Transportation Access Considerations

The Building Committee has held or attended numerous meetings to listen to community concerns and considerations about transportation options for review by the High School design team. This memo is the design team's response to a list of these concerns compiled by the Building Committee. It categorizes responses by A) options evaluated and recommended, B) options evaluated and not recommended, and C) options that could be optionally implemented in the future.

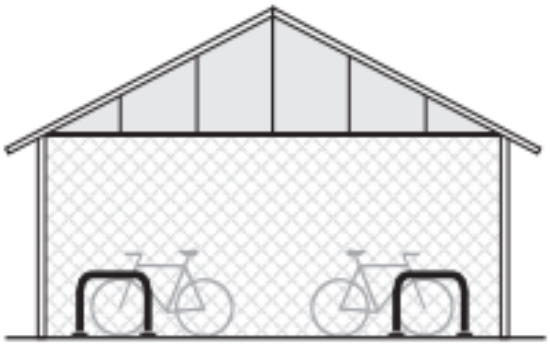
A.) Options Evaluated and Agreed/Recommended

TOPIC 1: WALKING AND BIKING CONNECTIONS

1. Develop safe pathway to future Alexander underpass
    a. This would be a valuable priority if the Alexander underpass gets built (we understand it has been approved, but funding needs to be secured).
    b. The site plan has been adjusted to have paths and crosswalks connecting the Alexander underpass to the school entries. Additional crosswalks and connecting paths could be added once this connection is made.

2. Create walking/bicycling path from west of Harris Field to the front door that does not conflict with traffic (or minimize traffic crossings)
    a. We agree and a prominent crosswalk across the school drive has been added.

3. Create sheltered bicycle racks
    a. We agree that sheltered bike parking should be provided throughout the campus, following the APBP guidelines for best practice parking. All bike parking will be located in visible locations near entrances to ensure safe storage.
    b. Example (source APBP)



SHELTERED SECURE ENCLOSURE

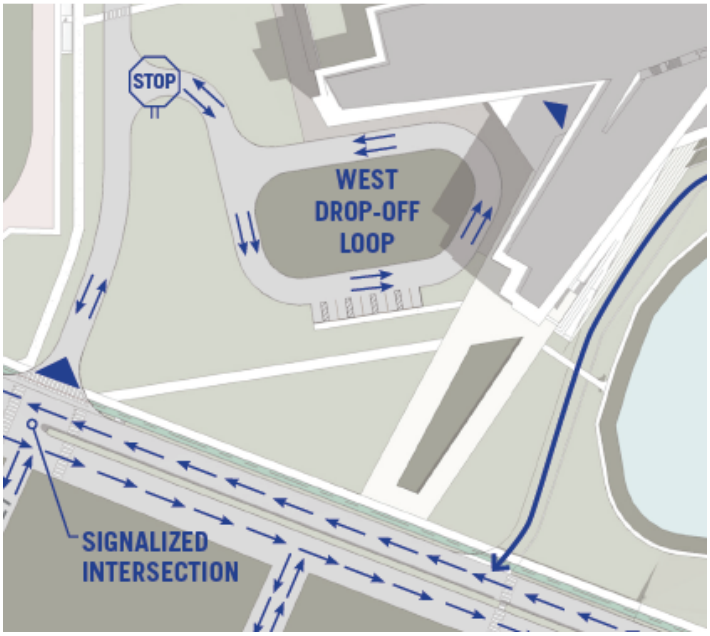
c. Example (source: Nelson\Nygaard at Harvard University)

4. Extend walkway curbing bump-outs to create safer crossings
    a. We would recommend this being a feature in the final design wherever possible, extending the full width of the parking lanes on Concord Avenue. This would also mitigate dangers presented by cars swerving to pass other cars on Concord.
    b. Example (source Nelson\Nygaard):

TOPIC 2: DROP-OFF / PICK-UP

5. Move drop off at the center of the front entrance to provide more space for students to congregate
    a. Site plan has been updated to allow a space for students to gather at the front of the campus and to ensure adequate pedestrian connections separate from driveway access connections. See image grab of working design below:

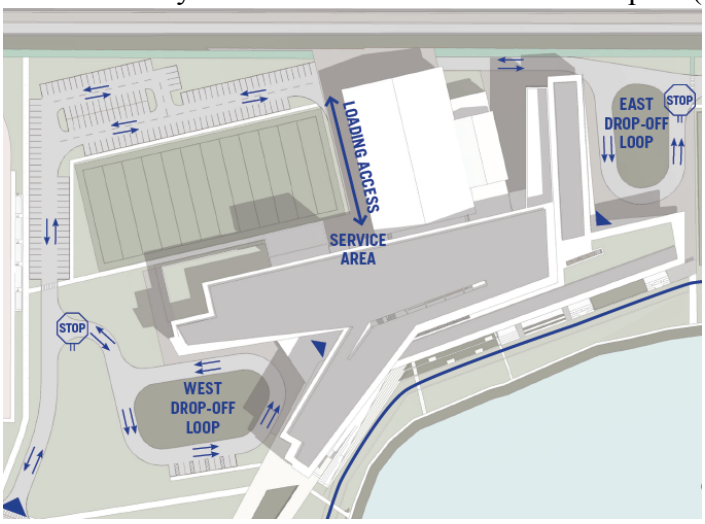
TRANSPORTATION ACCESS CONSIDERATIONS



TOPIC 3: OTHER ITEMS

6. Create ample space behind Field House for two traffic lanes, Community path, and loading dock turns
    a. All functions are accommodated, as shown in site plan below – site plan was adjusted to ensure all of these were addressed (see below)

7. Parking at west entrance before the loop seems to be in conflict with HS drop off loop
    a. Removing parking close to drop-off loop entries would improve sightlines and enhance safety. This is included in the latest site plan (see below).



B.) Options Evaluated and Not Recommended

TOPIC 1: WALKING AND BIKING CONNECTIONS

8. Add bike paths on outer edge of pond and not on HS driveway
    a. A dedicated, paved shared-use path (separate from the campus driveway) has been provided uphill from the pond (on the north side of the pond) on the direct desire line from Hittinger and Underwood to the HS front doors. It also has connections west past the skating rink and north to the proposed multi-use path.
    b. Bike paths down-slope next to the pond would need to be unpaved and would serve recreational purposes, but they would not serve the needs of those who bike commute to school on more direct routes.

9. Provide clearly marked crosswalks for walkers across Concord (brick look or green paint)
    a. Brick or green paint look are not the best practice standard for highest visibility according to multiple studies, and bricks pose challenges for wheelchair access.
    b. Continental standard (i.e. wide white bars, or "ladders") are planned for all crosswalks on and off campus. They provide the highest contrast visibility and warning to drivers that people are crossing the street.
    c. Photo example, credit NACTO:

    d. A hybrid of both solutions could be possible (i.e. markings on/next to colored paving).

10. Create footbridge over Concord Ave (similar to Bentley University)
    a. The footbridge at Bentley goes over a non-residential, roadway to connect two sides of campus bi-sected by this roadway. It bridges a focused desire line over a challenging topography that could not otherwise be easily crossed on foot.

b. Concord Avenue has many crossing points and areas of desired crossings that would not all be satisfied by a bridge. With no topography, stairs and ramps would be required, adding crossing effort and time for walkers. Therefore, anticipated low usage does not warrant an investment this costly to build and maintain when multiple safe alternatives exist.
c. Such a facility would not fit in with the character of a walkable boulevard-oriented neighborhood: it would segregate walking life from the ground-level of the street and encourage higher speeding by motorists.
d. We understand the Town is trying to prioritize funds to create a crossing under the railroad track which would be higher priority for safety and walking connections.

11. Move main pedestrian crossing away from traffic intersections
    a. Primary crossing location is expected to be at the school driveway signal, along the biggest walking desire line; though a secondary crossing option is allowed at Orchard Street, where one exists today near the MBTA bus stop.
    b. Having crossings occur at street intersections allows people walking to cross along the desire line they follow from the sidewalk on which they were walking. It allows people to cross at predictable locations where motorists may expect walkers, as opposed to unexpected mid-block locations.
    c. Signals could be timed to include an exclusive phase or leading interval for people walking to cross the street, enhancing visibility of walkers.

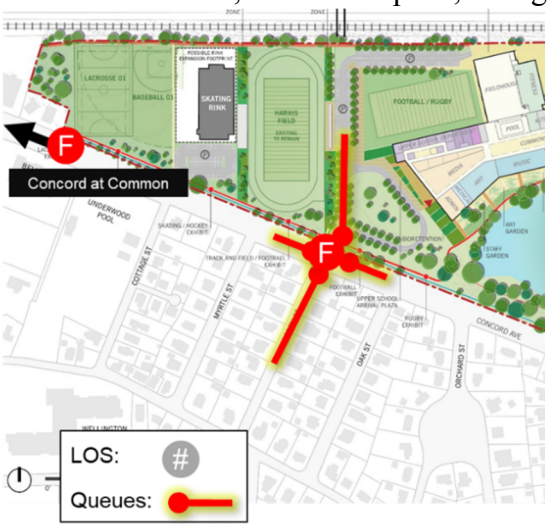
12. Consider adding fencing to keep pedestrians on sidewalks and not crossing traffic
    a. Channelizing walkers to select entries/desire lines imposes a restriction and lengthens many walking routes, reducing the likelihood of increased walking.
    b. Fencing of sufficient size to prevent students hopping over would not fit in with the character of a safe, walkable neighborhood.

TOPIC 2: CONGESTION

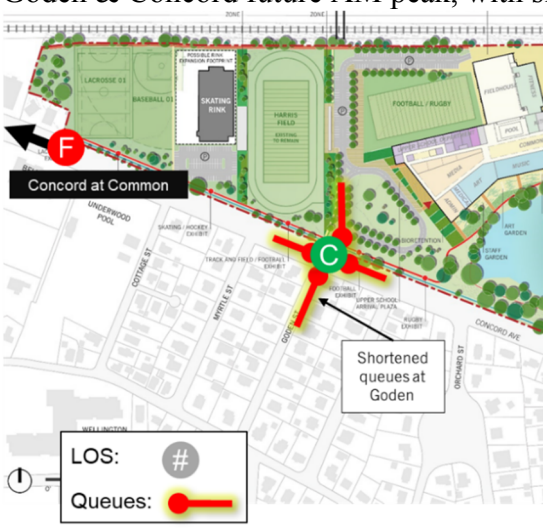
13. Make one-way traffic through campus east to west
    a. The team is not proposing one-way traffic through campus anywhere as it creates congestion and safety issues for all users. Two-way helps disperse any potential congestion by providing options, and multiple options also reduces emergency response delays and provides maximum flexibility for emergency personnel.
    b. The one-way driveway is demonstrated to create dangerous conditions and conflicts by forcing all cars through the same entry and same exit, concentrating problems without an alternative.
    c. If the access drives to school parking are one-way, this would also add unnecessary local congestion for drivers who circle the campus to access a parking spot passed along the way.

d. One-way roads are demonstrated to have higher speeds than two-way due to a lack of "friction" from on-coming traffic. Higher speeds are not welcome on campus.

14. Don't add a 4-way stop at Goden and Concord
    a. A signalized intersection has been proposed as it improves operations and safety for all existing and future users by protecting left-turns, eliminating current U-turn demand, and providing lefts out of the campus (an option motorists heading south and east do not have today).
    b. See the traffic reports for more detail. Figures related to intersection function included here:
        i. Goden & Concord, future AM peak, no signal:



        ii. Goden & Concord future AM peak, with signal:



TRANSPORTATION ACCESS CONSIDERATIONS

15. Offset new entrance from 4-way configuration so entrance is at mid-block
    a. This would increase safety issues for all users as a result of weaves between Goden or Oak and HS driveway.
    b. Insufficient queue storage distance along Concord from mid-block signal, which would block intersections at Goden and Oak, leading to greater delays on all three streets plus safety concerns for unsignalized crosswalks at Goden and Orchard.

16. Reduce length of drop-off loop at front of the HS entrance
    a. Sufficient storage is necessary for buses and drop-off/pick-up activity without any potential for it spilling onto the site driveway and creating additional backups at traffic signal on Concord.

17. Eliminate both drop-off loops on campus
    a. Removing drop off loops would result in drop-off queues spilling off-campus, generating conflicts for all users (vehicular, transit, walking, and biking) on Concord and Hittinger, as happens today.
    b. Drop-off loops are valuable for ADA access, front-door emergency access, and for bus loading.

18. Close Goden Street median
    a. This would concentrate traffic coming from the south and going west on Concord to use Cottage (and Oak if proposed signal is relocated to Oak).
    b. This would reduce access for residents wishing to make a left from Concord onto Goden to get to Goden, the Wellington School and Common/Waverly Streets. Displaced trips would make dangerous U-turns at Cottage to get back to Goden (or use Oak and School to get back to Goden, etc. if proposed signal is relocated to Oak).
    c. This would limit emergency vehicle access without a mountable median.
    d. This should be a subject of the town-wide analysis and take into consideration all the safety issues considered as part of this study.

TOPIC 3: OFF-SITE CONNECTIONS

19. Use Trowbridge as one-way to school and Underwood one-way from the school
    a. Trowbridge is near but offset from Watson and Bright, creating unsafe weaving conditions across Concord for cars coming from these streets.
    b. This option may encourage cut through between Brighton St and Concord Avenue, adding delays and conflicts, especially near the railroad tracks.

20. Move school bus drop-off and pick-up to west side of Underwood
    a. There is not adequate width for bus queuing unless parking/bike lanes are removed or parkland is removed.

b. Distance to HS entries from this location is excessive, dis-incentivizing bus use and encouraging more driving to campus.

21. Move entire High School driveway to across Oak Street
    a. A signal at Oak would not alleviate safety concerns and delays associated with the current unprotected left-turns onto and out of Goden, which are improved with a signal at Goden.
    b. A signal at Oak would encourage additional delays in the neighborhood from cars cutting back to Goden, the Wellington School, and Common/Waverly Streets.
    c. This should be a subject of the town-wide analysis and take into consideration all the safety issues considered as part of this study.

22. Make Goden one way (either way) but keep parking on both sides
    a. Studies show one-way roads increase speeding, force people biking to travel farther out of their way, and pose challenges for public safety access.
    b. Making Goden one-way would create more traffic and turning movements on parallel streets (Cottage, Oak, etc.) for the reverse move.
    c. Goden is currently designed as a two-way "yield" street, allowing parking on both sides, except during Athletic Events. This type of yield street configuration is deployed on neighborhood streets throughout the country. Studies show this is a best practice for reducing speeds and traffic volumes on residential side streets.

TOPIC 4: DROPOFF / PICKUP

23. Add cutout loop on Concord Ave eastbound and westbound directions similar to softball field parking today
    a. Insufficient space exists to install this on the south side of Concord (eastbound) without major realignment of Concord (or takings).
    b. This solution could fit on the north side (westbound) but would take parkland, cut into sidewalk and cycletrack safety, create additional queues backing up onto Concord Avenue, and create sightline issues and dangers for exiting cars merging back onto Concord.

TOPIC 5: OTHER

24. Break the HS driveway at the field house with no connection, push rugby to the back fence, add service path along the backside of music, create larger parking lot between rugby and Harris Field
    a. The current design employs a two-way driveway between Concord and Hittinger to reduce queues on neighboring streets and disperse congestion. Separate east and west entries would eliminate driver options, hinder emergency access, and reduce available parking access during events.

C.) Options for Future Consideration

TOPIC 1: WALKING AND BIKING CONNECTIONS

25. Add more safety for walkers and bikers at the Underwood and Concord intersection
    a. With the proposed site plan, most people walking and biking from Concord would enter/exit campus at Goden and Orchard Streets, and most vehicular traffic would enter campus at Hittinger or Goden—Underwood is no longer a primary desire line, so conflicts at Concord would be reduced.
    b. The Town could evaluate adding further pedestrian safety enhancements at additional locations along Concord as part of the town-wide study.

TOPIC 2: PARKING

26. Do permit parking for students along Concord and Underwood
    a. This would be possible (parking study showed available spaces on Concord).
    b. Would add cost for regular enforcement of a larger area.
    c. Traffic speeds on Concord could be reduced if more cars parked on the roadway.
    d. There should be bumpouts the width of the parking lane at all pedestrian crossings to ensure adequate visibility past parked cars for people crossing the street.

27. No on-site drop-off for students, add card access for teachers
    a. Good incentive for reducing driving to high school, but this is a radical change that would need an on-street parking program to mitigate extensive spillover effects on residents and would require significant Concord Ave. changes to manage drop-off issues that would block traffic.
    b. Would require entire school department group to address how students who need special services can get to the front door, how visitors get in, how deliveries get on a campus with a gate, and how to manage spillover parking impacts during special events, like games.

28. Do limited parking with lottery for students
    a. Program would reduce overall driving demand, incentivizing walking, biking and busing.
    b. Would necessitate an on-street parking management program on nearby streets.
    c. The allotted parking supply is also needed to accommodate special events, which has been requested to reduce spillover effects in adjacent neighborhoods.

29. Park busses in Rink lot (or off-site)
    a. This could be considered in the longer term, once the Town has identified a location for storing buses further off-site, which would be preferred.

TRANSPORTATION ACCESS CONSIDERATIONS

30. Change parking configuration for parking spaces directly off HS driveway to eliminate cars backing into travel lane
    a. While ideal configuration is a parking lot, site does not have sufficient space for this while preserving athletics program. The site plan has been adjusted to provide lots wherever possible.
    b. Moving perpendicular spaces further up driveway from the Concord and Hittinger intersections would mitigate safety concerns, but parking supply would reduce.

TOPIC 3: DROP-OFF/PICK-UP

31. Add drop-off lane on Concord both directions
    a. This exists today, but formalizing it means on-street parking would be removed – there was low parking utilization so this would be possible.
    b. Even though there is available parking supply, the volume of queuing would require significant on-street parking clearance along Concord and could impact residents who like to park in front of their house on Concord.
    c. School administration stated there would need to be personnel to patrol, monitor and manage queuing and safe pickup/dropoff, but this would interfere with through traffic flow on Concord, requiring extra personnel to be safe.
    d. Students dropped off/picked up on the south side of the street would need to cross at a dedicated crossing, but this is hard to ensure because the median encourages jaywalking.
    e. Idling cars could block sightlines of those walking across the street creating safety concerns.
    f. This also seems to have a significant impact on the integrity of the bike lane unless the bike lanes are raised cycletracks on both sides of the street, which could be done (this is currently proposed for the north side of Concord).