

Notes from Stratford BLPC Optional Meeting to discuss latest site/building plans

July 7, 2015 – 8pm

Attending: Doug Taylor, Carol Burger, Jeff Turner

APS and A/E Team Responses are in RED text

Site Plan Topics

General

- Is there a firm consensus amongst the BLPC that we must have some level of access or egress via Old Dominion (eliminating A1/A2 site plans as currently drawn?)
- We thought we recalled an estimated 65% of traffic coming via bus or on foot/bike (leaving 35% for parent drop-off) based on other middle schools... can't find that number in an earlier presentation, can we confirm (or get an estimate if we don't currently have one)?

Toole: Correct. Our traffic analysis assumes a 35% drive rate for a 1,000 seat middle school, although we believe 35% probably overestimates the drive rate without TDM. We've used a drive rate of 30% to estimate future trip generation for our "TDM scenarios" but not in actual traffic modeling.

35% represents the 75th percentile drive rate for neighborhood middle schools in Arlington County based on student travel tally data collected in 2013 and 2014. The average drive rate based on student travel tally data is about 29%. The average drive rate based on parent survey data collected in 2013 is lower-- about 26%. So, even the 30% "TDM scenario" number is still above average for the county.

A1

- Seems inadequate

A2

- Seems inadequate

C2

- Drop-off plaza is pretty but want to make sure we're focusing primarily on building itself first (i.e., concern re: cost of plaza)... most kids will likely still arrive through the front (bus loop) side entrance
- Could there be parking under drop-off plaza, and potentially connect through to current Stratford Program entrance parking area/loop?

QEA: Currently the auxiliary gym is under the drop-off plaza. We can study the possibility of also adding parking under the plaza, how many spaces that might yield and where it could connect to the site road network.

C3

- Less concerned about road being between school and field as we used to be, provided it's limited to morning/afternoon drop-off/pickup (closed at other times) and feels more plaza-like than road-like at least for the stretch adjacent to the building

G2

- We need better info about the queueing onto Old Dominion and how much of an issue it really presents

Toole: Our analysis suggests that queuing onto Old Dominion is a possibility for option G2 given the current driveway configuration. Although there is sufficient space for the drop-off queue between Old Dominion and the drop-off zone, there isn't sufficient space for the signal queue, specifically for parents that want to turn east on Old Dominion. At peak drop-off times, this may result in back-ups onto Old Dominion, because parents in the drop-off queue will not be able to pull all the way forward. The potential for back-ups on Old Dominion is a major concern for VDOT and would likely result in VDOT rejecting this option as currently designed.

- How many parking spaces in the garage? Would making this 2 underground levels satisfy parking needs for phase II as well?

QEA: One level garage (at existing building level 1) would have 64 spaces. Excavating for a second level down would take out some spaces, so the total spaces on two levels would be approximately 90-95 spaces. This would only replace the 94 spaces in the west parking today; it would not provide enough parking for Phase 2.

Vacation Lane Study (parking under field)

- Would bus drop-off be located in the underground parking lot?

QEA: No. Buses require 15' clear height, while parking garage only needs 9'. Drop-off would also trigger additional ventilation challenges. APS does not want to drop students off underground.

- Can the road on either side of the garage be buried as well (at least for the length of the field)? Seems likely more doable on far-side than near-side due to grading issues and the field be adjusted towards Vacation Lane.

QEA: We are assuming this question is referring to C2 with underground parking. If the road was buried for the length of the field, it would need to somehow get from elevation 270' (parking garage elevation) to elevation 290' at the drop-off plaza, which would not be feasible.

- How significant of an additional cost is adding the parking? We don't need hard numbers but at some point an order of magnitude would be helpful to evaluate... 5% of project budget? 10%? 20% Etc.

QEA: We should have cost info from our estimator just in time for Monday's BLPC meeting, including the garage under the field.

Building Topics

General

- Internal flow of the students at the school is critical and among the top individual considerations to weigh in any plan (amongst dozens of various considerations for the building and site plans)
- Prefer building massing that has 3 points of access to/from the current structure... at center of main building (tower), gym side, and elective side
- Is there a way to connect from courtyard area directly to basement level of elective area (near where it connects to the main building)?
QEA: Yes; needs further study.
- Look at projected programming numbers for elective classes... will they need more space?

QEA: We are simultaneously working on the program and the massing so all options will accommodate 40,000 sf for new program.

- May also desire larger auditorium, black box, cafeteria, gym, if need to expand, can any of existing be cost-efficiently converted in Phase II?

QEA: Of those elements, the cafeteria is the most likely to be expanded in the future. We are already assuming an expanded athletics program in Phase 1 with an auxiliary gym. If additional sf for these program elements was required for Phase 2, it is likely that additional spaces would be designed rather than expanding the existing spaces.

- Some plans include new media center... how would current one be repurposed?

QEA: We are investigating which electives would be best suited for that space given the high ceiling.

- Phase II can we avoid classrooms on the park side? Seems like we should use that space somehow, but preferably not classrooms if possible.

QEA: As we continue to develop the program for Phase 2 we will be using the same criteria of circulation, day lighting and entry that we are considering as drivers for Phase 1 building siting.

- As any new parent drop-off entrance is likely NOT going to be used by majority of students, don't overdo spending on a grand entrance.

- Can we, and does it make sense to, dig down an additional level (i.e., a true basement) for storage, mechanical, and/or any other facilities that may not need natural light?

QEA: We will address this on Monday in the presentation. C2 already has a lot of light-challenged spaces, C3 and G2 do not need extra space – it is possible we would put the programs that do not need light in dark spaces in the existing building and make the most of the spaces in the new building.

A1

- Is very similar to C2 except for connection to tower, which we prefer even if only at the basement level.

A2

- Less desirable only having a single floor of classrooms connecting the various parts of the school... prefer to keep the massing more centralized to make it a better school for students.

C2

- Can we confirm that courtyard and drop-off plaza are both at grade with 2nd level of the proposed addition, and the playing field is at grade with 1st level of proposed addition?

QEA: Yes. Graphics to explain will be in Monday's presentation.

- Can kids use the plaza during lunch or other times of day? What uses?

QEA: We envisioned it as a space possibly for larger school events that would benefit from a hardscape environment with access to the building at grade.

- Are those light wells drawn in the courtyard (for interior side classrooms on lower level of addition?)

QEA: Yes. Graphics to explain will be in Monday's presentation

- What is at the southwest edge of the field below drop-off (in the rendering, looks like a wall of windows)?

QEA: Auxiliary Gym. Graphics to explain will be in Monday's presentation

- There appears to be less classroom space than in C3... can we get a square footage? We've eliminated two floors and only added a single row of classes near the gym.

QEA: We will provide square footages and graphic support for this on Monday.

- Can there be a basement-level walking connection to the main building tower stairwell?

QEA: Yes, needs further study.

C3

- How big is the atrium?

QEA: Approximately 10,000 sf.

- How expensive is it to add?

QEA: Cost info will be available Monday.

- We'd like a better understanding of how the atrium would be used.

- Are there major drawbacks to not having the courtyard covered (i.e., this massing, minus the roof glass)?

QEA: The atrium will be the new "heart of school". It has the potential to be an exciting and engaging space for students. It would be a gathering place, a place for informal learning opportunities, and a place to go just to hang out. It will also contribute to building school identity and community. This school will be house a new MS program and cohort, and building that new sense of community will be essential. In addition, as explained at the last meeting, the atrium presents a unique opportunity to restore the existing glass block on the central classroom block façade to Burkett's original design. If the atrium is NOT covered, this cannot be achieved. The atrium is not necessary to meet the program, but we feel it is a tremendous missed opportunity if it is not executed.

- We'd like a better understanding of impact on the existing building (in terms of historic restoration)

QEA: The existing school building will be minimally touched by the addition. The new addition will require connecting to the existing building. At this connection, any deteriorated historic features will be repaired rather than replaced. The connection to the 2004 and 1995 additions will not destroy any historic elements. Both of these additions are not considered historic, nor significant. The design of the new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing.

G2

- Can modernize facilities without having such a modern look to it, doesn't seem consistent with the existing character of the building.
- Prefer more massing for classrooms in the area between gym and electives.



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MEMORANDUM

Design and Construction

2770 South Taylor Street Arlington, VA 22206 Phone: (703) 228-6613 Fax: (703) 671-2959

TO: Stratford BLPC Members

FROM: Bill Herring, Project Manager

SUBJECT: BLPC Action Requests

DATE: July 10, 2015

No.	Action Request	Resolution	Status
7-a	Review traffic analysis with County and QEA. Many BLPC members were unclear what to make of Toole's analysis and results. While the building design is moving along nicely, the access decisions are depending on analysis that doesn't seem to be very precise. BLPC needs more confidence before recommending a final access solution.	See responses to items 7a.1 through 7-a.6 below.	
7-a.1	The #s presented at BLPC 7 suggested that some of the new scenarios are "twice as bad" for 5 points, but the slides note that these numbers aren't all that accurate. Offline conversations with Toole suggest that they can't really model 5 points intersection.	The takeaway from the presentation should not have been that the traffic model results were inaccurate, but rather that the exact traffic conditions can't be modeled given the over-saturated traffic conditions at Five Points. The software packages being used (Synchro and SimTraffic) are the industry standard for documenting traffic performance and impact. This over-saturation issue is specifically relevant to scenario G2, which sends so many additional cars through the intersection that the model cannot accurately predict the functionality. The provided analysis results are consistent with what VDOT and the County would expect to see for a development project of this type, and those agencies would agree	Closed

		that the G2 scenario is not functional from a traffic perspective.	
7-a.2	- The assumptions about drive rate for students seems flawed. The Williamsburg #s (56 % of walkers drive) are consistent with using a higher #.	<p>Our traffic analysis assumes a 35% drive rate for a 1,000 seat middle school, although in fact we believe 35% probably overestimates the drive rate without TDM. We've used a drive rate of 30% to estimate future trip generation for our "TDM scenarios" but not in actual traffic modeling.</p> <p>35% represents the 75th percentile drive rate based on student travel tally data collected in 2013 and 2014. The average drive rate based on student travel tally data is about 29%. The average drive rate based on parent survey data is lower-- about 26%. So, even the 30% "TDM scenario" number is still above average for the county.</p> <p>The numbers shown at BLPC 7 come from the 2013 parent survey, which found a 33% drive rate for Williamsburg, which isn't that much higher than our 30% TDM scenario. The 56% percent figure is only for students who are not bus eligible. At this point, we don't know what percentage of Stratford students would be bus eligible and what percentage would not be, since the attendance boundary and walk zone have yet to be drawn. The drive rate for non-bus eligible students at other schools ranges from 21-34% with an average of 28.1%. Williamsburg's non-bus eligible drive rate is, therefore, an outlier within the county, and I've reached out to staff who worked on the Williamsburg project to see if they have any insights as to why.</p>	Ongoing
7-a.3	- It is not believable that putting all traffic on 2 blocks of Vacation 1 block away from five points and Old Dominion/Lorcom doesn't impact those intersections. The worst impact	Our traffic model included the complete roadway network, including Vacation Lane and its proximity to Five Points. The BLPC posed question indicated some concern that Five Points was represented as	Ongoing

	on 5 points will be any left hand turns from Military onto Lee - with most kids coming from south on Lee Hwy the Vacation Lane only solutions would not likely be "green" for this intersection.	'green' (or Level of Service A); however, all of the scenarios (including existing conditions) show the Five Points intersection functioning as 'red' (or Level of Service E or F) to varying degrees for all scenarios. We are confident that the impacts represented in the presentation are representative of the anticipated impacts based on the various scenarios.	
7-a.4	- Toole seems convinced TDM will be successful for both staff and parents. Staff at 87% is more believable than parent changes (APS staff often note "we can't control parents")	As mentioned above, we believe that 35% drive rate used in our traffic analysis probably overestimates the future drive rate without TDM at Stratford. That is, even if we do nothing to encourage walking, biking, and school bus/usage, the rate is likely to be lower than 35% on average. That said, studies at the national level and APS survey results over the past 2 years indicate that TDM measures, such as an active Safe Routes to School program, can significantly reduce drive rates. Infrastructure improvements that address significant barriers to walking and biking, such as a HAWK or signal on Old Dominion, could have a big impact. See the presentation from PFRC 3.	Ongoing Closed
7-a.5	- Off street parking is removed in the design, but is also assumed to be part of the solution. Today off street parking is used extensively with a smaller staff. All parking needs to fit on the site, with off street parking meeting visitor/event demands (in addition to church lots for large events).	Our parking observations suggest that a significant number of on-street spaces are available within the vicinity of the school during the school day. Even right before dismissal, which is typically the peak, most of the on-street parking spaces on streets around the school are less than 50% occupied. Our TDM parking scenario assumes that only 14 on-street spaces are used by staff or visitors and that these spaces are confined to Vacation Lane and Lorcom, even though there are spaces on Military and Lorcom that are close to the school and could also be used. The TDM parking scenario also assumes that 14 of the spaces that are available	Ongoing

		<p>today on Vacation Lane will not be available in the future, due to the proposed parking restrictions during school drop-off. These restricted spaces would still be available to staff and visitors arriving after school drop-off.</p> <p>Finally, our parking estimates treat part-time staff members as full-time staff members, in the sense that it is assumed part-time staff will require a space every day and cannot share parking with other staff members who arrive/depart at different times. Part-time staff members constitute approximately 20% of all staff members, and most are only at the school one or two days a week, so this means that even our TDM parking estimates are likely a little bit higher than what is actually needed to accommodate staff and visitors.</p>	
7-a.6	- Recommendations for changes to Lorcom Lane at Old Dominion are reversing progress that the County has made at this intersection. Seems unlikely that those changes should be rolled back. In any case, more County involvement is needed to get agreement on best path forward.	We spoke with the County about this recommendation last week and will provide them with additional data in support of it.	Ongoing
7-b	Provide total parking counts for each option under consideration (slides were very hard to read and this info was not printed on the handouts, by email wk of 6/29.	This information was emailed to the BLPC on 7/2	Ongoing
7-c	Update presentation page 4 to reflect survey results and the informal groups that met and responded in writing. Currently the survey #s are only about half of the folks that responded since these sources are not combined.	The points on slide 4 were intended to capture the opinions of both the survey responders and the informal groups that met. QEA felt the bullet points from the ensuing discussion were the key takeaways from BLPC 07. We can revise the slide to remove the survey results if that makes more sense. Slide was just trying to summarize the points to demonstrate what we were responding to while developing the C2, C3, and G2	Needs Discussion

		schemes.	
7-d	Post presentation and minutes before 7/3. (BLPC 6 minutes were not posted as of 6/26)	Presentation was posted on 7/1; minutes will be posted early week of 7/6	Open
7-e	Send meeting calendar items before 7/3, for July 13, July 16 (pfrc) and august 3.	Revised calendar was emailed to the BLPC on 7/2	Ongoing
7-f	Ensure that HB doors are unlocked for late comers at summer meetings.	APS will coordinate building access	Closed
6-a	Review with County Transportation team - possibilities for one way, limited access on Vacation	The county is not positively disposed to changing two way thoroughfares to one way. Accordingly, this is not a strategy that should be considered as a likely solution.	Ongoing Closed
6-b	Glebe Rd @ Glebe Elementary School; any rear-end crashes at red light? What would it take for VDOT to allow this same design?		ongoing
6-e	Connect Abingdon and Discovery BLPC chairs with Susan	These names will be provided by the next BLPC meeting (#08).	ongoing
6-g	(Added by email): Provide BLPC weekly update between meetings, update on design progress and issues and heads up on agenda topics. <i>(First update ~7/6.)</i>	We will provide a weekly summary of activities to the BLPC.	ongoing
6-h	Additional clarification on what historic site designation would mean for future modifications and use of the site.	Until such time as the historic site designation is determined, a precise answer is not possible. However, since our addition and renovation comes first, what we do will probably dictate what can be done in any subsequent upgrading of the facility, thereby attaching great importance of our response to the HALRB determination.	Ongoing
6-i	Study road/access scenarios, building entrance further and prepare concepts for discussion 6/29. Include options with building and/or parking structure on top of Stratford park parking, options with park parking lots connected to Old Dominion. <i>(6/29 - ongoing. Study connecting the park parking and Old Dominion in C2. Explore parking under the field, possibly with roadway partially</i>	As correctly noted, this is ongoing. We will continue to study the options presented and any possible refinements given the comments at BLPC 07. We will show more detail on the parking structure in G2 at the BLPC 08 meeting. We presented parking under the field at BLPC 07 and we responded to the question about roadway/drop-off underground at that time. APS does not feel underground drop-off is suitable for middle school	Ongoing

	<i>underground. PFRC also requested a design showing full parking and access for 1300.)</i>	drop-off. In addition, designing an underground space where cars will queue with engines running can be complicated and expensive, and an at-grade, outdoor drop-off is preferred for a school. Parking under the field is quite viable and we will continue to study it. We do not recall a request to connect the park parking to Old Dominion – was this raised at BLPC 06 or 07? At this point, based on conversations with VDOT and the County, we are only considering an intersection at Old Dominion at or near the midpoint between the intersections at Lorcom and at Five Points. We can look at connecting the west parking to the site drive in C2 or C3 if it is feasible. As we continue to develop the options we will demonstrate where, if at all, any new access points or parking would be included in Phase 2.	
6-j	Tree survey results, which trees are highest priority for preservation and which need to be removed. (6/29 - This is probably best circulated by email between meetings.)	We have just received a complete tree survey and will have tree impact per option prepared to present at BLPC meeting 08.	ongoing
6-k:	Handouts or multiple screens for BLPC mtgs.	Handouts for presentations are always provided to facilitate better understanding of the attending BLPC team.	ongoing
6-l:	Study satellite drop off locations, esp. on Military and Lorcom.	Remote locations for drop off were presented at BLPC 07	Closed
6-m:	Adjust drive rates for bus-eligible and "walkers", rather than using a blended average across all schools; using two Stratford boundary scenarios (centered around Stratford or starting at Rosslyn and going to 1300 kids).		(combine with 7 a-2
6-n:	(added by email): Find a speakerphone for summer meetings. (Plus call in number and video would be great, if possible). @ mtg 7 Caroline Holt offered to help set this up if APS can provide a computer	If possible, we will coordinate this with our consultants and APS IT department.	ongoing

END MEMORANDUM

Stratford BLPC # 9 Action Items (8/21/15)

History:

1. As discussed at BLPC 9, we would like to see additional refinement of C2 and/or another historically-acceptable design. We understand APS and A/E team recommends C3 building massing, but remain concerned that disagreement over the historic appropriateness may cause unnecessary discord and possible delays to the project. Specifically, given additional input from stakeholders at BLPC 9 and since, we would like to discuss:
 - a. Revise C2 – since tree canopy preservation is a concern, please confirm what it would take to make C2 work with a road north of the field. Please confirm cost has not changed with the tweaks done since our last HALRB (lower field level, added atrium). Also, is parking under the field still possible in this scenario? Could drop off plaza move farther west so that field does not have to shift? Could gym be placed under the south courtyard, opening to the field on one side?
 - b. Study C2.1 (Terrace/west wrap)– revise the terrace scheme to have a lighter touch on the gym façade (ideally exposing the gym stair door to the public), push the drop off plaza west to the park parcel (for instance near current Stratford drop off loop), move road north of the field . Consider rebuilding the gym (perhaps under or above the drop off plaza) and reusing current gym volume as media center/lobby/atrium, classrooms and/or internal circulation. If needed, consider one level of parking and drive lane to loop up from field level to park level, effectively “hiding” the road right in front of the gym and allowing daylighting for new classrooms with a road north of the field.¹
 - c. Consider C2.2 (Terrace/east wrap) – While A3 did not appear a viable solution when considered previously (due to difficult internal circulation, environmental protection area and out-of-scale streetscape), given considerable cost and environmental challenges for regrading elsewhere on the site additional study may be worthwhile. Please give some preliminary thought to a terrace solution that connects at or to the east of the south stair tower and builds over/on part of the Vacation Lane parking lot, with small atrium/lobby to maintain daylight for the music addition. If the internal circulation (original 7 ft. corridor) cannot be reworked, consider circulation through terrace and/or via a bridge above the music addition. Give thought to neighborhood scale, keeping a lower building or setting it back from the road gracefully to limit impact on one story single family homes across Vacation Lane.²

¹ Note: HALRB and community discussions since BLPC recommended this.

² Note: HALRB recommended this, while it seems less desirable than C2.1 (terrace/wrap west), further study is warranted given the new cost and tree information available.

- d. Consider West – As discussed in BLPC 9, this first study of building toward the park could be improved by swapping parking under the field (\$10M+ savings), adding a north road from Vacation to Old Dominion and possibly terracing a new gym into the hillside and reusing the current gym area for media/atrium/circulation/ classrooms. Ideally this also enables a smaller building footprint and/or fewer than 5 stories, while preserving daylight and reducing overall cost. If so, we'd like to share this backup “build once” option with the School Board.
1. **QEA RESPONSE:** We are currently studying a variety of revisions to C2. These include simplifying the building massing, reducing the program, and several alternatives for site access. As we have presented in earlier meetings, a road north of the field **at field level** (EL + 280') is not possible if access to Old Dominion is desired. We demonstrated this in Option C1 from several months ago. A low road north of the field needs significant length to climb to Old Dominion and it would exit at a location unacceptable to VDOT. The road north of the field in Site Option C3 is at elevation +292' (Level 1 of the existing building) and from there it is possible to climb to Old Dominion at a slope of 10% (maximum slope for such a road). However, a road at that elevation does not work with the lower massing of C2/Terrace scheme.
We are also studying a lower version of C2 that is mostly at basement level that responds to the comments from the 8/26 site walk with Joan Lawrence, Susan Cunningham, Nancy Iacomini. We also continue to study the West option with both parking under the field or additional surface parking where the lower lot is currently located. However at this point, per the School Board, we are focusing on 1000 students, for \$29.2 M, opening in fall 2019

Program/Cost/Phasing:

2. Project Scope and Value Engineering

- a. Very preliminary costs were shared at BLPC 9. Please provide revised costs for each massing scenario and each access scenario, broken out by phase. **As we describe in the answer to “b” below, we will be presenting cost information for schemes that meet the budget and compare them to the two previous preferred schemes of Terrace/C2 and Link/C3 so the BLPC can understand what is changing.**
- b. We are charged with recommending a \$29.2M design to the school board, but current cost estimates are more than \$42M for each phase 1 option. How many seats can we get for \$29.2M? What are the design and phasing implications of a smaller project? **We are currently working on testing a reduced program (35,000 gsf addition) that can still work for 1,000 students, but clearly some program elements are affected. We are also testing a less intensive building renovation and more of an economical approach to the site access. By the next BLPC we will have our best versions of these tests ready for discussion. We will have a scheme for 1000 students; we are not exploring reducing the number of seats.**

- c. What other opportunities to reduce building square footage or costs? **See answer above.**
 - d. (8.2 follow up) How many students can the current school support without expanding building footprint? (No build scenario) **TBD**
 - e. If media center were upgraded, Stratford area reconfigured and classrooms added in relocatables or through larger class sizes, what capacity could the school hold without major construction, and at what cost? (Relocatable build scenario) **TBD**
- .
3. Phasing. If phase 2 were built later, with ~300 students in relocatables during construction, where would trailers be staged and how would temporary parking, park access and student safety be addressed?

3. QEA RESPONSE: Location of relocatables will depend on which concept is chosen.

4. Community Improvements Costs:
- a. In BLPC 9 APS and QEA indicated that the fire marshal requires vehicle access on the field side of the school, so most of the cost (and grading) of Old Dominion access is also incurred in the “Vacation Lane Only” scenarios. What is the approximate cost for creating this fire lane access? **It depends on the site and building scenario. A fire lane at the level of the field for building access would not necessarily be that expensive. Fire access is not a major impact to cost. In the “vacation lane only” scenario shown at BLPC 9, the grading/sitework was shown to accommodate a FUTURE Old Dominion Connection.**
 - b. Are any of the proposed “safe routes to school” safety improvements along Vacation Lane and other streets possible cost savings? If 23rd St and other nearby improvements are needed, what additional budget might be needed? **Vacation Lane improvements and similar are part of a “community amenities” line item and are not part of the \$29.2 M CIP approved budget. Costs for these improvements will be broken out at the next BLPC.**
5. Parking. Structured parking costs are estimated at \$13M for 200 spaces under the field or \$22-25M for 195 spaces under the West building. HB/Wilson project estimates ~\$7M for ~90 spaces under the new building. Can you explain the differences in cost per space? Would a larger parking lot on the west side (stretching under the tennis courts for instance) be more cost efficient?

5. QEA RESPONSE: We are reworking all of the cost estimates and revised numbers will be available at the next BLPC.

6. Historic and Environmental Costs.
 - a. Confirm that the historic interpretation signage (exterior and atrium) is included in the cost estimates **YES**
 - b. Confirm that RPA and tree replacement costs are included in cost estimates. **YES.**
 - c. Please clarify what process and timelines are involved for RPA exceptions. Since the RPA is largely paved and contains little storm water treatment or retention today, hopefully any project touch will improve the stream health considerably. Can we work with County staff to get an MOU or other early documentation of what will be needed to change parking, field or to build within the RPA and likely cost or schedule implications? **RPA is approximately 2.3 acres. A little over 1/3 (0.85 acres) is currently paved. Increased paving for Vacation Lane improvements and possibly a very small portion of a site drive will increase impervious area in the RPA. This requires a water quality impact assessment application process that would be pursued at the same time as the use permit application already necessary for the site. If it is determined that a hearing is necessary for the plan to be approved, that could add up to 8 weeks to the project schedule, but it is really dependent on what impact the project will have to the RPA and how that impacts the health of the water in the protected stream. It is not anticipated that this process will have significant cost implications.**
 - d. Confirm that storm water quantity/quality measure costs are included for phase 1. In BLPC 8.9 response there was some indication that storm water for phase 2 would also be built in phase 1. What is this cost? **Preliminary stormwater costs are included in the cost estimate. Currently the costs for stormwater are estimated to be between \$400,000 - \$500,000 depending on the site option. Stormwater system design will happen in Schematic Design.**
7. Circulation. How do interior travel distances in each option compare to the Wilson/HB building concept design?
8. **QEA RESPONSE:**
 - a. The current design for Wilson/HB program has a travel distance of approximately 350-400 (5th floor to gymnasium)
 - b. The East scheme would have a travel distance of 535-580 feet (Easternmost classroom to gym/cafeteria) – +45%
 - c. The West scheme would have a travel distance of 575-625 feet (Westernmost classroom to music) – +56%
 - d. The Link and Terrace schemes would have a travel distance of approx. 450-475 (Arts to science) - +19%

Safety/Site Access:

9. Please clarify whether the west side/Stratford Park parking can be connected to the Old Dominion access (for teacher and weekend park use) in all or some options. **This would not be possible in the new round of “budget” site options but might be possible with C2 or C3.**
10. PFRC has requested additional detail on traffic analysis assumptions ahead of their Sept 2 meeting. Please share the responses with BLPC and include the clarification items below:
- a. (8.12 follow up) Vacation Lane parking drawing still seems to be overstating available parking spaces. Please show the scale, confirm the car/parking space length used and ensure safe distance from fire hydrants, driveways, intersections are maintained. Note that visibility challenges on 23rd St have necessitated parking prohibitions farther from the intersection than is standard. Also, what is the turn radius with the curb bump out at Lorcom and Vacation - can a full size bus make this turn from all directions without special maneuvers?

TDG Response:

- The parking spaces identified on the Vacation Lane parking drawing are 20' long with approximately 1' between each space. For comparison, a Prius is 14'-8" long, a BMW 3 Series Sedan and Jeep Cherokee are 15'-2" long, and a Mercedes-Benz GL-Class SUV is 16'-9".
- We often observe more cars parked on-street than this 20'-per-space increment might suggest. A good example can be seen in aerial on the south side of Vacation Lane near Military, where one available parking spot is shown between two existing driveways, yet two cars are parked there while not blocking the driveways.
- A scale is included on the drawing.
- We have confirmed that a school bus can make the turning movements without encroaching on adjacent lanes. A minor modification to the Lorcom Ln intersection has been shown to accommodate the bus turning movement. Please understand that the drawing is at concept level intended to show the recommended design treatments; it is not intended to be a fully-engineered drawing.
- The Vacation Lane parking drawing assumes that the parking restrictions at 23rd street will remain where they are today. Additionally the raised intersection will slow vehicles down and will improve sight distance by raising the driver's eyes as they enter the intersection.
- The curb radii vary for each intersection and will be engineered when the project progresses into the design phase.

- b. (8.16 follow up)

- i. HB/Stratford car estimate assumes that all students who drive bring a car. Observations show that most cars have 2-5 students in them. Is there an actual count of how many student cars (or staff cars) were present?

TDG Response: TDG conducted counts but did not distinguish between staff cars and student cars, since student and staff parking are not segregated and neither student cars nor staff cars display identifying labels or permits.

The student driver estimate provided in our response to 8.16 is based on a survey of 103 H-B 11th and 12th grade students conducted in fall 2013. This is about half of all H-B students at these grade levels. When asked, “What are the MOST common ways you travel TO school?”

- 29.4% of the H-B students surveyed selected “Drive (personal vehicle or motorcycle)” as the 1st most common way.
- 0.0% of the H-B students surveyed selected “Carpool with a friend who drives” as the 1st most common way.

This is the most recent survey information we have on the travel behaviors of 11th and 12th graders. It’s possible that the drive rate has gone down since then (or up). It’s also possible that the students who said driving was their most common mode of travel to school travel often enough by other modes that you don’t regularly see 61 student cars. Nevertheless, even if on a day-to-day basis the average number of student cars is only 40-50, current parking demand still outstrips projected parking demand for a 1,000 seat middle school by 34-44 cars and is either equivalent to or only 10 spaces less than projected demand for a 1,300 seat middle school.

Student drivers contribute to this outcome, but so does the relatively high number of staff needed for the combined H-B/Stratford programs. Even though these programs together have more than 300 fewer students, they have almost as many staff as a 1,000 seat middle school (150 v. 153), due to high staff to student ratios at Stratford, where there are 61 staff members for only 48 students.

Finally, if we assume 40-50 student cars instead of 61, there would still be a reduction in school-related on-street parking compared the existing condition. In this case, the total existing demand would be 192-202 rather than 212. Since we currently have 153 parking spaces on site, 39-49 cars are accommodated on street. In the future, we are proposing that 14 cars be accommodated on-street, which is 25-35 fewer cars than are currently accommodated on-street.

- ii. Staff trips seem to be underestimated. You show 150+ staff (in parking 8.16 response) for Stratford 1000 students but fewer than half of these as trips (in 7/22 gallery walk boards). How does that work?

TDG Response: The gallery walk boards showed projected trips during the peak hour, which is 7:15 to 8:15 a.m. Based on results from the APS GO! staff survey, we know that not all staff members will arrive during peak hour. Some will arrive earlier and

some will arrive later (e.g. Extended Day staff). Keep in mind that almost ¼ of all Stratford staff members are likely to be either part-time or itinerant.

- c. Walkers and car trip assumptions. BLPC 8 minutes note, "i. Question from Laura Edwards: Isn't the boundary going to affect the walk rate? Toole explained that it will not for the purpose of this discussion, because the ½ mile walk circle is going to be within the boundary. "Isn't the walk zone 1.5 mi? How many HB students live within the walk zone today and what is the drive, walk, bike rate for this population?"

TDG Response: At the middle school level students are eligible for school bus service if they live beyond 1.5 miles, which means the effective walk zone is 1.5 miles or closer. These distances are calculated based on the street network and modifications are made if there are safety concerns.

Responses from the 2013 APS GO! Parent Survey indicated that 40% of H-B students in grades 6-8 who lived within the walk zone walked or biked as their first most common mode of travel to school and 42.9% walked or biked as their second most common mode of travel to school. By comparison, 39.4% of Williamsburg students walked or biked as their most common mode of travel to school and 30.3% walked or biked as their second most common. The average across neighborhood middle schools was 59.6% walkers and bikers (first most common mode to school) and 39.8% walkers and bikers (second most common mode to school). These results suggest that the walking and biking rate at H-B is slightly higher than the walking and biking rate at Williamsburg but lower than average in the county.

The traffic model assumes a drive rate of 35%, which is slightly less than the average drive rate for Williamsburg for 2013 and 2014 (i.e., 36%), which is the highest average drive rate in the county for these years. TDG has characterized the 35% drive rate as "conservative," because we believe there is significant potential to increase walking and biking over current rates:

- The number of APS students living within a comfortable walking and biking distance of the Stratford site is significantly higher than the number of students living within a comfortable walking and biking distance of Williamsburg. See slides 9 and 10 from the [BLPC 8 transportation presentation](#).
- The area around Stratford already has a fairly complete pedestrian and bicycle network (especially along major roads), with some notable gaps. See slide 11 from the [BLPC 8 transportation presentation](#).
- Key gaps and barriers to pedestrian and bicycle access are either already being addressed by Arlington County or will be addressed through the Stratford project, including:
 - A signalized pedestrian crossing across Old Dominion between Military and Lorcom (either a HAWK beacon or a traffic signal).
 - Sidewalk on the south side of Old Dominion between Military and Lorcom.

- Pedestrian improvements to the Five Points intersection.
- Traffic calming and sidewalk improvements on Vacation Lane.
- Intersection improvements at Vacation/Lorcom and Vacation/Military.

d. (8.11 follow up):

- i. What impact on each access model if parking is not restricted except along school frontage?

TDG Response: Not restricting parking on the approaches to Lorcom and Military, as recommended, would perpetuate the current condition under which it is very difficult or impossible for vehicles traveling in opposite directions to pass one another (particularly if a bus is involved). The impact of not restricting parking would be greatest for the Vacation Lane-only access options, since in those options both in and out parent trips would be concentrated on Vacation lane; however, not applying the recommended restrictions would also impact traffic flow for C2 and C3, because neighborhood traffic, staff, parents choosing not to use the driveways, and particularly buses will still be concentrated on Vacation Lane.

- ii. Since most traffic will occur in the 15 minutes before school bell time, wouldn't the 15 min peak be important to understand for student safety, regardless of whether it is needed for TIS?

TDG Response: The traffic model accounts for the 15-minute peak by adjusting the hourly volumes based on a factor which accounts for higher vehicle volumes during the peak 15-minute interval during the hour. Figures which provide "maximums" as determined from the model (such as the 95th percentile queue at the intersection) represent activity in that 15 minutes.

- iii. Toole noted that drop off queue onto Vacation Lane from school property was not included in previous study. Can this queue length be studied for each access option, including leaving space for the 8 driveways between school and Military Road to have safe driveway/emergency access during the queuing time?

TDG Response: Option A1 was the only access option where drop-off queues were originally stated to queue onto Vacation Lane; however, the analysis leading to this conclusion did not take into account the curb lane that has now been incorporated for all options. For the A options, the curb lane will be used for parent drop-off in the morning and bus queuing in the afternoon. With this additional drop-off space factored in, we do not expect queues to back up into the travel lanes on Vacation.

- e. (8.16 follow up) With the increase in expected vehicle trips (2-4x depending on assumptions), pedestrians (5-10x) and bikers, how do we "no expect significant changes in traffic volumes or delay on 23rd and Randolph and are not recommending mitigations on these streets"? The only other non-arterial street near the school is 23rd St, which includes a blind corner at the park entrance APS

staff describes as “very steep, awkward and dangerous” This seems unrealistic, especially in a Vacation Lane only access scenario.

TDG Response: While overall traffic volumes related to school traffic may increase, volumes on 23rd St are not expected to increase. Based on counts at all intersections and school driveways, existing “cut through” traffic between Lorcom Ln and Vacation Ln via Randolph Rd or 23rd St is limited (5 cars during peak hour) and is expected to remain so. The primary generator of traffic on 23rd St is the school driveway access, which is currently used for Stratford bus drop-off and parking access. In the 1,000-seat scenario, bus traffic will decrease and traffic related to accessing parking in this lot is expected to remain about the same, since the number of parking spaces is not expected to change significantly. The 1,300 seat scenario may result in a minor increase in traffic on 23rd street (0-20 additional cars during the peak hour), depending on where the additional parking required by that scenario is placed.

The traffic model addresses delay at intersections, which is the primary source of vehicle delay on most streets with “interrupted flow” (i.e. streets with intersections, not controlled-access highways). The model projects that Levels of Service at the intersections of Lorcom Ln and Randolph St, Lorcom Ln and 23rd St, and Vacation Ln and Randolph St/23rd St remain at “A” and average delay remains below 5 seconds in all scenarios.

Stratford PFRC
Response to Anne Wilson's Questions

1) How many cars and buses are projected to enter the school from the various entrances for each option? It is important that the best information possible be used in determining this. I have heard that the population for the school will include parts of Roslyn so drawing a circle with Stratford in the middle does not seem like the most accurate way to determine where people where be coming from.

The traffic model assumes that there are 13 buses and 353 parent drop-offs at arrival. The volume of parent drop offs is based on a drive rate of approximately 35%, which is the 75th percentile for neighborhood middle schools in Arlington County and similar to the average for Williamsburg in 2013 and 2014. The countywide average for drop-off drive rate neighborhood middle schools is approximately 29%.

The traffic further model assumes:

1. 100% of parent drop-offs will occur in the established on-campus drop-off zone. (Note: This assumption may be modified if plans are finalized to provide remote drop-off locations.)
2. Parent trips into the site originate in locations that are almost evenly distributed around the school.
3. Parent trips out of the site are slightly more likely to be headed to destinations east of the school than to other destinations around the site due parents dropping students off on their way to work in D.C.
4. Most of parent drop-offs will occur during a 20-30 minute window.

Regarding the attendance boundary, APS is exploring several boundary scenarios and no decision has been made to skew it to the east or to include Rosslyn. That said, we don't believe an attendance boundary skewed to the east would result in a significant increase in traffic through Five Points or Vacation/Military due to a variety of factors including:

- For parents living east of the school and working in DC, driving their student to school would be inconvenient, since they would have to drive in the opposite direction of work and then double back.
- For many parents living east of the school, walking, biking, and taking transit are more convenient options for travel to work.
- On average across the county, drive rates are significantly higher for students who live inside the walk zone compared to students who live outside of the walk zone, and the effective walk zone is likely to be very similar regardless of which option is selected, since it will encompass 1 mile or less walking distance around the school.

2) I am interested in knowing how long each car is expected to take in the queueing area for each option.

This will vary day to day based on weather, student and parent behavior, etc. Based on single-day counts in good weather at Williamsburg Middle School, the double drop-off loop processes between 9-15 vehicles per minute at peak.

3) Using the information from 1 and 2 above, how long will the line of cars into the queueing area be?

This will vary day to day as discussed above. For the purpose of reviewing each option, the traffic study assumed 25 vehicles in the queue, all of which would be accommodated in the respective drop-off areas and would not affect adjacent roadways.

4) What will be the extent of the backup into the all of the adjacent streets (Lorcom, Vacation, 23rd, Military)?

TDG does not project any back-up onto 23rd St, Military Rd, or Lorcom Ln resulting from parent drop-off. In option A1, there may be 2-3 westbound vehicles queued on Vacation Lane waiting to enter the drop-off loop.

5) How do walkers and cyclists fit into the mix in a safe way?

TDG has recommended on-campus and off-campus improvements to improve pedestrian and bicycle access and safety for all site options. These recommendations were summarized in the [June 15 presentation to the BLPC](#) (see slides 20-38). The recommendations include crossing improvements and traffic calming on Old Dominion, Vacation, Lorcom, and Military, new sidewalks on Vacation, and improved bicycle facilities on Lorcom Lane. We would also recommend that shared lane markings be considered for Vacation Lane to increase driver awareness of bicyclists and to provide guidance to bicyclists regarding where they should position themselves within the roadway.