

Final Report

City Honors (PS 195) Traffic Study

City of Buffalo
Erie County, New York

Prepared for:



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City Honors (PS 195) Traffic Study

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EXECUTIVE SUMMARY

There is a proposal to restore Fosdick Field in front of City Honors School in the City of Buffalo. The field restoration would require the removal of a city street, Fosdick Avenue. While this is a city street, it primarily serves the school for providing school guest parking, and accommodations for parent pick-up and drop-off. This traffic study was completed to determine if there are any potential adverse impacts to the surrounding city street network due to the removal of Fosdick Avenue. The study area is bound by E North Street, Main Street, Best Street, and Jefferson Avenue.

Fosdick Field is intended to be a green space to be used during gym classes, limited district-wide competitive contests and practice, and for the community to enjoy. The restoration of the field is generally not expected to have impacts outside of school hours because school lot parking and parking along Michigan and North Streets is ample outside of school hours when school and medical campus staff vehicles are not present.

Existing conditions were determined through data collection which included site observations during school pick-up and drop-off, on-street parking assessment during multiple hours of the day, and traffic volumes collected at study intersections. Existing conditions determined the following:

- *Traffic Operations:* The existing study area intersections operate at acceptable levels of service with minimal delay. However, the intersection of Best Street at Masten Avenue experiences a short period of congestion with queuing at the eastbound and westbound approaches backing up into intersections, and vehicles waiting several cycles to clear the intersection. This occurs at the height of parent drop-off and pick-up.
- *Street Segments:* E North Street between Michigan Avenue and Masten Avenue is excessively wide without pavement striping.
- *Parking:* Existing on-street parking has less demand compared to capacity/availability of spaces. On-street parking was also limited in the study area during observations due to parking closures for nearby construction on Best Street from Ellicott Street to just east of Michigan Avenue.
- *Pedestrian Accommodations:* Intersections within the study area lack pedestrian safety measures such as painted crosswalks and pedestrian signal equipment (pushbuttons, countdown timers).
- *School Operations:* The peak of congestion occurs from 7:45 to 8:00 AM and 2:45 to 3:00 PM.

The proposed/build condition included the removal of Fosdick Avenue, and a new drop-off and pick-up circulation route. Parent drop-off and pick-up is primarily rerouted from Fosdick Avenue to E North Street and Michigan Avenue. The study area is expected to operate acceptably without Fosdick Avenue with some necessary mitigation measures. The study indicates the following mitigation measures are needed to improve safety, efficiency, and account for rerouted traffic distributions:

- *Traffic Operations:* Some mitigation is needed at intersections to account for the changes in traffic routing. This includes:
 - Retiming of the signal at Best Street and Masten Avenue to provide more green time to Best Street, which has higher traffic volumes.
 - Construct an exclusive left turn lane for the east and westbound approaches of E North Street at Michigan Avenue. This will require new traffic signal heads and adjusted signal timings at the traffic signal.

- *Street Segments:* Provide striping and on-street parking on E North Street from Michigan Avenue to Masten Avenue. Pavement section to include on-street parking and exclusive left turn lanes.
- *Parking:* To adjust for lost parking on Michigan Avenue due to the new pick-up and drop-off circulation, new on-street parking is recommended on E North Street.

The study outlines recommendations to further improve conditions in the study area. While mitigation measures are required to alleviate adverse impacts due to the closure of Fosdick Avenue, recommendations are to further improve conditions for safety and operations, but are not required. Some of the study recommendations include:

- *Pedestrian Accommodations:* Provide painted crosswalks and pedestrian signal equipment (at signalized intersections) at the following intersections:
 - E North Street at Michigan Avenue
 - E North Street at Masten Avenue
 - Best Street at Michigan Avenue
 - Best Street at Masten Avenue
- *School Operations:* To minimize congestion on E North Street, Michigan Avenue, and Best Street due to the number of students being picked-up and dropped-off by parents, strategies that could be implemented are:
 - *Promote alternative modes of transportation*
 - *Promote carpooling*
 - *Do a parent education program*
 - *Establish safe pedestrian routes*
 - *Make adjustments to the drop-off and pick-up schedule*

I. Introduction

A. Study Purpose

The purpose of this study is to identify and evaluate potential impacts to the surrounding street network associated with closing Fosdick Avenue, which is owned and maintained by the City of Buffalo, and is classified as a local street. Fosdick Avenue is a one block street between E North Street and Best Street, adjacent to City Honors School, and does not serve any driveways or provide access to properties. Fosdick Avenue was originally built in 1977 to serve housing that was placed on top of what is now Fosdick Field. The housing units were demolished in 2013, providing an opportunity to restore the field and have designated greenspace.

Figure 1: Aerial Imagery of Fosdick Avenue Serving Houses in 2002



The current primary use of Fosdick Avenue is for parent drop-off and pick-up, and metered parking on the western side. Although the on-street metered parking on Fosdick Avenue is open to the public, the intent is to provide space for school visitors. Fosdick Avenue is mostly used by school traffic, and only has occasional through traffic.

There is a current proposal to restore Fosdick Field into a small regulation FIFA field to be used for recess, physical education, and athletics. In addition to a regulation field, there would be pedestrian pathways, landscaping, seating, off-street parking, and a tunnel. This field will not function as a stadium. The restoration of Fosdick Field is dependent on the closure of Fosdick Avenue. Figure 2 on the next page shows a rendering of the Fosdick Avenue Restoration Project.

The removal of Fosdick Avenue would:

Improve Safety: While Fosdick Avenue is mostly used for school operations, this is a designated city street, and vehicles not related to school traffic still use the street. There are observations

by school staff of vehicles speeding down the street without regard for students and children. For students to access this greenspace now, they need to cross a city street, which isn't ideal to walk classes of students daily for recess.

Create Campus Connection: Buffalo Public Schools is the owner of the Fosdick Field property. Fosdick Avenue is a physical barrier dividing the campus. The removal of the street will provide a continuous connection from the front of campus to the field.

Restoration of Greenspace: The restoration of Fosdick Field will create greenspace that will provide recreational opportunities in this urban area. There is support by the Fruitbelt and Cold Springs neighborhoods to restore parkland.

Figure 2: Rendering of Fosdick Field Restoration



B. Study Area

The study area includes the street network surrounding the school in the City of Buffalo, Erie County, New York. Fosdick Avenue is owned and maintained by the City of Buffalo, and is classified as a local street. The following intersections make up the study area:

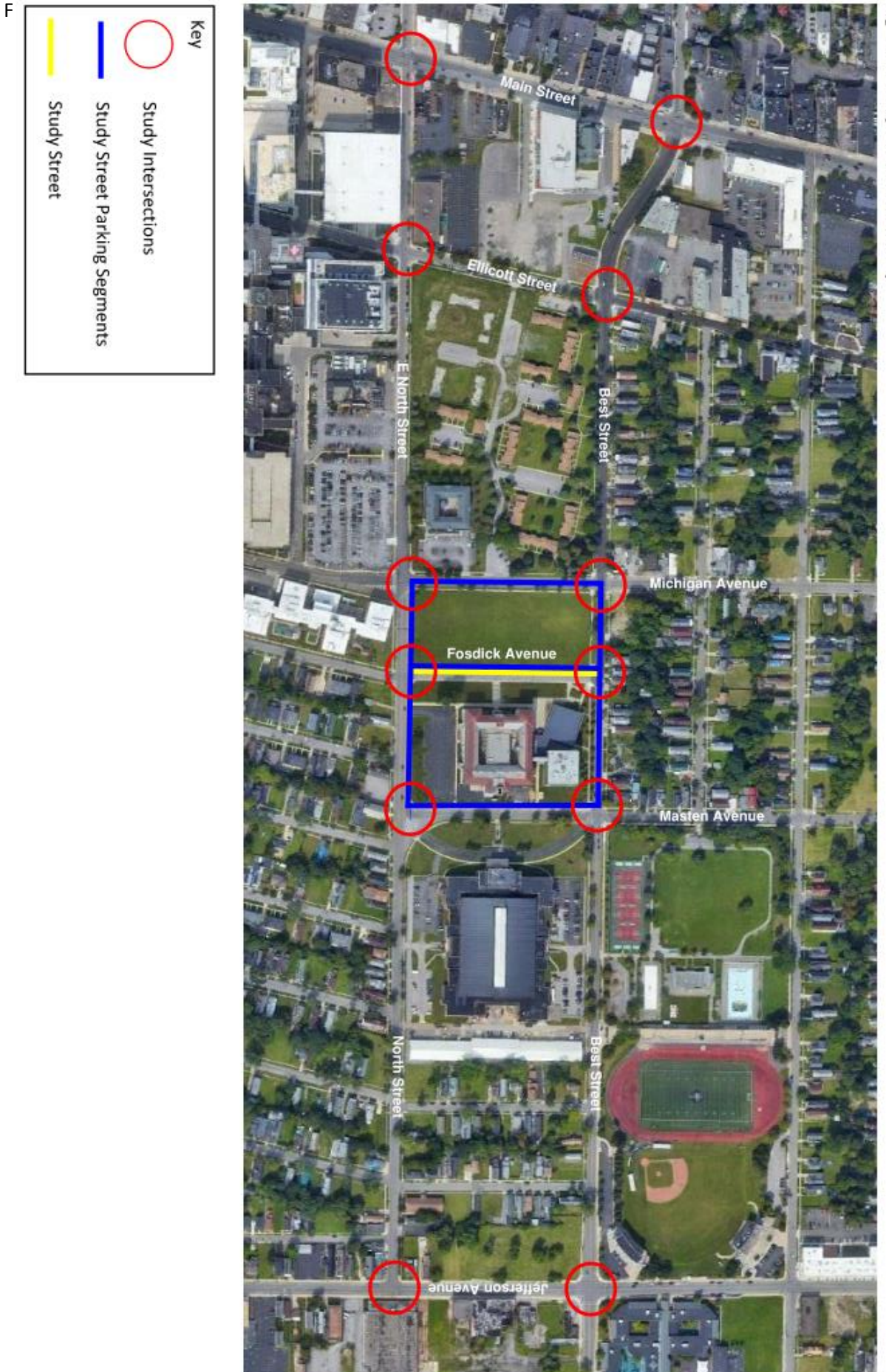
Signalized

1. E North Street at Main Street
2. E North Street at Michigan Avenue
3. E North Street at Jefferson Avenue
4. Best Street at Main Street
5. Best Street at Ellicott Street
6. Best Street at Michigan Avenue
7. Best Street at Masten Avenue
8. Best Street at Jefferson Avenue

Unsignalized

9. E North Street at Ellicott Street
10. E North Street at Fosdick Avenue
11. E North Street at Masten Avenue
12. Best Street at Fosdick Avenue

Figure 3: Study Area Location Map



C. Methodology

Intersections

The study intersections were analyzed using SYNCHRO 11¹, which is a computer program that implements the methods presented in the 6th Edition Highway Capacity Manual². SYNCHRO determines the **Level of Service (LOS)**, which is defined in terms of **Delay**.

Delay is a measure of driver discomfort, frustration, fuel consumption and lost travel time.

Level of Service criteria are stated in terms of the control delay per vehicle for a 15-minute analysis period and range from “A” to “F”. Level of Service A is representative of a movement that is free flowing with minimal delay, while LOS F generally represents long delays. LOS D is generally considered acceptable in urban environments.

The ranges of delay for each level of service, as contained in the 6th Edition Highway Capacity Manual, are shown in Table 1.

Table 1: Intersection Level of Service Criteria

| Level of Service (LOS) | Signalized Intersections | Unsignalized Intersections |
|------------------------|--------------------------|----------------------------|
| | Delay (sec) | Delay (sec) |
| A | 0-10 | 0-10 |
| B | > 10-20 | > 10-15 |
| C | > 20-35 | > 15-25 |
| D | > 35-55 | > 25-35 |
| E | > 55-80 | > 35-50 |
| F | over 80 | over 50 |

¹ Synchro Studio 11, Traffic Signal Optimization and Simulation Modeling Software, Version 11, Trafficware Corporation, Albany, California, 2021.

² Highway Capacity Manual, Transportation Research Board, National Research Council, Washington D.C., 2016.

II. Existing Conditions

C&S collected existing conditions information on June 2, 2022, the same day that traffic counts were collected. The site inventory included on-street parking data, pedestrian facilities conditions, and observations of school operations during student drop-off and pick-up.

A. Roadway Network

The roadway segments that make up the study area are Best Street, E North Street, Michigan Avenue, Fosdick Avenue, and Masten Avenue. Table 2 provides additional detail on study streets and their function/attributes.

Table 2: Study Area Streets

| Street | AADT (Year) | Functional Classification | Speed Limit (mph) | Configuration | Pavement Width |
|-----------------|-------------|---------------------------|--------------------|--|----------------|
| Best Street | 8529 (2019) | (16) Minor Arterial | 20 (School*) 30 | Single lane each direction Two-way (EB/WB) Parking on north side | 30' |
| E North Street | 3687 (2019) | (17) Major Collector | 20 (School) 30 | Single lane each direction Two-way (EB/WB) Parking on north side | 42' |
| Michigan Avenue | 5837 (2019) | (16) Minor Arterial | 30 | Single lane each direction Two-way (NB/SB) Parking on east side | 36' |
| Fosdick Avenue | Unknown | (19) Local Street | 20 (School) 30 | Single lane One-way (NB) Parking on west side | 36' |
| Masten Avenue | 1724 (2019) | (17) Major Collector | 20 (School) 30 | Single lane each direction Two-way (NB/SB) Parking on west side | 30' |

* Indicates posted speed limit on school days from 7:30 AM to 4:30 PM

B. Traffic Volumes

Turning movement counts (TMCs) were collected by Tri-State Traffic Data on Thursday June 2nd, 2022 from 6:30AM to 8:30AM and 2:00PM to 4:00PM. The counts were taken during a school day with the absence of seniors since their school semester was complete for the academic year. There are 150 seniors that attend City Honors School, which is approximately 14% of the total student body. The study area AM peak hour is 7:30 AM to 8:30 AM and the PM peak hour is 2:45 PM to 3:45 PM.

C. Parking

Existing on-street parking supply information was collected during the site visit, identifying and locating all signage associated with parking restrictions. The actual number of parking spaces was calculated by determining the curb length legally available for parking per block, assuming each parking vehicle would require 20 feet of curb length. This calculation accounts for driveways,

hydrants, bus stops, or anything else located within a block that may prohibit parking other than signed restrictions.

The available parking supply within the study area varies depending on the time of day in consideration. Refer to Table 3 for a summary of on-street parking supply and Appendix B for a detailed inventory of on-street parking.

Table 3: On-Street Parking Supply

| Street | Metered 2 Hr Max (M-F) 8AM-5PM | No Parking (M-F) 8AM-4PM | Metered Unrestricted (M-F) 7AM-5PM | Unrestricted |
|-----------------|--------------------------------------|--------------------------------|--|--------------|
| Best Street | - | - | - | 21 |
| Michigan Avenue | - | - | 22 | - |
| Fosdick Avenue | 22 | 24 | - | - |
| Masten Avenue | - | 23 | - | - |
| E North Street | - | 10 | - | - |

Best Street from Michigan Avenue to Masten Avenue has one regulation sign which states “No Standing.” This section of Best Street is striped to provide more space on the northern side of the street creating room for on-street parking. While it is signed for “No Standing,” vehicles use this space on the northern section for on-street parking. It is assumed that this section of Best Street is not signed correctly, and that unrestricted parking is available. There is also a section here currently under construction close to the Michigan Avenue intersection, with concrete jersey barrier in the street for approximately 120 feet.

On-street parking occupancy inventory was taken 4 times throughout the day. Once in the AM at 7:30 AM, just as school-drop off was beginning. Inventory was taken again at 2:30 PM, as parents were already waiting for school dismissal. Then inventory was taken twice in the evening at 6:00 PM and 8:00 PM. The results of occupied on-street parking spaces is shown in Table 4 below.

Table 4: On-Street Parking Occupancy

| Street | Side | Number of Spaces Occupied | | | | Number of Existing Spaces |
|-----------------|-------|---------------------------|----------|---------|---|---------------------------|
| | | AM | PM | Evening | | |
| Best Street | North | 11 | 12 | 7 | 2 | 21 |
| Michigan Avenue | East | 6 | 12 | 15 | 0 | 22 |
| Fosdick Avenue | East | 0 | 18 | 1 | 0 | 24 |
| | West | 1 | 8 | 4 | 1 | 22 |
| Masten Avenue | West | 0 | 12 buses | 0 | 1 | 23 |
| E North Street | North | 0 | 3 buses | 9 | 0 | 10 |

Based on the results of the on-street parking inventory, the number of parking spaces occupied does not exceed the existing capacity of the streets. It was observed that the on-street parking had

the highest occupancy at 2:30 PM, with about 70% of the total on-street parking spaces occupied. The 70% occupancy correlated to parents waiting for students to be dismissed, the majority of the vehicles were occupied at this time. This also includes the parking spaces on Masten Avenue and E North Street that were 100% occupied by yellow and NFTA buses.

D. Pedestrian Facilities

During the site visit, all pedestrian signal equipment and crosswalk conditions were identified and located. All of the signalized intersections within the study area had existing pedestrian signals, however many of the intersections were missing countdown timers, ADA compliant pushbuttons, and appropriate crosswalk striping. Figure 4 gives a graphical description of existing pedestrian signal equipment and crosswalk condition.

E. School Operations

Background

City Honors School is a grades 5 – 12 school that is a part of the Buffalo Public Schools system. Students are assigned to City honors through a placement program and reside within the city limits. The enrollment for the 2021-2022 academic school year is approximately 1,100 students.

School Day Schedule

Table 5 below has a schedule of the school day. The school atrium opens at 7:30 AM which is when student drop-off begins. The dropping off of students is more staggered than pick-up at the end of the day. School dismissal is at 2:45 PM.

Table 5: School Schedule

| Time | Activity |
|----------------------------------|--|
| <i>Beginning of Day Schedule</i> | |
| 7:30 AM | Atrium open for parent drop-off to begin |
| 7:45 AM | Yellow buses begin arriving |
| 7:55 AM | Staff day begins |
| 8:12 AM | School begins |
| <i>End of Day Schedule</i> | |
| 2:45 PM | Dismissal |
| 3:10 PM | Staff day ends |

Transportation

Students grades 5-8 are provided transportation through yellow buses, students grades 9-12 use the NFTA Metro. However, like most schools since the Covid pandemic, there has been a large increase in parent drop-off and pick-up. Many of the students who identify as yellow or NFTA transport, are actually parent pick-up and drop-off. Based on field observations, at least 257 students get dropped off in the morning and at least 109 students get picked up in the afternoon.

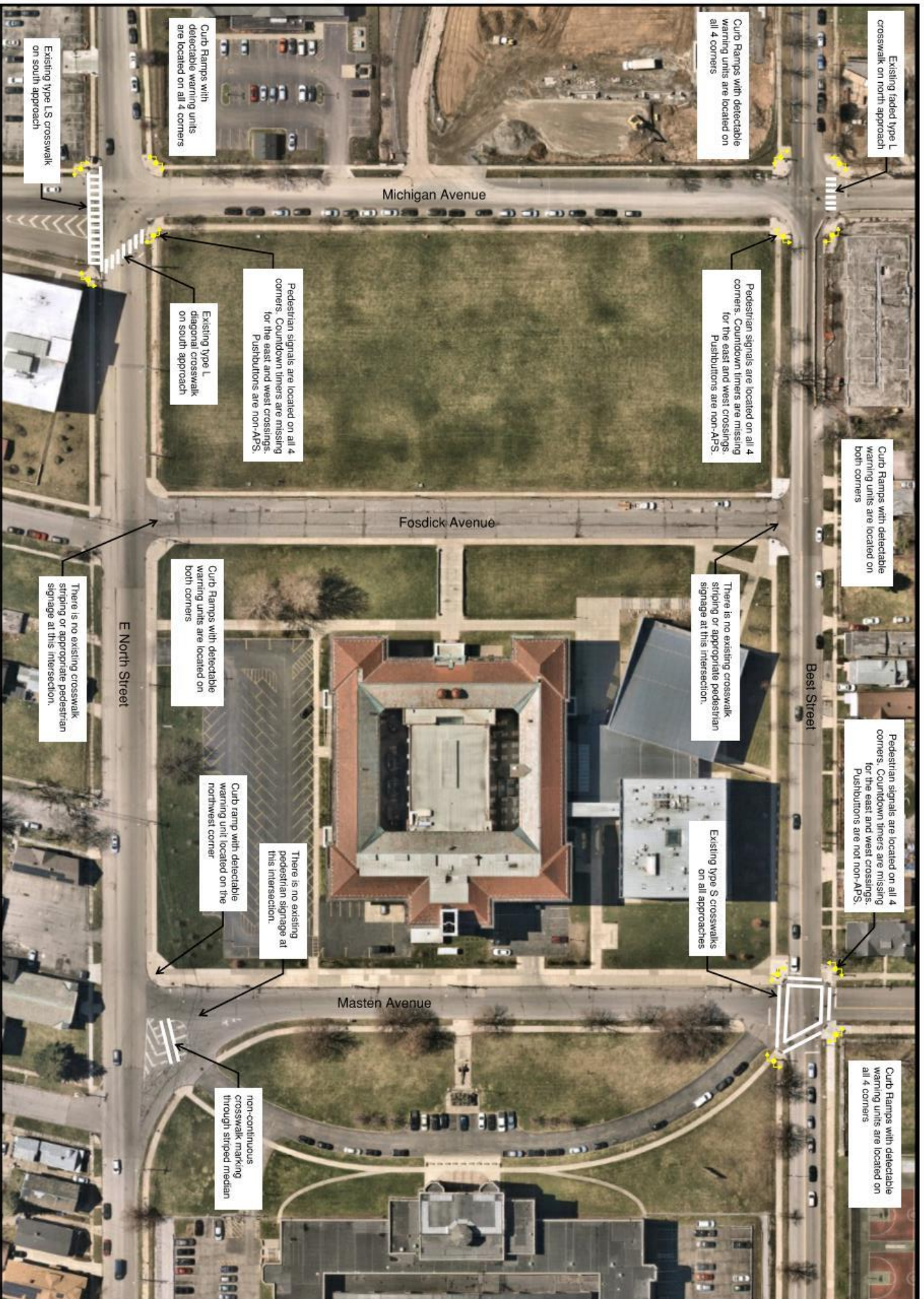


Table 6: Student Transportation

| Service | Number of Students Assigned | Number of Buses | |
|------------|-----------------------------|---------------------|---------------------|
| | | AM | PM |
| NFTA Metro | 502 | - | 5 |
| Yellow Bus | 459 | 10 large 6 small | 13 large 5 small |
| Walkers | 102 | - | - |

Drop-Off and Pick-Up School Circulation

Figure 5 below has the current drop-off school circulation. Fosdick Avenue is used for parent drop-off, and Masten Avenue is used for yellow bus drop-off. Not shown on the figure is the NFTA (Metro) bus drop-off location, which is done on Best Street in the eastbound direction just south of the intersection at Masten Avenue and Best Street.

Figure 5: Current Drop-Off School Circulation Plan



Figure 6 has the current pick-up school circulation plan. The plan is generally close to the drop-off plan, with the exception that E North Street is used for NFTA (Metro) and yellow buses on the block between Fosdick Avenue and Masten Avenue.

Figure 6: Current Pick-Up School Circulation Plan



Drop-Off and Pick-Up Site Observations

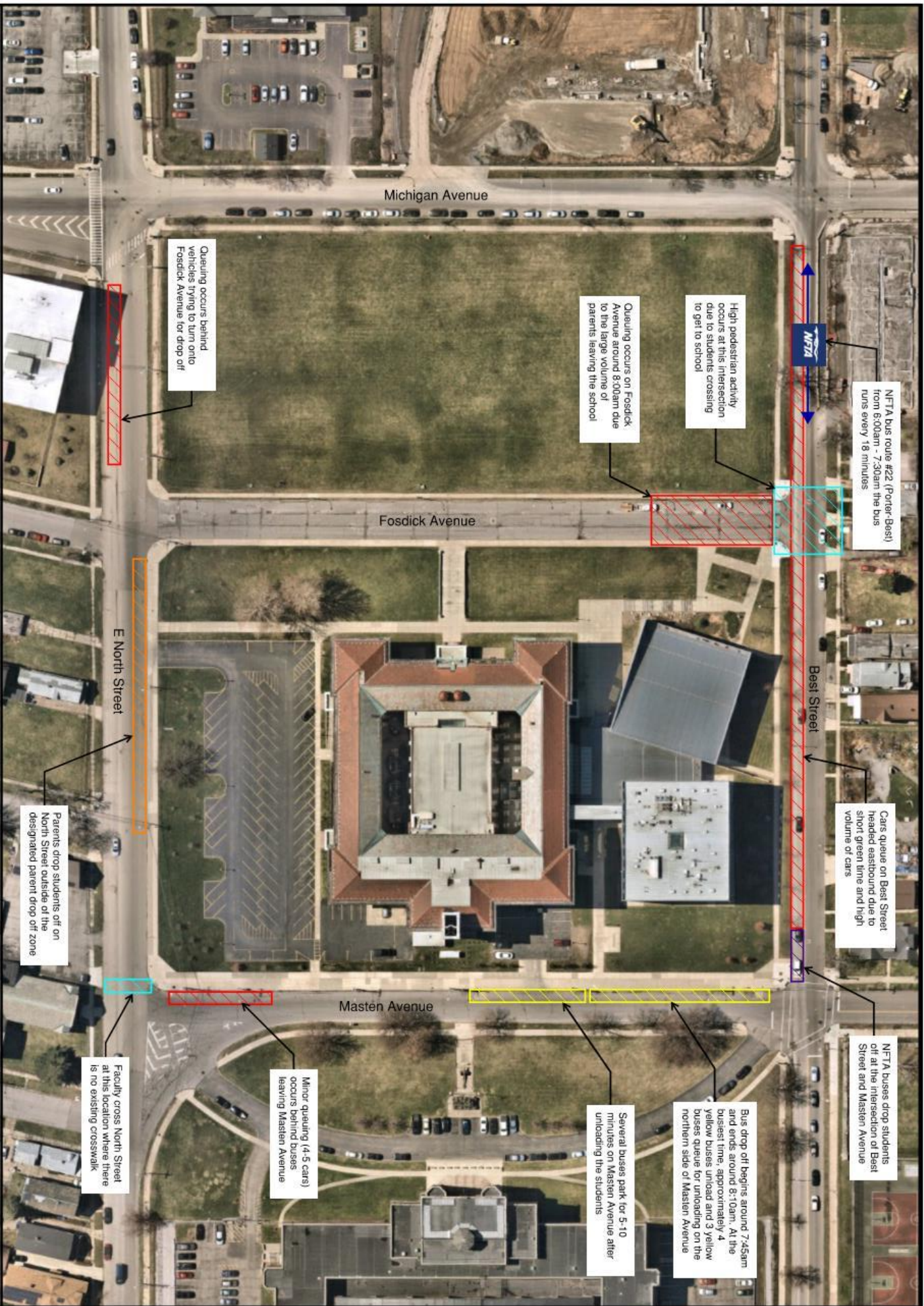
C&S performed site observations on the same day as traffic counts. Five staff made observations, four on each corner/intersection of the site, and another walking around the site getting an overall sense of operations. Figures 7 and 8 graphically portray observations during drop-off and pick-up.

Drop-Off Observations

- Student drop-off began in the front of the school on Fosdick Avenue at 7:30AM
- Student drop-off peak began at 7:45AM
- Faculty not parking in the designated school lot crosses E North Street on the western side of Masten Avenue where there is no designated pedestrian crossing.
- Many parents avoid Fosdick Avenue and drop students off on E North Street heading westbound just east of the Fosdick Avenue intersection.
- From 7:45 AM to 8:15 AM there is queueing on Best Street from Masten Avenue spilling back west blocking Fosdick Avenue, and at times going as far back as Michigan Avenue.
- From 7:45 AM to 8:15 AM there is queueing on Fosdick Avenue because the intersection is blocked by Best Street queues, and due to vehicles trying to turn left onto Best Street from Fosdick Avenue.
- Fosdick Avenue does not have order to operations of drop-off. Parents are consistently weaving around one another, dropping off at curb side and in the middle of the road, and there are two lines with additional cars interspersed at the Best Street approach.
- There is high pedestrian activity on Best Street crossing Fosdick Avenue.

Pick-Up Observations

- At 2:15 PM, 7 cars were parked on the east side and 10 cars were parked on the west side of Fosdick Avenue waiting for student pick-up.
- At 2:37 PM, both sides of Fosdick Avenue are completely full (24 cars on the east side and 22 cars on the west side) waiting for student pick-up.
- At 2:40 PM, additional cars are waiting in the center of the road, so no traffic can get through (8 vehicles).
- A few parents pick-up children on Maple Street.
- High pedestrian activity crossing Fosdick Avenue heading west at Best Street.
- NFTA buses parked on E North Street hinder sight distance while people attempt to cross E North Street.
- All yellow buses were cleared from E North Street and Masten Avenue by 2:55 PM.
- From 2:45 PM to 3:15 PM there is queueing on Fosdick Avenue and Best Street due to the large volume of parents leaving the school and queues on Best Street that spill back and block the intersection with Fosdick Avenue.



School Drop-off Observations - AM Peak

Legend

= High Pedestrian Activity

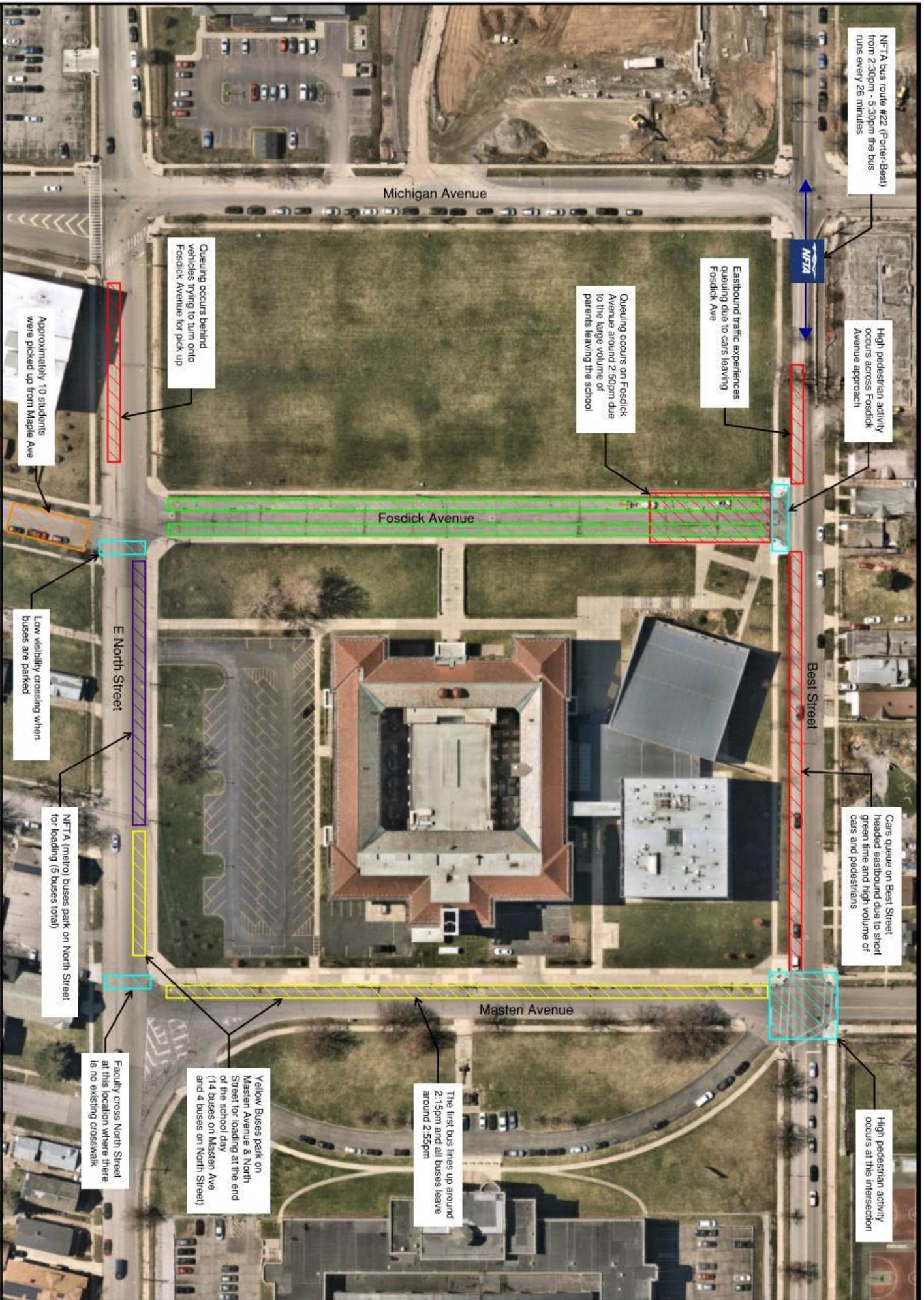
= Outside Drop Off/Pick up Zone

= Bus Loading/Unloading

= Queuing



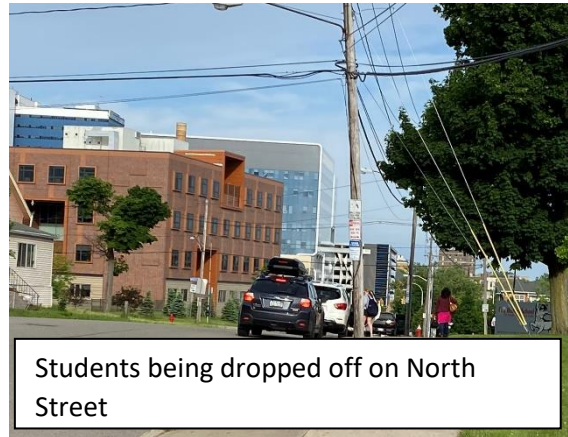
Figure 7



Student Drop-Off Observations



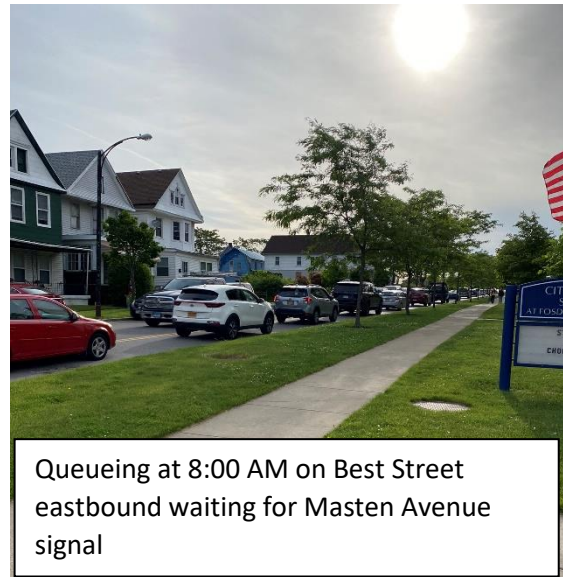
Student Drop-Off at 7:45 AM



Students being dropped off on North Street



Queueing at 8:00 AM, 3 lines of vehicles forming at Best Street



Queueing at 8:00 AM on Best Street eastbound waiting for Masten Avenue signal

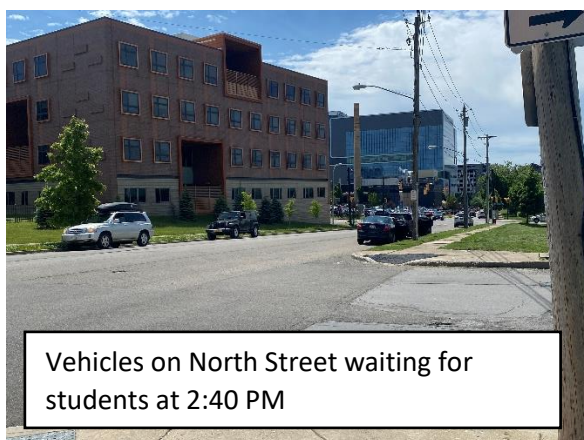
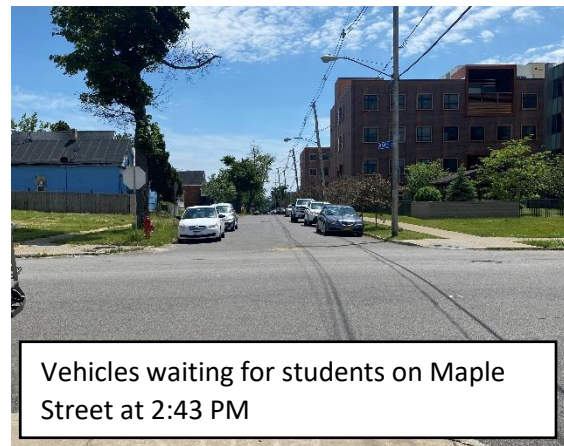


Queueing at 8:00 AM on Best Street eastbound from Masten Avenue signal



Buses dropping off students on Masten Avenue at 7:55 AM

Student Pick-Up Observations



F. Capacity Analysis

Intersection Analysis

An intersection capacity analysis was completed for all study area intersections, with results displayed in Table 7, detailed Synchro reports in Appendix D, and turning movement diagrams in Appendix E.

Table 7: Existing LOS Analysis

| Movement | | Existing | | | | | |
|-----------------------------------|-----------------|--|------------------|--------------------|----------------|------|-------|
| | | AM Peak | | | PM Peak | | |
| | | LOS ^a (delay) ^b | V/C ^c | Queue ^d | LOS (delay) | V/C | Queue |
| Main Street at E North Street | | | | | | | |
| Eastbound | Left/Thru/Right | D (38.6) | 0.72 | 216 | D (43.9) | 0.76 | 195 |
| Westbound | Left/Thru/Right | C (27.5) | 0.39 | 107 | C (33.3) | 0.60 | 167 |
| Northbound | Left/Thru/Right | A (5.6) | 0.18 | 54 | A (6.0) | 0.27 | 84 |
| Southbound | Left/Thru/Right | B (11.5) | 0.26 | 87 | A (9.7) | 0.20 | 63 |
| Intersection | | B (17.5) | - | | B (17.9) | - | |
| Main Street at Best Street | | | | | | | |
| Eastbound | Left/Thru/Right | D (37.6) | 0.77 | 250 | D (50.9) | 0.88 | 220 |
| Westbound | Left | C (26.0) | 0.26 | 47 | C (23.3) | 0.27 | 52 |
| | Thru/Right | C (25.2) | 0.44 | 145 | C (27.2) | 0.62 | 187 |
| Northbound | Left/Thru/Right | B (12.2) | 0.20 | 75 | B (14.2) | 0.38 | 134 |
| Southbound | Left/Thru/Right | A (6.5) | 0.24 | 76 | A (6.4) | 0.21 | 58 |
| Intersection | | B (17.7) | - | | C (20.9) | - | |
| Ellicott Street at E North Street | | | | | | | |
| Eastbound | Left/Thru/Right | B (10.6) | 0.32 | 1.4 | B (11.0) | 0.37 | 1.7 |
| Westbound | Left/Thru/Right | B (10.8) | 0.34 | 1.5 | B (10.5) | 0.30 | 1.2 |
| Northbound | Left/Thru | B (10.1) | 0.15 | 0.5 | B (10.4) | 0.20 | 0.7 |
| | Right/Thru | A (9.2) | 0.13 | 0.5 | A (9.6) | 0.20 | 0.7 |
| Southbound | Left/Thru/Right | B (10.2) | 0.22 | 0.8 | A (9.7) | 0.15 | 0.5 |
| Intersection | | n/a | | | n/a | | |
| Ellicott Street at Best Street | | | | | | | |
| Eastbound | Left/Thru/Right | A (10.0) | 0.35 | 125 | B (10.3) | 0.33 | 123 |
| Westbound | Left/Thru/Right | B (11.1) | 0.37 | 133 | B (11.2) | 0.39 | 145 |
| Northbound | Left/Thru/Right | B (10.6) | 0.09 | 24 | B (11.1) | 0.17 | 37 |
| Intersection | | B (10.6) | - | | B (10.8) | - | |

| Movement | | Existing | | | | | |
|---|-----------------|--|------------------|--------------------|----------------|-------|-------|
| | | AM Peak | | | PM Peak | | |
| | | LOS ^a (delay) ^b | V/C ^c | Queue _d | LOS (delay) | V/C | Queue |
| Michigan Avenue at E North Street | | | | | | | |
| Eastbound | Left/Thru/Right | B (13.8) | 0.39 | 85 | B (15.9) | 0.42 | 120 |
| Westbound | Left/Thru/Right | C (23.6) | 0.66 | 142 | B (12.9) | 0.29 | 68 |
| Northbound | Left/Thru | A (9.1) | 0.24 | 57 | A (9.1) | 0.26 | 79 |
| | Right | A (2.9) | 0.06 | 9 | A (2.4) | 0.11 | 17 |
| Southbound | Left/Thru/Right | A (7.7) | 0.49 | 65 | A (6.0) | 0.26 | 46 |
| Intersection | | B (13.3) | - | | B (10.2) | - | |
| Michigan Avenue at Best Street | | | | | | | |
| Eastbound | Left/Thru/Right | A (8.9) | 0.34 | 93 | A (9.7) | 0.36 | 111 |
| Westbound | Left/Thru/Right | B (10.6) | 0.45 | 129 | B (10.3) | 0.41 | 123 |
| Northbound | Left/Thru/Right | B (15.0) | 0.29 | 78 | B (16.9) | 0.41 | 115 |
| Southbound | Left/Thru/Right | B (18.0) | 0.47 | 134 | B (15.4) | 0.33 | 91 |
| Intersection | | B (12.6) | - | | B (12.4) | - | |
| Fosdick Avenue/Maple Street at E North Street | | | | | | | |
| Northbound | Left/Right | B (13.5) | 0.09 | 0.3 | B (11.2) | 0.07 | 0.2 |
| Fosdick Avenue at Best Street | | | | | | | |
| Northbound | Left/Right | C (17.3)* | 0.5* | 2.8* | C (15.1)* | 0.28* | 1.2* |
| Masten Avenue at E North Street | | | | | | | |
| Eastbound | Left/Thru | A (8.2) | 0.03 | 0.1 | A (7.7) | 0.07 | 0.2 |
| Westbound | Thru/Right | A (0.0) | 0.00 | 0.0 | A (0.0) | 0.00 | 0.0 |
| Southbound | Left/ Right | B (13.9) | 0.33 | 1.4 | B (12.5) | 0.21 | 0.8 |
| Intersection | | n/a | | | n/a | | |
| Masten Avenue at Best Street | | | | | | | |
| Eastbound | Left/Thru/Right | B (15.7)* | 0.59* | 179* | B (15.2)* | 0.57* | 186* |
| Westbound | Left/Thru/Right | B (13.2) | 0.45 | 123 | B (13.3) | 0.47 | 140 |
| Northbound | Left/Thru/Right | A (8.6) | 0.09 | 26 | A (7.2) | 0.18 | 42 |
| Southbound | Left/Thru/Right | B (11.7) | 0.25 | 68 | B (11.5) | 0.21 | 56 |
| Intersection | | B (13.8) | - | | B (13.2) | - | |

| Jefferson Avenue at E North Street | | | | | | | |
|---|------------------------|----------|------|------|----------|------|------|
| Eastbound | <i>Left/Right</i> | C (23.0) | 0.60 | 67 | C (28.6) | 0.73 | 117 |
| Northbound | <i>Thru/Left</i> | A (5.7) | 0.37 | 114 | A (5.5) | 0.28 | 94 |
| Southbound | <i>Thru/Right</i> | A (3.5) | 0.21 | 62 | A (4.5) | 0.20 | 66 |
| <i>Intersection</i> | | A (8.1) | - | | B (11.8) | - | |
| Jefferson Avenue at Best Street | | | | | | | |
| Eastbound | <i>Left/Thru/Right</i> | B (16.8) | 0.57 | 185 | C (23.5) | 0.76 | #311 |
| Westbound | <i>Left/Thru/Right</i> | C (22.3) | 0.73 | #256 | B (19.2) | 0.67 | 212 |
| Northbound | <i>Left/Thru/Right</i> | B (12.3) | 0.36 | 96 | B (14.0) | 0.47 | 138 |
| Southbound | <i>Left/Thru/Right</i> | B (13.7) | 0.34 | 95 | B (16.4) | 0.52 | 151 |
| <i>Intersection</i> | | B (17.5) | - | | B (19.0) | - | |

a: level-of-service

c: volume to capacity ratio

m: volume for 95th percentile que is metered
by upstream signal

b: delay is measured in seconds

d: 95th queue length, measured in ft

#: 95th percentile volume exceeds
capacity, queue may be longer

All intersections in the study area operate at an overall LOS C or better for both the AM and PM peak hours. All intersection movements also operate at an acceptable LOS D or better. A LOS C or better indicates that intersections operate with a perceived acceptable amount of delay.

*The existing LOS analysis does not show the queueing and 15-minute peak on Fosdick Avenue and Best Street that was observed in the field. During the 15-minute time periods of 7:45 AM to 8:00 AM and 2:45 PM to 3:00 PM the demand exceeds the capacity at these intersections causing significant delays and queueing. Due to the limitation of the Synchro traffic analysis software to only analyze peak-hour scenarios, the short duration congestion is not reflected in the LOS computed by the Synchro software. By 8:15 AM and 3:15 PM, queueing is cleared and intersection operations are back to normal with minimal delay.

III. Build Conditions

This condition analyzes the study area intersections and operations with the closure of Fosdick Avenue. It also uses the proposed circulation plans put forward by City Honors School which has modifications to student pick-up, drop-off, and bus locations.

Proposed Drop-Off and Pick-Up School Circulation

Figures 9 and 10 show the proposed pick-up and drop-off school circulation plan with the closure of Fosdick Avenue. Since existing parent drop-off and pick-up are on Fosdick Avenue, the majority of parent drop-off and pick-up will get moved to Michigan Avenue, and students will cross the field to get to the school. There will be additional space for some parent drop-off and pick-up on E North Street, as well as in a small parking lot north of the field on Best Street.

Figure 9: Future Drop-Off School Circulation Plan



Figure 10: Future Pick-Up School Circulation Plan



A. Trip Distribution

Traffic was distributed based on the closure of Fosdick Avenue. Existing traffic patterns were used in combination with the future drop-off/pick-up circulation plan. Figures 11 and 12 on the next page show trip distribution patterns. The following assumptions were made when rerouting traffic for the proposed plan:

AM Distribution Assumptions and Methodology

- Students will be dropped off on the eastern curb side of Michigan Avenue, northern curb side of E North Street, and a parking area on the south side of Best Street. This will correlate to a similar circulation plan as existing conditions, but moving vehicles one block west to Michigan Avenue.
- Parents that were travelling west on E North Street and turning right onto Fosdick Avenue, will now have some drop-offs on E North Street, and some drop-offs on Michigan Avenue, assume 30% on E North Street, and 60% on Michigan Avenue. It is assumed parents dropping off on E North Street were most likely turning left from Fosdick Avenue to Best Street, and will now continue onto E North Street and follow existing patterns at the intersection with Michigan Avenue.
- The majority of redistributed trips from Fosdick Avenue northbound to Michigan Avenue northbound, will make a right turn onto Best Street.
- Parents that are currently dropping off on E North Street and are not following the existing circulation plan, will continue to do so and will not be redistributed.

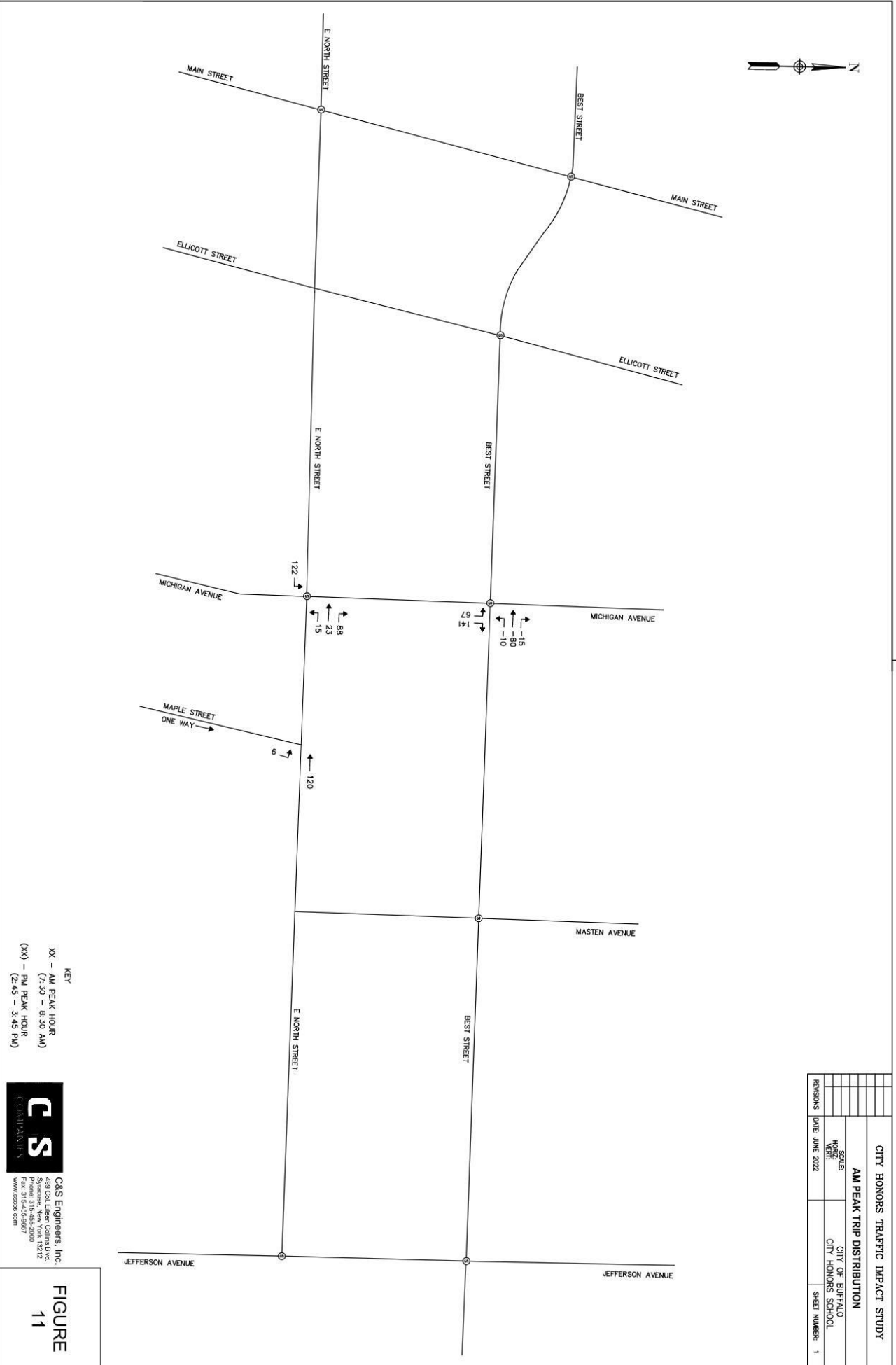
PM Distribution Assumptions and Methodology

- Parents will arrive early and park waiting for dismissal.
- There is enough space for approximately 16 vehicles on E North Street. It is assumed these 16 spaces will be used by vehicles travelling westbound on E North Street.
- Vehicles that were travelling eastbound on E North Street and turning left onto Fosdick Avenue, will now turn left onto Michigan Avenue.
- Existing traffic patterns on Fosdick Avenue at Michigan Avenue will be used, which is 65% of northbound vehicles will turn right, and 35% of northbound vehicles will turn left.

There may be additional redistribution of existing non-school related traffic to avoid Michigan Avenue during school drop-off and pick-up. Parallel routes will most likely be used such as Ellicott Street and Main Street. To examine the most conservative condition, this is not reflected in the Build analysis.

B. Capacity Analysis

The intersections in the study area impacted by the closure and future circulation plans are Michigan Avenue at E North Street, and Michigan Avenue at Best Street. A capacity analysis for these two intersections was conducted to determine the impact to the intersection operations due to the future circulation pattern. The only geometry change included in the build condition is the removal of Fosdick Avenue. See Table 8 for a summary of proposed LOS.



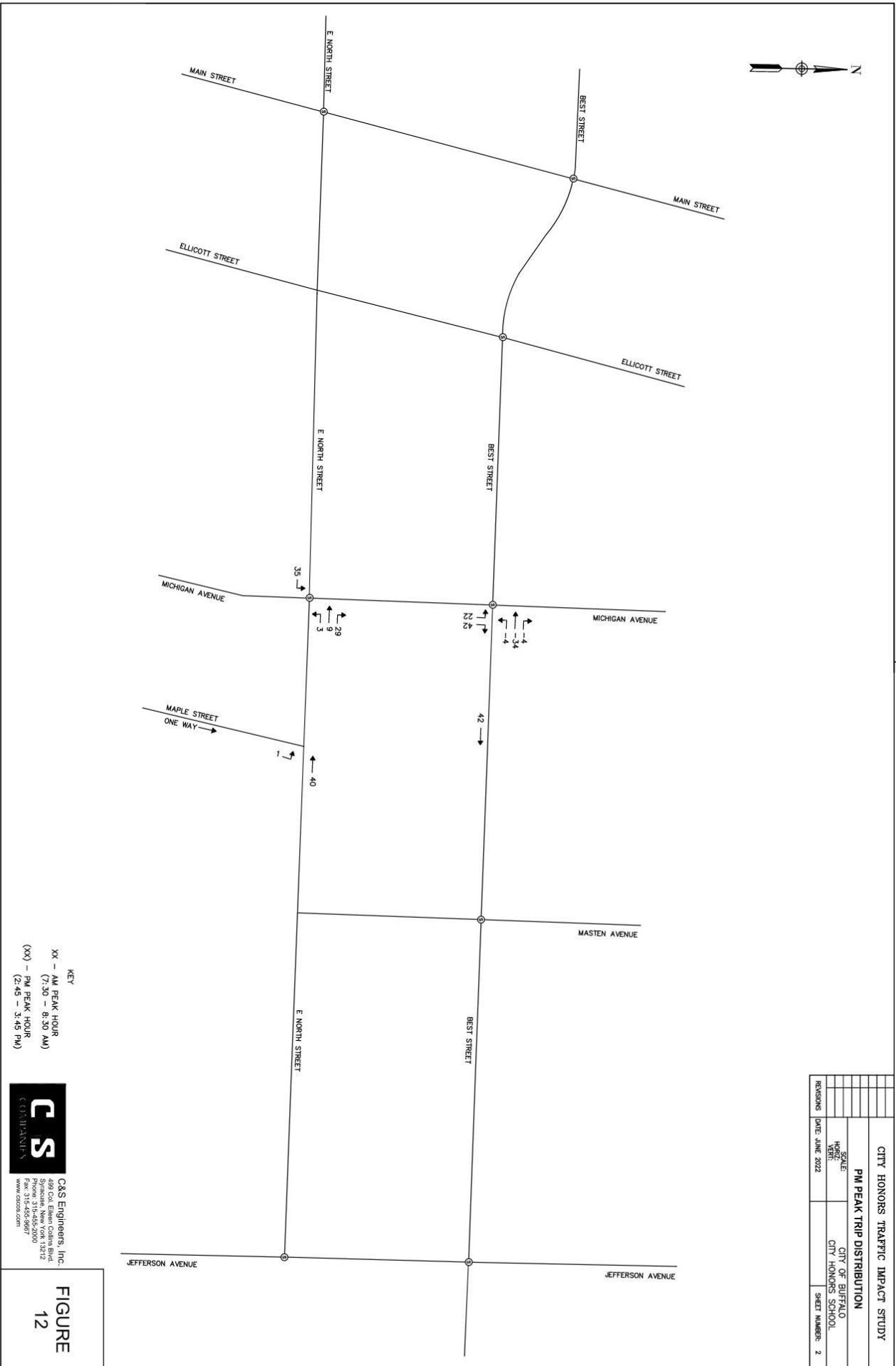


Table 8: Existing vs. Build LOS Analysis

| Movement | | AM Peak | | | | | |
|-----------------------------------|-----------------|----------------|------|-------|----------------|------|-------|
| | | Existing | | | Build | | |
| | | LOS (delay) | V/C | Queue | LOS (delay) | V/C | Queue |
| Michigan Avenue at E North Street | | | | | | | |
| Eastbound | Left/Thru/Right | B (13.8) | 0.39 | 85 | F (80.6) | 1.04 | #248 |
| Westbound | Left/Thru/Right | C (23.6) | 0.66 | 142 | E (76.5) | 1.05 | #280 |
| Northbound | Left/Thru | A (9.1) | 0.24 | 57 | A (9.1) | 0.24 | 57 |
| | Right | A (2.9) | 0.06 | 9 | A (2.9) | 0.06 | 9 |
| Southbound | Left/Thru/Right | A (7.7) | 0.49 | 65 | A (7.6) | 0.49 | 63 |
| Intersection | | B (13.3) | - | | D (49.0) | - | |
| Michigan Avenue at Best Street | | | | | | | |
| Eastbound | Left/Thru/Right | A (8.9) | 0.34 | 93 | A (8.9) | 0.34 | 93 |
| Westbound | Left/Thru/Right | B (10.6) | 0.45 | 129 | A (8.9) | 0.31 | 85 |
| Northbound | Left/Thru/Right | B (15.0) | 0.29 | 78 | C (31.4) | 0.82 | #240 |
| Southbound | Left/Thru/Right | B (18.0) | 0.47 | 134 | B (18.1) | 0.48 | 135 |
| Intersection | | B (12.6) | - | | B (18.2) | - | |
| Movement | | PM Peak | | | | | |
| | | Existing | | | Build | | |
| | | LOS (delay) | V/C | Queue | LOS (delay) | V/C | Queue |
| Michigan Avenue at E North Street | | | | | | | |
| Eastbound | Left/Thru/Right | B (15.9) | 0.42 | 120 | B (18.0) | 0.51 | 143 |
| Westbound | Left/Thru/Right | B (12.9) | 0.29 | 68 | B (13.3) | 0.38 | 83 |
| Northbound | Left/Thru | A (9.1) | 0.26 | 79 | A (9.1) | 0.26 | 79 |
| | Right | A (2.4) | 0.11 | 17 | A (2.4) | 0.11 | 17 |
| Southbound | Left/Thru/Right | A (6.0) | 0.26 | 46 | A (5.9) | 0.26 | 45 |
| Intersection | | B (10.2) | - | | B (11.2) | - | |
| Michigan Avenue at Best Street | | | | | | | |
| Eastbound | Left/Thru/Right | A (9.7) | 0.36 | 111 | A (9.7) | 0.36 | 111 |
| Westbound | Left/Thru/Right | B (10.3) | 0.41 | 123 | A (9.6) | 0.35 | 105 |
| Northbound | Left/Thru/Right | B (15.0) | 0.29 | 78 | B (18.9) | 0.55 | 148 |
| Southbound | Left/Thru/Right | B (18.0) | 0.47 | 134 | B (15.5) | 0.33 | 91 |
| Intersection | | B (12.4) | - | | B (13.1) | - | |

The results of the capacity analysis show that the intersection level of service for Michigan Avenue at Best Street remains a LOS B for existing and proposed conditions during both the AM and PM peak hours. For the Michigan Avenue at E North Street intersection, the intersection LOS during the AM peak decreased from a LOS B to an LOS D with poor LOS F on the eastbound approach and LOS E on the westbound approach. This is due to the large volume of parents that will be using Michigan Avenue to drop off their children. During the PM peak, the intersection LOS remained a LOS B for the Michigan Avenue and E North Street intersection. Refer to Appendix D for detailed Synchro Reports.

C. Parking

Currently, Fosdick Avenue provides the school and the public with access to 2-hour metered parking during the school day and free parking after 4pm. The proposed closure will eliminate a total of 46 parking spaces, 22 that are 2-hour metered parking for the public and school visitors and 24 that are used by the public after 4pm. Based on the site inventory, it was observed that the number of occupied parking spaces was less than the existing parking capacity during the AM, PM, and evening observations. See Tables 9 and 10 for a summary of parking need and availability within the study area.

Table 9: Parking Occupancy on Fosdick Avenue

| Street | Side | Parking Type | Number of Existing Spaces | Max Occupancy Observed |
|---------------------------------------|------|-----------------------------|---------------------------|------------------------|
| Fosdick Avenue | East | No Parking Mon-Fri, 8am-4pm | 24 | 1 |
| | West | 2-hour Metered Parking | 22 | 8 |
| Total Occupied Parking Spaces: | | | | 9 |

Table 10: Proposed Parking Availability

| Parking Regulation: 2 HR Metered Mon-Fri 8AM-4PM | | | | |
|---|-------|---------------------------|------------------------------------|---------------------------|
| Street | Side | Number of Existing Spaces | Number of Existing Occupied Spaces | Number of Proposed Spaces |
| Best Street Lot | South | 0 | - | 14 |
| Michigan Avenue* | East | 22 | 12 | 0 |
| Fosdick Avenue | West | 22 | 8 | 0 |
| E North Street | South | 0 | - | 12 |
| Difference in Spaces Based on Demand | | | | +6 |

*Existing metered parking on Michigan Avenue is for 2 additional hours compared to the rest of the study area, with 2 HR metered parking Monday – Friday from 7AM to 5PM.

Table 10: Proposed Parking Availability

| Parking Regulation: No Parking Mon-Fri 8AM-4PM | | | |
|--|-------|---------------------------|---------------------------|
| Street | Side | Number of Existing Spaces | Number of Proposed Spaces |
| E North Street | North | 10 | 11 |
| Fosdick Avenue | East | 24 | 0 |
| Michigan Avenue | East | 0 | 22 |
| Difference in Spaces | | | -1 |

It was determined that the maximum parking occupancy on Fosdick Avenue during an average weekday is 8 spaces. On the east side of Fosdick Avenue, the maximum number of cars parked was 18 vehicles at 2:30pm, however all of these vehicles were occupied by parents waiting to pick up their children from City Honors School therefore, they were only parked for a short period of time. The maximum number of cars parked on the east side of Fosdick Avenue was 1 car at 6:00pm.

It was observed that metered parking on Fosdick Avenue was used primarily for school visitors. To compensate for the 8 occupied metered parking spaces on Fosdick Avenue that will be removed due to the street closure, it is assumed that school visitors will have access to the 14 car lot off of Best Street that is proposed in the field renovation plan. Based on the future school circulation plans provided by City Honors, Michigan Avenue metered parking will now need to be restricted on school days between 8 AM – 4 PM, to allow its use for parent pick-up and drop-off. It will not result in a change in the number of parking spaces outside of school hours and days. The maximum occupancy observed during school hours along Michigan Avenue was at 2:30 PM with 12 vehicles out of 22 spaces. Due to the loss of metered parking during the day on Michigan Avenue, 12 metered parking spaces are proposed on the south side of E North Street. Under this new parking configuration, it is assumed that school visitors will have access to the 14 parking spaces in the new Best Street Lot, and any additional visitors can use the 12 metered parking spaces on E North Street along with relocated Michigan Avenue parkers. Therefore, based on maximum occupancy observed for existing parking, the study area will have 6 additional parking spaces (assuming Best Street lot is metered parking), compared to the existing condition for the 2 hour metered parking during a school day. For on-street parking spaces with a regulation of no parking Monday through Friday from 8AM to 4PM, there is a loss of one space with the proposed plan.

IV. Mitigation

Mitigation measures are proposed to alleviate any adverse impacts that are anticipated for the surrounding street network due to the Fosdick Avenue removal. Mitigation measures are proposed for the drop-off circulation plan, as well as intersection improvements to maintain efficient intersection operations. Additional recommendations to enhance safety and further alleviate congestion are in Section V.

A. Drop-Off Circulation Plan

To have the least amount of impacts to the surrounding street network, using alternative modes of transportation as opposed to parent drop-off and pick-up will result in less congestion and therefore

safer conditions. It is recommended that the NFTA buses be relocated on the proposed transportation arrangement plan to E North Street where they currently pick up now. Placing the NFTA buses closer to the school improves their attractiveness as an option in comparison to the furthest point from the school in the circulation plan. See Figure 13 on the next page for a revised end of school day circulation plan.

B. Pedestrian Paths

It is challenging to achieve cooperation by parents and students, as well as enforcing the drop-off and pick-up plans. During site observations, parents were observed using E North Street and Maple Street as opposed to Fosdick Avenue to drop students off and pick them up. Moving the location for parent drop-off and pick-up an additional block away, may result in a larger number of drop-offs and pick-ups to be noncompliant. The Fosdick Field plan has two pedestrian paths across the field area, they are curvilinear and bring students to the intersections of Michigan Avenue at Best Street and E North Street. Students typically take the path of shortest walking distance, it is therefore suggested that the proposed paths be rerouted to be more direct routes, or additional paths with more direct access to the school be investigated. Pedestrian paths should be cleared in the winter, and potentially even a de facto path through the field that is plowed in the winter.

Figure 13: Revised End-of-School Day Transport Arrangement



C. Intersection Improvements

The following mitigation measures were considered to address the change in operation at the Michigan Avenue at E North Street intersection:

- Construction of exclusive left turn lanes for eastbound and westbound approaches
- Adjustments to traffic signal timings to account for the additional traffic on E North Street

Due to pedestrian safety concerns at this intersection, it is recommended to remove the existing channelized right turn lane on the northbound approach. This geometry change is included in this mitigation scenario to ensure that the intersection would operate at an acceptable LOS without the additional right turn capacity. See Table 11 for a summary of the LOS for each intersection movement.

Table 11: Build with Mitigation LOS Analysis

| Movement | | Build with Mitigation | | | | | |
|--|------------------------|-----------------------|------|-------|-------------|------|-------|
| | | AM Peak | | | PM Peak | | |
| | | LOS (delay) | V/C | Queue | LOS (delay) | V/C | Queue |
| Michigan Avenue at E North Street | | | | | | | |
| Eastbound | <i>Left</i> | B (18.4) | 0.47 | 74 | B (11.5) | 0.11 | 31 |
| | <i>Thru/Right</i> | B (10.4) | 0.33 | 70 | B (11.7) | 0.32 | 95 |
| Westbound | <i>Left</i> | B (13.9) | 0.29 | 55 | B (11.2) | 0.07 | 20 |
| | <i>Thru/Right</i> | B (13.4) | 0.52 | 109 | A (8.1) | 0.26 | 53 |
| Northbound | <i>Left/Thru</i> | B (11.3) | 0.34 | 75 | B (11.6) | 0.42 | 118 |
| Southbound | <i>Left/Thru/Right</i> | B (11.3) | 0.58 | 86 | A (7.9) | 0.30 | 53 |
| <i>Intersection</i> | | B (12.6) | - | | B (10.3) | - | |

With the addition of the left turn only lanes and signal timing adjustments, the Michigan Avenue at E North Street intersection operates at an acceptable LOS B during both the AM and PM peak hours. The left turn only lanes provide storage for the large volume of vehicles that are now turning left onto Michigan Avenue which improves the LOS for the eastbound left movement from a LOS F to a LOS B during the AM peak. Refer to Appendix D for detailed Synchro reports.

Even with the improvements to the operation of the Michigan Avenue at E North Street intersection, traffic that is not related to City Honors School may choose to avoid Michigan Avenue during school drop-off and pick-up times. The existing study area has enough capacity for vehicles to avoid Michigan Avenue during peak school hours, which may further improve operations at the Michigan Avenue intersections.

As stated in the existing conditions section, operations at Best Street and Masten Avenue are shown in the traffic modeling program to have minimal delay, congestion, or queueing. This is due to the demand exceeding the capacity of the intersection for a short period of time, and the number of vehicles counted in the traffic counts were only vehicles that could make it through the intersection. Therefore, this intersection was looked at more closely using the microsimulation program SimTraffic. Maximum queues at the intersection in SimTraffic were more representative

for what was observed in the field. Signal timings were adjusted for this intersection to account for the high demand during a short-period of time during the highest school drop-off and pick-up times. The existing signal timings also provide almost equal green times to both Masten Avenue and Best Street, when Best Street has almost double the traffic volumes of Masten Avenue.

Table 12: Analysis for Best Street at Masten Avenue

| Movement | | Existing | | Proposed | | Proposed w/Mitigation | |
|---------------------|------------------------|-------------|------------------------|-------------|-----------|-----------------------|-----------|
| | | LOS (delay) | Max Queue ^a | LOS (delay) | Max Queue | LOS (delay) | Max Queue |
| AM Peak | | | | | | | |
| Eastbound | <i>Left/Thru/Right</i> | B (15.7) | 414 | B (15.7) | 535 | A (9.4) | 250 |
| Westbound | <i>Left/Thru/Right</i> | B (13.2) | 460 | B (13.2) | 397 | A (7.9) | 266 |
| Northbound | <i>Left/Thru/Right</i> | A (8.6) | 79 | A (8.6) | 91 | B (12.8) | 101 |
| Southbound | <i>Left/Thru/Right</i> | B (11.7) | 139 | B (11.7) | 135 | B (19.5) | 204 |
| <i>Intersection</i> | | B (13.8) | - | B (13.8) | - | B (11.2) | - |
| PM Peak | | | | | | | |
| Eastbound | <i>Left/Thru/Right</i> | B (15.2) | 437 | B (16.4) | 306 | A (9.5) | 272 |
| Westbound | <i>Left/Thru/Right</i> | B (13.3) | 421 | B (13.7) | 329 | A (8.1) | 290 |
| Northbound | <i>Left/Thru/Right</i> | A (7.2) | 117 | A (7.4) | 118 | B (12.2) | 133 |
| Southbound | <i>Left/Thru/Right</i> | B (11.5) | 118 | B (12.4) | 161 | B (19.0) | 137 |
| <i>Intersection</i> | | B (13.2) | - | B (13.7) | - | B (10.8) | - |

a – Queue is measured in feet

Shown in Table 12, adjusted signal timings are expected to decrease queuing on Best Street at the Masten Avenue intersection. Proposed traffic signal timings can be found at the back of Appendix D.

D. Parking

East E North Street:

- Provide 12 2-hour maximum metered parking spaces on the south side of East E North Street for school visitors.
- Install 11 No Parking, Monday-Friday, 8am-4pm spaces on the west section of East E North Street to be used for parent drop off/pick up during school hours, and public parking after 4pm.
- Install 15 No Standing, School Days, 8am-4pm spaces on the east section of East E North Street to be used for NFTA (Metro) and yellow bus pick-up on school days, and public parking after 4pm.

Michigan Avenue:

- Provide 13 restricted Monday-Friday, 8am-4pm parking spaces on the east side of Michigan Avenue to be used for parent drop-off/pick-up during school hours, and public parking after 4pm.

Install hatched no parking anytime area on the east side of Michigan Avenue to be used by NFTA buses for school pick-up

V. Recommendations

Based on the results from the existing site observations, capacity analysis, and parking inventory, the following infrastructure improvements are recommended to enhance pedestrian safety, traffic operations, and parking capacity within the study area:

A. Intersection Improvements

Best Street at Masten Avenue:

- Provide NYSDOT Type L crosswalks on all approaches.
- Install new pedestrian signals with countdown timers and ADA compliant pushbuttons.
- Consider adjusting the Masten Avenue Armory driveway alignment in a future project. This is recommended so the driveway does not interfere with intersection safety, operations, and pedestrians. Additional investigations would need to be done to make this change, and the driveway realignment would at a minimum require a grading release.

E North Street at Masten Avenue:

- Provide NYSDOT Type L crosswalks on the north and west approaches.
- Install pedestrian signage and yield line on E North Street to provide additional visibility for the uncontrolled crosswalk.
- Consider adjusting the Masten Avenue Armory driveway alignment in a future project. This is recommended so the driveway does not interfere with intersection safety, operations, and pedestrians. Additional investigations would need to be done to make this change, and the driveway realignment would at a minimum require a grading release.

Michigan Avenue at Best Street:

- Provide NYSDOT Type L crosswalks on all approaches.
- Install new pedestrian signals with countdown timers and ADA compliant pushbuttons.

Michigan Avenue at East E North Street:

- Provide NYSDOT Type L crosswalks on all approaches.
- Install new pedestrian signals with countdown timers and ADA compliant pushbuttons.
- Install left turn lanes on East E North Street eastbound and westbound approaches to improve intersection operations.
- Remove existing channelized right turn lane on the northbound approach and replace with sidewalk and green space to improve safety at this intersection.
- Adjust signal timings to provide additional green time to Michigan Avenue.

The installation of bump outs were investigated at the intersections of Michigan Avenue at East E North Street, Michigan Avenue at Best Street, and Best Street at Masten Avenue. Bump outs were eliminated because they required the stop bars to be pushed back on approaches (up to 50 feet), and based on turning templates buses were still expected to hit the curb of the bump outs at the smallest turning radii.

B. School Operations

Fosdick Avenue is driven and used by parents as if it was a private school access road. At times 3 lanes of traffic were observed on Fosdick Avenue while picking up students. Since parent pick-up and drop-off will be relocated to Michigan Avenue once Fosdick Avenue is closed, additional recommendations are proposed since Michigan Avenue has approximately 400 through traffic vehicles combined northbound and southbound during the peak hours. Assuming the existing through traffic on Michigan Avenue does not divert during school drop-off and pick-up times, the following are strategies that may be implemented if observations show additional safety and circulation methods are needed to keep students and Michigan Avenue through traffic safe while minimizing congestion.

Promote Alternative Modes of Transportation: The initiative that will yield the best results is to push for parents and students to use alternative modes of transportation as opposed to parent drop-off and pick-up. NFTA buses should get priority to make them more attractive to students. Ways to do this would be to keep them at their current “pick-up” location close to the school on East E North Street instead of the far corner on Michigan Avenue adjacent to Best Street.

Another suggestion would be for the school to connect families if there are neighboring students sending their children to City Honors through the same buses. Children riding in groups as opposed to individually may alleviate some safety concerns that parents may have as opposed to their children riding alone.

Parent Education Program: An education campaign could be used to inform parents how to reduce congestion and increase safety by following the rules of the road. Alternative transportation modes should be encouraged, as well as educating parents about the legal and dangerous consequences of traffic violations. This information could be distributed through fliers or the school newsletter.

Establish Safe Pedestrian Routes: Safe pedestrian routes could be established for the NFTA transportation users to and from train stations/bus stops, as well as walkers and bikers. Infrastructure and enforcement improvements on these routes may encourage more students to use alternative modes of transportation rather than parent drop-off and pick-up. Coordination should occur with local agencies to establish A Safe Routes to School Program if and when funding becomes available.

Student Drop-Off:

Signal Timings: There is currently congestion and queueing at the Best Street and Masten Avenue traffic signal, spilling back on Best Street past the Fosdick Avenue intersection. The removal of Fosdick Avenue will result in an expanded drop-off and pick-up circulation route. The expanded route will have less funneling of traffic at one access point, Fosdick Avenue at Best Street. This is expected to help alleviate some of the congestion on Best Street.

If backups continue at the Best Street and Masten Avenue traffic signal with the new timings, it is suggested that traffic signal timing adjustments be made based on additional observations, and to install detection on intersection approaches.

Student Pick-Up:

Staggered Student Dismissal: A recommended technique for improving pick-up conditions is to introduce a staggered dismissal schedule. For City Honors School, a recommended dismissal could be as follows:

- 2:45 PM – Students grades 5-8 are dismissed (with the exception of students with siblings in grades 9-12 who will be picked-up by their parents) to load onto the yellow buses or be picked up by their parents in the designated pick-up locations on E North Street, Michigan Avenue, or Best Street.
- 2:55 PM – Yellow buses with students grades 5-8 depart Masten Avenue.
- 3:00 PM – Students grades 9-12 and students grades 5-8 with siblings in grades 9-12 are dismissed to load onto NFTA buses or be picked up by their parents on E North Street, Michigan Avenue, Best Street, or Masten Avenue, which now has additional capacity since the yellow buses have departed.
- 3:10 PM – Staff day ends and NFTA buses with students grades 9-12 depart Michigan Avenue.

Designated Pick-Up Zones: Since the pick-up area is expanded linearly around a city block, further designations for parents picking up students may aid students in finding their parents, and create a more consistent day to day circulation. For example, it may be suggested parents picking up students in grades 5 through 8 do so in the designated parking area on Best Street, students in grades 9 and 10 be picked up on Michigan Avenue, and students in grades 11 and 12 be picked up on E North Street. This could be adjusted depending on the number of students in each grade using parent pick-up.

See Figure 14 for an overall map of infrastructure and parking improvements. This includes mitigation techniques and recommendations for the study area.



Install new pedestrian signals, countdown timers, and ADA compliant pushbuttons on all corners

Install NYSDOT Type L crosswalks on all intersection approaches

Consider adjustment of the driveway alignment to provide a safer crossing for pedestrians and improve intersection geometry. This will require further investigations and a grading release.

NO PARKING
8AM - 4PM
MON-FRI
→

NO STANDING
SCHOOL
DAYS
8AM - 4PM
←

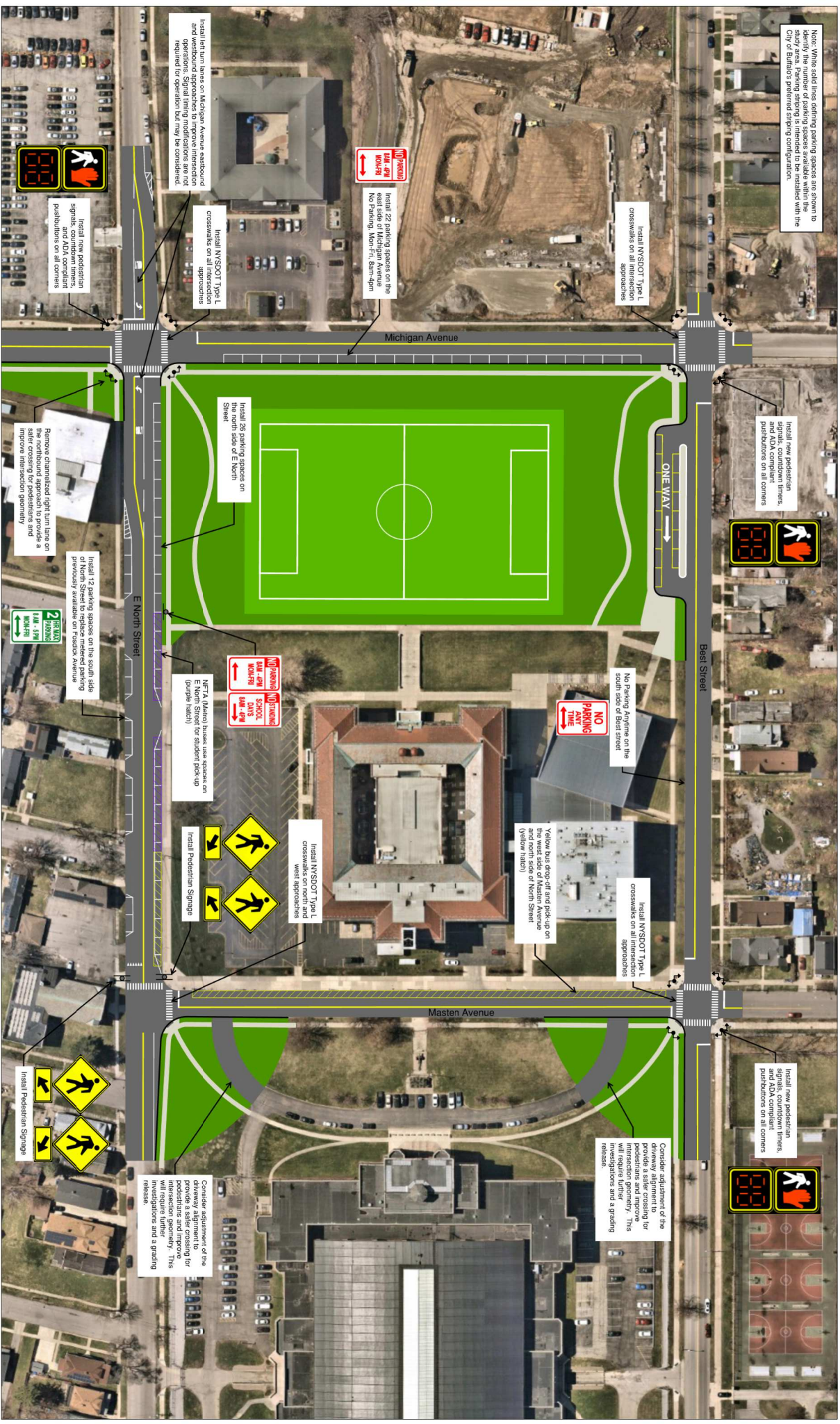
NFTA (Metrol) buses use spaces on E North Street for student pick-up (purple hatch)

Install Pedestrian Signage

Install 12 parking spaces on the south side of North Street to replace metered parking previously available on Fosdick Avenue

Install Pedestrian Signage

Consider adjustment of the driveway alignment to provide a safer crossing for pedestrians and improve intersection geometry. This will require further investigations and a grading release.



VI. Conclusion

The following items are findings from this traffic impact study:

Existing Condition

The existing study area operates with minimal delay and congestion with the exception of two 15-minute peaks right before school starts and right after school lets out. This is mostly due to the number of students who are dropped-off and pick-up by parents.

The study area had reduced on-street parking during site observations due to construction projects on Best Street. Even with a reduction in on-street parking, the existing parking on Michigan Avenue was not fully used, and at the most had 8 spaces occupied out of 22 available during the school day.

E North Street from Michigan Avenue to Masten Avenue has an excessive pavement width for a single lane in each direction, and there is no existing pavement striping making it unclear how the road should be navigated.

Intersections are absent of striped crosswalks, and pedestrian signal equipment at signalized intersections which include accessible pushbuttons and countdown timers.

Build Condition

The removal of Fosdick Avenue has some implications to the surrounding study area due to the diversion of traffic from Fosdick Avenue to Michigan Avenue for parent drop-off and pick-up. The surrounding study area can be restored to better than existing operations with the following mitigation techniques:

- Retiming the signal at Best Street and Masten Avenue to provide more green time to Best Street.
- Provide exclusive left turn lanes for the east and westbound approaches at E North Street at Michigan Avenue. This will require new signal heads, and adjusted signal timings at the traffic signal.
- Stripe E North Street from Michigan Avenue to Masten Avenue to provide on-street parking which will offset the parking removed from Michigan Avenue.

Recommendations

While recommendations are not required to improve the study area, they will further enhance safety and operations for all users in the study area (students, parents, walkers, bikers, and drive-by motorists):

- Provide painted crosswalks and pedestrian signal equipment (at signalized intersections) at the following intersections:
 - Best Street at Michigan Avenue
 - Best Street at Masten Avenue
 - E North Street at Michigan Avenue
 - E North Street at Masten Avenue
- To minimize congestion on E North Street, Michigan Avenue, and Best Street due to the number of students being picked-up and dropped-off by parents, strategies that could be implemented to reduce the number of pick-ups and drop-offs are:
 - Promote alternative modes of transportation
 - Promote carpooling
 - Do a parent education program
 - Establish safe pedestrian routes
 - Make adjustments to the drop-off and pick-up schedule