MECHANICS
AVE. ANNUAL	COST/BUS	COST/BUS	39.70%	DRIVERS	\$88,602	\$123.56
\$49,226		186 DAYS	\$9,779.30	at 8 days	240 DAYS	186 DAYS
AVERAGE		\$24,633		\$561.60	12 BUSES	\$22,982.16
50%		\$132.44	\$52.58	\$3.02	\$123,776.99	
					\$55.46	\$10.30
ANCILLARY OPERATIONS		BUS MAINT REPAIRS	FUEL \$	TOLLS PARK.	RADIOS COMM.	SUB TOTAL
HIGH SCHOOL		SUPPLIES	186 DAYS	\$5,306.00	\$29,656	
\$9,473.00		\$45,950.00		\$-	186 DAYS	
\$4.24		\$20.59	\$31.36	\$2.38	\$13.29	
WITHOUT FACILITIES CAPITAL	TOTAL	OVERHEAD 27%	PROFIT 7%	TOTAL COST		
	\$396.73			per DAY per BUS		
		\$-	\$-	\$396.73		

FINDING: Based upon our analysis of the current school district costs, we have calculated the average cost per bus per day for regular school transportation (66 passenger buses) to be approximately \$396.73, which includes an amortized (7 years) cost of purchasing new buses at a 2.00% tax exempt municipal finance rate..

In addition, we identified several school districts which currently outsource their school transportation services.

CONTRACTED COST COMPARISONS 2018-19

DISTRICT	ENROLLMENT	NO. BUSES	COST/DAY
TUXEDO	256	4	\$396.73
MONROE-WOODBURY	6721		
MIDDLETOWN	7507		
VALLEY CENTRAL	1533		
FLORIDA	824		
CHESTER	1779		
NEWBURG	11627		

To date, these school districts have not provided the requested information. But even so, given their enrollment size relative to the District, it may not be a valid comparison.

In addition, we contacted NYSEP to determine if they collected this data as part of their annual school district reporting. NYSEP Financial Services indicated that they no longer collect and report out this data. Based upon our conversations with NYSEP financial staff, it appears that, consistent with other states, many, if not most, of the small (under 500 students) own and operate their own buses, as opposed to contracting. Unless the District belongs to a regional transportation system (BOCES), it is presumable less expensive to own and operate than contracting.

However, we have collected this information for school districts in Massachusetts which recently bid their contracts and which have relatively similar state and local school transportation requirements:

MASSACHUSETTS RECENT TRANSPORTATION BID RESULTS

DISTRICT	TIERS	REGULAR			
		CURRENT	BID/CONTRACT	BID/CONTRACT	BID/CONTRACT
		FY'2017	FY'2018	FY'2019	FY'2020
Newton	3		\$ 540.00	\$ 555.00	\$ 575.00
Plymouth-Propane Buses	3	\$ 376.78	\$ 419.90	\$ 443.31	\$ 455.50
Plymouth-Diesel	3	\$ 376.78	\$ 402.32	\$ 424.75	\$ 436.43
Mansfield	3	\$ 312.00	\$ 347.00	\$ 354.00	\$ 361.00
Plainville	2	\$ 300.00	\$ 370.00	\$ 380.00	
Billerica	2 to 3	\$ 281.00	\$ 372.00	\$ 372.00	\$ 372.00
Lincoln-Sudbury	3	\$ 324.77	\$ 357.08	\$ 382.52	\$ 395.91
Hamilton-Wenham	2	\$ 255.17	\$ 276.03	\$ 286.71	\$ 297.18
Athol	3	\$ 323.00	\$ 347.00	\$ 379.00	\$ 405.00
Duxbury	2 to 3	\$ 374.70	\$ 387.81	\$ 411.42	\$ 423.76
Upper Cape Cod Reg Tech	1	\$ 332.45	\$ 343.45		
Whitman-Hanson-Abington Reg	3	\$ 338.86	\$ 372.35	\$ 402.73	\$ 412.80

Greater New Bedford Voc Tech	1	\$	268.19		\$	309.76		
Greater Lowell Voc Reg Tech	1	\$	228.50	\$	267.00			
Taunton	3	\$	301.11	\$	338.00	\$	343.07	\$ 348.22
Framingham	3	\$	411.60	\$	425.34	\$	446.90	\$ 458.10
Lunenburg	2 to 3	\$	360.00	\$	370.00	\$	380.00	\$ 395.00
Melrose	3	\$	335.00	\$	389.00	\$	409.00	\$ 429.00
Freetown-Lakeville	2 to 3	\$	439.39	\$	478.07	\$	494.80	\$ 512.12
West Boylston	3	\$	270.99	\$	349.00	\$	369.00	\$ 391.00
Fairhaven	2	\$	220.00	\$	275.00			
Chicopee	3 to 4	\$	322.53	\$	327.37	\$	332.28	\$ 337.26
Gateway Regional	2	\$	325.77					
Mohawk Trail RSD	2	\$	357.58					
Hampshire Reg	2	\$	346.50					
Amherst Pelham RSD	2	\$	338.79					
Westfield	3	\$	305.77	\$	310.77			
South Hadley		\$	318.40	\$	331.14			
Blackstone-Millville RSD	3	\$	387.00	\$	387.00	\$	407.00	\$ 417.00
Bridgewater-Raynham RSD	3	\$	413.34	\$	435.00	\$	441.53	\$ 448.15
Bridgewater-Raynham RSD	2	\$	366.24	\$	415.00	\$	421.23	\$ 427.54
Blackstone Valley Tech RSD	1	\$	299.28	\$	343.85	\$	349.01	\$ 354.24
Dracut	3					\$	308.05	\$ 382.00
Palmer		\$	388.00			\$	404.04	
Quabbin Regional	2	\$	355.95			\$	395.00	
Bedford	2	\$	374.00	\$	384.00	\$	399.00	\$ 419.00
Somerset	3	\$	298.00	\$	341.00	\$	351.00	\$ 361.00
Berkley	2			\$	275.00	\$	295.00	
Lowell (Re Bid)	3	\$	315.00	\$	370.00	\$	375.00	\$ 380.00
Worcester RNT	3	\$	338.67	\$	420.73	\$	433.35	\$ 446.35
Worcester SNT	1	\$	358.32	\$	475.96	\$	492.62	\$ 509.86
Brockton	3			\$	420.94	\$	454.62	\$ 468.26
Springfield-83 PAX	3			\$	422.00			
Springfield-71 PAX	3			\$	417.00			
Springfield-24 PAX				\$	462.63			
Springfield-Vans				\$	253.92			
Nashoba Reg	3	\$	369.33	No Bids				
Fall River	2					\$	388.88	\$ 364.00
Fall River	1					\$	288.88	\$ 298.00

AVERAGE BUS COST:	\$390.87	\$409.36
--------------------------	-----------------	-----------------

Tuxedo	\$396.73	\$402.68
---------------	-----------------	-----------------

FINDING: Based upon an average transportation cost per bus per day of Massachusetts school districts which have recently bid their school transportation services, the District cost appears to be relatively comparable. In comparing costs between the District and other small Districts we calculated that the District cost was approximately \$5.86 (1.5%) more than the average cost for those Massachusetts school districts this year, but approximately \$6.68 less for next year.

INSURANCE

COMMENDATION: District management should be commended for providing automobile liability coverage for both Under Insured and/or Uninsured motorists.

This is important as over the past decade there are more drivers who are either minimally insured or are uninsured. In the event of a school bus accident, it is incumbent upon management to protect the financial interests of both the District and the municipality.

FINANCIAL

OBSERVATION: The current BOCES contract is for approximately \$1,972,936 for a variety of programs and services being provided to the District. This BOCES contract however represents approximately 14.6% of the overall District budget.

BOCES Services Cost	\$1,972,936.00
% of District Budget	14.64%

RECOMMENDATION: Should the District elect to outsource its transportation operations, it may wish to investigate the interest of other BOCES member school districts in developing a regional approach to either providing or outsourcing school transportation services. The potential increased economy of scale of multi district operations would ultimately benefit all participating school districts.

SUMMARY

FINDING: Overall, given the level of community expectation and demands on school transportation, the resultant operation is a relatively high quality, cost effective and efficient transportation operation.

Our review did not indicate any current or recent school transportation performance issues, other than a relatively high equipment failure rate.

The District does not utilize a computer routing software program. As such, route information is developed and maintained “by hand” utilizing driver recorded information and various spreadsheets. As such, actual route data was not comprehensive.

RECOMMENDATION: The acquisition and utilization of a computer routing software would provide all of the requisite information for transportation management to both effectively manage the overall routing and scheduling and to maximize routing efficiencies. The utilization of technology would allow them to work smarter as opposed to harder. In addition, should a change in management personnel occur, the route data and “institutional knowledge” would not be lost.

FINDING: For all schools, the actual student loads are less than the school bus capacities and the route schedules operate within a reasonable transportation tier time.

In comparing the District transportation costs to those of both area school district and to other relatively small rural school districts, we found that the District costs were significantly higher. However, in comparing the District current cost to that of contracting we found the District increase to be only slightly higher this year and probably lower projected for next year and going forward.

Based upon our conversations with NYSEP financial staff, it appears that, consistent with other states, many, if not most, of the small (under 500 students) own and operate their own buses, as opposed to contracting. Unless the District belongs to a regional transportation system (BOCES), it is presumable less expensive to own and operate than contracting.

While we recognize that this particular analysis is not necessarily an “apples to apples” comparison, it does suggest that compared to contracting, the District costs may not necessarily be higher than that of private contracting.

The unanswered question is whether there is an area private contractor who would bid on this relatively small contract and whether that resultant cost would in fact be less than the current and projected District costs. Presumably, any Bidder would wish to retain at least the current drivers who have presumably provided excellent service and already know the District routes and requirements. Since the typical driver cost represents approximately 47% of the total cost per bus per day and the amortized equipment cost another 25%, it would be expected that these costs (72%) would also be incurred by any Bidder/Contractor. The primary cost savings could be in the areas of Coordination costs and benefits. Private contractor typically do not offer the level of benefits provided by the District. However, these typical cost reductions are often offset by a relatively higher overhead rate (26-38%) and their bottom line profit margin (5-7%). However, even if contracting, the District would still maintain some of its current costs which are currently charged to the transportation budget, i.e. some business and finance costs, as well as coordination costs, as well as incurring the current driver benefit liability cost.

Based upon our experience, even though the cost of the District transportation services are relatively expensive, the alternative of contracting would not currently save any significant amount of money and may, in fact, cost more in the future. In our opinion a comparable level of service would be slightly more expensive short term and could be significantly more expensive long term. Our experience has shown that potential contractors will sometimes “low ball” their first bid and make it up over subsequent years. In addition, by contracting, District management would lose much of the day to day control over the transportation operations and the subsequent quality of services currently being provided.

Therefore, based upon our overall analysis of the District transportation operations, we do not recommend outsourcing at this time.

APPENDIX A

SAMPLE COMPUTER GENERATED ROUTE

(Student Names and ID Numbers Redacted)

11/8/2018 11:32:58 AM

**First Planning Solutions
Bus Driver Directions For 1 ALDEN AM ALDEN SCHOOL IN**

Page 1

Route: 1 ALDEN AM
Bus: 1
Driver:
Anchor: ALDEN SCHOOL

Start Time: 06:59 am
End Time: 07:24 am
Total Time: 24:21
Distance: 6.99 mi.

Total Riders: 29
Max Load: 29
Route Days: MTWHF
Schedule Day: Monday

Driver Sign-On Time:N/A

Driver Sign-Off Time:N/A

	Distance	Pick Up	Drop Off
6:59 am START	GURNET RD @ PINE POINT RD	6	
Days: MTWHF	115 EAST PINE RD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	31 PINE POINT ROAD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	135 EAST PINE RD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	105 EAST PINE ROAD DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	110 EAST PINE ROAD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	65 PINE POINT ROAD DUXBURY	School: ALDEN	Grade: 05
Comments:			
Start on	GURNET RD	0.43	
7:01 am STOP	96 GURNET ROAD	1	
	Crossing = 0 / Not Crossing = 1		
Days: MTWHF	96 GURNET RD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Continue on	96 GURNET RD	0.01	
Continue on	GURNET RD	0.26	
7:02 am STOP	11 GURNET RD	2	
	Crossing = 0 / Not Crossing = 2		
Days: MTWHF	11 GURNET ROAD DUXBURY	School: ALDEN	Grade: 05
Comments:			
Days: MTWHF	15 PLYMOUTH AVENUE DUXBURY	School: ALDEN	Grade: 05
Comments:			

11/8/2018 11:32:58 AM

First Planning Solutions
Bus Driver Directions For 1 ALDEN AM ALDEN SCHOOL IN

Page 2

		Distance	Pick Up	Drop Off
	Continue on GURNET RD	0.03		
	Continue on CANAL ST	0.68		
	Left turn at CARESWELL ST	1.72		
	Continue on TREMONT ST	0.30		
	Continue on CHURCH ST	0.06		
7:10 am	STOP 10 CHURCH ST		1	
	Crossing = 0 / Not Crossing = 1			
	PICKUP			
Days: MTWHF	10 CHURCH STREET DUXBURY		School: ALDEN	Grade: 03
	Comments:			
	Continue on CHURCH ST	0.06		
7:11 am	STOP 44 CHURCH ST		1	
	Crossing = 0 / Not Crossing = 1			
	PICKUP			
Days: MTWHF	44 CHURCH STREET DUXBURY		School: ALDEN	Grade: 04
	Comments:			
	Continue on CHURCH ST	0.03		
	Continue on FRONTAGE RD	0.04		
7:11 am	STOP FRONTAGE RD @ MILLBROOK WAY		2	
	Crossing = 0 / Not Crossing = 2			
	PICKUP			
Days: MTWHF	81 MILLBROOK WAY DUXBURY		School: ALDEN	Grade: 05
	Comments:			
Days: MTWHF	81 MILLBROOK WAY DUXBURY		School: ALDEN	Grade: 03
	Comments:			
	Continue on FRONTAGE RD	0.18		
	Right turn at CHURCH ST	0.13		
7:12 am	STOP 154 CHURCH ST		1	
	Crossing = 0 / Not Crossing = 1			
	PICKUP			
Days: TH	154 CHURCH ST		School: ALDEN	Grade: 03
	Comments:			
	Continue on CHURCH ST	0.06		
	Left turn at SIMMONS DR	0.16		
7:13 am	STOP SIMMONS DR @ RACHAEL'S LN		5	
	Crossing = 2 / Not Crossing = 3			
	PICKUP			
Days: MTWHF	19 SIMMONS DRIVE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	19 SIMMONS DRIVE DUXBURY		School: ALDEN	Grade: 03
	Comments:			

11/8/2018 11:32:58 AM

First Planning Solutions
Bus Driver Directions For 1 ALDEN AM ALDEN SCHOOL IN

Page 3

		Distance	Pick Up	Drop Off
Days: MTWHF	14 SIMMONS DRIVE DUXBURY		School: ALDEN	Grade: 04
	Comments:			
Days: MTWHF	5 RACHAEL'S LANE DUXBURY		School: ALDEN	Grade: 05
	Comments:			
Days: MTWHF	5 RACHAEL'S LANE DUXBURY		School: ALDEN	Grade: 04
	Comments:			
7:15 am	Continue on SIMMONS DR STOP SIMMONS DR @ WINDY HILL LN Crossing = 0 / Not Crossing = 4	0.16	4	
	PICKUP			
Days: MTWHF	6 WINDY HILL LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	9 WINDY HILL LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	12 WINDY HILL LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	12 WINDY HILL LN DUXBURY		School: ALDEN	Grade: 04
	Comments:			
7:15 am	Continue on SIMMONS DR STOP ORCHARD LN @ SIMMONS DR Crossing = 0 / Not Crossing = 2	0.05	2	
	PICKUP			
Days: MTWHF	17 ORCHARD LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	6 ORCHARD LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
7:17 am	Continue on SIMMONS DR Left turn at CHURCH ST END CHURCH@PERRY@HERRING WEIR Crossing = 2 / Not Crossing = 2	0.12 0.39	4	
	PICKUP			
Days: MTWHF	2 PERRY DRIVE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	20 HERRING WEIR ROAD DUXBURY		School: ALDEN	Grade: 03
	Comments:			

11/8/2018 11:32:58 AM

First Planning Solutions
Bus Driver Directions For 1 ALDEN AM ALDEN SCHOOL IN

Page 4

		Distance	Pick Up	Drop Off
Days: MTWHF	62 PERRY DRIVE DUXBURY		School: ALDEN	Grade: 05
	Comments:			
Days: MTWHF	21 HERRING WEIR ROAD DUXBURY		School: ALDEN	Grade: 03
	Comments:			
	Continue on CHURCH ST	0.14		
	Left turn at TEMPLE ST	0.22		
	Left turn at WEST ST	0.96		
	Continue on ST GEORGE ST	0.29		
	Right turn at RAILROAD AVE	0.18		
	Left turn at ALDEN ST	0.18		
	Right turn at DMS/ALDEN ACC	0.15		
7:24 am DEST	ALDEN SCHOOL			29
		UNLOAD		
Days: MTWHF	19 SIMMONS DRIVE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	19 SIMMONS DRIVE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	6 WINDY HILL LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	9 WINDY HILL LANE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	11 GURNET ROAD DUXBURY		School: ALDEN	Grade: 05
	Comments:			
Days: MTWHF	10 CHURCH STREET DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	14 SIMMONS DRIVE DUXBURY		School: ALDEN	Grade: 04
	Comments:			
Days: MTWHF	2 PERRY DRIVE DUXBURY		School: ALDEN	Grade: 03
	Comments:			
Days: MTWHF	115 EAST PINE RD DUXBURY		School: ALDEN	Grade: 04
	Comments:			
Days: MTWHF	31 PINE POINT ROAD DUXBURY		School: ALDEN	Grade: 04
	Comments:			
Days: MTWHF	5 RACHAEL'S LANE DUXBURY		School: ALDEN	Grade: 05
	Comments:			

11/8/2018 11:32:58 AM

First Planning Solutions
Bus Driver Directions For 1 ALDEN AM ALDEN SCHOOL IN

Page 5

	Distance	Pick Up	Drop Off
Days: MTWHF	5 RACHAEL'S LANE DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	96 GURNET RD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	135 EAST PINE RD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	105 EAST PINE ROAD DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	20 HERRING WEIR ROAD DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	62 PERRY DRIVE DUXBURY	School: ALDEN	Grade: 05
Comments:			
Days: MTWHF	110 EAST PINE ROAD DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	44 CHURCH STREET DUXBURY	School: ALDEN	Grade: 04
Comments:			
Days: MTWHF	17 ORCHARD LANE DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	81 MILLBROOK WAY DUXBURY	School: ALDEN	Grade: 05
Comments:			
Days: MTWHF	81 MILLBROOK WAY DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	6 ORCHARD LANE DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	21 HERRING WEIR ROAD DUXBURY	School: ALDEN	Grade: 03
Comments:			
Days: MTWHF	15 PLYMOUTH AVENUE DUXBURY	School: ALDEN	Grade: 05
Comments:			
Days: MTWHF	65 PINE POINT ROAD DUXBURY	School: ALDEN	Grade: 05
Comments:			
Days: MTWHF	12 WINDY HILL LANE DUXBURY	School: ALDEN	Grade: 03
Comments:			