



May 12, 2021

Mr. Tiger Mann
Director of Department of Public Works
Town of New Canaan
Town Hall
77 Main Street
New Canaan, Connecticut 06840

Subject **Review and Findings – Proposed New Canaan Library, 151 Main Street, New Canaan, Connecticut**

Dear Mr. Mann:

For the last several months we have been reviewing both the parking and traffic aspects of the Application to demolish the existing Library and construct a new Library on the same property. The following sections provide a summary of the Applicant's most recent traffic-related responses to comments, dated April 22, 2021. This letter also includes additional comments on this review, our findings and recommendations for the Town's consideration.

Project Development

As previously described and summarized the proposal is to demolish the existing 35,000 square-foot New Canaan Library and construct a new 40,461 square-foot Library within the Subject Property. It is important to note that the existing Library currently provides approximately 65 parking spaces on its site and only for Library use. There are two access drives to Maple Street, with the easterly drive functioning as an entrance only and providing access to an internal parking area and a drop-off lane in front of the existing Library building. Adjacent to this access drive and parking area is a second access drive, which functions as a two-lane, two-way, driveway to Maple Street and provides access to a second parking area and the same drop-off area in front of the existing Library building. Both of these driveways provide an internal connection to two other driveways, both which function as for exits only to South Avenue or to Cherry Street.

The proposal is to demolish the existing Library and build a new larger building fronting on Maple Street. All vehicular access and on-site parking will be eliminated, except for the now proposed 4 handicap parking spaces, with access from South Avenue. The South Avenue drive will also provide access to a loading area.

All Library patrons parking will use the existing Center School parking lot located on the southerly side of Maple Street. This parking lot, which is currently owned and maintained by the Town has a two-lane, two-way, access drive to Maple Street and an entrance only from South Avenue.

The more recent proposal is to maintain the existing Maple Street access drive to the parking lot; however, modified as it relates to parking on the drive aisle and now a two-lane, two-way, access drive is proposed to South Avenue, at the request of our office. The Town Engineer has also recommended that the two-lane,

two-way driveway to South Avenue to the Center School parking lot be shifted to have a perpendicular alignment between the parking lot to South Avenue.

As part of the Library Application it will use 76 parking spaces within the existing Center School parking lot and continue to have access to 26 spaces at the St. Aloysius parking lot located on the westerly side of South Avenue. Therefore, overall the agreement is that the Library will provide 102 parking spaces for its patrons and staff. It is likely that the 4 handicap parking spaces now proposed at the rear of the new building, with access to South Avenue would increase the overall parking availability for the Library use to 106 spaces.

Site Traffic Generation

It was previously agreed that the new Library would generate a similar level of site traffic generation as the existing Library when the 15 percent increase in traffic flow at the existing Library driveways was included in the analysis. Therefore, it is generally agreed that the new Library will generate 237 vehicle trip ends during the typical weekday afternoon peak hour, which occurs between 4:00 and 5:00 P.M.

In response to our comment as it relates to the Saturday traffic generation for the Library, additional information was provided by the Library indicating that the Saturday activity at the Library, as it relates to entering and existing foot traffic at the main entrance is lower than during the week and specifically the weekday afternoon. However, to be conservative the Applicant used the same site traffic generation for both the weekday afternoon and Saturday midday peak hours to complete the analyses and determine potential impact and need for any mitigation.

Traffic Review Comments

We have reviewed the information provided in the April 22nd response letter, which includes updated traffic volumes and analyses. It includes the two-way, two-lane, access drive from South Avenue into the Center School parking lot. Based on our review of the traffic volumes, the capacity analysis inputs and results of the analyses although there are some very minor inconsistency with volumes and analyses input, we agree with the overall traffic volumes used in the analysis and the results of the analysis provided by the Applicant.

Based on the results of the Applicant's analysis, which is attached for reference purposes and identified as Tables 2 and 3, it provides a summary of the results of the analysis for a 2018 existing traffic condition, a 2023 background condition (with the existing Library) 2023 and with the new Library and 2023 with improvements.

It is important to note that the Library traffic is the same volumes for existing and future based on previous information provided by the Applicant and an agreement by our office to the level of site traffic to be generated during each of the peak hours. Note that the Saturday analysis is based on a higher than expected level of site traffic generation and; therefore, the results of the Saturday analysis should be considered somewhat conservative. The Library data indicates the Saturday midday activity could be approximately 15 percent lower.

The following is a summary of the capacity analyses, with the two-lane, two-way access drive from South Avenue to the Center School parking lot based on the information provided by the Applicant and our review

of the data and, in some cases, our reanalysis with modified inputs based on our review of the information provided:

- Cherry Street at Main Street (signalized) – This intersection will continue to operate at acceptable Levels of Service during both peak hours.
- Cherry Street at South Avenue (signalized) – The results of the analysis indicate this intersection will continue to operate at acceptable Levels of Service during both peak hours included in the analysis, except for the northbound left/through lane group on South Avenue during the weekday afternoon peak hour. The results of the analysis indicate it will maintain a Level of Service “E” and maintain the same average vehicle delay.
- Main Street at Maple Street (STOP sign controlled) – This intersection and specifically the Maple Street approaches to Main Street will continue to operate at the same Levels of Service during both peak hours. The eastbound approach, which is the busiest side street approach, will operate at Level of Service “D” during both the weekday afternoon and Saturday midday peak hours.
- South Avenue at Maple Street (STOP sign controlled) – The results of the analysis indicate that this intersection will maintain a Level of Service “C” or better during the weekday afternoon peak hour. However, the analysis indicates that during the Saturday midday peak hour the westbound approach on Maple Street will continue to operate at Level of Service “F” (with long delays), but with the additional exit to South Avenue show a decrease in average vehicle delay of 19.5 seconds compared to the analysis where the Center School parking lot entrance drive from South Avenue was an entrance only.

Providing a two-lane, two-way, access drive to the parking lot from South Avenue mitigates the significant delays and vehicle queuing expected on the Maple Street westbound approach to South Avenue due to all of the Library traffic using Maple Street to exit to South Avenue or Main Street. With this improvement to the parking lot access from South Avenue the Level of Service for a Saturday midday peak hour is maintained at Level of Service “F” for this specific approach; however, the vehicle queuing decreases from 325 feet (15 vehicles) to 188 feet (8 vehicles) and a decrease in average vehicle delay per vehicle from 204 seconds (3.40 minutes) down to an average vehicle delay of 94.4 seconds (1.57 minutes). Further, the results of the analysis indicate that the volume to capacity ratio will be 0.93 on the westbound approach, which is also an improvement.

Note that this vehicle queuing delay on a Saturday during the midday peak hour is based on the higher Library traffic level than is actually anticipated but will continue to have vehicles waiting on the westbound approach to the STOP sign on Maple Street at South Avenue and these vehicles for a period of time during this one peak hour will block the access drive to the Center School parking lot and up to at least the proposed crosswalk location. However, the benefit of the South Avenue access drive to the parking lot for two-way traffic flow results in a significant benefit and “release valve” for vehicles entering and exiting the parking lot, which would no longer have to rely on only a one exit drive to Maple Street to exit the parking lot.

- Center School Lot Driveways – Each of the parking lot driveways will operate at acceptable Levels of Service during peak hours. However, during the Saturday midday peak hour exiting movements to Maple Street will occasionally be blocked by waiting vehicles on Maple Street, as previously noted. However, motorists will have the option of turning right onto Maple Street to access Main Street and essentially access the same roadways as those exiting towards South Avenue.

Proposed South Avenue Access to Center School Parking Lot

As part of the review we requested that the Applicant identify the available and required intersection sight distance (ISD) for this proposed driveway to South Avenue. Modifying this access drive and shifting it to the north requires an Encroachment Permit from the Connecticut Department of Transportation (CTDOT). The Applicant indicated that based on the posted speed limit of South Avenue, which is 25 miles per hour, an ISD of 280 is needed and available.

The Applicant will need to conduct a Speed Study and identify the 85th percentile speed of motorists traveling in both directions on South Avenue and based on CTDOT criteria to determine the required ISD. ISD is not based on the posted speed limit; however, based on the 85th percentile speed. The Applicant should indicate the available ISD at the proposed location of the exit lane from the parking lot to South Avenue on the Site Plan and illustrate that the ISD can be provided within the South Avenue right-of-way and appropriately measured to the approaching lane in each direction. This measurement should be taken 15 feet back from the curb line of the east side of South Avenue along the Center School parking lot frontage. The full extent of the needed ISD must be shown on the plan (to scale) to obtain CTDOT approval. This approval from CTDOT can be obtained after Town approval.

Findings

The Applicant has submitted four Traffic Reports in response to our comments over the last few months. Each of the comments have been responded to and after a careful review of each of the documents, we accept the traffic volumes, capacity analyses, inputs and results of the analysis. The analyses provided by the Applicant indicated that although nearby intersections included in the Study Area will continue to operate at acceptable Levels of Service and reasonable vehicle queuing lengths the results of the analysis do indicate that the northbound approach of South Avenue at Cherry Street signalized intersection will continue to operate at Level of Service “E” as it does under current conditions. The vehicle queuing will essentially remain the same and not impact the exit movements from Maple Street.

Results of the analysis continue to show that the westbound approach of Maple Street along the new Library frontage will have delays, which will block the Center School parking lot driveway and reach the proposed location of the crosswalk during the Saturday midday peak hour. However, the results of this analysis show a significant improvement when an exit lane is provided from the same parking lot directly to South Avenue, south of the Maple Street intersection.

Based on the results of this analysis and our knowledge of the area it is very likely that more patrons will turn right when exiting the Center School parking lot to travel towards Main Street to reach their destination. This will relieve some of the vehicle queuing for exiting movements on Maple Street at South Avenue.

During the review process there were suggestions to consider closing Maple Street, between South Avenue and Main Street to through traffic to permit it to function as an entrance/exit for Library activity. Although Maple Street will function as the entrance/exit to the new Library it would be difficult to close this road or in some fashion restrict through movements to only Library-related traffic. Maple Street carries approximately 100 through vehicles during the weekday afternoon peak hour and approximately 200 vehicles during the Saturday midday peak hour, which is not related to Library traffic. If Maple Street was to be closed or restricted to through traffic this traffic would, for the most part, shift to Cherry Street, between South Avenue and Main Street, as an alternative.

Under current conditions motorists avoid Cherry Street by using Maple Street as a connection between South Avenue and Main Street. Therefore, it is imperative that Maple Street remain open to through traffic since shifting any of this traffic to Cherry Street would have a negative impact and result in an increase in delays on the South Avenue northbound approach to the Cherry Street signalized intersection and also impact the section of Cherry Street between both South Avenue and Main Street.

Recommendations

The traffic analyses provided by the Applicant and reviewed by our office and the Town were extensive and were included in multiple reports provided by the Applicant. However, the Applicant did not provide any final conclusions or updates from the original comments and findings included in their February report, which indicated that area roads would continue to operate at acceptable levels during both peak hours. Traffic volumes and analyses changed in their March report and this resulted in significant changes to the Maple Street westbound approach to South Avenue and indicated Level of Service "F" conditions and long vehicle queuing along Maple Street for a Saturday peak hour. This resulted in our recommendation to the Town to consider converting the entrance drive from South Avenue into the Center School parking lot to a two-way, two-lane configuration. The recommendation of the Town Engineer to relocate this same access drive further to the north and perpendicular to South Avenue is appropriate and we agree with this modification.

Based on the Town concerns, the Applicant has proposed shifting the handicap parking spaces further into the parking lot and not on the access drive from Maple Street to minimize conflicting movements and pedestrian activity. This includes creating a direct sidewalk from the handicap parking spaces to line up directly with the proposed crosswalk across Maple Street and the entrance to the building. We agree with the most recent layout proposed by the Applicant, which was based on discussions with Town Staff and our office.

It is our opinion that the location of the sidewalk and crosswalk is appropriate since it lines up with the entrance to the building and now aligns with the relocated new sidewalk to the handicap parking spaces. We also agree with and recommend the WARNING signs indicated by the Applicant at the proposed crosswalk.

With regard to a raised crosswalk on Maple Street to the new Library building, since the Library is now proposing four handicap parking spaces in the rear of the new building, with access to the Library, it is recommended that the initial crosswalk installation be a flush crosswalk pavement treatment and match both adjacent sidewalks. The Applicant proposes appropriate PEDESTRIAN CROSSING warning signs and should also colorize or provide a different pavement treatment to distinguish the crosswalk.

After construction of the new Library if there is a safety concern is identified and there is a need to implement a traffic calming feature, the Applicant will be asked to provide a raised crosswalk modification to the crosswalk, which would include appropriate drainage treatment and modified pavement markings and signing.

The raised crosswalk should meet all appropriate standards, including the appropriate pavement markings at the crosswalk, approaching the crosswalk and appropriate pavement treatment on both sides on the adjacent sidewalks and ramps, as necessary, to accommodate a handicap person specifically a person in a wheelchair. An appropriate pavement texture treatment should be included in this raised crosswalk to create more visibility for a motorist traveling in either direction on Maple Street.

In reference to the drop-off area provided for two vehicles on the north side of Maple Street and immediately west of the Center School parking lot access drive, we agree with this location; however, we did consider shifting it to the east side of the proposed crosswalk on Maple Street; however, this would block sightlines to the east for pedestrians crossing Maple Street.

The results of the analyses for the two signalized intersections on Cherry Street indicate both will continue to accommodate traffic levels; however, the northbound approach on South Avenue at Cherry Street will continue to operate with traffic delays during the weekday afternoon peak hour. There is no improvement offered to change the traffic signal timing plan or recommendation to provide any widening of South Avenue at the Cherry Street approach.

As noted above, there was consideration to closing Maple Street to through traffic and permitted it to only function as an entrance/exit for Library traffic. However, based on a review of the traffic volumes obtained by the Applicant and the potential closing this road in some fashion would result in a negative impact to South Avenue, north of Maple Street and Cherry Street, between South Avenue and Main Street. Further, there would be impacts to the northbound approach on Main Street to the Cherry Street signalized intersection. Based on this review and evaluating both the positive and negative aspects of closing Maple Street, it is our recommendation that Maple Street remain open to through traffic, as well as Library traffic.

On Main Street, north of the Maple Street intersection, we recommend that parking be eliminated north of Maple Street along the westerly side to enhance ISD looking to the north from Maple Street. In order to provide and maintain a reasonable number of parking spaces we recommend the Town consider eliminating at least three spaces.

In the Center School parking lot we recommend that the painted white arrows within the travel aisles be eliminated since, in our opinion, it creates confusion and, in certain cases, near the exit drive to Maple Street it indicates that that driveway is an entrance only and the aisle to the east of that and parallel to Maple Street appears to be for westbound movements only. Therefore, it is recommended that appropriate white arrows be installed to clearly indicate that all drive aisles are two-way.

At the proposed South Avenue entrance drive to the parking lot, this driveway should include the appropriate double yellow centerline and a STOP bar on its approach to South Avenue, as well as include a STOP sign. A secondary sign should be installed within the parking lot to alert motorists that there is now an exit drive directly to South Avenue.

If the Library Application is approved it is recommended that the Town or the Library retain an appropriate Consultant to evaluate the proposed parking area, walkways and crosswalks to determine if it meets all appropriate standards and requirements for accessibility for disabled patrons at the Library.

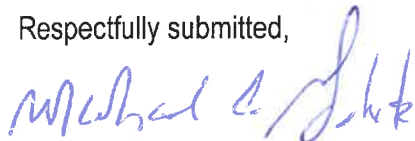
It is recommended that the Applicant submit an updated report incorporating all of the updated figures, tables and include an updated findings and recommendations section.

It was previously discussed that if approved and the Library is constructed that at least one year after the Certificate of Occupancy is issued to the Library and it is functioning to its full capacity new traffic counts and Parking Studies should be completed by the Applicant's Traffic Consultant and based on a Scope of Services developed by the Town with our assistance to determine actual traffic levels during both a weekday afternoon peak hour, as well as a Saturday midday peak hour to determine potential impacts, need for additional mitigation and a comparison to the 2021 Traffic Study completed by the Applicant. It is important to note that the traffic counts and analyses should not be limited to one peak hour during the weekday afternoon and one peak hour on a Saturday midday. However, actual traffic counts will be needed for a period of time on a typical weekday afternoon and a typical Saturday morning/midday based on further discussions with the Town. Based on the identified peak hour volumes new analyses should be completed based on the actual Library-related traffic and compared to the site traffic estimates used in the current Traffic Report.

At the same time, new parking counts and an evaluation of parking demand should be completed by the Library's Consultant to determine if the 76 spaces and the 26 spaces included in the St. Aloysius parking lot are adequate to accommodate the peak demand of the Library activities for both a weekday afternoon and a Saturday morning/midday time period. It is also recommended that the parking counts and analyses include a typical weekday morning and a weekday evening and a Saturday evening event with a full occupancy or at least a 50 percent occupancy of the Auditorium. At the time of scheduling the traffic and parking counts the Town will review with the Library Staff in detail the schedule of activities and programs to determine the appropriate times and days to conduct these counts for both the Traffic and Parking Studies.

We are available to discuss these items further and review any additional information that may be provided by the Applicant as part of this Application.

Respectfully submitted,



Michael A. Galante
Director of Traffic
Hardesty & Hanover, LLC

Enclosure

**TABLE 2
CAPACITY ANALYSIS SUMMARY – WEEKDAY P.M. PEAK-HOUR**

| INTERSECTION | CONTROL TYPE | LANE USE | STORAGE LENGTH (ft) | 2018 EXISTING CONDITIONS | | | | | 2023 BACKGROUND CONDITIONS | | | | | 2023 BUILD CONDITIONS | | | | | 2023 BUILD WITH IMPROVEMENTS CONDITIONS | | | | |
|--|----------------------|----------|---------------------|--------------------------|-------------|-----------|--------------------------------|--------------------------------|----------------------------|-------------|-----------|--------------------------------|--------------------------------|-----------------------|-------------|-----------|--------------------------------|--------------------------------|---|-------------|-----------|--------------------------------|--------------------------------|
| | | | | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) |
| | | Overall | | C | 29.4 | 0.74 | 17' | 62' | C | 29.4 | 0.74 | 18' | 65' | C | 29.5 | 0.74 | 18' | 65' | C | 29.5 | 0.74 | 18' | 65' |
| South Avenue & Cherry Street | ACTUATED-COORDINATED | EB-L | 175' | C | 21.7 | 0.11 | 17' | 62' | C | 22.5 | 0.12 | 18' | 65' | C | 22.1 | 0.12 | 18' | 65' | C | 22.3 | 0.12 | 18' | 65' |
| | | EB-TR | 525' | C | 25.2 | 0.53 | 143' | 392' | C | 27.2 | 0.58 | 159' | 442' | C | 26.6 | 0.57 | 157' | 434' | C | 26.9 | 0.57 | 157' | 434' |
| | | WB-L | 100' | B | 13 | 0.39 | 14' | 107' | B | 12.9 | 0.46 | 11' | 105' | B | 13.0 | 0.45 | 13' | 108' | B | 13.2 | 0.46 | 13' | 108' |
| | | WB-TR | 250' | A | 7.9 | 0.13 | 13' | 74' | A | 4.4 | 0.14 | 3' | 58' | A | 3.7 | 0.13 | 2' | 50' | A | 3.8 | 0.13 | 2' | 50' |
| | | NB-TL | 350' | E | 57.8 | 0.74 | 103' | 160' | E | 57.6 | 0.74 | 108' | 165' | E | 58.5 | 0.75 | 106' | 164' | E | 57.7 | 0.74 | 107' | 165' |
| | | Overall | | C | 33.4 | 0.45 | 50' | 66' | C | 33.3 | 0.46 | 54' | 69' | C | 34.0 | 0.47 | 54' | 70' | C | 33.5 | 0.46 | 54' | 69' |
| Main Street & Cherry Street | ACTUATED-COORDINATED | EB-L | 100' | B | 18.7 | 0.31 | 76' | 87' | C | 27 | 0.35 | 82' | 112' | C | 27.8 | 0.34 | 77' | 105' | C | 28.0 | 0.34 | 77' | 105' |
| | | EB-TR | 250' | B | 18.4 | 0.43 | 196' | 207' | C | 25.5 | 0.47 | 213' | 338' | C | 25.9 | 0.45 | 201' | 240' | C | 26.0 | 0.45 | 201' | 240' |
| | | WB-L | 75' | C | 24.6 | 0.15 | 25' | 62' | C | 26.3 | 0.18 | 28' | 69' | C | 27.4 | 0.20 | 32' | 77' | C | 27.4 | 0.20 | 32' | 77' |
| | | WB-TR | 475' | C | 22.3 | 0.31 | 124' | 216' | C | 23.8 | 0.34 | 140' | 239' | C | 25 | 0.36 | 143' | 244' | C | 25 | 0.36 | 143' | 244' |
| | | NB-LTR | 275' | D | 44.8 | 0.80 | 212' | 281' | D | 43.9 | 0.80 | 221' | 290' | D | 42 | 0.80 | 235' | 304' | D | 42 | 0.80 | 235' | 304' |
| | | Overall | | C | 30.7 | 0.80 | 168' | 211' | D | 41 | 0.74 | 176' | 218' | D | 38.2 | 0.71 | 176' | 217' | D | 38.2 | 0.71 | 176' | 217' |
| South Avenue & Maple Street | UN SIGNALIZED | WB-LTR | 350' | C | 18.6 | 0.28 | - | 28' | C | 22.1 | 0.36 | - | 40' | D | 27.5 | 0.54 | - | 75' | C | 20 | 0.35 | - | 38' |
| | | NB-LTR | 600' | A | 8 | 0.03 | - | 3' | A | 8.1 | 0.04 | - | 3' | A | 8.1 | 0.04 | - | 3' | A | 8.1 | 0.04 | - | 3' |
| Main Street & Maple Street/ East Maple Street | UN SIGNALIZED | EB-LTR | 350' | C | 22.5 | 0.45 | - | 55' | D | 27.1 | 0.53 | - | 70' | D | 32.3 | 0.63 | - | 98' | D | 32.3 | 0.63 | - | 98' |
| | | WB-LTR | 750' | B | 14.2 | 0.09 | - | 5' | B | 15.0 | 0.10 | - | 5' | B | 14.7 | 0.10 | - | 5' | B | 14.7 | 0.10 | - | 5' |
| | | NB-LTR | 650' | A | 8.2 | 0.05 | - | 5' | A | 8.3 | 0.07 | - | 5' | A | 8.2 | 0.06 | - | 5' | A | 8.2 | 0.06 | - | 5' |
| | | SB-LTR | 300' | A | 7.8 | 0.01 | - | 0' | A | 7.8 | 0.01 | - | 0' | A | 7.8 | 0.01 | - | 0' | A | 7.8 | 0.01 | - | 0' |
| Maple Street & Library South Driveway/Center School Lot North Driveway | UN SIGNALIZED | EB-LTR | 130' | A | 7.6 | 0.06 | - | 5' | A | 7.6 | 0.06 | - | 5' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | WB-LTR | 225' | A | 7.4 | 0.01 | - | 0' | A | 7.4 | 0.01 | - | 0' | A | 7.7 | 0.05 | - | 5' | A | 7.5 | 0.04 | - | 3' |
| | | NB-LTR | - | B | 10.3 | 0.15 | - | 13' | B | 10.4 | 0.15 | - | 13' | B | 11.7 | 0.30 | - | 33' | B | 10.3 | 0.21 | - | 20' |
| South Avenue & Center School Lot West Driveway (Enter Only) | UN SIGNALIZED | WB-LR | 100' | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | NB-TR | >1000' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 10' |
| South Avenue & Library West Driveway | UN SIGNALIZED | SB-LT | 300' | A | 8.4 | 0.01 | - | 0' | A | 8.5 | 0.01 | - | 0' | A | 8.5 | 0.01 | - | 0' | A | 8.5 | 0.01 | - | 3' |
| | | WB-LR | 130' | A | 9.6 | 0.05 | - | 3' | A | 9.6 | 0.05 | - | 3' | A | - | - | - | - | A | - | - | - | - |
| | | NB-T | 225' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | - | - | - | - | A | - | - | - | - |
| Cherry Street & Library North Driveway | UN SIGNALIZED | SB-T | 130' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | - | - | - | - | A | - | - | - | - |
| | | EB-T | 100' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | - | - | - | - | A | - | - | - | - |
| | | WB-T | 170' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | - | - | - | - | A | - | - | - | - |
| | | Overall | | B | 11.5 | 0.08 | - | 5' | B | 11.9 | 0.08 | - | 8' | B | - | - | - | - | B | - | - | - | - |

| INTERSECTION | CONTROL TYPE | LANE USE | STORAGE LENGTH (ft) | CAPACITY ANALYSIS SUMMARY - WEEKDAY SATURDAY PEAK-HOUR | | | | | | | | | | | | | | | | | | | |
|--|----------------------|----------|---------------------|--|-------------|-----------|--------------------------------|--------------------------------|----------------------------|-------------|-----------|--------------------------------|--------------------------------|-----------------------|-------------|-----------|--------------------------------|--------------------------------|---|-------------|-----------|--------------------------------|--------------------------------|
| | | | | 2018 EXISTING CONDITIONS | | | | | 2023 BACKGROUND CONDITIONS | | | | | 2023 BUILD CONDITIONS | | | | | 2023 BUILD WITH IMPROVEMENTS CONDITIONS | | | | |
| | | | | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) | LOS | DELAY (sec) | V/C RATIO | 50 th % QUEUES (ft) | 95 th % QUEUES (ft) |
| | | Overall | | C | 34 | 0.77 | 42' | 89' | D | 36.4 | 0.79 | 45' | 93' | D | 36.3 | 0.78 | 44' | 93' | D | 36.3 | 0.78 | 44' | 93' |
| South Avenue & Cherry Street | ACTUATED-COORDINATED | EB-LR | 175' | C | 27.3 | 0.23 | 42' | 89' | D | 27.7 | 0.24 | 45' | 93' | D | 27.4 | 0.24 | 44' | 93' | D | 27.4 | 0.24 | 44' | 93' |
| | | EB-TR | 525' | D | 36.2 | 0.69 | 258' | 444' | D | 39.4 | 0.75 | 297' | 479' | D | 38.1 | 0.74 | 276' | 473' | D | 38.2 | 0.74 | 277' | 473' |
| | | WB-LR | 100' | B | 17.5 | 0.44 | 17' | 91' | C | 24.9 | 0.54 | 26' | 138' | C | 25.2 | 0.54 | 27' | 133' | C | 25.3 | 0.54 | 28' | 134' |
| | | WB-TR | 250' | B | 10.3 | 0.18 | 21' | 91' | B | 12.8 | 0.19 | 22' | 109' | B | 13.6 | 0.18 | 18' | 102' | B | 13.6 | 0.18 | 19' | 102' |
| | | NB-TL | 350' | D | 50.9 | 0.77 | 92' | 161' | D | 52.5 | 0.79 | 97' | 183' | D | 52 | 0.78 | 96' | 179' | D | 52.3 | 0.78 | 96' | 181' |
| | | NB-R | 350' | D | 49.9 | 0.76 | 95' | 161' | D | 50.7 | 0.78 | 99' | 183' | D | 51.1 | 0.78 | 99' | 183' | D | 50.9 | 0.78 | 99' | 183' |
| | | SB-LR | 275' | C | 33.4 | 0.55 | 47' | 90' | C | 34 | 0.56 | 49' | 94' | C | 34.1 | 0.56 | 49' | 94' | C | 33.9 | 0.56 | 49' | 94' |
| | | Overall | | C | 27.4 | 0.77 | 42' | 89' | C | 28.5 | 0.79 | 42' | 86' | C | 28.3 | 0.79 | 38' | 58' | C | 28.4 | 0.79 | 38' | 58' |
| Main Street & Cherry Street | ACTUATED-COORDINATED | EB-LR | 100' | B | 17.6 | 0.30 | 42' | 67' | B | 19.3 | 0.34 | 42' | 86' | B | 18.4 | 0.32 | 38' | 58' | B | 18.4 | 0.32 | 38' | 58' |
| | | EB-TR | 250' | B | 19.9 | 0.51 | 119' | 355' | C | 21.3 | 0.56 | 120' | 387' | C | 20.8 | 0.54 | 109' | 364' | C | 20.9 | 0.54 | 109' | 364' |
| | | WB-LR | 75' | C | 25.9 | 0.26 | 33' | 93' | C | 29.6 | 0.31 | 37' | 114' | C | 30.3 | 0.33 | 40' | 121' | C | 30.3 | 0.33 | 40' | 121' |
| | | WB-TR | 475' | D | 20.6 | 0.30 | 93' | 181' | C | 22.2 | 0.33 | 103' | 220' | C | 22.9 | 0.34 | 105' | 220' | C | 22.9 | 0.34 | 105' | 220' |
| | | NB-LR | 275' | D | 40.6 | 0.77 | 125' | 186' | D | 40.9 | 0.79 | 133' | 193' | D | 39.8 | 0.79 | 143' | 208' | D | 39.8 | 0.79 | 143' | 208' |
| | | SB-LR | 225' | D | 36.3 | 0.73 | 100' | 156' | D | 36.6 | 0.74 | 107' | 164' | C | 35 | 0.73 | 109' | 167' | C | 35 | 0.73 | 109' | 167' |
| South Avenue & Maple Street | UNSIGNALIZED | WB-LR | 350' | F | 66.9 | 0.78 | - | 138' | F | 113.9 | 0.98 | - | 200' | F | 204 | 1.26 | - | 325' | F | 94.4 | 0.93 | - | 188' |
| | | NB-LR | 600' | A | 8.2 | 0.04 | - | 3' | A | 8.3 | 0.05 | - | 5' | A | 8.3 | 0.05 | - | 5' | A | 8.3 | 0.05 | - | 5' |
| | | SB-LR | 400' | A | 9.3 | 0.06 | - | 5' | A | 9.4 | 0.06 | - | 5' | A | 9.4 | 0.06 | - | 5' | A | 9.2 | 0.05 | - | 3' |
| | | EB-LR | 350' | C | 20.8 | 0.44 | - | 53' | C | 24.2 | 0.50 | - | 65' | D | 26.7 | 0.57 | - | 82' | D | 26.7 | 0.57 | - | 85' |
| | | WB-LR | 750' | B | 14 | 0.12 | - | 10' | B | 14.8 | 0.13 | - | 10' | B | 14.5 | 0.13 | - | 8' | B | 14.5 | 0.13 | - | 10' |
| Maple Street & Library South Driveway/Center School Lot North Driveway | UNSIGNALIZED | NB-LR | 650' | A | 8.2 | 0.05 | - | 5' | A | 8.3 | 0.06 | - | 5' | A | 8.2 | 0.05 | - | 5' | A | 8.2 | 0.05 | - | 5' |
| | | SB-LR | 300' | A | 7.6 | 0.01 | - | 0' | A | 7.6 | 0.01 | - | 0' | A | 7.6 | 0.01 | - | 0' | A | 7.6 | 0.01 | - | 0' |
| | | EB-LR | 136' | A | 7.7 | 0.06 | - | 5' | A | 7.7 | 0.06 | - | 5' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | WB-LR | 225' | A | 7.5 | 0.01 | - | 0' | A | 7.5 | 0.01 | - | 0' | A | 7.8 | 0.05 | - | 5' | A | 7.6 | 0.04 | - | 3' |
| | | NB-LR | - | B | 11.4 | 0.13 | - | 10' | B | 11.5 | 0.13 | - | 10' | B | 12.7 | 0.30 | - | 33' | B | 11 | 0.20 | - | 20' |
| South Avenue & Center School Lot West Driveway (Enter Only) | UNSIGNALIZED | SB-LR | - | B | 11.6 | 0.06 | - | 5' | B | 11.8 | 0.06 | - | 5' | B | - | - | - | - | B | - | - | - | - |
| | | WB-LR | 100' | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | NB-TR | >1000' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | SB-LT | 300' | A | 8.7 | 0.01 | - | 0' | A | 8.9 | 0.01 | - | 0' | A | 8.8 | 0.01 | - | 0' | A | 8.8 | 0.01 | - | 0' |
| | | WB-LR | 130' | A | 10 | 0.05 | - | 5' | A | 10.1 | 0.05 | - | 5' | A | - | - | - | - | C | 19.6 | 0.16 | - | 15' |
| South Avenue & Library West Driveway | UNSIGNALIZED | NB-T | 225' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | SB-T | 130' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | EB-T | 100' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | WB-T | 170' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' | A | 0 | 0 | - | 0' |
| | | NB-LR | - | B | 12.0 | 0.08 | - | 8' | B | 12.7 | 0.09 | - | 8' | B | - | - | - | - | A | 8.8 | 0.02 | - | 3' |