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To: Sam Hemenway, PE

Cc: File

From: Paul Bannon

Subject: Asa Messer School – Traffic Assessment

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## INTRODUCTION

The following review of site access and circulation for vehicular and pedestrian traffic was prepared as part of a Rhode Island Department of Education's (RIDE) application in support of the Asa Messer School's proposal for school facility improvements. It is our understanding that the existing elementary school is being razed to allow modernization and expansion of grades to the new PK-8 model with the construction of a new single building accommodating all grade levels. This consolidation of grades will be accomplished with the closure and relocation of middle school students from the adjacent West Broadway Middle School located one block to the east on Bainbridge Avenue.

The new school building is proposed to be constructed within the same general footprint of the existing structure due to limited available land on the subject property, which also includes a recreational softball field that will remain unaltered. Access from the main roadways servicing the property would be similar to existing conditions,



though the internal site circulation and driveway/parking configurations will be modified slightly within the core area of the campus. These changes will promote better access and circulation of bus traffic, and provide a more cohesive circulation pattern through the site.

The study included as part of this final design planning level analysis, focused on the traffic (vehicular/pedestrian/bicycle) operations and safety. As part of the study, the existing site access and circulation for buses, parent/guardian drop-off/pick-up, and staff/visitors have been evaluated to define potential issues and possible mitigation measures for the site redesign to ensure safe and efficient access to and through the school property is provided for all users where practicable. The proposed site modifications including razing the existing building will allow for opportunities to implement current design principles and criteria developed for the Providence school campuses, into the new school building and site infrastructure.

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## EXISTING CONDITIONS

### Site Infrastructure

The existing Asa Messer school campus is comprised of a single 123,600 square foot building constructed in 1970 that accommodates elementary school age children in grades PK through 4 with enrollment of 561 students. The school is serviced by the abutting roadways of Broadway, Westminster Street and Barton Street. A single driveway situated on Westminster Street provides the only access to the school property, but it is limited for use to only the teacher/staff parking lot, and buses during the arrival and dismissal periods. Service vehicles also use this driveway for deliveries at the rear of the building. Visitors accessing the school during the daytime when the school is secured, are able to use this driveway to access several available parking spaces in the lot, though not defined, as they must use the monitored entrance door at the rear of the building.

The primary student entrance to the building is situated on Barton Street at the northeast corner of the building. Directly in front of the main building entrance there is a bump out with a marked crosswalk and warning signage to promote safe crossing at a location that is controlled by a crossing guard. This crossing is shown in the adjacent photograph and is common to the front door of the Paul Cuffee School located directly across the street. As noted, though, during school hours after the building has been secured, visitors and parents/students must enter at the rear of the building from the staff/visitor parking lot off of Westminster Street.



Presently there are approximately 60 staff members for the school who park in the lot off of Westminster Street behind the school as noted. This parking area has limited signage to properly direct site users and identify restrictions for staff spaces, handicapped spaces and areas limited to buses only. It is typical of most higher functioning school sites to define designated teacher and visitor parking and areas of bus circulation with restricted access. There are approximately 75 standard parking spaces and 2 ADA spaces currently available on site in this lot.

The width of the driveway to the site was determined to be 26 feet. It was observed that this width combined with the lane widths on Westminster Street restrict turning movements of the larger bus and service vehicles that must utilize this entrance. The future design of the driveway should consider the turning requirements of the appropriate vehicles to provide improved maneuverability, allowing for a safer and more efficient access.

### Site Operations

The site circulation for the school presently provides separation of traffic flow between buses and staff at the rear of the building as noted, with the parent drop-off/pick-up which occurs off-site on the local roads.

The parent drop-off/pick-up areas are limited to on-street designated lanes along the Barton Street and Westminster Street frontages. The 500-foot lane along the Barton Street frontage signed as “*No Parking – Student Drop Off Area*” is shown in the adjacent photograph at the main entrance to the school. Parents were found to park in this lane and leave their vehicles in order to escort their child to and from the building due to the age of elementary school children, and lack of other available parking around the school. Therefore, this lane does not operate as a “drop-off/pick-up lane”, but as a parking lane for the elementary school. There is also a defined shoulder/lane on the easterly side of Barton Street opposite the school that is designated as “*No Parking*” as it is restricted to either a *bus stop* or *loading area* for the adjacent properties including businesses and the Paul Cuffee School. Parents were also found to disregard the parking restrictions along this side of the road, except for a small coned off area immediately in front of the Paul Cuffee School to allow for buses.



A short 160-foot drop-off/pick-up lane is also provided on Westminster Street. This lane is not readily used for morning arrivals as parents must bring the students to the main entrance on the opposite side of the school for access, but is heavily used during the afternoon period with vehicles double parked in this wide lane adjacent to the school. It is more desirable for use during this afternoon period as students are dismissed at various doors to exit the school including one along Westminster Street.

Observations of the operations of the arrival and dismissal periods found that the Barton Street area is heavily congested for the peak twenty minutes surrounding the bell times where parents park wherever they can along the adjacent servicing roadways, including in restricted areas, or double parked as noted. During the morning period, parents were observed stopped in the travel lane in front of the school at the main crosswalk to let their older children or a Paul Cuffee middle school student out of the vehicle. This condition was not a common occurrence but when children were dropped off in this manner, traffic was further restricted and congested in an area of heavy pedestrian traffic. The crossing guard attempted to discourage this move, but due to the busy nature of this area, was often dealing with crossing pedestrians and the buses for Paul Cuffee. This was not a common occurrence during the afternoon period as students were dismissed at multiple locations from the building and the parents must park and access the school property to escort their children from the building.

It should be noted that the Paul Cuffee School located across the road on Barton Street, has overlapping arrival and dismissal periods between 8:30 - 9:00 AM and 3:00 – 3:30 PM. This condition leads to further traffic congestion along the adjacent roadways and particularly Barton Street, that is not associated with the elementary school. The Asa Messer Elementary School hours were changed to a later time with bell times at 9:05 AM and 3:20 PM in 2023, resulting in the situation where students and parents from both schools are competing for limited available parking. Additionally, the buses for the Paul Cuffee School use

Barton Street to pick up and drop off their students at the front door, directly conflicting with parents from the adjacent elementary school.

There are seven (7) large buses that service the Asa Messer School and four (4) van/small buses for special needs students at the rear of the building off of Westminster Street. A designated area for the large buses is located at the northwest corner of the building adjacent to the softball field, while the smaller buses loop to the main secure rear access door where teachers and visitors enter the school. It should be noted that the bus area for the large buses in the northwest corner is highly restrictive forcing drivers to make multipoint turns in order to turn around and position themselves for proper/safe student boarding. This condition should be corrected as part of any infrastructure upgrades in order to enhance safety and operations of the busing system on site.

The morning bus arrivals were found to be random where typically only two or three buses were on site at the rear of the building at any one time. During the dismissal period four large buses were on site and positioned at the northwest corner of the building by 3:45 waiting for student boarding. This is the maximum number of buses that can occupy the available bus designated area. These early buses departed individually when full, allowing the remaining three buses to enter the site randomly after 4:00 to pick up the remainder of the students. The special needs buses at the rear entrance operated freely and arrived and departed randomly with no stacking issues.

The West Broadway Middle School that serves Grades 5-8 with an enrollment of 419 students is located at 29 Bainbridge Avenue. The building constructed in 1904 will no longer be utilized for school operations and may be repurposed by the city for other uses. The school arrival and dismissal periods are offset from the two other schools with earlier start (7:45 AM) and dismissal (2:30 PM) times. Bainbridge Avenue is a narrow, one-way southbound road between Broadway and Westminster Street that serves as a dedicated bus lane during the arrival and dismissal periods. Parents utilize Barton Street during these periods as students walk through the Paul Cuffee School property, which abuts and is connected to the middle school site.

### Pedestrian Accessibility

Pedestrian access to the school is available along each of the roadways servicing the school. Concrete sidewalks are available along Westminster Street, Broadway and Barton Streets. A formal pedestrian crossing with bump outs, crosswalk and signage is situated in the mid-section of Barton Avenue at the front door of both the Asa Messer School and the Paul Cuffee School directly across from each other as shown previously. High visibility crosswalks are available at intersections including the Barton Street signalized intersections with Broadway and Westminster Street that provide controlled crossings and at the stop controlled intersection with Messer Street. To aid in crossing these high volume roadways, crossing guards actively engaged in controlling traffic through the junctions provide safe pedestrian crossings during the busy arrival and dismissal periods.

## FUTURE CONDITIONS

The proposed condition at this school site, as noted includes combining the two adjacent schools, Asa Messer Elementary School and the West Broadway Middle School, into a single PK through 8<sup>th</sup> grade school with a planned enrollment of 1,040 students. The new PK through 8 school model along with the new school environment is intended to improve the educational experience at the school while also enhancing safety of the daily operations where practicable.

The proposed new building will be situated within the footprint of the existing structure, with the primary frontage and main entrance on Barton Street. The existing parking lot at the rear of the school will be reconfigured for improved site circulation and use to better accommodate future traffic demands associated with the additional parents and buses required with the combined schools. It is anticipated the school arrival/dismissal periods will be earlier (7:45 AM and 2:30 PM), than what presently occurs on site and which presently conflicts with the Paul Cuffee School.

Based upon our review of current operations and estimated future conditions an alternative to relocate the school bus accommodations was investigated. This was done in an effort to help reduce congestion on the adjacent servicing roadways as previously described by allowing on-site access and circulation for parents, which presently does not occur as buses use the rear parking area of the school. Through coordination with the school department, city traffic engineer, and Paul Cuffee School administration, it has been recommended to utilize the Barton Street school frontage to accommodate the buses that are anticipated to require up to 15 for the expanded school. Relocating the buses to the main roadway in a dedicated bus lane, will allow for parents to be managed on-site at the rear of the school. An appropriate arrival and dismissal plan should be developed by the school administration to permit orderly stacking within the parking lot with dedicated drop-off and pick-up locations that parents should adhere to. Appropriate grade level locations including a separate PK building entrance will be defined to better service the new building layout.

Parking will be increased on the site, providing approximately 98 spaces that will be accessed at a modified, improved driveway curb cut on Westminster Street. The primary teacher/staff parking will remain along the westerly property line and in a formal parking field in front of the secure rear entrance to the new building. Proper signing and striping of this area will be completed, identifying employee/staff and visitor parking spaces, and handicapped spaces.

A new network of sidewalks, pathways and crosswalks are proposed to provide pedestrian friendly safe linkage between the roadway sidewalks, the school building and adjacent outdoor play areas. Additionally, new sidewalks are being incorporated within the teacher/staff and visitor parking area, and along the front of the school on Barton Street adjacent to the dedicated bus lane. These features are not provided under existing conditions. Bike racks should be provided at the appropriate location on the campus adjacent to the building in order to promote use of bicycles by the older middle school students.

The future overall access and circulation plan has been designed to separate where feasible, the three demand elements of the school operation including buses, staff, and parents/students. The driveway and sidewalk design to parking lots and circulation routes within the school property will aid in the reduction of vehicle and pedestrian conflicts, resulting in improved efficiency and safety of school staff and students.

It is anticipated that the existing operations of the parent component of the arrival and dismissal periods on the local roadways will be greatly improved as they will be accommodated on-site and bell times will be staggered from the Paul Cuffee School, reducing peak hour demands. Additionally, with moving the buses to Barton Street, discussions with the city traffic engineer and school department to provide school time access restrictions (for buses only) or to permanently change the directional flow to one-way southbound, are options being considered to improve pedestrian safety.

If two-way traffic flow on Barton Street is preferred, a short duration buses only restriction could be implemented. This would occur during school arrival (7:00 – 8:00 AM) and dismissal (2:00 – 3:00 PM) periods where only buses are permitted on Barton Street through use of proper signing and crossing monitors. Adjacent side streets can be utilized by other vehicles for north/south access between

Broadway and Westminster Street. Creating a bus only area during the arrival and dismissal periods would result in a much safer pedestrian environment along the school frontage and main entrance area of the school where there is high pedestrian traffic.

The second option that would reduce potential vehicle/pedestrian conflicts and improve safety adjacent to the school, would be to permanently restrict the directional flow to one-way southbound for Barton Street. Reducing traffic flow, and introducing possible traffic calming measures along its length, would also provide safety benefits both during school hours and during non-school periods that would benefit abutting properties that accommodate pedestrian traffic. These properties include the Paul Cuffee School, Church of St. Mary on Broadway and the recreational city ball field on the Broadway corner used by the schools and city residents.