

Below are the general rules that need to be followed under all of your potential routing scenarios.

### **Ridership Rules**

- Students cannot ride the bus for longer than one hour.
- Students need to be dropped off 10 to 15 minutes before the start of school -- they cannot be dropped off earlier because staff may not be there to receive them. Buses need to arrive at schools in the afternoon at dismissal time and should leave no later than 15 minutes afterward.
- Currently, all students need to be dropped off at the door of their school

### **Bus Stop Rules**

- Currently, buses only serve one school per bell time. We are considering allowing buses that have only a handful of students on them to serve multiple schools on the same trip.
- About half of our students are Door to Door (D2D) students -- they are required to be picked up at their homes due to an accommodation given to them in an Individualized Education Program (IEP) or a 504 plan.
  - We have explored having corner students walk to the addresses of D2D students' houses and use these addresses as new bus stops for corner and D2D students. However, for now, you should plan on keeping corner stops and D2D stops separate.
  - D2D students can ride with corner students.
- All students need to walk less than 0.5 miles to their nearest bus stop
  - We put some limits on this for students living in more dangerous neighborhoods or for younger students -- we're working on refining these distances.
- Each bus stop should have fewer than 30 students per bell time (i.e., no more than 90 students at one stop in the morning -- 30 at each tier)
  - When you do see the data set, you'll notice that there are some bus stops that can host a large number of students (e.g., MBTA stops). These buses are to help get the students from the MBTA station to school. The stops are not used by corner-to-corner students currently, and instead by students that use public transportation to get to and from school. However, they could be used by corner-to-corner students.
- Each stop should be budgeted for 30 seconds per stop and five seconds per student. (i.e., a stop with 5 students would be 55 seconds; a stop with 10 students would be 1 minute and 20 seconds).
  - Stops with one or more students using wheelchairs should be budgeted for 5 minutes per student (i.e., wheelchairs need to be secured in the bus and therefore loading takes longer).
- At the end of the day, buses should arrive at the school before the day ends and leave 15 minutes after the last bell

### **Fleet Rules**

- There are several types of buses, each with its own capacity range, which varies based on student age (e.g., a Big Bus can seat more kindergarten students than middle school students; use the capacity maximums for now). We have
  - Big Buses (can seat 55-71 students): This is likely what you think of as a "traditional" bus.
  - Half-bus (28-35 students): These are smaller, more nimble buses.

- Mini-buses (12 students): These are smaller buses with extra harnesses for students with special needs.
- Wheelchair Buses (12 students and 3 wheelchair stations).
- Buses start the day in a specific bus yard, return to that bus yard after their morning routes, and then return to their initial bus yard at the end of the day.
- Buses can't travel on certain streets (e.g., streets that are too narrow, streets with overpasses that are too low to allow for bus access, etc.)
- Students may require a bus monitor. If they do, then there needs to be capacity in seating for the monitor on the bus.
  - Students may have one of two monitor accommodations:
    - 1:1 monitor: the student requires a dedicated monitor.
    - General monitor: the student requires a monitor to be on the bus, but not dedicated solely to him/her.
      - For example, if there were three students requiring a general monitor and two students requiring a 1:1 monitor there would be a total of three monitors on the bus.

### **Bell Time Rules**

- We prefer for schools to start after 7:30a.m. and to end before 4pm. However, we acknowledge that a solution may require some schools to start or end outside of these constraints. However, no BPS or Charter school can end after 5:30p.m. nor start before 7a.m.
- The start times of schools outside of our nexus of control cannot be changed. Specifically, we are unable to change the start or end times for private schools, parochial schools, or private special education programs.

### **Simplified Cost Assumptions**

- For simplicity, assume that every bus on the road at peak time costs \$50K annually to operate
- Assume that every hour of drive time costs \$50. For every hour after 8 hours that a bus is on the road, assume that it costs \$65
- *Note: These numbers are unlikely to sum to the total of our current budget - we are using these numbers to think about directional change (e.g. 5% cost savings)*