TRANSPORTATION ASSESSMENT

Full Report

November 2022

Prepared by: First Student Consulting for Westport Public Schools

Please Note: The information in this document is confidential and should not be shared without permission by Westport Public Schools

FIRSTconsulting
customized transportation solutions

PROJECT OVERVIEW

- Analyze the aspects of the District's transportation function:
  - Routing Efficiency and Effectiveness Assessment
  - Operations and Management Assessment
    - Dispatch & Daily Operations
    - Safety-Related Processes
    - Key Performance Indicators
    - Communication Protocols
    - Staffing
  - Comparable District Pricing Analysis

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

Firstconsulting has been contracted by Westport Public School's to provide the following:

- Evaluation of the transportation system, including policies and procedures, contracted services, vendor performance, software, technology (eg. apps), review of tiers, bus runs, bus stops, ridership, etc.
- Comparison of costs of other school districts, to include a specific report illustrating the cost of Westport Public Schools transportation services as compared to those around the state of similar size/geographical area/operations.
- Evaluation of current organizational structure and ability to meet the current and future needs of student transportation.
- Identification of technology-based optimization solutions for cost and operations efficiency and savings opportunities.

Firstconsulting conducted several interviews and obtained data from Westport's Transportation department. Firstconsulting was unable to obtain data and first-hand observations from Westport's current provider. There are several areas in which Westport's Transportation has implemented best practices.

- Safety compliance and monitoring was in place
- Fleet was in compliance
- Transportation was responsive to the families and school administrators
- Current Board practices were followed

EXECUTIVE SUMMARY

The following recommendations would improve on-time service with reduced costs and are detailed in the recommendation sections.

- Routing efficiencies were identified to be considered
  - Increase the time between tier 2 and tier 3 from 30 minutes to 45 minutes through a modest bell schedule change
  - Better utilize capacity by leveraging gaps in the first tier
  - Collect named riders and route to ridership – approx. 50% of assigned
  - Establish walking areas where appropriate
- Staffing of the Transportation department should be increased by one to divide responsibilities between routing, extra-curriculum transportation and supplier management.
- Implement a current, multi-user, cloud-based routing solution
- Implement supplier management metrics and standardized reporting
- Current Transportation costs were slightly higher than comparable districts

EXECUTIVE SUMMARY

Firstconsulting performed on site interviews with the following Westport Public Schools employees:

- Thomas Scarice – Superintendent WPS
- Elio Longo – Chief Financial Officer
- Michael Rizzo – Assistant Superintendent
- Buffy Barry – Transportation Coordinator
- Marty Lisevick – Athletic Department
- Steve Zimmerman – Fine Arts Department
- Beth Messler – Principal Saugatuck Elementary
- Tracey Carbone – Principal King's Highway Elementary

All participants interviewed were supportive and informative.

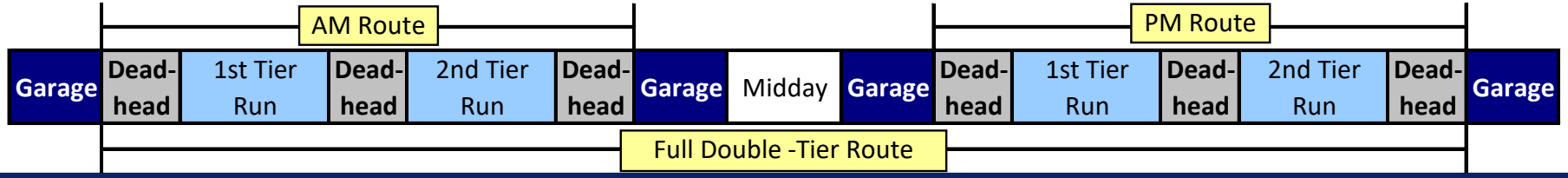
Routing Efficiency and Effectiveness

TABLE OF CONTENTS

Student Transportation Terms & Definitions

This page contains definitions of transportation terms used frequently throughout this report.

- **Bus Run** – A sequence of bus stops where the bus begins at zero load and ends at zero load. A bus run terminates at a school or facility on an inbound run and begins at a school or facility on an outbound run
- **Bus Route or Bus** – A combination or series of bus runs and/or shuttle runs that make up a driver's daily work package
- **Tier** – A group of bus runs operating at the same time based on school bell schedule. A multi-tiered system seeks to leverage the bell schedule to maximize the operation of multiple bus runs by a single bus route
- **Single, Double, Triple, Quad** – Refers to the number of bus runs assigned to a bus route in the AM or PM time period
- **Deadhead** – Refers to travel between bus runs when a bus is empty
- **Operating Window** – The time between tier bell times
- **Live Run Time** – Operating Window less unload (AM) or load (PM) less tier deadhead
- **Typical Double-Tier Route**



Background

Westport Public Schools (USD475) contracts **53 AM and 52 PM routes, comprised of 34 general ed big buses, 10 general ed small buses and 9 special needs vehicles (1 is AM only).**

- District student population is 5,329, of which ~5,200 are assigned to transportation in MapNet.
- As is the case throughout most of the country, it is currently difficult to find and retain school bus drivers in Westport CT.
- Firstconsulting was contracted to provide a full assessment of the transportation system. This includes assessing the current route configuration, staff, systems and processes

Scope of Work and Methodology

Firstconsulting was engaged to review WPS school transportation routing using MapNet data from late September, 2022.

Methodology:

1. Outline key characteristics of WPS which have a significant influence on transportation, including current school schedules, policy and geography
2. Compile Student and Transportation Metrics
3. Bell Schedule and Tiering Analysis
4. Efficiency Review
5. GPS Data Analysis – School Arrivals
6. Assess usage of MapNet system. Provide recommendation on system.
7. Staff and process review
8. Analyze student stop assignments and potential walk areas

FINDINGS SUMMARY

Routing Efficiency

- Under the current bell schedule and with the current driver pool, Westport Public Schools experiences significant late arrivals to schools in the PM. This is supported by GPS data. (appendix A)

  Current State Route Count– Based on TripSpark data:

  - 34 type I in support of General Transportation
  - 10 type II in support of General Transportation
  - 9 type II in support of Special Needs Transportation

- Two options exist to address this issue – either add vehicles (Drivers) to reduce run times or modify the school schedule to allow for additional time.
- Available run time and the driver shortage are constraints to current route efficiency and not the availability of seats. In many cases runs do not achieve full capacity based on assigned load. Historic ridership is ~50% of assigned students. Consolidation, based on available seats, is possible at most schools. (appendix B)
- Since most runs are not full, reactivating runs, to solve PM late arrivals, will only further reduce seat utilization.
- We recommend a modest change to the current bell schedule (following slides) to offer on-time arrival without replacing all routes lost through the driver shortage.

Efficiency of Bell Schedule and Recommendations

Bell Schedule

- The district operates a 3-tier bell schedule described below
- The schedule only offers 23 minutes of route time between tiers in the PM. This includes empty driving time to a next school. Based on analysis of GPS data, the schedule does not support on-time arrival in the PM
- According to recent GPS data (appendix A)
  - 9 of 28 2nd Tier connections are arriving between 2-10 min after the scheduled depart time
  - 14 of 36 3rd Tier connections are arriving after 4:00 PM to Elementary Schools; one as late as 4:15
- An additional 15 minutes between the Middle School and Elementary School tiers will allow most if not all routes to operate on-time

Current Schedule

School	Tier	AM Arr.	AM Bell	PM Bell	PM Dep.
Staples HS	1	7:40	**8:00**	**2:45**	2:52
Bedford MS	2	8:15	**8:30**	**3:15**	3:22
Coleytown MS	2	8:15	**8:30**	**3:15**	3:22
Saugatuck ES	2	8:15	**8:30**	**3:15**	3:22
Coleytown ES	3	8:50	**9:00**	**3:45**	3:52
Greens Farm ES	3	8:50	**9:00**	**3:45**	3:52
Kings Highway ES	3	8:50	**9:00**	**3:45**	3:52
Long Lots ES	3	8:50	**9:00**	**3:45**	3:52

30 mins

30 mins

Tier	AM	PM
1	60+	23
2	30	23
3	30	60+

Live Run Time by tier PM is reduced by load time at school

R1 - Recommendation to Increase Route Time & Facilitate On-Time Arrival

Potential Modest Bell Schedule Change

- The schedule below moves:
  - Staples HS 15 minutes earlier AM and PM
  - MS' and Saugatuck 10 minutes earlier AM and PM
  - Remaining Elementary Schools 5 minutes later AM and PM
- This creates an additional 15 minutes of route time between Middle School and Elementary and five minutes of additional route time between HS and MS. Extra time will allow for better seat usage.
- Any remaining, late arriving HS to MS connections can be resolved by adding additional HS runs. Currently there are 23 HS runs and 34 MS and Elem runs on big buses. 11 Middle School buses do not operate a HS run. There is room therefore, to add HS runs to alleviate on-time performance at the MS without adding additional vehicles

Proposed Schedule

School	Tier	AM Arr.	AM Bell	PM Bell	PM Dep.
Staples HS	1	7:25	**7:45**	**2:30**	2:37
Bedford MS	2	8:05	**8:20**	**3:05**	3:12
Coleytown MS	2	8:05	**8:20**	**3:05**	3:12
Saugatuck ES	2	8:05	**8:20**	**3:05**	3:12
Coleytown ES	3	8:45	**9:05**	**3:50**	3:57
Greens Farm ES	3	8:45	**9:05**	**3:50**	3:57
Kings Highway ES	3	8:45	**9:05**	**3:50**	3:57
Long Lots ES	3	8:45	**9:05**	**3:50**	3:57

35 mins

45 mins

Tier	AM	PM
1	60+	28
2	35	38
3	45	60+

Live Run Time by tier PM is reduced by load time at school

For Consideration- Bell Schedule Re-alignment Middle School – High School – Elementary School

- The schedule below puts Staples HS in the 2nd tier, MS' and Saugatuck in the 1st tier other ES remain in 3rd tier.
- This schedule would allow for better seat usage optimization
  - With fewer buses needed in the HS group, this allows ES runs in the AM to be strategically longer, some only operating a MS and ES. The same will be true of MS runs in the PM that don't have a HS. Solution can be replicated AM and PM
- This will not free up additional buses for PM activities and athletics for HS
- This aligns with current sleep studies of High School age students.

Proposed Schedule

School	Tier	AM Arr.	AM Bell	PM Bell	PM Dep.
Bedford MS	1	7:25	**7:45**	**2:30**	2:37
Coleytown MS	1	7:25	**7:45**	**2:30**	2:37
Saugatuck ES	1	7:25	**7:45**	**2:30**	2:37
Staples HS	2	8:05	**8:25**	**3:10**	3:17
Coleytown ES	3	8:45	**9:05**	**3:50**	3:57
Greens Farm ES	3	8:45	**9:05**	**3:50**	3:57
Kings Highway ES	3	8:45	**9:05**	**3:50**	3:57
Long Lots ES	3	8:45	**9:05**	**3:50**	3:57

40 mins

40 mins

Tier	AM	PM
1	60+	33
2	40	33
3	40	60+

Live Run Time by tier PM is reduced by load time at school

Another Option - Bell Schedule Re-alignment
Middle School – Elementary – High School

- The schedule below puts Staples HS in the third tier.
- With fewer buses needed in the HS group, this would free up multiple buses for activities during the third tier.
- This aligns with current sleep studies of High School age students.
- A negative may be the alignment with other conference High Schools for sports.

Proposed Schedule

School	Tier	AM Arr.	AM Bell	PM Bell	PM Dep.
Bedford MS	1	7:25	**7:45**	**2:30**	2:37
Coleytown MS	1	7:25	**7:45**	**2:30**	2:37
Saugatuck ES	1	7:25	**7:45**	**2:30**	2:37
Coleytown ES	2	8:10	**8:30**	**3:15**	3:22
Greens Farm ES	2	8:10	**8:30**	**3:15**	3:22
Kings Highway ES	2	8:10	**8:30**	**3:15**	3:22
Long Lots ES	2	8:10	**8:30**	**3:15**	3:22
Staples HS	3	8:45	**9:05**	**3:50**	3:57

45 mins

35 mins

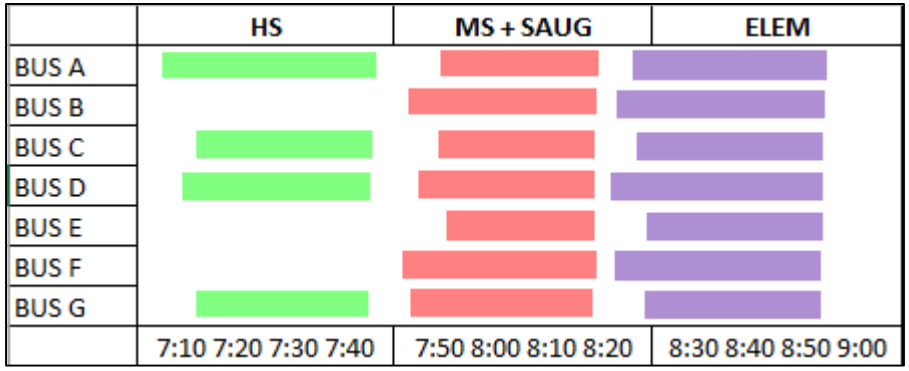
Tier	AM	PM
1	60+	38
2	45	28
3	35	60+

Live Run Time by tier
PM is reduced by
load time at school

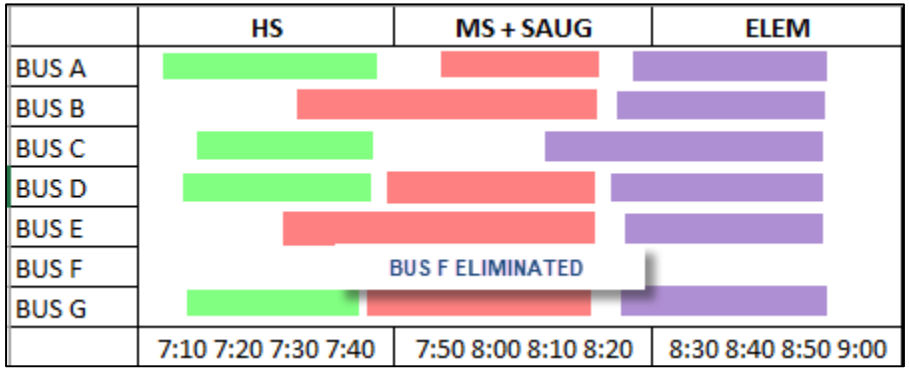
Alternate Routing Strategy

- In examining the daily route schedule, we see an opportunity to reduce routes by leveraging the fact that there are 11 less HS runs (23, 1st Tier) than MS and ES runs (34, 2nd and 3rd Tier)
- By strategically combining and running some MS runs longer, and then putting them without a HS tier, we can reduce the number of MS runs.
- If we have less MS runs (creating gaps in the 2nd Tier), we can then combine some Elem runs and reduce the overall number of buses. See diagrams below.
- We examined the potential for consolidation at Coleytown and Bedford MS (appendix C) We believe using this method, there is the potential to eliminate four Middle School runs and two full vehicles overall.
- We see this as a long term strategy that would require significant re-routing. With the status of current late arrivals, we don't recommend route cutting measures at this time. This method may be employed to free up resources to be used to solve late arrivals and other issues.
- One major caveat to this method is it will cause a lack of mirroring for some students AM to PM, meaning they may be assigned to a different bus and driver, they will use the same bus stop.

CURRENT METHODOLOGY



LEVERAGING GAPS IN HS TIME PERIOD



R2 - Route to Actual Ridership

- Assigned students consume 70% of the available seats
- If we apply the historic 50% ridership, then you are only using ~35% of available seats.
- We have found significant efficiency gains by collecting information on “real” riders either through driver reporting or registration of riders during the enrollment process.
- Collection of this information requires named riders and not just total counts per run.
- Non-Riders can be flagged, unnecessary stops removed, route paths streamlined and consolidation opportunities leveraged where possible.

Big Bus AM Runs	Tier	# Runs	Total Seats	Used Seats	Avail. Seats	Potential Run Reduction by Load
SHS	1	23	1771	1528	243	3.2
BMS	2	17	1105	692	413	6.4
CMS	2	11	715	369	346	5.3
SES	2	6	462	367	95	1.2
CES	3	6	462	407	55	0.7
GFS	3	8	616	410	206	2.7
KHE	3	9	693	384	309	4.0
LLE	3	11	847	572	275	3.6

Student Stop Assignment

Stop Service	Total In TripSpark	At Corner Stops	High Walk to Crnr	Avg Walk to Crnr	At Address Stops	At Home Stops	Avg Walk to Address Stop
K-05	2366	1505	0.45 (2385 ft)	0.08 (422 ft)	861	569	0.013 (68 ft)
06-08	1181	913	.41 (2182 ft)	.08 (422 ft)	268	175	.016 (87 ft)
09-12	1638	1437	.89 (4699 ft)	.10 (528 ft)	201	125	.02 (105 ft)
Total	**5185**	**3855**	**.89 (4699 ft)**	**.09 (475 ft)**	**1354**	**892**	**.01 (53 ft)**

- Through discussion with District Leaders, there was a perception that a significant number of students are being provided home stop service.
- Through an analysis of student information from MapNet, including stop and route assignment and walking distance, we found the data does not support this.
- 88% of HS students and 74% of all students are assigned to corner bus stops. Based on the lack of sidewalks in the District and hazardous roads requiring door side stops this % is within norms and would be high in some districts. *(See comparative districts next slide).*
- For perspective, average walk to corner stop for Elementary and Middle School students is just less than 1.5 football fields, about one block. This is in line with other CT districts we sampled.
- There are 624 unique corner stop locations used across all routes. (same stop used multiple times) Each corner stop serves an average of 6.1 students across all schools
- There are 627 unique address stop locations used across all routes. Each address stop serves an average of 2.2 students across all schools
- What we cannot validate from this analysis is whether drivers are consistently following planned routes and not making “sweet-heart” stops for families. Although with GPS tracking and Where’s the Bus this is less likely than in previous times.

Comparative CT Districts

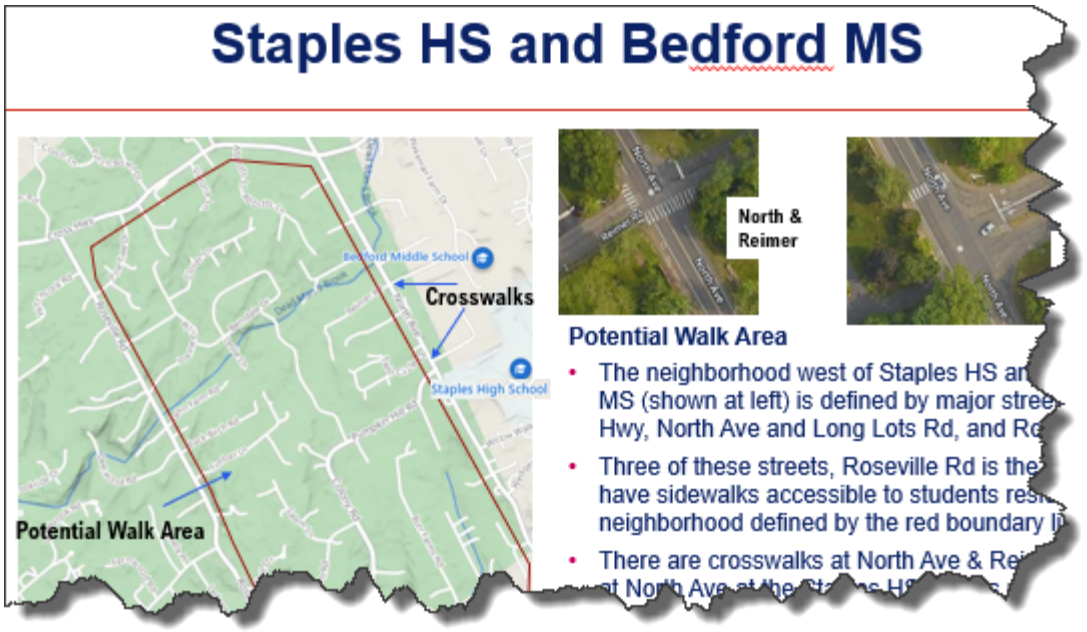
Stop Service	Total In Routing System	At Corner Stops	Avg Walk to Crnr	At Address Stops	Avg Walk to Address Stop	% @ Corner Stops
WESTPORT - 53 Routes						
K-05	2366	1505	0.08 (422 ft)	861	0.013 (68 ft)	64%
06-08	1181	913	.08 (422 ft)	268	.016 (87 ft)	77%
09-12	1638	1437	.10 (528 ft)	201	.02 (105 ft)	88%
Total	**5185**	**3855**	**.09 (475 ft)**	**1354**	**.01 (53 ft)**	**74%**
CRNR Stops	624				Address Stops	627
FAIRFIELD - 106 Routes						
KF-05	2682	1395	.06 (317 ft)	1287	.02 (105 ft)	52%
06-08	1881	1562	.08 (422 ft)	319	.03 (158 ft)	83%
09-12	1790	1529	.10 (528 ft)	261	.03 (158 ft)	85%
Total	**6353**	**4486**	**.08 (422 ft)**	**1867**	**.02 (105 ft)**	**71%**
CRNR Stops	688				Address Stops	813
EASTON-REDDING - 39 Routes						
P-05	1042	126	.06 (317 ft)	916	.03 (158 ft)	12%
06-08	534	131	.08 (422 ft)	403	.04 (211 ft)	25%
09-12	690	153	.07 (370 ft)	537	.04 (211 ft)	22%
Total	**2266**	**410**	**.07 (370 ft)**	**1856**	**.03 (158 ft)**	**18%**
CRNR Stops	131				Address Stops	1067
WESTON - 21 Routes						
K-05	863	331	.08 (422 ft)	532	0.02 (106 ft)	38%
06-08	520	214	.09 (475 ft)	306	0.01 (53 ft)	41%
09-12	705	299	.08 (422 ft)	406	0.01 (53 ft)	42%
Total	**2088**	**844**	**.08 (422 ft)**	**1244**	**0.01 (53 ft)**	**40%**
CRNR Stops	137				Address Stops	586

Student Walk to School / Non Transported Areas

As part of our discovery, we found there are no official Non-Transported areas (walk zones) in the District. All students are considered eligible for transportation if they choose to ride.

In discussion with district leaders, it was felt that some schools could have non-transported areas.

- In support of this idea, we examined the areas around each school, using available internet mapping, looking for sidewalks and street crossings for potential safe walking paths to school. (appendix E)
- For each school we have provided maps and a description of areas for non-transportation consideration.



TripSpark, MapNet Routing

- WPS uses TripSpark's Mapnet system to manage home-to-school route plans
- The current version of MapNet is 5.0.65535.0 Revision 8525. This is the most current version - *Positive*
- MapNet is hosted locally and only one user (Buffy Barry) has access to the system - *Negative*
- The digital street map was updated in 2020 - *Positive*
- Buffy was trained by Sandi Evangelista, previous Transportation Manager. Has not had formal training from TripSpark. N*egative. Little knowledge in some areas of the system. Buffy expressed interest in additional training.*
- Receives excellent support from Mark Saylor (TripSpark support technician) - *Positive*
- TripSpark support handles map updating, custom report creation, boundary maintenance, interface with SIS and other system maintenance – *Positive for $1,800 annual fee*
- Digital map does not generate accurate route times. Nearly every run has "forced" times - *Negative*
- While the MapNet system functionally can do the task, its an antiquated interface that lacks a lot of productivity enhancements that are common to new systems - *Negative*
- It is our recommendation that Westport migrate off of MapNet to a more modern, multi-user, cloud-based system

R3 - TripSpark Routing System Recommendation

- Mapnet, a legacy solution in use at WPS for many years, but is not actively marketed
- Today, MapNet use generally limited to large districts with very high transition costs
- TripSpark not actively developing or improving MapNet
- VEO Transportation, TripSpark's successor product, not well-regarded with limited market adoption

For these reasons, we recommend WPS consider migrating to Versatrans RP:

- Versatrans is a market-leading solution with a clear migration path to next-gen Traversa
- Firstconsulting and TripSpark (WheresTheBus) have already built an interface between the two platforms, which ensures a seamless transition

Routing Staff and Processes

- Buffy Barry is qualified to utilize complex route planning software. In our online work with her, she came across as very competent, comfortable with technology, the MapNet system and routing methods and processes.
- Buffy's knowledge of MapNet system is not broad based. She has learned the tasks required to perform essential routing and student assignment, but has not been taught many of the higher level, less widely used functions of the system. She expressed interest in additional training.
- Annual and daily/weekly routing processes are solid and more structured than in many districts we work with. This is positive. (appendix D)
- One issue we observed is MapNet is not setup to automatically synchronize with PowerSchool. A single upload is done in mid July after the PowerSchool data has graded up. Beyond that all students are manually entered and edited in the MapNet system. This is due to some automatic processes not assigning students correctly and a lack of trust in the process. We have automatic student synchronization setup successfully in ~100 locations. We recommend this be implemented along with a system migration.
- An export to PowerSchool from MapNet is done one time at the beginning of school. After that Buffy emails changes to school secretaries and they manually update transportation in PowerSchool. This provides parent lookup for transportation information. This is a very positive communication tool aside from the manual updating. This process can also be automated. Routes are also posted on the web for public viewing.
- We offer additional recommendations for enhanced system use in appendix D

OPERATIONS AND MANAGEMENT OBSERVATIONS & RECOMMENDATIONS

OPERATIONS AND MANAGEMENT OBSERVATIONS

Driver shortage has been an ongoing issue – Service has been impacted.

Current transportation contractor experiencing high staff turnover (Dispatcher / Manager positions).

Current transportation contractor servicing 53 routes for Westport PS and 2 Private School routes.

Current contractors is using every available CDL driver for routes / no driver bench.

Safety practices were not completely reviewed – 2 days observation yielded concerns (3 out 16 drivers performed a student check after 2nd tier)

Driver Pre/Post trip inspection compliance not included in monthly report.

There appears to be no formal validation process or technology for child safety check.

OPERATIONS OBSERVATIONS via Interviews

NO FORMAL RECRUITING PLAN PRESENTED TO WESTPORT PS.

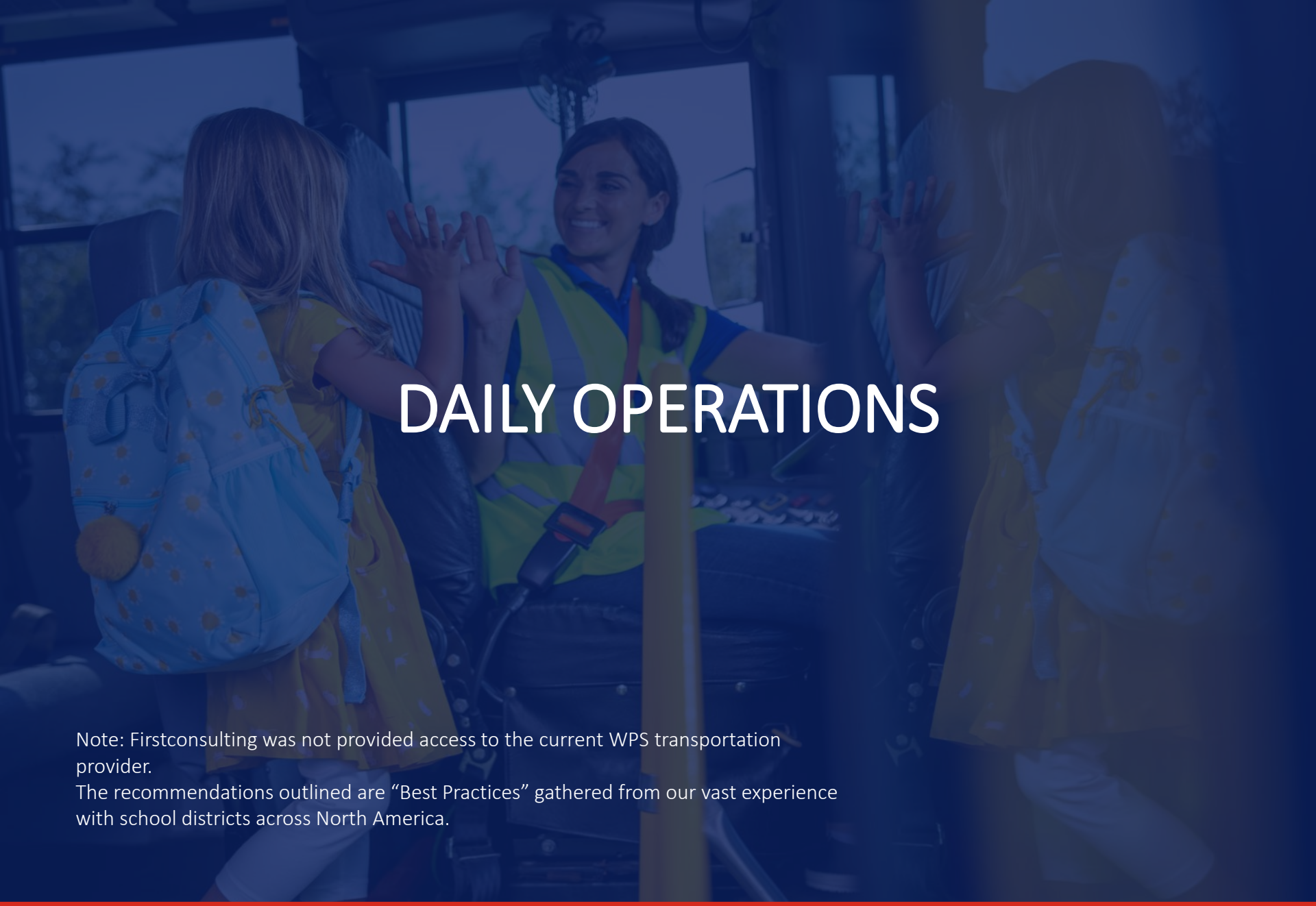
NO FORMAL EMPLOYEE RETENTION PLAN PRESENTED TO WESTPORT PS

ALL WESTPORT PS STUDENT ATHLETIC EVENTS / TRIPS ARE NOT BEING SERVICED BY CURRENT CONTRACTOR (SUB-CONTRACTORS UTILIZED)

SOME ATHLETIC TRIPS COULD USE SMALLER NON-CDL VEHICLES IF AVAILABLE.

FINE ARTS DEPARTMENT – NO ACCESS TO BUS SERVICE DURING REGULAR SCHOOL HOURS.

2 WESTPORT ELEMENTARY SCHOOLS ROUTINELY EXPERIENCE LATE PM BUS ARRIVALS (SAUGATUCK & KINGS HIGHWAY).



DAILY OPERATIONS

Note: Firstconsulting was not provided access to the current WPS transportation provider.
The recommendations outlined are “Best Practices” gathered from our vast experience with school districts across North America.

SCOPE OF WORK AND METHODOLOGY

- FC reviewed a comprehensive list of items that should be included in the Daily Operations of a School Bus Transportation Department designed for Safe and Reliable Student Transportation.

Methodology:

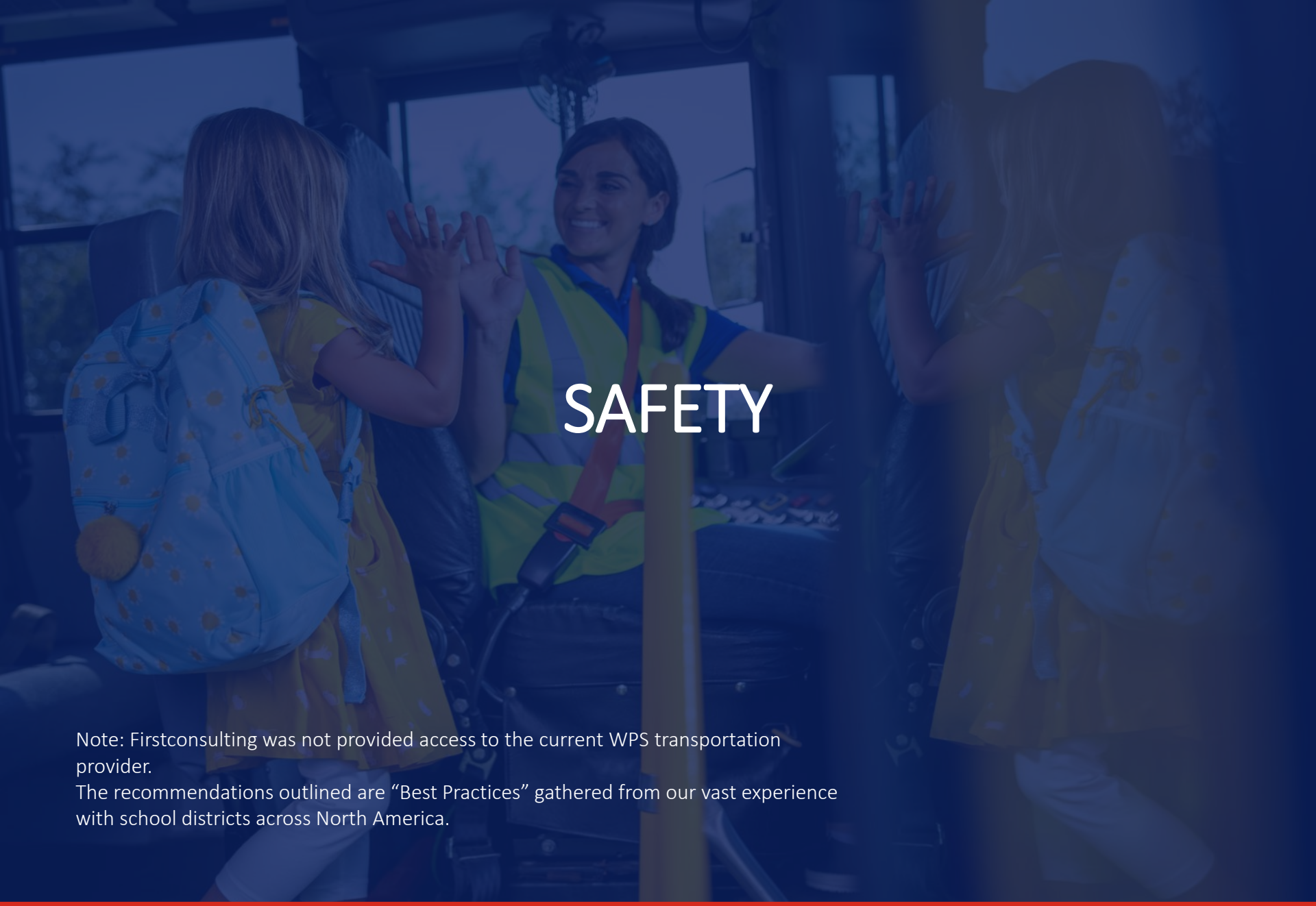
- Dispatching and Daily Management Processes.
- Safety Processes.
- Communications Protocols.
- Key Performance Indicators related to Fleet availability.
- Staffing requirements – Non driver & driver.
- Employee Retention plan.
- Vehicle Maintenance Support – Fleet.
- Area Districts Comparable Analysis To WPS.
- WPS Transportation Department Financial Review.

A. DISPATCHING AND DAILY MANAGEMENT PROCESSES

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and Service Delivery	Recommendations
★ 1A	What are roles and responsibilities of the Dispatcher?	Selected contractor must supply Westport PS with a detailed description of the Dispatchers responsibilities. Dispatcher's duties must include ensuring that all driver route assignments are cover for AM & PM service. In addition, dispatchers must keep Westport PS informed of any route / trips schedule changes by calling and e-mailing the appropriate administrator .Dispatchers must be trained to detect Drug & Alcohol Reasonable Suspicion of employees before allowing them to receive access to buses.
★ 2A	How are Vehicle and driver/monitor assignments changes handled?	The vendor approved will have a system in place of confirming drivers and monitors reporting for duty. This system should also include features that alerts Dispatchers when a drivers start time is near and the employee has not arrived. This system should also have drivers and monitors task and assignments defined for quick access to data when needed..
★ 3A	Can you explain Driver and monitor “clock in” and “clock out” procedures?	Contractor should have in place a Bus Key control System that confirms drivers have arrived for their assigned work shift or alerts dispatcher when they have not arrived. This device for Clocking in - Clock out should be positioned visible to Dispatch office.
★ 4A	Is there a procedure in place for Driver/monitor assessment prior to start of shift?	Contractor should have in place a Bus Key control System that ensures that all drivers have been greeted and observed by a staff member trained in Drug & Alcohol Reasonable Suspicion detection.
5A	Is there a process for Key control?	Contractor should have in place a Bus Key control System that ensures that all drivers have checked in with dispatch office and received key.
6A	How are Driver/monitor time off requests and extended absences processed?	Contractor should have in place a Time off Request System that requires a 5 day notice from employee in order to be approved. Contractor should limit the number of approvals per day to always ensure that all routes can be adequately covered.
★ 7A	How are unexpected driver absences handled from a route coverage perspective?	Contractor should have in place adequate staffing of Drivers at an access of 10% over the number of HTS routes documented for the School District. In addition, there should be a group of routes that are identified for combining, if necessary, on any given day. Contactor should also have a minimum of 2 office staff members with School Bus CDL capable of servicing HTS routes.
★ 8A	How are route change requests processed and communicated to the driving staff?	Contractor should have a procedure in place that route change request are sent to contractor's Operations Manager and within 3 days request is implemented.

A. DISPATCHING AND DAILY MANAGEMENT PROCESSES

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Recommendations
★ 9A	If there are Park-out units what procedures are in place to ensure all safety and compliance procedures are being completed?	The selected contractor will be required to have an automated system added to each bus for the purposes of recording safety data including driver compliance. Any vehicle not returning to bus yard after any student transportation service must call into dispatch office and report all safety checks have been completed.
10A	Are there different Processes and procedures associated with transporting McKinney-Vento students?	Selected contractor will be required to service students who are considered to be in the McKinney Vento Program. The contractor will need to supply drivers and vehicles in support of this program that will at times cross over city and county lines. Selected contractor must have contingent plans in place for CDL driver shortages whereas this program can continue to provide service.
★ 11A	How are routes that are running late reported to Westport Public Schools?	Selected contractor will be required to have a list of all Westport Schools and phone numbers. Contractor staff member should call any school when a known late route has been identified. If determined late before AM/PM rollout the affected school as well as Transportation Coordinator will be informed.
12A	How are buses involved in accidents while in service reported to Westport Public Schools?	Selected contractor must present a clearly detailed protocol for reporting vehicle accidents. This should include details of the accident including liability and injuries reported. All accidents should be reported to Westport PS within 24 hours of the event.
13A	How are downed buses communicated from the maintenance team to dispatch.	Selected contractor must present a clearly detailed protocol for reporting mechanically inoperative vehicles daily to the dispatch office. This should include any vehicle required for Preventative Maintenance that normally would be used for route services.
14A	How are request from the maintenance team communicated to dispatch that a bus has been scheduled for service?	Selected contractor must present a clearly detailed protocol for reporting mechanically inoprative vehicles daily to the dispatch office. This should include any vehicle required for Prventatiove Maintenance that normally would be used for route services.
★ 15A	Have you been trained for reasonable suspicion of Drug & Alcohol detection?	Selected contractor must have a documented training program for staff focusing Drug & Alcohol Resonable Suspecion.
★ 16A	Are there driver trainers on staff?	Selected contractor must have a Driver Safety Training Staff on hand. This staff should have access a documented training program supported by local, state and federal regulations.
★ 17A	What tools are being used to manage the Dispatch operation (spreadsheets, reports, etc.)	Selected vendor must have support tools for the dispatching department that supports On-Time Transportation of all routes. The systems must be presented to Westport PS and signed off on as sufficient.



SAFETY

Note: Firstconsulting was not provided access to the current WPS transportation provider.
The recommendations outlined are “Best Practices” gathered from our vast experience with school districts across North America.

B. SAFETY PROCESSES

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Recommendations
★ 1B	How are Pre- and post-trip inspection processes monitored for compliance to Federal Law?	The selected contractor will be required to have an automated system added to each bus for the purposes of recording safety data including driver compliance of Pre & Post vehicle Trips.
★ 2B	What are the tracking and reporting mechanisms for pre- and post-trip inspection metrics?	The selected contractor will be required to have an automated system added to each bus for the purposes of recording safety data including driver compliance of Pre & Post vehicle Trips. The System should have the ability of producing Safety Compliance data per bus.
★ 3B	What is the procedure for checking buses for Sleeping children?	Selected vendor must have a detailed program in place to protect against leaving Unattended Children on board the bus. This program will need to have documented proof that it is being utilized throughout the entire bus transportation service.
★ 4B	What is the current safety training program for driving staff?	The selected vendor must have an establish and structured training program that is designed to ensure that driver staff are properly trained to meets all local, state and federal compliances for operating a school bus in the state of CT. Programs must include student management methods and emergency protocols training. Contractor must have course documentation to review with Westport Public Schools upon request.
★ 5B	What are the processes and procedures for drivers who are involved in an accident? How many accidents are allowed?	Selected vendor must have detailed and documented protocols in place for accident investigations. This should include driver discipline for all preventative accidents. Drivers experiencing more than 3 preventative accidents within a 12-month period will be released from employment.
★ 6B	Is your safety culture proactive or reactive? Please explain your response.	Selected vendor must have a documented and detailed uniformed Safety Program across the organization. Program must include Safety Meetings for driver staff periodically throughout the year that focuses on ensuring safe transportation practices. Vendor should also employ Driver Trainers to be used to support the safety culture that must exist. There should be a staff member responsible for overseeing the safety team.
★ 7B	What is the Personal Protective Equipment policy? (safety glasses, vests, etc.)	Selected vendor should have a policy in place to supply driver staff with Personal Protective Equipment (PPE) such as Safety Vest, Cold Weather Shoe protectors and protective glasses when required.

C. COMMUNICATION PROTOCOLS

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and /or Service Delivery	Recommendations
1C	When are driver/monitor handbooks governing the protocols of how they are to operate provided to the employees? How is it validated that employee received a copy?	Selected vendor should have an established Employee Handbook that details company's policies and procedures. This should be given to each employee on completion of all required training.
★ 2C	How does communications between the bus yard and each school within Westport Public Schools occur?	Selected vendor should have a documented protocol in place detailing how communication to all Westport PS should be conducted.
★ 3C	How many employees support phone tree operations, as it relates to answering phone calls during the transportation days high call volume times in the AM & PM?	Selected vendor must have a phone system in place to handle a high volume of calls. Dispatchers and additional office personal must be trained to respond to a high volume of calls during AM and PM route services.
4C	What processes are in place for driver/monitor coaching?	Selected vendor must have a clearly defined Progressive Discipline Program Policy in place for coaching and disciplining of employees. This policy must be documented and available for review if requested by Westport PS.
5C	How is communication with parents and the community for weather-related situations conducted?	Selected transportation vendor must have a documented Increment Weather Plan of action that can be reviewed by Westport PS if requested. The plan must include communication protocols to Westport PS administration so that student families can be notified.
★ 6C	What service reporting processes are in place from the contractor to Westport Public Schools?	Contractor and Westport should set up a weekly review of the transportation service provided from the prior week. This meeting should be held at the beginning of the following week to review the prior week's service. There should also be a monthly review by the 10th of each month to review Key Performance Indicators such as: On Time Performance of routes, Driver Staffing status, Driver Retention review, Safety Incidents (Accidents/Injuries) and Westport Campus issues affecting bus service. The meetings could be conducted via video call or in person.

D. KEY PERFORMANCE INDICATORS

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Recommendations
★ 1D	How is the status of downed vehicles communicated to operations?	Selected contractor will be required to submit a list of vehicles weekly that are not available for service to the Westport PS Schools Transportation coordinator. This list should include the number of buses available to ensure that all requested transportation services can be covered.
★ 2D	How many spare buses are allocated?	Selected vendor will be required to present to Westport Public Schools the total number of Regular Ed. Buses and the number of Special Education Buses available to service the transportation requirements of Westport PS. In addition, the number of Spare units available should be at a minimum of 10% over the total number of buses required to support daily Home-To-School routes. presented to the District.
★ 3D	What is the average age of the fleet servicing Westport?	Selected contractor will be required to maintain a fleet that is mechanically sound and with an average bus age no older than 7 to 10 years per bus. Westport Public Schools current fleet is at a 5.1.

STAFFING

E. NON-DRIVING STAFF OFFICE

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Observations	Recommendations
★ 1E	Current staffing levels in office by position?	Westport PS, has 1 Transportation Coordinator. This individual is responsible for the overseeing entire School Bus transportation requirements. On the contractor side there is a shortage of drivers and Office staff. Down 1 Dispatcher and 5 drivers.	Selected vendor must have a staff that includes General Manager / Safety Manager (Hiring & Compliance) / 2 Dispatchers / Shop Manager / Driver Training Coordinator. Westport PS should add an additional support person to focus on working with vendor on Athletic / Fine Arts student field trips.
★ 2E	What are each staff members roles and responsibilities?	Westport PS Transportation coordinator is the liason between contractor and District. Contactor Dispatcher is responsible for ensuring all routes and activities are supported daily.	Ensure that contractor is properly staffed and have a documented communication protocol in place. This should include who is responsible for communicating any changes that could affect route schedule to Westport PS.
3E	What are the cross-training assignments for each staff member?	None were identified.	Selected contractor must have staff members who are crossed trained in dispatching in order to support the department during peak service periods throughout the day.

F. DRIVER STAFFING

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Observations	Recommendations
★ 1F	What are optimum Staffing levels including route and spare driver assignments?	53 routes currently (44 Reg. Ed & 9 SPED) and could increase or decrease depending on ridership and routing.	Selected vendor will be required to have a driver staff equal to the number of planned annual routes. In addition, a 10% driver bench (Extra drivers) must be maintained.
★ 2F	Are there clearly documented "Recruiting" action plans which ensures the operation is staffed properly?	None were accessible.	Selected vendor will be required to present a detailed Recruiting Plan. This plan must be available for review.
★ 3F	Are there clearly documented "Retention" action plans, which ensures the operation is staffed properly?	None were accessible.	Selected vendor will be required to present a detailed Driver Retention Plan. This plan must be available for review.

G. EMPLOYEE RETENTION

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Recommendations
★ 1G	Is there a process in place to review current pay and benefits of employees?	Selected vendor should have a procedure in place for reviewing driver pay and benefits in order to remain competitive in the local job market.
2G	Is there a process in place to identify and assess efforts to keep “star performers”?	Selected vendor should have a program in place for identifying star performers and providing recognition. This program should be used to encourage driver loyalty and Retention.
3G	What is the current plan for assessing employee satisfaction?	The selected vendor should have a documented program for that invites employee feedback. This data could used address employee issues and increase the level of employer satisfaction.

WAGE ANALYSIS

BUS DRIVER WAGE ANALYSIS

Key Points and Recommendations

- Due to the critical nature of the Driver position for efficient operations, we highly recommend targeting at least the 75th percentile of hourly rate of pay, based upon years of experience

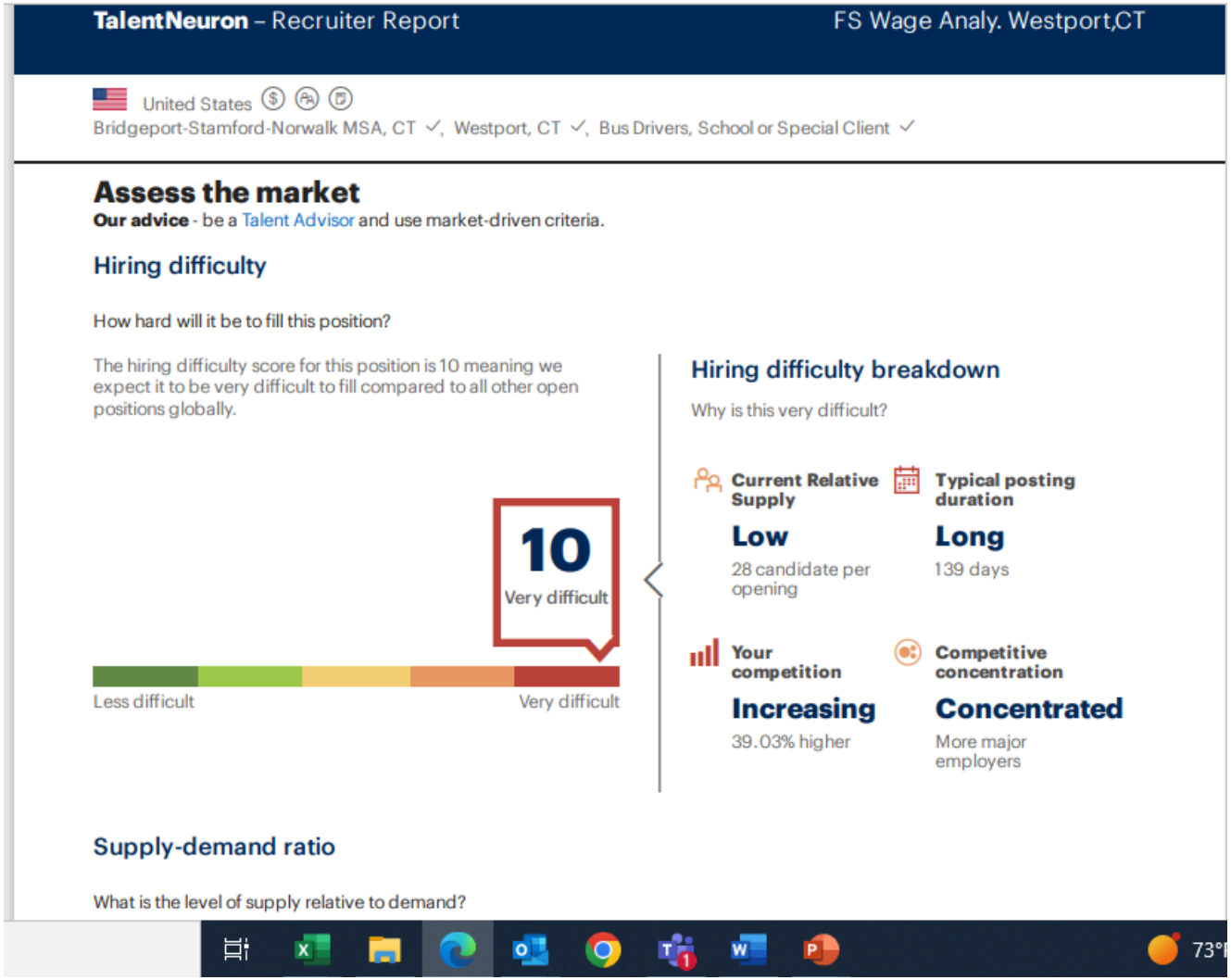
- The objective is to ensure your wages are market competitive.
  - Typically, pay which does not meet or exceed the survey median increases the likelihood of turnover as well as the inability to both attract and retain long-term employees due to pay

- While circumstances such as union contracts and budget constraints may play a role in what is ultimately implemented, we encourage the district to incorporate the wage analysis data as much as possible

BUS DRIVER WAGE ANALYSIS

				Base Salaries in Hr Rate				
Interal Job Title	ERI Job Title	Geographic Area	Yr Experience	10%	25%	50%	75%	90%
Driver	School Bus Driver	Westport, Connecticut	10	$ 25.75	$ 27.61	$ 29.79	$ 32.54	$ 35.02
Driver	School Bus Driver	Westport, Connecticut	9	$ 25.17	$ 26.99	$ 29.11	$ 31.80	$ 34.22
Driver	School Bus Driver	Westport, Connecticut	8	$ 24.57	$ 26.34	$ 28.40	$ 31.02	$ 33.39
Driver	School Bus Driver	Westport, Connecticut	7	$ 23.95	$ 25.66	$ 27.67	$ 30.22	$ 32.51
Driver	School Bus Driver	Westport, Connecticut	6	$ 23.28	$ 24.94	$ 26.88	$ 29.35	$ 31.58
Driver	School Bus Driver	Westport, Connecticut	5	$ 22.57	$ 24.17	$ 26.04	$ 28.43	$ 30.58
Driver	School Bus Driver	Westport, Connecticut	4	$ 21.80	$ 23.34	$ 25.13	$ 27.43	$ 29.51
Driver	School Bus Driver	Westport, Connecticut	3	$ 21.00	$ 22.47	$ 24.18	$ 26.38	$ 28.37
Driver	School Bus Driver	Westport, Connecticut	2	$ 20.16	$ 21.57	$ 23.20	$ 25.30	$ 27.19
Driver	School Bus Driver	Westport, Connecticut	1	$ 19.31	$ 20.65	$ 22.20	$ 24.19	$ 26.00

BUS DRIVER WAGE ANALYSIS



TalentNeuron – Recruiter Report FS Wage Analy. Westport,CT

United States

Bridgeport-Stamford-Norwalk MSA, CT ✓, Westport, CT ✓, Bus Drivers, School or Special Client ✓

Assess the market

Our advice - be a Talent Advisor and use market-driven criteria.

Hiring difficulty

How hard will it be to fill this position?

The hiring difficulty score for this position is 10 meaning we expect it to be very difficult to fill compared to all other open positions globally.

10
Very difficult

Less difficult — Very difficult

Hiring difficulty breakdown

Why is this very difficult?

Current Relative Supply
Low
28 candidate per opening

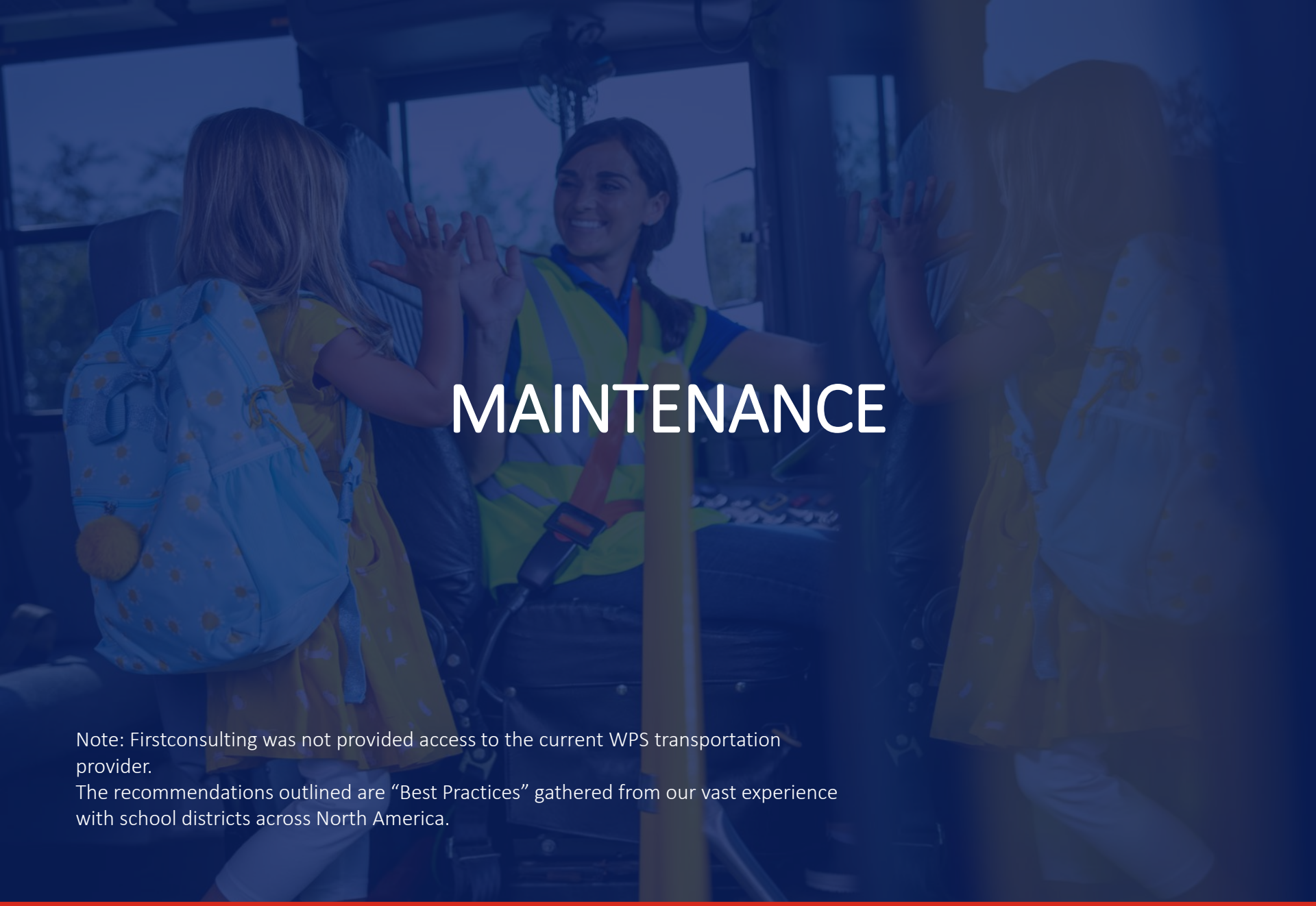
Typical posting duration
Long
139 days

Your competition
Increasing
39.03% higher

Competitive concentration
Concentrated
More major employers

Supply-demand ratio

What is the level of supply relative to demand?



MAINTENANCE

Note: Firstconsulting was not provided access to the current WPS transportation provider.
The recommendations outlined are “Best Practices” gathered from our vast experience with school districts across North America.

H. MAINTENANCE

	Note: Stars indicate potentially Hi-Value recommendations relative to Improved Safety, Efficiency and/or Service Delivery	Observations	Recommendations
★ 1H	What is the optimum number of Technicians required to service Westport Public Schools?	Total number of vehicles needed to support current transportation needs 57 (51 route vehicles and 6 spare buses 10% extra in fleet).	Contractor should employ a minimum of 2 mechanics to service the 58 units. One could be a Tech-In-Charge position as opposed to a Shop Manager.
★ 2H	How many Technicians currently on staff?	No access to data	Selected contractor should have a minimum of 2 shop employees supporting a fleet of 58 vehicles.
★ 3H	What is the bus to Tech ratio supporting Westport Public Schools?	No access to data	Selected contractor should have a minimum of 2 shop employees supporting a fleet of 58 vehicles.
4H	Is there a Preventative Maintenance program and processes in place? What is the PM rotation schedule per bus?	No access to data	
5H	Is there ongoing training available to technicians who are interested in improving their skills?	No access to data	

ON BUS TECHNOLOGY OPTIONS

SOFTWARE ENHANCEMENTS:

- Updated routing system –Home To School

- Online Trip Scheduling Software with WPS departmental access

- On-board student behavior reporting system

- Driver Safety Compliance Software

HARDWARE ENHANCEMENTS:

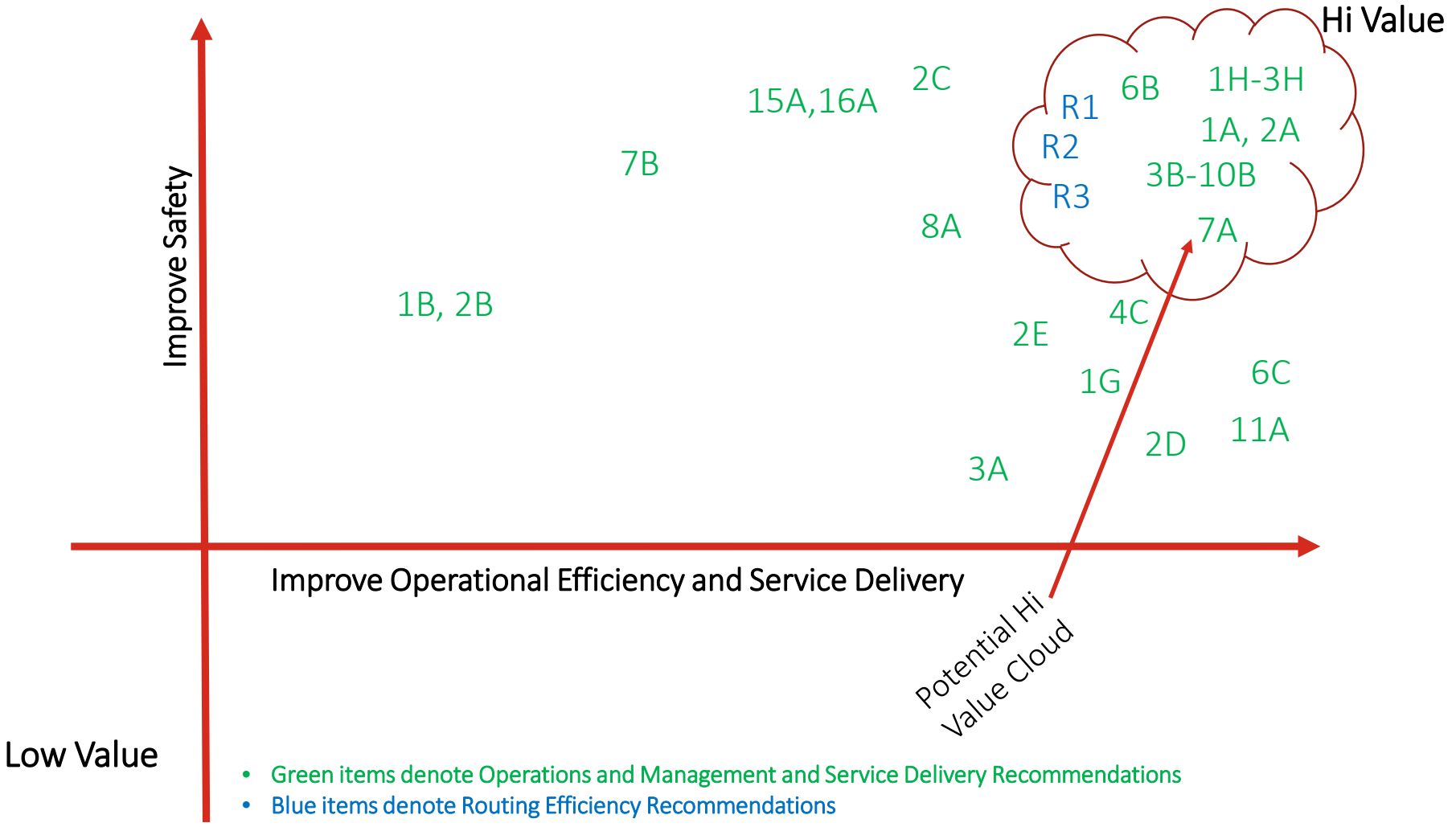
- On-board bus Tablets – GPS

- Student Tracking System – RFID

- Child-Checkmate System – With live time reporting

- On board / Stop Arm Camera System

DIRECTIONAL RECOMMENDATION VALUE



- Green items denote Operations and Management and Service Delivery Recommendations
- Blue items denote Routing Efficiency Recommendations

COMPARATIVE ANALYSIS

WPS COMPARATIVE ANALYSIS

Analyzing transportation cost and financial metrics across districts can provide some insights but can be significantly limited due to each district's unique characteristics.

Firstconsulting has observed through its vast experience that many variables can drive the amount of investment required for a districts' student transportation.

External factors like State funding formulas, union agreements impact financial metrics. Internal factors like Fleet age, technology, operational efficiencies, varying tax structures, purchasing strategies can cause significant variations in transportation cost structures across districts. Population densities, district size (ie square miles) and topography can also impact variations in districts with similar student populations. Some districts may be operating their own transportation for less but could be experiencing inefficiencies and operational issues. As a result, some financial metrics may appear better, but the district could be suffering from poor customer service.

In summary, it is a challenge to rely on definitive benchmarks. Any analysis should be comprehensive and must include service level performance to provide a meaningful overall review of the school's transportation departments.

WPS COMPARATIVE ANALYSIS

	Westport	Wallingford	Millford	Glastonbury	Average
Student Population	5300	5400	5300	5738	5435
Trans Admin FTEs	Contractual	Contractual	Contractual	8	NA
Total Transportation Spend (1)	$7,165,810	$6,241,095	$5,756,479	$4,273,609	$5,859,248
SPED Trans (1)	$2,364,210	Not Available	$2,608,751	Not Available	NA
RegularTransportation (1)	$4,405,165	Not Available	$3,147,728	Not Available	NA
Total Trans $ % of Budget (1)	5.50%	5.73%	5.64%	3.65%	5.13%
Square Miles (2)	20	39	22	51	33
# of Schools	9	12	13	9	11
Pop Density / Sq Mi (2)	809	1132	2030	664	1159
Total Trans $ / Student	$1,352	$1,156	$1,086	$745	$1,078
Total Trans $ / Sq mi	$358,291	$160,028	$261,658	$83,796	$215,943

1. Budget data is based on publicly published Board of Education Proposed Budgets FY 22/23

2. Population Density and Square mile data; Source USA.com

WPS TRANSPORTATION FINANCIAL REVIEW

WPS Financial **Review**

WPS 2022 – 2023 Transportation Operation budgeted at 5.8 million.

Current contract charges are based on:

4 Hour Route Run Billed at $515.32 per Type II Bus

4.25 Hour Route Run Billed at $584.63 per Type I Bus and $526.68 per Type II Bus

- 4.5 Hour Route Run Billed at $596.00 per Type 1 Bus and $538.06 per Type II Bus

Current transportation contractor servicing 53 in district routes for Westport PS / Eligible Rider Totals are 5,100 out of 5,217

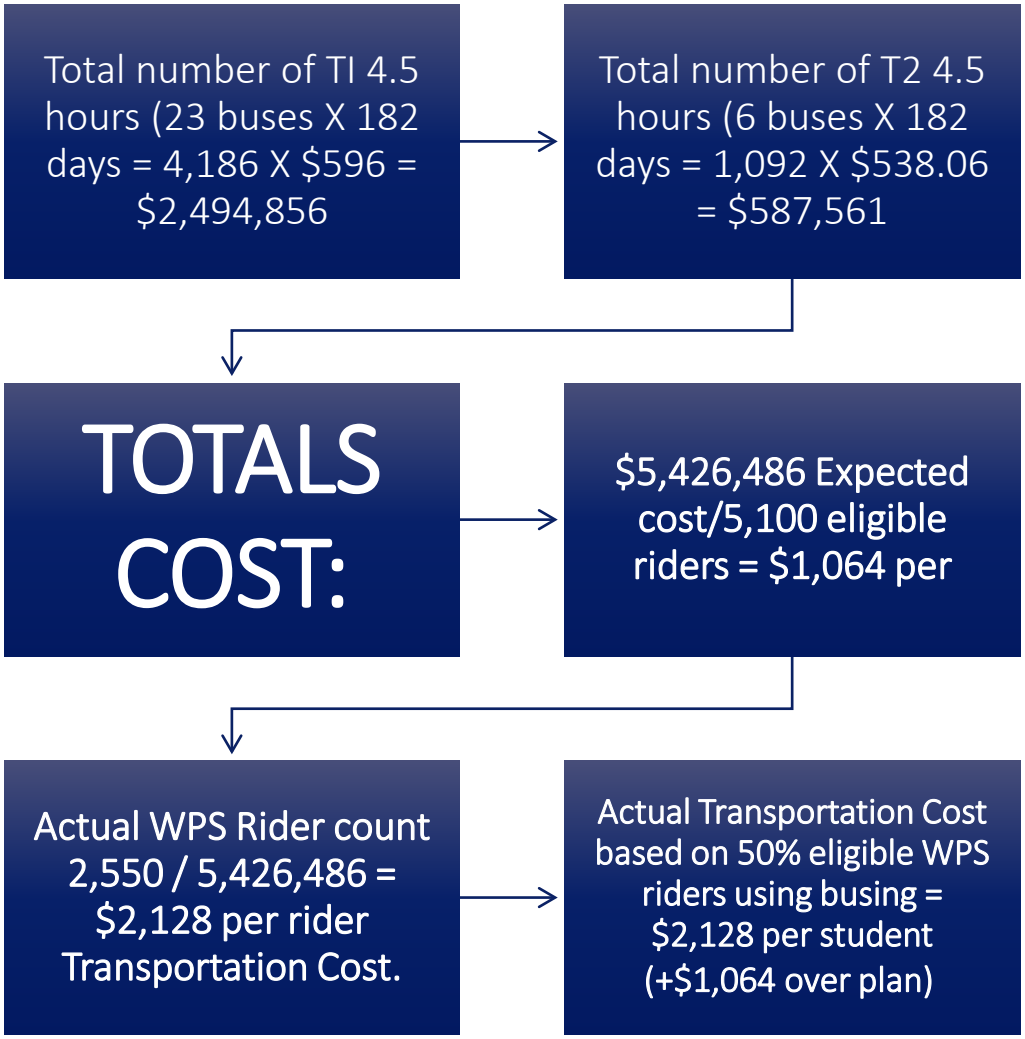
Expected total number of school days 182

Total number of T2 4 hours (4 buses X 182 days = 728 X $515.32 = $ $375,152

Total number of TI 4.25 hours (14 buses X 182 days = 2,548 X $584.63 = $1,489,637

Total number of T2 4.25 hours (5 X182 days = 910 X $526.68 = $479,278

WPS Financial **Review**



WPS Financial **Review**

WPS **Financial Review Private Schools**

WPS 2022 – 2023 Private School Transportation Budget at $362,983

Current contract charges are based on:

4 Hour Route Run Billed at $515.32 per Type II Bus

4.25 Hour Route Run Billed at $584.63 per Type I Bus

Current transportation contractor servicing 2 Private School routes for Westport PS / Eligible Rider Totals are 88

Expected total number of school days 165

Total number of T2 4 hours (2 buses X 165 days = 330 X $515.32 = $170,055

Total number of T1 4.25 hours (2 X 165 days = 330 X $584.63 = $192,927

WPS Financial **Review**

WPS **Financial Review Private Schools Continued**

PROJECTED BUDGETED COST PRIVATE SCHOOLS	$362,983 Projected WPS Private School Budget
Based on 88 eligible Private Sc student riders	Transportation Cost Per Private School Rider = $4125 - TI = Type 1 Bus - T2 – Type II Bus
ACTUAL CURRENT COST OF SERVICE 10/2022	Total number of T1 4.25 hours : None
Total number of T2 4 hours (2 @ $515.32 X 330 days = $170,055	Total cost of Private School Service $170,055

WPS Financial **Review**

WPS **Financial Review Private Schools Continued**

WPS CURRENT RIDER COUNT AS OF 10/22: 30 STUDENTS

Actual current Transportation cost per private school rider

$5,668 Per Private School Rider

WPS actual current Per Student Rider Cost $2,128

PS actual cost are $3,540 over WPS Student rider cost.

FIRSTconsulting

DRAFT

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FIRSTconsulting

MISSION:

Provide unmatched care and the safest ride to school, so when students arrive, they start and end their day with an exceptional experience and are ready to achieve their full potential.

VALUES:

FOCUS ON SAFETY

Safety is at the heart of everything we do

CARE FOR OUR STUDENTS

Ensure our vehicles are welcoming and trusted places where students feel comfortable and secure

SURPASS CUSTOMER EXPECTATIONS

Go the extra mile to deliver an extraordinary experience for our customers and communities

FOSTER TEAMWORK

Work together, act with integrity, respect each other, champion diversity and inclusion

SET THE HIGHEST STANDARDS

Continually seek a better way to do things with innovation, sustainable practices, financial discipline, commercial excellence and operational excellence

DRAFT

APPENDIX A:
CURRENT STATE ANALYSIS DETAILS

Key Transportation Factors

- WPS transports approximately ~5,200 students out of an enrollment of 5,329.
- The district consists of one high school, two middle schools and five elementary schools and a Preschool. In addition, several special needs schools and programs require transportation.
- The student population has experienced a slight decline in the past decade. Enrollment projection models predict modest growth in the student population over the next decade.
- The district encompasses city limits of the town of Westport, CT. The downtown area is the most densely populated while the rest of the population is spread uniformly throughout the district, with many residing on wooded roads with no sidewalks. Overall, the district encompasses an area of 33 square miles.
- Some rural roads are narrow and cannot be accessed by full size school buses. Around 15 or 20 roads are designated hazardous for crossing and require home stops for elementary students.
- WPS contracts with Dattco School Bus. The district is responsible for creating and keeping up routes and student assignments in the 'MapNet' system.
- WPS is currently experiencing a driver shortage. The district consolidated 4 routes prior to SY 2022-23 startup. Along with these permanent cuts, there is a need to cover runs daily due to driver call-offs.
- The community expects a high level of service for school transportation. This primarily means short walk-to-stop distances, short ride times, and on-time pickups and drop-offs.

Key Transportation Factors (cont.)

- General transportation routes are mirrored from AM to PM, and stop sequences are optimized for maximum efficiency in each time period.
- Fleet consists of 77-passenger and 26-passenger vehicles plus a wheelchair bus.

Students Eligible for Transportation:

- General Ed (almost all general ed students are afforded transportation)
- Special Needs
- Pre-K Special Needs

Max. Load Guidelines (77-Pass. Bus)

HS	77+
MS	65
ES	77

The loads above are guidelines for assigning students in MapNet. Headcount data shows that as the grade level increases, the ratio of actual riders to assigned riders decreases.

Maximum Walk-to-Stop Distance

Regular Ed. Transp.	K-5 5-8 9-12	0.5 miles 1.0 mile 2.0 miles
Special Needs	Curb-to-Curb	

Bell Schedule and Tiering

School	Tier	AM Arr.	AM Bell	PM Bell	PM Dep.
Staples HS	1	7:40	**8:00**	**2:45**	2:52
Bedford MS	2	8:15	**8:30**	**3:15**	3:22
Coleytown MS	2	8:15	**8:30**	**3:15**	3:22
Saugatuck ES	2	8:15	**8:30**	**3:15**	3:22
Coleytown ES	3	8:50	**9:00**	**3:45**	3:52
Greens Farm ES	3	8:50	**9:00**	**3:45**	3:52
Kings Highway ES	3	8:50	**9:00**	**3:45**	3:52
Long Lots ES	3	8:50	**9:00**	**3:45**	3:52

30 mins

30 mins

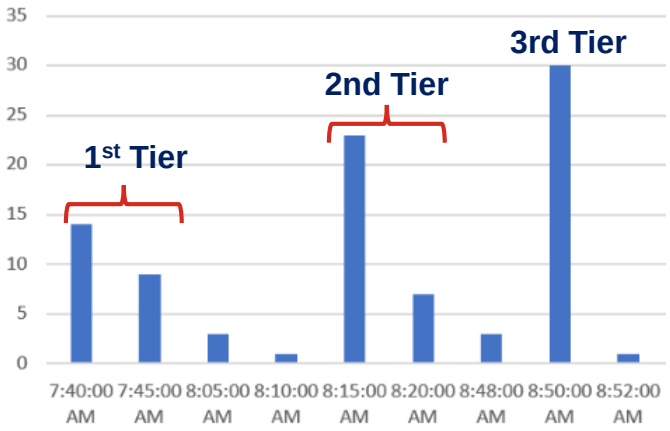
Tier	AM	PM
1	60+	23
2	30	23
3	30	60+

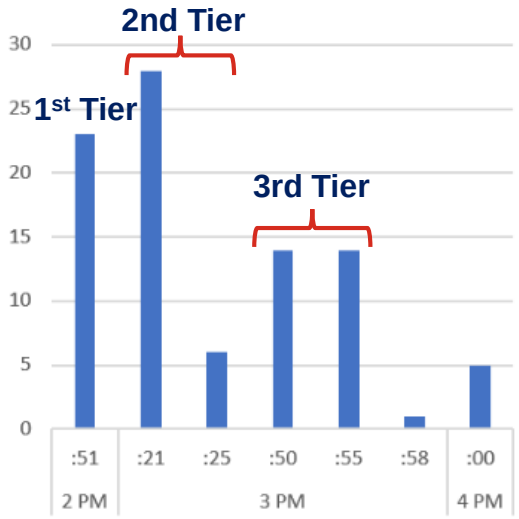
Live Run Time by tier

Observations

- WPS operates a 3-tier bell schedule with HS first, MS second and four of five ES in the third tier. Saugatuck ES is scheduled as a second-tier school.
- All Schools have a 6:45 length of day. This means the time between tiers 1 and 2, and tiers 2 and 3 is the same in the AM and PM.
- In practice live run time decreases in the PM. Extra time required for loading and staging at schools in the PM reduces the live run time available for tiered runs to around 23 minutes. In the AM, the drop-off time at school is more flexible and the unloading process takes less time than loading in the PM.
- PM is the tighter schedule. The number of routes WPS operates is determined by how many are required in the PM.

Arrival & Departure Times





Observations

The graphs on the left show the number of runs by scheduled AM arrival and PM departure time at school

- In both time periods there are peaks in three time periods.
  - **AM** – 7:40-45, 8:15-8:20 and 8:50
  - **PM** – 2:51, 3:21-25 and 3:50-55
- The heavier concentration of runs in the 2nd and 3rd tiers is clearly illustrated.
- There is more flexibility in the AM when it comes to adjusting arrival time at school than in the PM.
- The live run time available for PM 1st and 2nd tier runs is 23 minutes. PM pairings have tight connections.

Big Bus/Regular Ed Transportation Metrics

Metric	AM	PM
Routes	34	34
Runs	91	91
Runs per Rte	2.68	2.68
Singles	0	0
Doubles	11	11
Triples	23	23
*Riders	4,729	4,715
Riders per Run	52.0	51.8
Riders per Rte	139.1	138.7
Avg Run Time	29	26

Metrics do not include Routes 37 and 38 which service Green Farms Academy.
Rider count is based on assigned loads in MapNet.

Observations:

- Big Bus runs service general ed students and cannot run on roads designated as suitable for small buses and vans.
- Runs per route averages close to a triple in a three-tier schedule. There are eleven doubles without a 1st tier HS run.
- Assigned riders per run ranges from 15 to 95 in the AM and PM.
- Actual ridership is known to be less than assigned riders (50%) based on driver headcounts.
- Runs average close to 30 minutes which is the available time between tiers.
- Time rather than lack of vehicle capacity is the main factor determining the number of routes required.

Big Bus General Ed Runs by School and by Tier

Tier	Runs
1	23
2	34
3	34

School	# Runs	Avg Ld	Avg Time
Staples HS	23	66.4	26.0
Bedford MS	11	33.5	25.4
Coleytown MS	17	40.7	25.9
Saugatuck ES	6	61.2	27.0
Coleytown ES	6	67.8	29.5
Greens Farm ES	8	49.5	20.5
Kings Highway ES	9	42.7	27.6
Long Lots ES	11	52.0	28.9

Metrics are from the PM

Observations

- Tiers 2 and 3 have the most runs with 34 runs in each.
- Tier 2 is the most restricted as triple-tiered runs have only 30 minutes in both the AM and PM.
- Eliminating a big bus requires consolidation of at least one MS or Saugatuck ES run, and, at least one run from the other four elementary schools.
- Even without taking headcounts into consideration run loads for five of eight schools average well below bus capacity.

Small Bus/Regular Ed Transportation Metrics

Metric	AM	PM
Routes	10	10
Runs	21	23
Runs per Rte	2.10	2.30
Singles	3	2
Doubles	3	4
Triples	4	4
*Riders	353	367
Riders per Run	16.8	16.0
Riders per Rte	35.3	36.7
Avg Run Time	28	24

Riders count is based on assigned loads in MapNet

Observations:

- Small bus runs service general ed students where roads are too narrow for large capacity school buses
- These vehicles range in capacity from 8 to 20 passengers.
- Average run time is close to that of big buses while assigned loads average below vehicle capacity (26) at 17 riders per run.

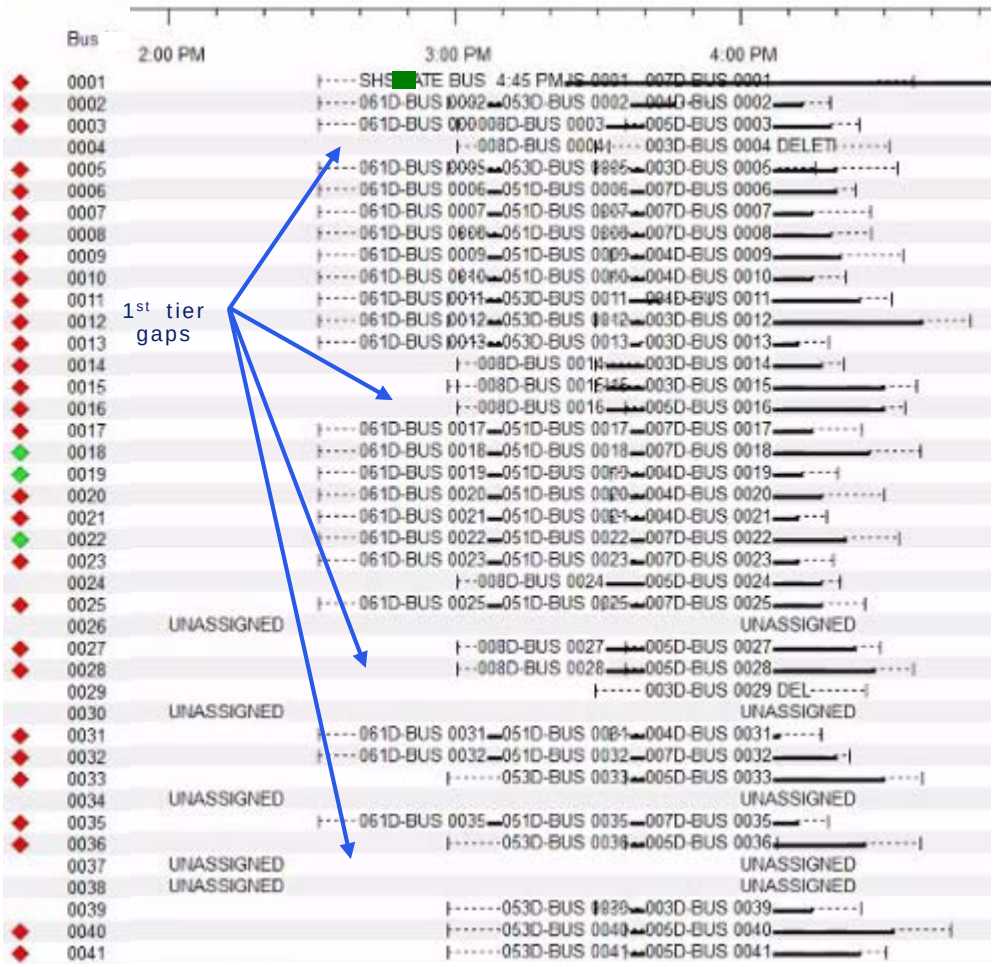
Small Bus/Special Needs Route Metrics

Metric	AM	PM
Routes	9	8
Runs	15	14
Runs per Rte	1.67	1.75
Singles	5	4
Doubles	2	2
Triples	2	2
Riders	87	86
Riders per Run	5.8	6.1
Riders per Rte	9.7	10.8
Avg Run Time	27	23

Observations:

- There are 10 small bus routes which primarily transport special needs students. (Three of these routes combine special needs and regular ed runs).
- In a three tier schedule these routes average less than a double
- At around 10 students AM and 11 PM, the average riders per route is within the range we see at most districts (8-15 riders per route).
- Average run time is close the averages for the big bus and small bus general ed fleets.
- The number of special needs routes is dependent from to year-to-year on the quantity, location, and equipment requirements of special needs students. For this reason, our analysis of route reduction opportunities focuses on regular ed routes

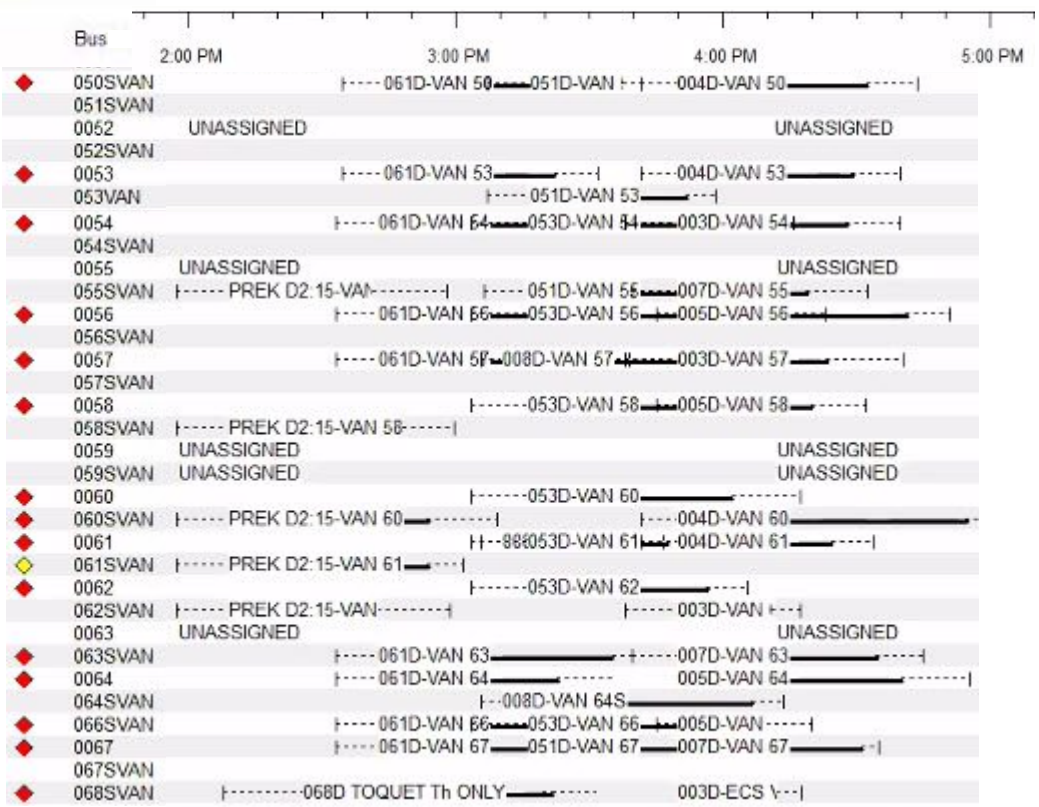
MapNet – Route Coordination Module – PM Big Buses



Observations

- PM is the tighter time period.
- All 34 big buses have 2nd and 3rd tier runs and are operating between 3:00 and 4:00.
- It is not possible to eliminate a bus by reassigning runs to other routes.
- **Late Connections**
- There are many late connections based on MapNet times, particularly in the PM, as live run time is only around 23 minutes.
- It is part of the process for Fall routing to create runs with accurate stop times. In practice, many runs do not stop at all the assigned stop locations (0 students) and actual run times are shorter than they may report on route sheets.
- .

MapNet – Route Coordination Module – PM Small Buses



1st tier gaps

Observations

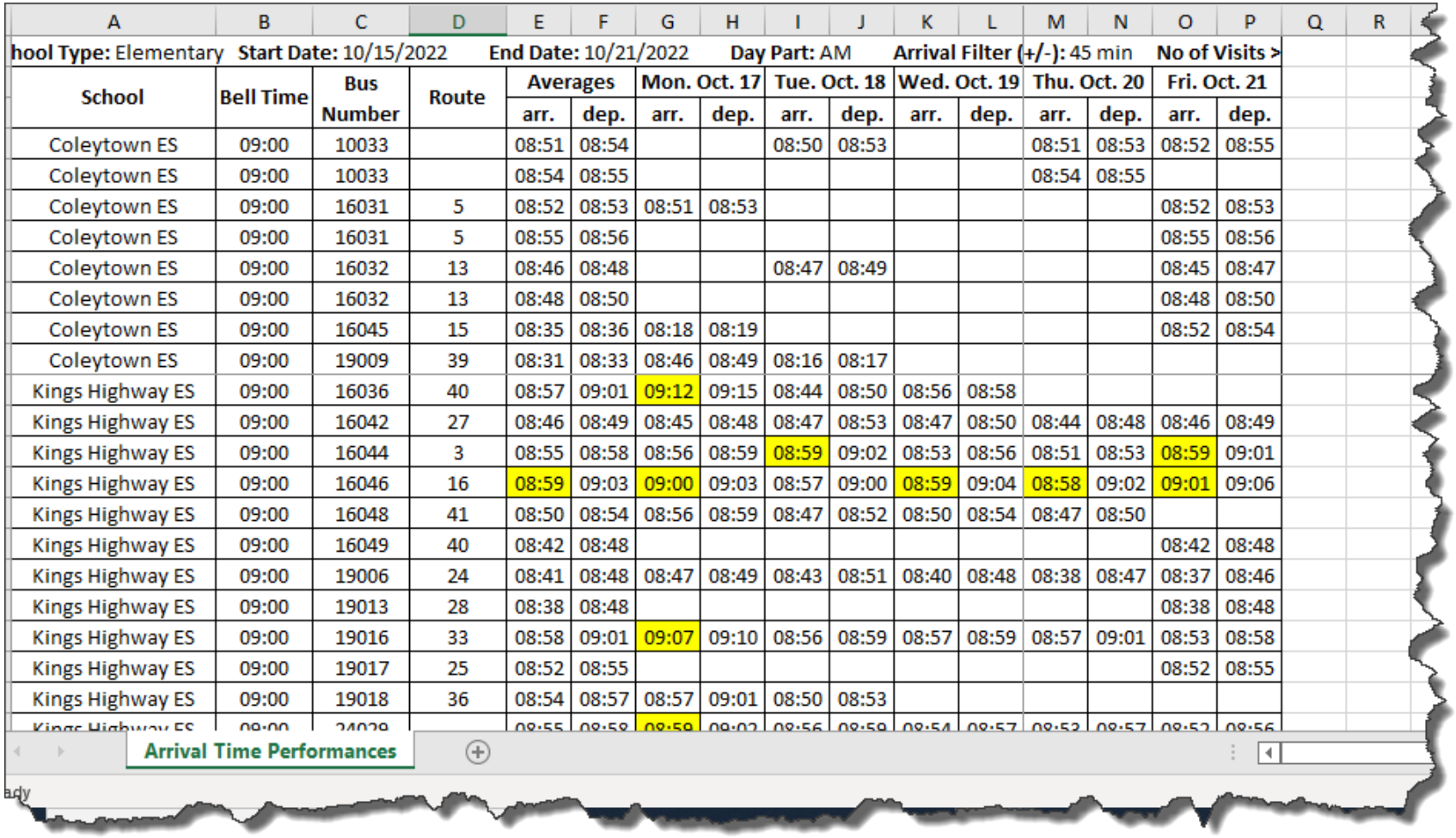
- All small buses are operating between 3:00 and 4:00.
- PreK runs are assigned to buses with no 1st tier run.
- **Late Connections**
- There are many late connections based on MapNet times.

GPS Reports – PM Arrival Deviations

Route	Assigned	School Arrival1					School Arrival2					School Arrival3					
	Bus	School 1	Δ Min.	Actual	Plan	Macro	School 2	Δ Min.	Actual	Plan	Macro	School 3	Δ Min.	Actual	Plan	Macro	Sc
1	19011	STAPLES HIGH	-342		2:51	2:30	BEDFORD MIDDLE	-312		3:21	3:21	LONG LOTS ELEMENTARY	-283		3:50	3:45	
3	16044	STAPLES HIGH	-342		2:51		SAUGATUCK ELEMENTARY	-308		3:25		KINGS HWY ELEMENTARY	-273		4:00		
5	16031	STAPLES HIGH	-342		2:51	2:07	COLEYTOWN MIDDLE	-312		3:21	3:26	COLEYTOWN ELEMENTARY	-283		3:50		GREENS FA
6	16052	STAPLES HIGH	-342		2:51	2:19	BEDFORD MIDDLE	-312		3:21	3:18	LONG LOTS ELEMENTARY	-283		3:50	4:15	
7	19008	STAPLES HIGH	-342		2:51		BEDFORD MIDDLE	-312		3:21		LONG LOTS ELEMENTARY	-283		3:50		
8	16033	STAPLES HIGH	-342		2:51		BEDFORD MIDDLE	-312		3:21		LONG LOTS ELEMENTARY	-283		3:50		
9	19014	STAPLES HIGH	-342		2:51	2:15	BEDFORD MIDDLE	-312		3:21	3:23	GREENS FARMS ELEMENTARY	-278		3:55	4:02	
10	16037	STAPLES HIGH	-342		2:51	2:43	BEDFORD MIDDLE	-312		3:21	3:29	GREENS FARMS ELEMENTARY	-278		3:55	4:00	
11	16055	STAPLES HIGH	-342		2:51	2:09	COLEYTOWN MIDDLE	-312		3:21	3:26	GREENS FARMS ELEMENTARY	-278		3:55	3:47	
0012-0014	16050	STAPLES HIGH	-342		2:51	2:21	COLEYTOWN MIDDLE	-312		3:21	3:31	COLEYTOWN ELEMENTARY	-278		3:55		
13	16032	STAPLES HIGH	-342		2:51	2:40	COLEYTOWN MIDDLE	-312		3:21	3:16	COLEYTOWN ELEMENTARY	-283		3:50	3:32	
15	16045	COLEYTOWN MIDDLE	-312		3:21	2:37	SAUGATUCK ELEMENTARY	-308		3:25		COLEYTOWN ELEMENTARY	-278		3:55	3:22	
16	16046	SAUGATUCK ELEMENTARY	-308		3:25	3:19	KINGS HWY ELEMENTARY	-273		4:00	4:01						
17	16056	STAPLES HIGH	-342		2:51	2:20	BEDFORD MIDDLE	-312		3:21	3:18	LONG LOTS ELEMENTARY	-283		3:50	4:12	
19	16051	STAPLES HIGH	-342		2:51		BEDFORD MIDDLE	-312		3:21		GREENS FARMS ELEMENTARY	-278		3:55		
20	10030	STAPLES HIGH	-342		2:51	2:24	BEDFORD MIDDLE	-312		3:21	3:23	GREENS FARMS ELEMENTARY	-278		3:55	3:46	
21	10032	STAPLES HIGH	-342		2:51	2:28	BEDFORD MIDDLE	-312		3:21		GREENS FARMS ELEMENTARY	-278		3:55	3:52	
22	16041	STAPLES HIGH	-342		2:51	2:17	BEDFORD MIDDLE	-312		3:21	3:17	LONG LOTS ELEMENTARY	-283		3:50	4:04	
23	10034	STAPLES HIGH	-342		2:51	2:01	BEDFORD MIDDLE	-312		3:21	3:28	LONG LOTS ELEMENTARY	-283		3:50	4:03	
24	19006	SAUGATUCK ELEMENTARY	-308		3:25	3:09	KINGS HWY ELEMENTARY	-273		4:00	4:00						

Sheet1

GPS Reports – AM Daily School Arrive



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
hool Type: Elementary	Start Date: 10/15/2022			End Date: 10/21/2022		Day Part: AM				Arrival Filter (+/-): 45 min				No of Visits >			
School	Bell Time	Bus Number	Route	Averages		Mon. Oct. 17		Tue. Oct. 18		Wed. Oct. 19		Thu. Oct. 20		Fri. Oct. 21			
				arr.	dep.	arr.	dep.	arr.	dep.	arr.	dep.	arr.	dep.	arr.	dep.		
Coleytown ES	09:00	10033		08:51	08:54			08:50	08:53			08:51	08:53	08:52	08:55		
Coleytown ES	09:00	10033		08:54	08:55							08:54	08:55				
Coleytown ES	09:00	16031	5	08:52	08:53	08:51	08:53							08:52	08:53		
Coleytown ES	09:00	16031	5	08:55	08:56									08:55	08:56		
Coleytown ES	09:00	16032	13	08:46	08:48			08:47	08:49					08:45	08:47		
Coleytown ES	09:00	16032	13	08:48	08:50									08:48	08:50		
Coleytown ES	09:00	16045	15	08:35	08:36	08:18	08:19							08:52	08:54		
Coleytown ES	09:00	19009	39	08:31	08:33	08:46	08:49	08:16	08:17								
Kings Highway ES	09:00	16036	40	08:57	09:01	09:12	09:15	08:44	08:50	08:56	08:58						
Kings Highway ES	09:00	16042	27	08:46	08:49	08:45	08:48	08:47	08:53	08:47	08:50	08:44	08:48	08:46	08:49		
Kings Highway ES	09:00	16044	3	08:55	08:58	08:56	08:59	08:59	09:02	08:53	08:56	08:51	08:53	08:59	09:01		
Kings Highway ES	09:00	16046	16	08:59	09:03	09:00	09:03	08:57	09:00	08:59	09:04	08:58	09:02	09:01	09:06		
Kings Highway ES	09:00	16048	41	08:50	08:54	08:56	08:59	08:47	08:52	08:50	08:54	08:47	08:50				
Kings Highway ES	09:00	16049	40	08:42	08:48									08:42	08:48		
Kings Highway ES	09:00	19006	24	08:41	08:48	08:47	08:49	08:43	08:51	08:40	08:48	08:38	08:47	08:37	08:46		
Kings Highway ES	09:00	19013	28	08:38	08:48									08:38	08:48		
Kings Highway ES	09:00	19016	33	08:58	09:01	09:07	09:10	08:56	08:59	08:57	08:59	08:57	09:01	08:53	08:58		
Kings Highway ES	09:00	19017	25	08:52	08:55									08:52	08:55		
Kings Highway ES	09:00	19018	36	08:54	08:57	08:57	09:01	08:50	08:53								
Kings Highway ES	09:00	24029		08:55	08:58	08:59	09:02	08:56	08:59	08:54	08:57	08:53	08:57	08:52	08:56		

Arrival Time Performances

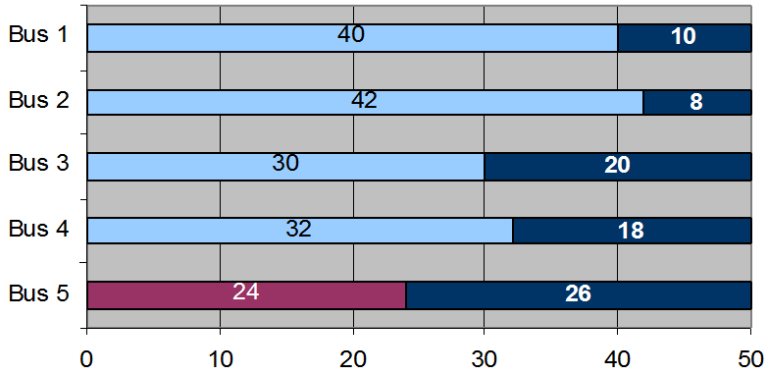
APPENDIX B:
TIME & CAPACITY ANALYSIS

Time and Capacity Analysis Overview

- A Time & Capacity Analysis (TCA) examines bus run times and seat utilization to identify potential vehicle reductions through bus run consolidation.
- In order to reduce bus runs, both time and seating capacity must be available. The example below considers only seat utilization and indicates an “opportunity” to reduce five runs to four. A full TCA also considers actual bus run time versus operating windows in identifying reductions.
- A TCA identifies opportunities for route reduction. Actual reductions can only be achieved through route level route planning and design.

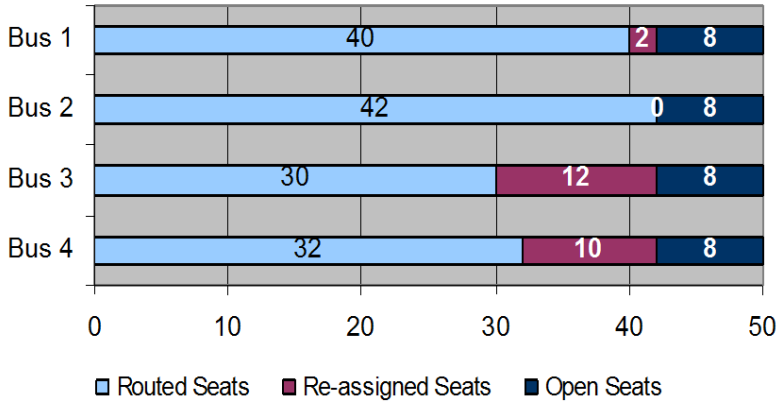
Before Optimization

- Five buses serving a single school with a total with 84 open seats



After Optimization

- 24 students re-assigned leaving four buses with a total with 32 open seats



TCA – Big Bus AM

Big Bus AM Runs	Tier	# Runs	Total Seats	Used Seats	Avail. Seats	Potential Run Reduction by Load	Max. Time (Mins.)	Used Time (Mins.)	Avail. Time (Mins.)	Potential Run Reduction by Time	Overall Potential Run Reduction
SHS	1	23	1771	1528	243	**3.2**	1380	738	642	**10.7**	**3**
BMS	2	17	1105	692	413	**6.4**	535	437	98	**3.1**	**3**
CMS	2	11	715	369	346	**5.3**	531	343	188	**3.9**	**3**
SES	2	6	462	367	95	**1.2**	341	205	136	**2.4**	**1**
CES	3	6	462	407	55	**0.7**	211	181	30	**0.9**	**0**
GFS	3	8	616	410	206	**2.7**	279	213	66	**1.9**	**1**
KHE	3	9	693	384	309	**4.0**	282	253	29	**0.9**	**0**
LLE	3	11	847	572	275	**3.6**	351	277	74	**2.3**	**2**

Max. Run length is 60 minutes for 1st tier.

Observations:

- Based on TCA there is statistical potential for consolidation of up to three first tier runs, four second tier and three third tier runs.
- This means there is statistical potential to eliminate up to three AM routes.
- Elimination of a full day route requires consolidation of a matching number of PM routes.

TCA – Big Bus PM

Big Bus PM Runs	Tier	# Runs	Total Seats	Used Seats	Avail. Seats	Potential Run Reduction by Load	Max. Time (Mins.)	Used Time (Mins.)	Avail. Time (Mins.)	Potential Run Reduction by Time	Overall Potential Run Reduction
SHS	1	23	1771	1528	243	**3.2**	464	598	-134	**-6.6**	**0**
BMS	2	17	1105	692	413	**6.4**	353	441	-88	**-4.2**	**0**
CMS	2	11	715	369	346	**5.3**	252	279	-27	**-1.2**	**0**
SES	2	6	462	367	95	**1.2**	145	162	-17	**-0.7**	**0**
CES	3	6	462	407	55	**0.7**	360	177	183	**3.1**	**0**
GFE	3	8	616	396	220	**2.9**	480	164	316	**5.3**	**2**
KHE	3	9	693	384	309	**4.0**	540	248	292	**4.9**	**4**
LLE	3	11	847	572	275	**3.6**	660	318	342	**5.7**	**3**

There are consolidation opportunities for 1st and 2nd tier runs based on available seats, but they are restricted by lack of time

Max. Run length is 60 minutes for 3rd tier.

Observations:

- PM TCA indicates statistical potential to consolidate up to 9 ES runs, but no 1st and 2nd tier runs
- As the table shows it is lack of time rather than lack of seats that is the main constraint for 1st and 2nd tier runs. Middle School runs represent the controlling tier with no ability to consolidate in the PM based on time.
- This is consistent with our observation that the PM period is the major determinant of the overall number of routes. While there are seats available – even based on assigned loads – the time constraints on triple tiered 2nd tier runs limits the potential for run consolidation.

TCA does not show statistical potential to consolidate PM runs in all tiers based on the current set of runs. However, after consolidation of 3rd tier runs there may also be opportunities to consolidate 2nd tier runs and reduce routes (see appendix C).

TCA – Small Bus Regular Ed

Small Bus AM Runs	Tier	# Runs	Total Seats	Used Seats	Avail. Seats	Potential Run Reduction by Load	Max. Time (Mins.)	Used Time (Mins.)	Avail. Time (Mins.)	Potential Run Reduction by Time	Overall Potential Run Reduction
SHS	1	6	156	99	57	**2.2**	360	176	184	**3.1**	**2**
BMS	2	1	26	16	10	**0.4**	25	30	-5	**-0.2**	**0**
CMS	2	5	130	74	56	**2.2**	216	157	59	**1.4**	**1**
SES	2	2	52	34	18	**0.7**	85	51	34	**0.8**	**0**
CES	3	2	52	48	4	**0.2**	45	56	-11	**-0.5**	**0**
GFE	3	1	26	19	7	**0.3**	60	25	35	**0.6**	**0**
KHE	3	3	78	51	27	**1.0**	130	58	72	**1.7**	**1**
LLE	3	1	26	12	14	**0.5**	25	25	0	**0.0**	**0**

Small Bus PM Runs	Tier	# Runs	Total Seats	Used Seats	Avail. Seats	Potential Run Reduction by Load	Max. Time (Mins.)	Used Time (Mins.)	Avail. Time (Mins.)	Potential Run Reduction by Time	Overall Potential Run Reduction
SHS	1	6	156	99	57	**2.2**	195	149	46	**1.4**	**1**
BMS	2	1	26	16	10	**0.4**	19	32	-13	**-0.7**	**0**
CMS	2	5	130	74	56	**2.2**	193	146	47	**1.2**	**1**
SES	2	2	52	34	18	**0.7**	35	27	8	**0.5**	**0**
CES	3	2	52	48	4	**0.2**	120	44	76	**1.3**	**0**
GFE	3	2	52	33	19	**0.7**	120	37	83	**1.4**	**0**
KHE	3	3	78	51	27	**1.0**	180	64	116	**1.9**	**1**
LLE	3	1	26	12	14	**0.5**	60	27	33	**0.6**	**0**

Observations:

- In the PM we found statistical potential for consolidation of one run in each tier.
- This is matched in the AM with statistical potential for consolidation of an additional 1st tier run.
- If the 2nd and 3rd tier runs can be consolidated it could result in the elimination of one full day small bus route.

APPENDIX C:
STRATEGY TO LEVERAGE GAPS IN THE 1ST TIER

Strategy for Reducing Routes

PM Route Reduction

- A Route reduction requires elimination of at least one 2nd tier and one 3rd tier run.
- The PM TCA did not show any opportunities to consolidate 2nd tier PM runs because of the time constraints in those tiers - *when they are tiered with ES runs*.
- *If one or more 3rd tier runs is consolidated, this will leave gaps in the 3rd tier, which will in turn allow some 2nd tier runs to operate longer.*
- TCA shows that there are opportunities for run consolidation of 2nd and 3rd tier runs based on available seats.
  - Consolidate 3rd tier ES runs – these are currently configured for 30 minutes
  - Consolidate 2nd tier MS runs – so that certain runs are longer than current 30 minutes and do not have to pair with a 3rd tier run
  - Move runs as needed to fill tier gaps and eliminate routes.

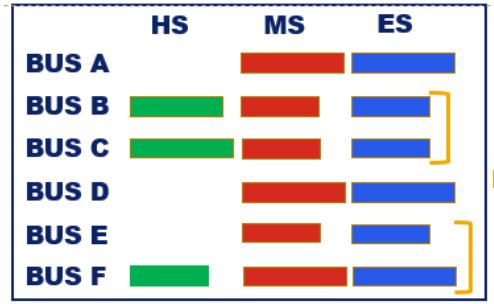
  See sample consolidation procedure on next slide.

AM Route Reduction

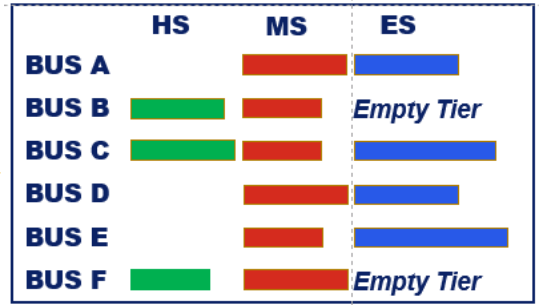
The AM time period is more flexible than the PM. We are confident that any route reduction in the PM can be matched in the AM

We found potential to eliminate four Middle School runs when tiering with an elementary run is not required. This could result in the reduction of two vehicles.

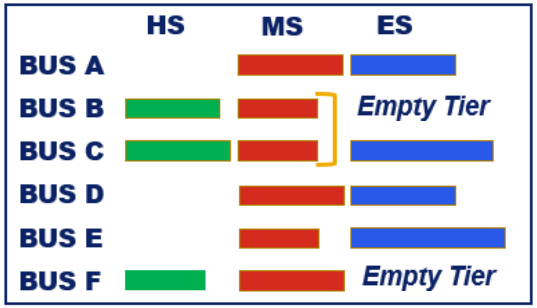
Sample Consolidation Procedure for Fictional Site – Eliminating 'Bus E' in the PM



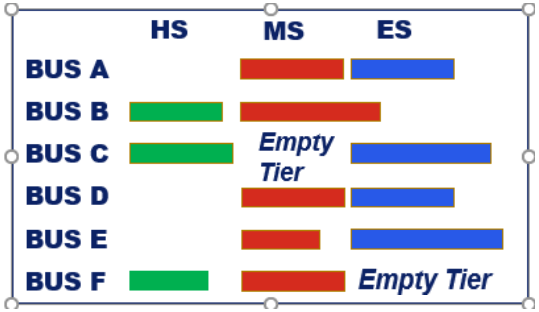
Combine 3rd tier ES runs on buses B & C on Bus C, and ES runs on buses E & F on Bus E



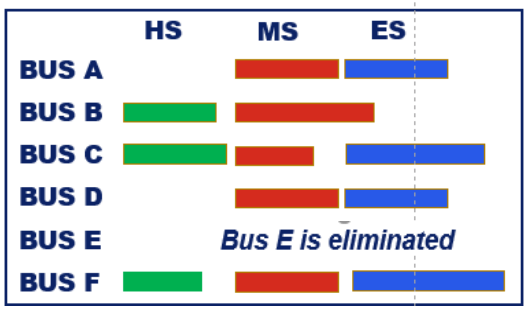
Buses B and F now have empty 3rd tiers



Combine 2nd tier MS runs on buses B & C, on Bus B.



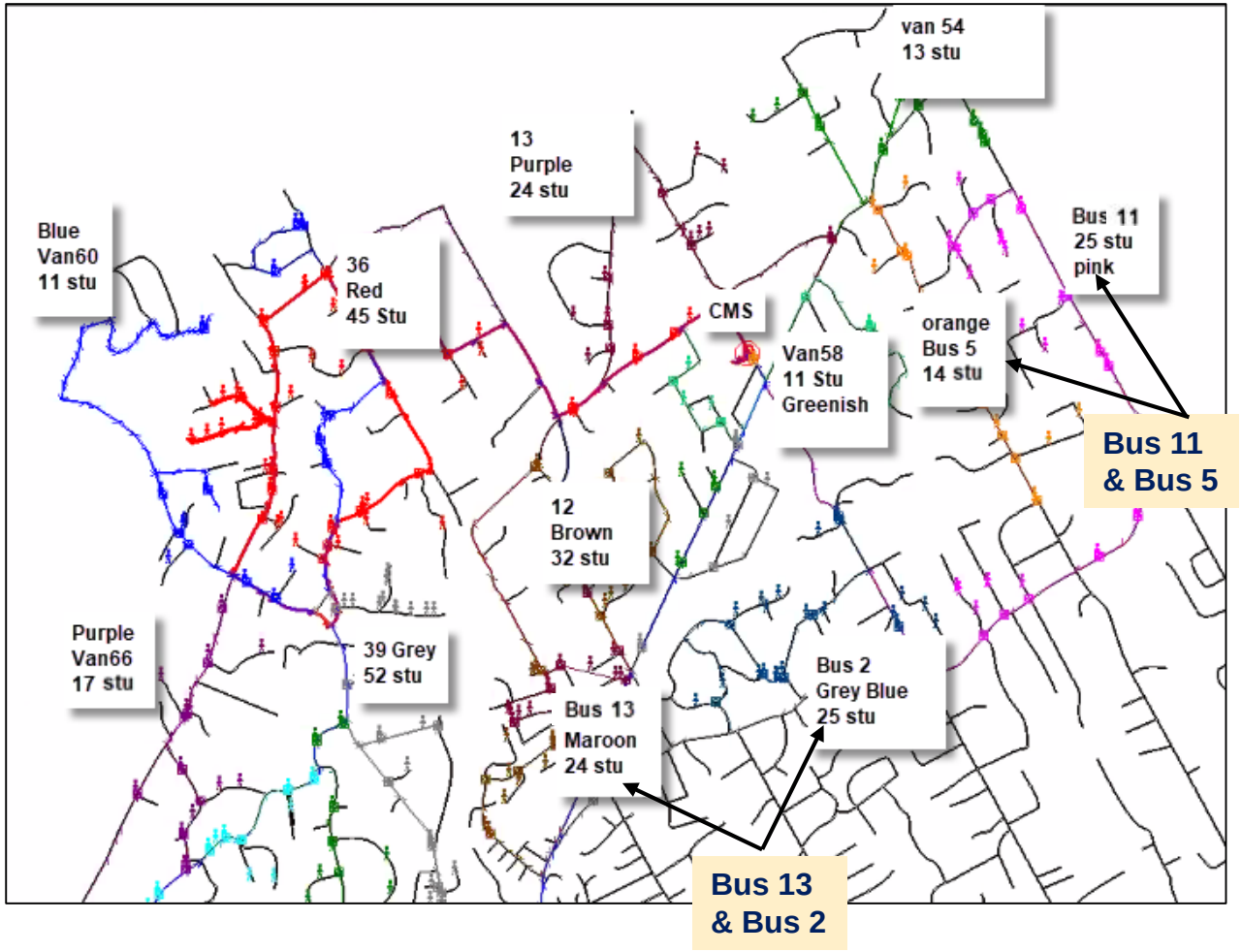
Bus B's 2nd tier is no longer empty, Bus C now has an empty 2nd tier, Bus F still has an empty 3rd tier.



Move 2nd tier MS run on Bus E to Bus C. Move 3rd tier ES run on Bus E to Bus F. Bus E is eliminated. All tiers for remaining 5 buses are occupied.

Note: In the PM example, consolidation of 2 ES runs and 1 MS run was required to eliminate a route. In the AM it would require consolidation of 2 MS runs and 1 ES run to eliminate a route.

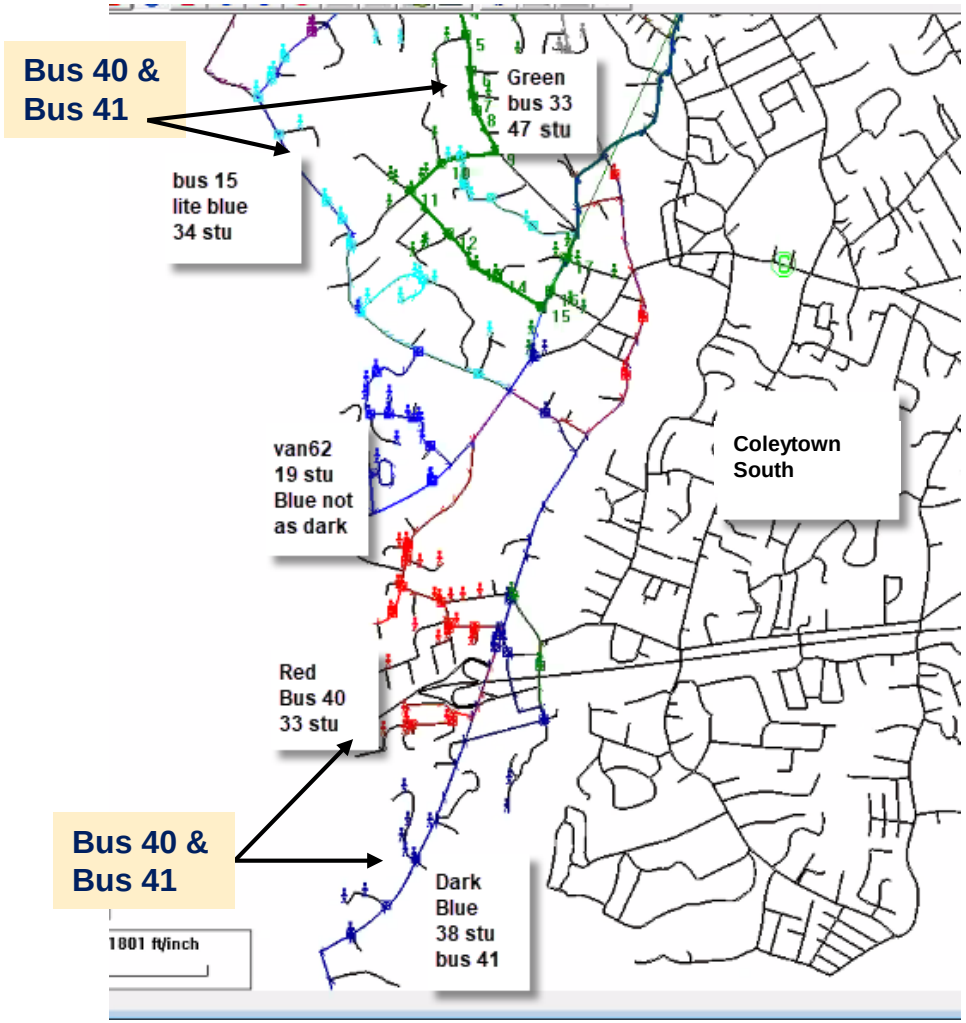
COLEYTOWN MS – NEAR SCHOOL AND WEST



Observations

- There is potential for consolidation of 2 runs in the area around and west of the school.
- Bus 11 and Bus 5 are adjacent and have a combined load of 39 students. These two runs could be combined.
- Bus 13 and Bus 2 have a combined load of 49. These two runs could possibly be combined.
- Based on the assigned loads we did not find any other Coleytown runs in this area with potential for consolidation

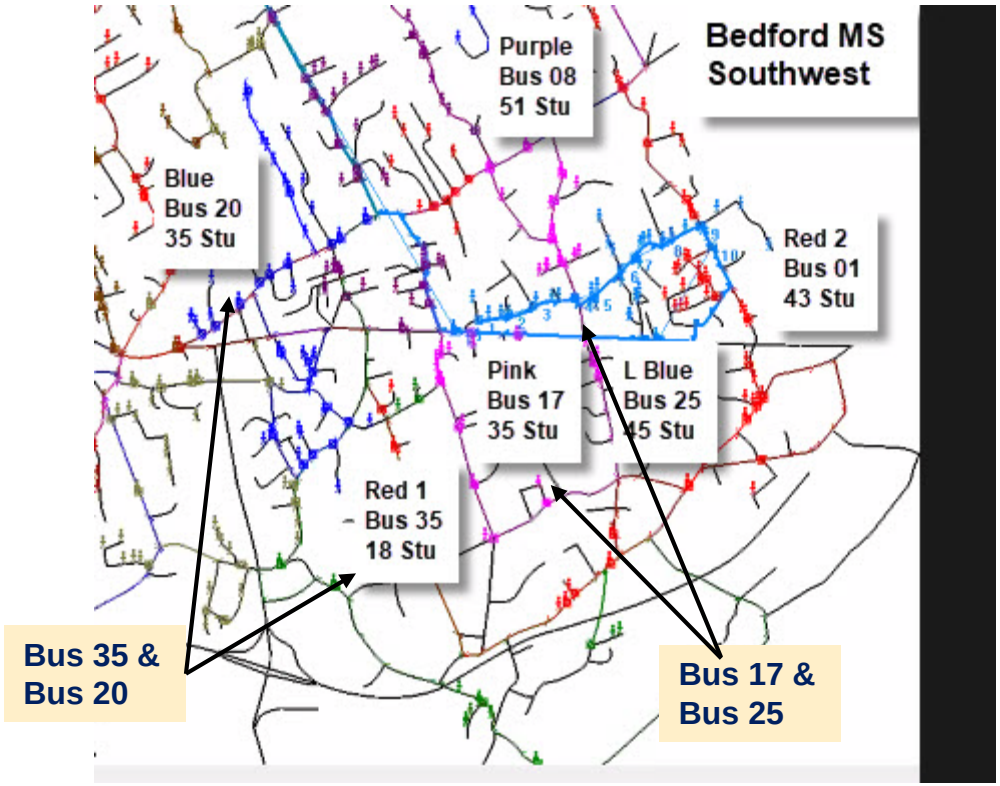
COLEYTOWN MS – SOUTH



Observations

- We found limited potential for consolidation of one Coleytown MS run in the area south of the school.
- Consolidation of adjacent runs – *Buses 40 & 41 and Buses 15 & 33* – is not possible as they would result in overloaded runs of 81 and 74 riders.
- It may be possible to eliminate Bus 40 (33 riders) using Buses 15, 40 & 4 which would result in an average load of around 52 riders.

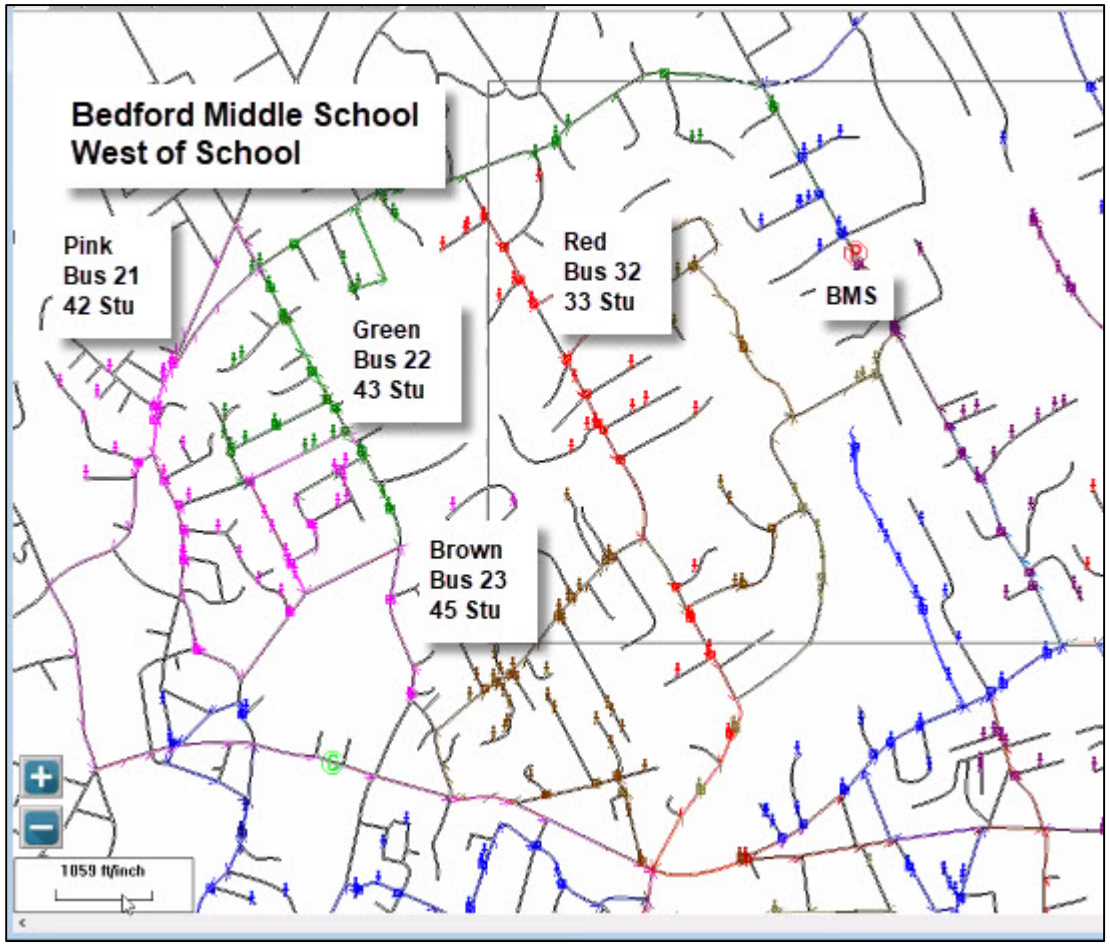
BEDFORD MS - SOUTHEAST



Observations

- We found potential for consolidation of one Bedford MS run in the area southeast of the school.
- Bus 35 has 18 riders and could be consolidated using Buses 17, 20 & 25.

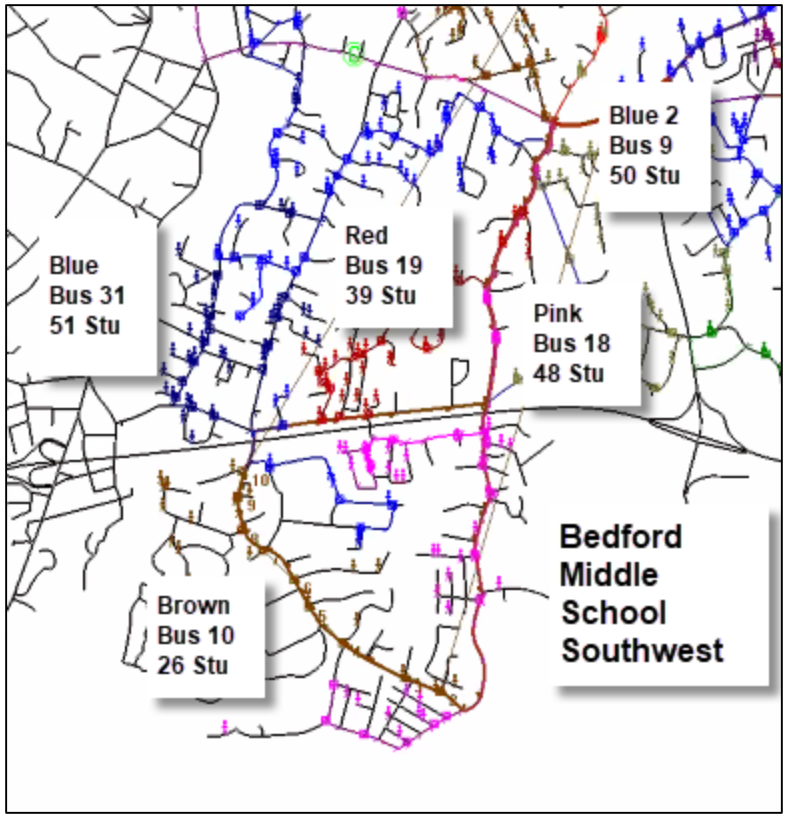
BEDFORD MS - WEST



Observations

- Based on assigned load, consolidation of any Bedford MS runs in the area west of the school is unlikely.
- The total assigned load is 163 which means consolidation of four runs into three would result in an average load of 54.

BEDFORD MS - SOUTHWEST



Observations

- Based on assigned load, consolidation of any Bedford MS runs in the area southwest of the school is unlikely.
- The total assigned load is 214 which means consolidation of five runs into four would result in an average load of 54.

DRAFT

Appendix D:
MapNet System Usage Details

Routing System

- WPS is responsible for providing routes to their bus contractor
- Currently the district operates MapNet, a TripSpark product on a local Oracle server. WPS has operated MapNet for 15 years.
- The current version of MapNet is 5.0.65535.0 Revision 8525. This is the most current version.
- The district contracts with Trapeze to for maintenance of the map, boundaries, custom reporting, SIS interface, etc. The last full map update was done in 2020. The district has a designated support contact and responsiveness is good.
- Users report minimal issues with locating student addresses in MapNet, indicating that the map is up-to-date.

Users

- Buffy Barry is the Transportation Coordinator and only MapNet user at the district. Buffy has been working in the system for 3 years and received training from her predecessor Sandy Evangelista, who has 15 years experience at WPS using MapNet.
- Buffy is well-versed in the day-to-day aspects of creating and editing runs and assigning students, but would welcome additional training from TripSpark on advanced features of the software such as creating reports, the Coordination module, more complex data querying and display, etc.

Transportation Data

Transportation Data

- Stop sequences are not mirrored from AM to PM but configured to produce the most efficient route path in each time period.
- Via's do not print directions from the garage or between tiered runs.

Map and Timing

- Stop and run times are mostly forced (manually edited). Users report that the MapNet generated times are not close enough to use. We tested a couple of runs and the system generated times were about 10 minutes longer than manually entered times. If we were not also recommending migration from the MapNet system, we would recommend map calibration to refine system generated times.

Student Data

- District manages student data using PowerSchool. Imports from PowerSchool occur prior to Fall startup, and from then on student data is maintained manually. There are periodic, but not regularly scheduled student data feeds between MapNet and Powerschool.
- Stop catchment areas have been defined in MapNet which enable easy and accurate student assignment to stops.
- Headcount data is collected by run. Headcount data was not available for SY 2022-23 but actual ridership is typically 50% of assigned students.

Processes

Fall Startup

- The transportation department uses existing regular ed runs and adjusts them according to the location and number of students for each school. Care is taken to observe the initial assigned run loads and adjust and edit runs based on headcounts from the previous year.
- Special needs runs are built from scratch each year.
- School starts around August 30th
- Rolled over student file 2nd week in July, one time import from PowerSchool to MapNet
- Routes are submitted in mid-August and frozen for 2 weeks until the start of the school year.

Changes

- Transportation and routing requests are processed based on stop request forms filled out by parents. Transportation requests for Special Needs students come from the Special Needs coordinator at each school.
- Change Cycle – changes Friday –Thursday start on the following Monday
- Driver route sheet is in effect on Monday
- Special Need changes have up to 7 days to go into effect.
- The number of change request forms is typically around 100 during the 1st two weeks of startup and was only 25 for Sy 2022-23. We believe this is a manageable number

Communication

Parents can access PowerSchool online and routes are posted on the district website.

Improvements

Improvements

- Migrate to New System
- Train additional staff on system
- Connect consumers (Dattco, Schools)
- Import and export students to/from Powerschool automatically
- Pay careful attention to road speeds and map calibration in new system such that time overrides will no longer be necessary
- Print directions for all segments of route

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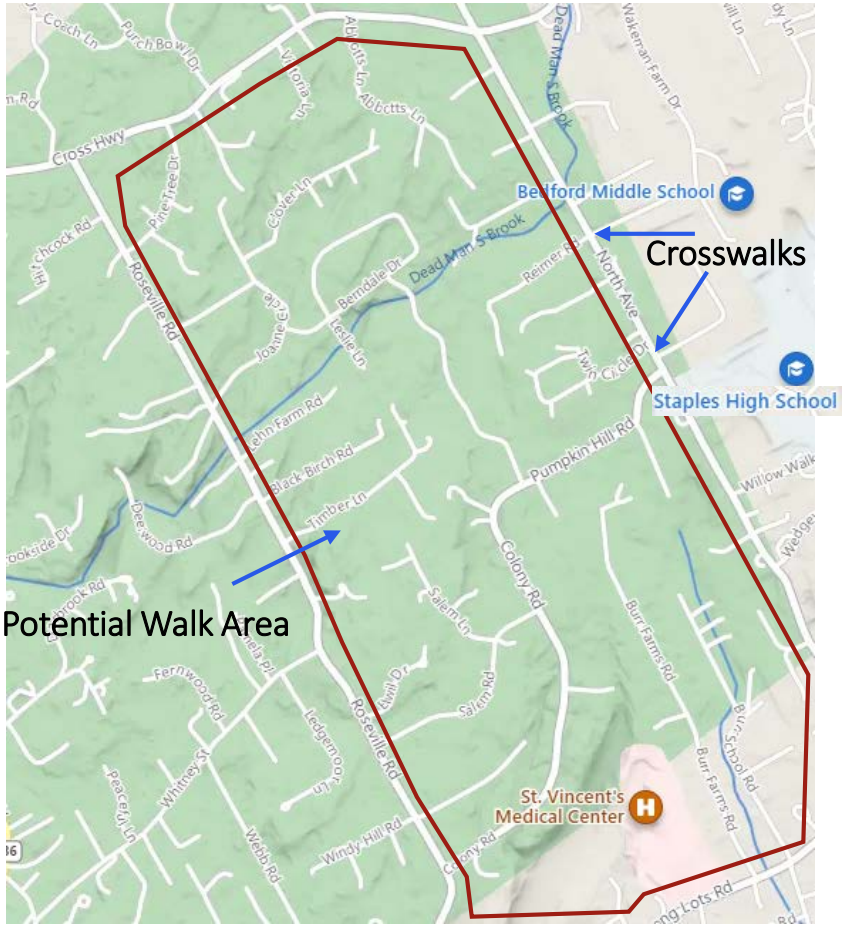
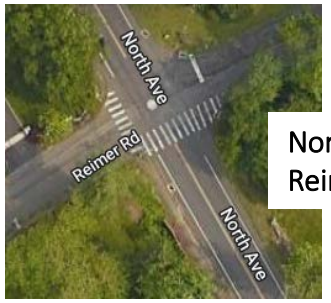
DRAFT

Appendix E – Walk area Analysis

Staples HS and Bedford MS





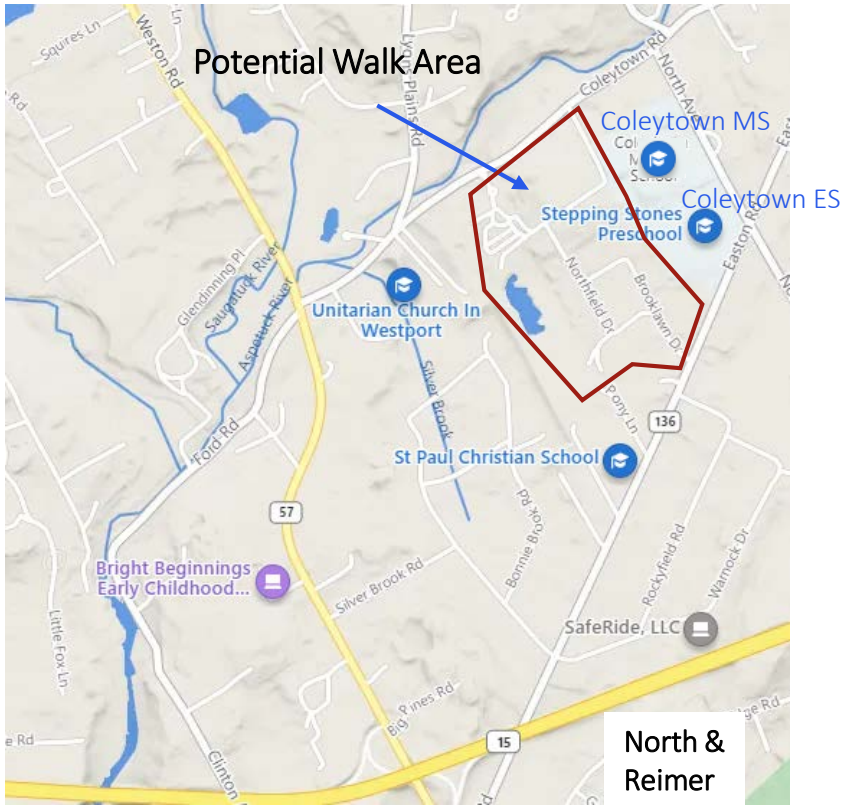
North & Reimer

North & HS Access Rd

Potential Walk Area

- The neighborhood west of Staples HS and Bedford MS (shown at left) is defined by major streets Cross Hwy, North Ave and Long Lots Rd, and Roseville Rd.
- Three of these streets, Roseville Rd is the exception, have sidewalks accessible to students residing in the neighborhood defined by the red boundary line.
- There are crosswalks at North Ave & Reimer Rd and at North Ave at the Staples HS access road, which would allow students residing in this neighborhood to cross North Ave safely.
- Streets inside the red area do not have sidewalks. However, if it is deemed safe to walk to the major streets that define the neighborhood there is potential to make this area a walk zone.

Coleytown MS & Coleytown ES

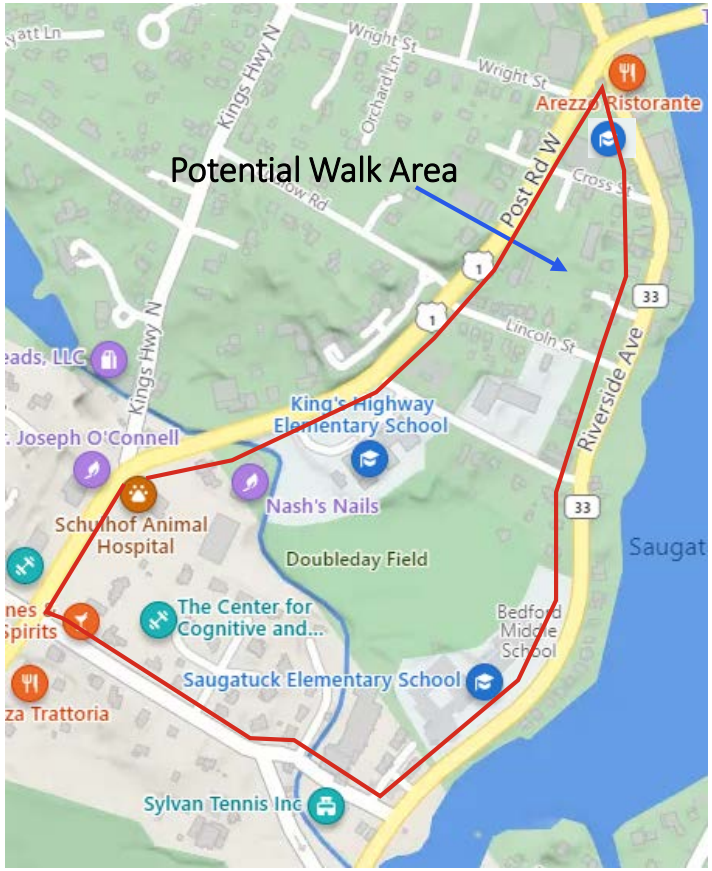


North & HS Access

Potential Walk Area for Coleytown MS

- Coleytown MS and Coleytown ES are bounded by major streets with no sidewalks on at least one side.
- Coleytown MS has a walkpath on the southwest side of the campus which would allow access to the school for student residing in the neighborhood defined by the red line.
- This is a small area which is likely to contain a small number of potential walkers.

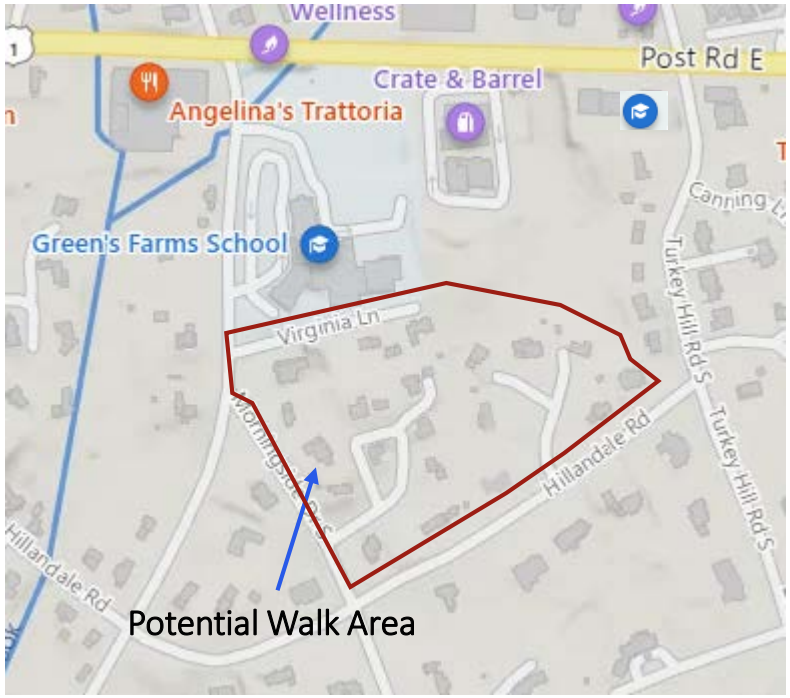
Kings Highway ES & Saugatuck ES



Potential Walk Area

- Kings Highway ES and Saugatuck ES lie within an area bounded by Post Rd, Riverside Ave and Sylvan Rd.
- There are sidewalks on these streets on the side of the streets bounded by the red area.
- This area outlined in red is a potential walk zone for both schools.

Green Farms ES



Potential Walk Area

- Green Farms ES is bounded to the North by Post Rd and on other sides by Morningside Dr, Hillandale Rd and Turkey Hills Rd S.
- There are sidewalks on Morning Side and Hillandale which would allow for a small walk zone in the area within the red line.

Long Lots ES

Potential Walk Area

- Long Lots ES is bounded by streets without sufficient sidewalks including Long Lots Rd, Hyde Ln, Turkey Hill Rd and Old Rd.
- There is a pathway into the school from Bauer Pl which allow for a small walk area encompassing Bauer Pl and adjacent streets.