

**WORCESTER PUBLIC SCHOOLS**  
**Summary of School Bus Routing and Contract Analysis Report**  
**January 7, 2015**

Page	Section	SBC Analysis	WPS Comment
2	WPS Current Pricing and Routing Structure	As Durham must pay their drivers a minimum of five hours per day, based on a collective bargaining agreement, then it is imperative that WPS create routes that are also a minimum of five hours per day in order to not pay for time that is not productive. The five hours is measured from gate-to-gate. There is no credit or price reduction if a bus is regularly utilized for less than five hours per day. Mid-day bus runs are not included in the five hour window. There are no billings from Durham for overage hours.	<p>The average bus utilization is 6.0 hours per day within the following distribution:</p> <p>More than 8 hours: 1  7.5-8.0 hours: 6  7.0-7.49 hours: 17  6.5-6.9 hours: 38  6.0-6.4 hours: 38  5.5-5.9 hours: 50  5.0-5.4 hours: 18  Less than 5 hours: 27</p>
3	WPS Current Pricing and Routing Structure	It was explained that the District's routing practice is to not aggressively purge the routing system when a specific bus run is eliminated or when it is determined that there are no pupils riding the bus. These bus runs therefore become a "placeholder" in the bus schedule. This practice intentionally creates capacity in the system for daily buses (and drivers) to provide a layer of cushion against unexpected circumstances, and further assure the timeliness of the bus service. However, this practice makes it more difficult to manage bus utilization and efficiency as buses appear to be in operation that may not actually be in operation.	<p>Placeholders are not used by the WPS for regular (large bus) transportation. Instances of using temporary placeholders are only for special education or special placements (i.e. Juvenile Resource Center, Alternative Program Mid-Day Program, Transitions Programs, and in-district McKinney-Vento students. The purpose of having temporary placeholders is to anticipate the bus being used for another student being placed into these programs in the immediate future. After these temporary placeholders are purged, the bus time is used to address current demands or overloads that may exist within the system.</p>
3	WPS Current Pricing and Routing Structure	Could the push to create five hour bus runs to get full value from the pricing structure be contributing to ineffective bus scheduling practices?	<p>Page 15 of the SBC reports states:</p>

	Routing Structure		<p>“However, based on the routing analysis results, it is not recommended that WPS pursue a different routing strategy but we do recommend that current data where route times and student counts are not showing on active routes, be corrected. As different as the current routing scheme is to what we typically see employed in most districts, it is not an ineffective use of resources, and most importantly it works for WPS.”</p>
6	Pricing Approaches	<p>[In the industry], regular education bus routes are typically established then executed with minor, if any, deviations from day to day. Special needs routes do vary and require more attention as to determining the base rates.</p>	<p>The fixed nature of regular education bus routes may be true for regional or rural school districts. Year-to-date there has been approximately 400 regular education route changes in the transportation system. There has also been approximately 2,000 special education route changes since the start of the school year as well.</p>
7	Pricing Approaches	<p>Consider this, if you were asked to provide a fixed price for an uncertain service level or demand, would you set the price higher or lower? Obviously, you would strive to set it higher. Contractors will follow the same logic. In our opinion, districts give up operational and fiscal control with fixed prices.</p>	<p>Fixed per day pricing provides budget certainty and more importantly allows for flexibility to address transportation needs that arise during school year. Recent examples include the mid-year replacement of WRTA routes for alternative programs to save money, the district was able to provide transportation for afterschool music lessons to open participation, and other routes are added/split after the budget process to balance loads and ride times.</p>
7	Bus Monitors (Attendants)	<p>The pricing of special needs bus monitors (attendants) follows the same logic. Rather than building the monitor price into the bus price, break it out and incur that charge only when a monitor is on the bus. The daily hours and rates can be similarly determined based upon</p>	<p>In the WPS, bus monitors are only used on special education vehicles. Our contract requires bus monitors to be on the buses for all runs at all times. The contract provides a 1/2 daily price of the bus</p>



7	Other Bus Runs	<p>the scheduled route times, such as a 5 hour monitor, 6 hour monitor, and so forth, plus coverage hours.</p> <p>Pricing other bus services by way of an ala-carte menu should be limited to the extent possible. A-la-carte pricing allows the contractor to invoice fees in addition to the home-to-school services, such as for vocational school shuttles, special needs career assignments, mid-day kindergarten, and tutoring. The fees for these services are often developed upon the contractor's assumption that the bus will be dispatched from and return to the terminal, thus resembling another round of trip service. However, some of these bus runs will not require a return to the depot before the run initiates.</p>	<p>penalty for any bus that operates without a bus monitor.</p> <p>The 2015-2020 bid specification specifies the use of buses within the daily rate structure in lieu of services that could have been ala-carte in the past, such as early release buses, high school final exams, and certain athletic trips occurring immediately after school.</p>
13	Student and Route Results of Sampling	<p>It is visually obvious that the OTR [One Touch Routing] reconstruction of the routes for North High School results in the appearance of more straight-lined routes that appear to be more efficient as well as accomplishing the desired outcome of assigning all students to buses. However, the resulting data belies that appearance and summarizes the expense (in higher miles, longer ride times with no significant increase in average capacities) to accomplish the desired outcome. For North High School there was no change in the required number of trips (12) before and after the OTR for this school.</p>	<p>The WPS believes this analysis to be accurate for other schools as well.</p>
14		<p>The higher route times are due to the extra time Versatrans calculates for any additional stops created and the time of loading of additional students. While there was no significant increase in capacities and no reduction of routes there was a significant increase in mileage which further computes in higher fuel costs that will translate into higher costs for the vendor that would</p>	

14		<p>be passed on to WPS in future bids, regardless of the vendor.</p> <p>Of particular note in the overall OTR exercise is the minimal difference in the number of routed students using the OTR (5,792), whereby all students are routed within Verstrans, and the number of students reported by Durham riding on the September 2014 count (5,801), a difference of nine students. This indicates that even though WPS does not assign students to regular education routes on a regular basis within Verstrans, virtually 100 percent of the reported eligible students in Verstrans are riding the buses based on the OTR of the routing sample. Based on the coverage area of current routes it appears the distances students have to travel to stops is not a roadblock to accessibility and that eligible students are making use of the existing availability of stops and routes.</p>	
14		<p>The results of this route sampling, while beneficial in an assignment of all riders, did so at the expense of over doubling the mileage of current routes. Increases in the minimum and maximum ride times of students are within the allowable routing parameters and therefore were not considered a concern.</p>	
15	Routing Conclusions	<p>However, based on the routing analysis results, it is not recommended that WPS pursue a different routing strategy but we do recommend that current data where route times and student counts are not showing on active routes, be corrected. As different as the current routing scheme is to what we typically see employed in most districts, it is not an ineffective use of resources, and most importantly it works for WPS.</p>	<p>The bid specifications recommended by the WPS Administration and approved by the Worcester School Committee did change the routing strategy.</p>

16	Contract Conclusions	<p>Based on this more nuanced analysis of the routing scheme, we are not recommending a switch to a different method of packaging to and from school routes. We do believe that the district should consider the regular "other uses" of buses that occur in the district that could be added onto a pre-determined number of buses during the bid process.</p>	<p>The bid specifications recommended by the WPS Administration and approved by the Worcester School Committee did change the method of packaging to and from school routes. The bid specifications does include language that allows other uses of buses to occur on already existing routes.</p>
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