May 4, 2022

Toad One Inc.
1199 Surf Club Drive
St. Joachim, Ontario
N0R 1S0

Attention: Kurt Barr

51 and 57 Sandwich Street South, Amherstburg - Mixed Use Development
Transportation Impact Study

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# Introduction

## Purpose

Dillon Consulting Limited has been retained by Toad One Inc. to undertake a Transportation Impact Study (TIS) to assess a proposed infill development at 51 and 57 Sandwich Street South in the town of Amherstburg, Ontario. The development application would see a Dairy Queen (DQ) restaurant and drive-through constructed on the western portion of the site, while a three-storey mixed-use building with commercial (retail) uses on the ground floor and four residential units on the upper two floors would be constructed on the southeast portion of the site. The existing residential dwellings on the two parcels would be demolished.

This assessment documents the anticipated change to traffic volumes and intersection operations due to the proposed mixed-use development and provides an assessment of the proposed site plan.

## Proposed Development

The proposed site plan is presented in Appendix A. The subject site currently contains two residential dwellings which would be demolished in order to facilitate the mixed-used development.

The site plan includes a new Dairy Queen (DQ) restaurant and drive-through. The restaurant would have a gross floor area (GFA) of 2,273 square feet (211.2 $m^2$) and a drive-through lane that would be able to accommodate ten (10) passenger vehicles. The restaurant would be constructed on the western portion of the site, closer to Sandwich Street South. At the rear of the development, a new three-storey mixed-use building is envisioned. The ground floor of this building would have a commercial (retail) GFA of 4,273 square feet (397.0 $m^2$) while the upper two floors would contain four residential dwelling units. Each of the residential units would be two storeys high.

Forty (40) parking spaces are proposed with an additional four parking spaces being designated as accessible. Two of these parking spaces would be adjacent to the Dairy Queen (DQ) restaurant while the other two are located adjacent to the mixed-use building. Three parking spaces would be designated for curbside pick-up for the Dairy Queen restaurant. In addition, there would be two "standby" parking spaces designated for vehicles utilizing the drive-through as some vehicles may need to park and standby after placing their order, in the case the order is not ready at the pick-up window.

## Scope of Analyses

This assessment documents the following:

- Existing traffic volumes, and traffic projections for the study area driveway and intersections under background conditions and with the site developed;
- Intersection capacity analyses under existing conditions, future background conditions and total future conditions; and
- A review of the proposed site plan from an on-site circulation perspective.

Traffic surveys, traffic projections and operational analyses were completed at the following intersections:

- Sandwich Street South at Fort Street;
- Sandwich Street South at Alma Street; and
- Sandwich Street South and the proposed site driveway.

Traffic projections and intersection analyses were completed for the peak hours within the following two peak periods:

- Weekday PM peak (4:00 PM – 7:00 PM); and
- Saturday mid-day peak (11:00 AM – 2:00 PM).

As the proposed mixed-use development is anticipated to be completed in 2023, the analysis of future conditions considered a single horizon year of 2028 (five years after site build-out).

# Existing (2022) Conditions

## Existing Transportation Network Characteristics

The following describes the existing road network in the immediate study area.

Sandwich Street South is an arterial road that is signed as County Road 20 but is under the jurisdiction of the Town of Amherstburg within the study area. It is the main north-south roadway extending through the town of Amherstburg built-up area. It provides access to a variety of commercial, residential and institutional uses and is characterized by frequent intersection and driveway spacing. It has a posted speed limit of 50 km/h. In the vicinity of the site, it has a three-lane cross-section consisting of one lane per direction plus a two-way left turn lane, as well as sidewalks on both sides of the street. Outside the study area, it is the primary route from Amherstburg to LaSalle and Windsor to the north, and provides a route to Harrow, Kingsville and Leamington to the east.

Alma Street is an arterial road that is also known as County Road 16 to the east of Sandwich Street South. Within the study area, Alma Street is under the jurisdiction of the Town of Amherstburg. It has a posted speed limit of 50 km/h. It has a two-lane cross-section consisting of one lane per direction. A sidewalk is present on the south side of the street to the east of Sandwich Street South and on both sides of the street to the west of Sandwich Street South.

Fort Street is a local street serving a residential neighbourhood to the east of the subject site. It has an unmarked pavement width of 9 metres, widening at Sandwich Street South to accommodate separate westbound left and right turn lanes. There are sidewalks on both sides of the street. There is a 40 km/h speed limit posted east of the study area.

The intersection of Sandwich Street South and Alma Street is signalized while the intersection of Sandwich Street South and Fort Street operates under two-way STOP control.

### Existing Active Transportation Facilities

Sidewalks exist on both sides of Fort Street and Sandwich Street South while a sidewalk exists on the south side of Alma Street only. Exclusive cycling facilities are not present on any of study area streets (Sandwich Street South, Alma Street and Fort Street).

## Existing (2022) Traffic Volumes

Turning movement count (TMC) data was collected by Dillon at the following two locations:

- Sandwich Street South and Alma Street; and
- Sandwich Street South and Fort Street.

Table 1 identifies the dates for the traffic counts.

**Table 1: Traffic Data Collection Dates**

| Intersection | Weekday PM Period | Saturday Mid-day Period |
|---|---|---|
| Sandwich Street South and Alma Street | Friday, April 22, 2022 | Saturday, April 23, 2022 |
| Sandwich Street South and Fort Street | Friday, August 24, 2018 | Saturday, August 25, 2018 |

Since the traffic volumes at the Sandwich Street South and Fort Street intersection were collected in August 2018, the volumes were factored up by a 2.0% per annum compounded growth rate to derive current volumes at the intersection. This growth rate would also account for the additional traffic generated by the Wendy's fast food restaurant (which was constructed after the 2018 counts).

Figure 1 illustrates the existing (2022) peak hour traffic volumes. The raw count data is provided in Appendix B.

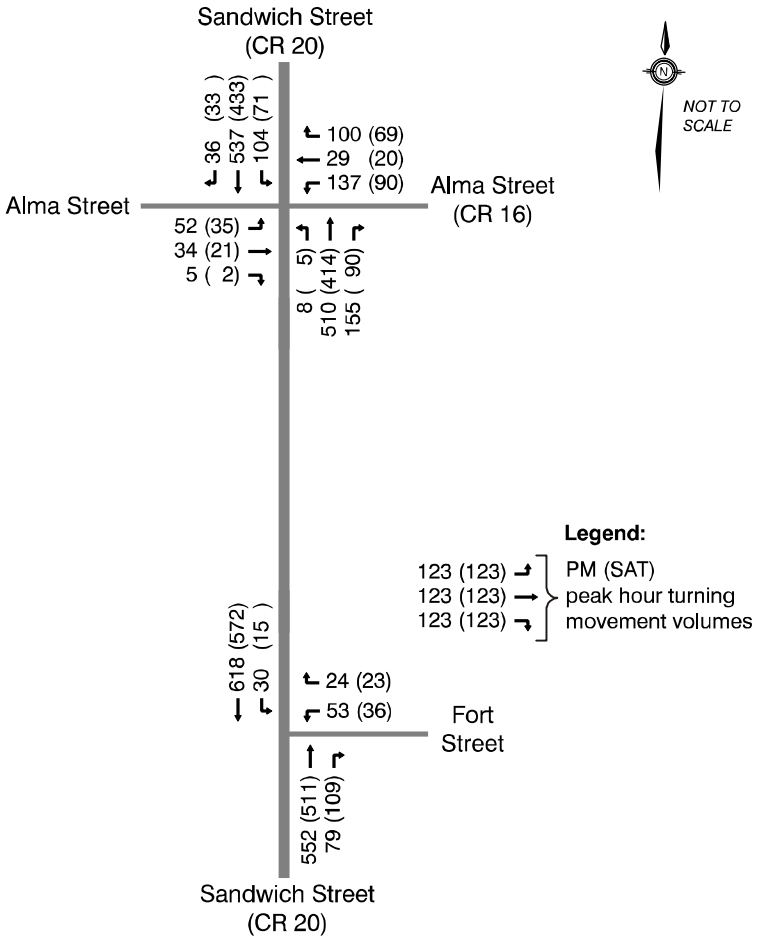



**Figure 1: Existing (2022) Traffic Volumes**

## Existing (2022) Intersection Operations

Existing (2022) peak hour operations at the Sandwich Street South intersections were analyzed based on the methodology outlined in the Highway Capacity Manual (HCM), and facilitated using Synchro analysis software.

At the Sandwich Street South and Alma Street intersection, the current signal timings were obtained from the Town of Amherstburg and were included in the Synchro analysis. During both the weekday PM and Saturday mid-day peak hour, the traffic signal currently operates on a 100-second cycle length. The v/c ratio, level of service, average vehicle delay and 95$^{th}$ percentile were noted for all lanes and movements at this signalized intersection.

At the Sandwich Street South and Fort Street unsignalized intersection, the v/c ratio, level of service, average vehicle delay and 95$^{th}$ percentile queue length were noted for the stop-controlled approach and for the left-turn movement on the main street approach.

The analysis results are presented in Table 2. The Synchro analysis worksheets are provided in Appendix C.

**Table 2: Existing (2022) Intersection Operations**

| Intersection | Movement | Weekday PM Peak Hour | | | | Saturday Mid-day Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | v/c | LOS | Delay (s/veh) | 95th %ile queue (m) | v/c | LOS | Delay (s/veh) | 95th %ile queue (m) |
| Sandwich Street South and Alma Street | EBLTR | 0.25 | C | 23.5 | 25 | 0.16 | C | 20.7 | 15 |
| | WBTL | 0.47 | C | 28.1 | 43 | 0.32 | C | 24.0 | 25 |
| | WBR | 0.22 | A | 6.6 | 11 | 0.15 | A | 6.7 | 9 |
| | NBL | 0.02 | B | 12.1 | 3 | 0.01 | B | 11.2 | 2 |
| | NBT | 0.57 | B | 17.6 | 96 | 0.40 | B | 13.9 | 68 |
| | NBR | 0.19 | A | 3.0 | 10 | 0.10 | A | 3.5 | 8 |
| | SBL | 0.22 | A | 7.2 | 14 | 0.12 | A | 5.7 | 9 |
| | SBTR | 0.52 | B | 10.4 | 82 | 0.37 | A | 7.5 | 54 |
| | Overall | - | B | 13.9 | - | - | B | 11.2 | - |
| Sandwich Street South and Fort Street | WBLR | 0.19 | C | 15.7 | 6 | 0.13 | B | 14.1 | 4 |
| | SBL | 0.03 | A | 9.0 | 1 | 0.02 | A | 8.8 | 0 |

Both of the study area intersections currently operate in an acceptable manner, with all movements operating well below capacity and at LOS C or better. The signalized intersection of Sandwich Street South and Alma Street operates at LOS B overall during both the weekday PM and Saturday mid-day peak hours.

# Future Background (2028) Conditions

## Future Background (2028) Traffic Volumes

Future background traffic volumes reflect the volume of traffic that is anticipated to be on the road network during the 2028 horizon year without the subject development in place. Typically this is comprised of two factors:

- The application of a growth rate to reflect general background traffic growth on the road network; and
- The application of site-specific traffic volumes for any background developments in the immediate vicinity of the site.

It is understood that the General Amherst High School, located to the south of the subject site on the west side of the Sandwich Street South and Fort Street intersection, is planned to be closed in June 2022. The closure would not substantially affect traffic volumes during the two design hours, since the peak hours for school traffic would occur at other times. Any redevelopment on the site of the school would result in traffic volume impacts; however, the nature of any redevelopment is not known at this time. No other background developments are planned in the study area.

To determine future background (2028) traffic volumes, a review of historical traffic data along the Sandwich Street South and Alma Street corridors was undertaken. It was found that along the Sandwich Street South corridor, traffic volumes have generally been increasing by 1.0% per annum on average while along Alma Street (to the east of Sandwich Street South), the respective traffic volumes have been increasing by an average of 2.0% per annum.

As a result, a 1.0% per annum growth rate was applied to the through traffic volumes on Sandwich Street South while a 2.0% per annum growth rate was applied to traffic volumes turning both to and from Alma Street to the east of Sandwich Street. No growth was applied to traffic volumes on the Fort Street corridor or on Alma Street to the west of Sandwich Street South.

The resulting future background traffic volumes are illustrated in Figure 2.

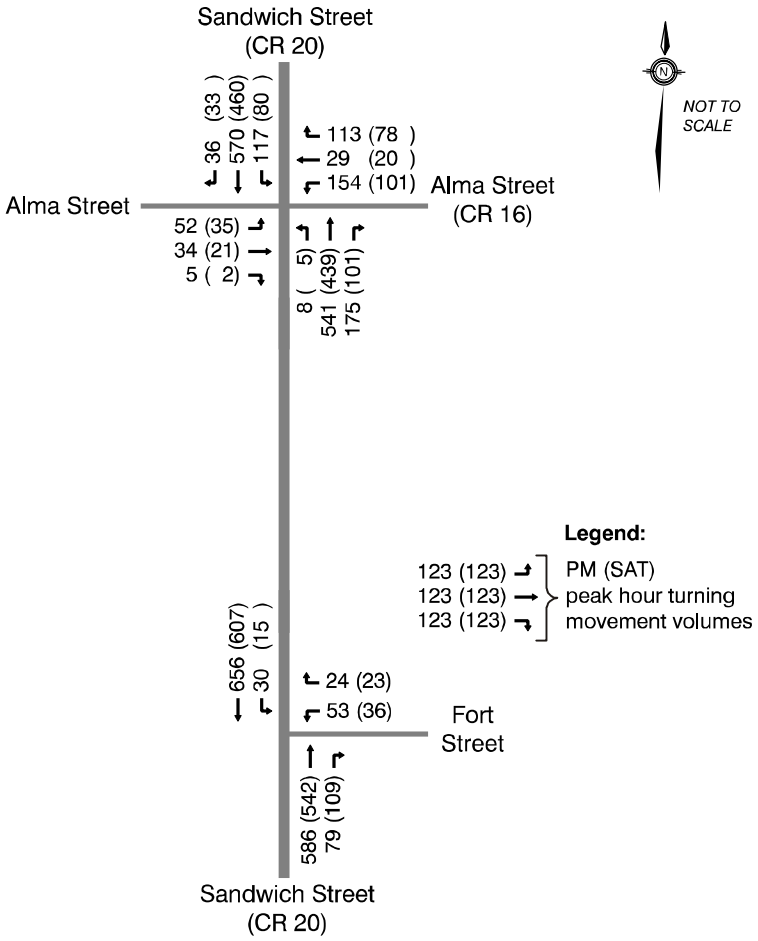



Figure 2: Future Background (2028) Traffic Volumes

## Future Background (2028) Intersection Operations

Future background (2028) intersection operations were assessed using the same methodology as the existing (2022) conditions analyses. The analysis results are presented in Table 3.

**Table 3: Future Background (2028) Intersection Operations**

| Intersection | Movement | Weekday PM Peak Hour | | | | Saturday Mid-day Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | v/c | LOS | Delay (s/veh) | 95th %ile queue (m) | v/c | LOS | Delay (s/veh) | 95th %ile queue (m) |
| Sandwich Street South and Alma Street | EBLTR | 0.24 | C | 24.2 | 26 | 0.17 | C | 21.2 | 15 |
| | WBTL | 0.51 | C | 29.9 | 50 | 0.39 | C | 25.7 | 28 |
| | WBR | 0.23 | A | 6.5 | 12 | 0.18 | A | 6.8 | 9 |
| | NBL | 0.02 | B | 12.5 | 3 | 0.01 | B | 11.0 | 2 |
| | NBT | 0.61 | B | 18.8 | 109 | 0.49 | B | 15.1 | 73 |
| | NBR | 0.21 | A | 3.0 | 11 | 0.13 | A | 3.3 | 8 |
| | SBL | 0.27 | A | 8.1 | 16 | 0.15 | A | 5.9 | 10 |
| | SBTR | 0.55 | B | 11.4 | 96 | 0.43 | A | 8.4 | 57 |
| | Overall | - | B | 14.8 | - | - | B | 12.0 | - |
| Sandwich Street South and Fort Street | WBLR | 0.20 | C | 16.4 | 6 | 0.14 | B | 14.6 | 4 |
| | SBL | 0.03 | A | 9.1 | 1 | 0.02 | A | 8.9 | 0 |

Under future background (2028) conditions, the two study area intersections are projected to continue operating in a similar manner. All movements are expected to continue to operate at LOS C or better. The signalized intersection of Sandwich Street South and Alma Street is envisioned to continue operating at LOS B overall during the weekday PM and Saturday mid-day peak hours.

# Proposed Mixed-Use Development

As noted earlier, the development includes a new Dairy Queen (DQ) restaurant with a drive-through lane. The restaurant would have a GFA of 2,273 square feet (211.2 $m^2$). The drive-through lane has been sized to accommodate ten (10) passenger vehicles. The restaurant would be developed on the western portion of the site, closer to Sandwich Street South. At the rear of the site, a new three-storey mixed-use building is proposed. The ground floor in this building would have a commercial (retail) GFA of 4,273 square feet (397.0 $m^2$), while the upper two floors would contain four residential dwelling units. Each of the residential units would be two storeys high.

## Trip Generation

The number of vehicle trips generated by the proposed development was estimated using a combination of trip generation rates and equations published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual, 11th edition, as well as some transactional data from a Dairy Queen restaurant and drive-through located in Chatham, Ontario.

### Dairy Queen Restaurant

In order to determine the number of vehicles that may be generated by the proposed Dairy Queen restaurant, 2021 transactional data from the Chatham, Ontario Dairy Queen restaurant were reviewed. At this location, 122,724 transactions were recorded in 2021. It was found that Friday is the busiest weekday, while Saturday is the busiest day of the entire week. Of all transactions, 18.5% were found to occur on the Friday, while 19.0% occurred on the Saturday.

In addition, approximately 10% of all transactions took place in the month of July (the busiest month of the calendar year) as 12,445 transactions were recorded. December and January were found to be the least busy months of the calendar year (with less than 8,000 transactions per month).

Of all transactions at the Chatham Dairy Queen, approximately 65% took place in the drive-through lane, while another 25% were dine-in orders. The remaining transactions were generally ordered for delivery (8%), noting that very small percentage of transactions were ordered to-go or through a mobile app (less than 1% combined).

When considering the transactions at the Chatham Dairy Queen, approximately 19.5% were for lunch (assumed to occur between 11:00 AM and 2:00 PM), 25.4% were for a snack between lunch and dinner (assumed to occur between 2:00 PM and 4:00 PM), 33.1% were during dinnertime (assumed to occur between 4:00 PM and 7:00 PM), while the remaining 21.5% occurred after dinner (after 7:00 PM).

When applying these factors to the peak transactional data during the month of July, it was found that there were 57 peak hour dinner transactions on a Friday and 34 peak hour lunchtime (mid-day) transactions on a Saturday.

Assuming that each transaction is connected to a single vehicle that would both enter and exit the site during the respective peak hour, a total of 57 and 34 inbound and outbound vehicle trips would have been generated by the Chatham Dairy Queen restaurant during the Weekday PM and Saturday mid-day peak hours, respectively. This trip generation estimate was applied to the subject site.

The Trip Generation Manual, 11th edition also notes pass-by rates for any fast food restaurant (both with and without a drive-through lane). Pass-by trips are made by motorists that are already passing the site and are making a stop along the way at the subject site; these trips are observed on the site driveways but do not represent an increase in traffic on the road network. The Trip Generation Manual prescribes a 55% pass-by rate during the weekday PM peak hour. Given the nature of the proposed Dairy Queen restaurant, this same 55% pass-by rate was utilized during both the weekday PM peak hour and the Saturday mid-day peak hour. No pass-by rates are available for the Saturday mid-day peak hour.

## Residential and Commercial (Retail) Building

The Trip Generation Manual, 11th edition was also reviewed to estimate the vehicle trips associated with the proposed commercial (retail) and residential building during the weekday PM peak hour and Saturday mid-day peak hour.

ITE Land Use code 220 – Multifamily Housing (Low-Rise) was utilized for the four residential dwelling units while ITE Land Use code 822 – Strip Retail Plaza was used for the ground-floor commercial.

Even though there are several different land uses on the site, no internal capture calculations were applied in the analysis given the nature and overall size of the proposed development.

## Trip Generation Summary

Table 4 documents the number of primary and pass-by trips that are anticipated to be generated by the proposed development. The existing traffic generated by the site's two dwelling units was not subtracted in the trip generation calculations (since the number of vehicle trips is anticipated to be rather negligible).

**Table 4: Trip Generation**

| | Weekday PM peak hour | | | Saturday Mid-day peak hour | | |
|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total |
| Dairy Queen Restaurant (2,272 sq. ft. / 211 $m^2$ GFA) – Proxy Site Rate | | | | | | |
| In/Out/Rate | 50% | 50% | Proxy | 50% | 50% | Proxy |
| Gross Vehicle Trips | 57 | 57 | 114 | 34 | 34 | 68 |
| Pass-By Rate | | 55% | | | 55% | |
| Pass-by Reduction | -31 | -31 | -62 | -19 | -19 | -38 |
| Net Vehicle Trips | 26 | 26 | 52 | 15 | 15 | 30 |
| One Apartment Building (4 dwelling units) – ITE Land Use Code 220 | | | | | | |
| In/Out/Rate | 61% | 39% | 0.51 | 51% | 49% | 0.41 |
| Vehicle Trips | 1 | 1 | 2 | 1 | 1 | 2 |
| Commercial Retail Area (4,273 sq. ft. / 397.0$m^2$ GFA) – ITE Land Use Code 822 | | | | | | |
| In/Out/Rate | 50% | 50% | 6.59 | 51 | 49% | 6.57 |
| Vehicle Trips | 14 | 14 | 28 | 14 | 14 | 28 |
| Net Vehicle Trips | 41 | 41 | 82 | 30 | 30 | 60 |

The proposed mixed-use development at 51 and 57 Sandwich Street South is projected to generate 82 net vehicle trips (41 inbound, 41 outbound) during the Weekday PM peak hour and 60 net vehicle trips (30 inbound, 30 outbound) during the Saturday mid-day peak hour.

## Trip Distribution and Assignment

The net site trips were distributed between the north, south and east approaches to the site. The distribution of these vehicles was based on the existing patterns of traffic volumes within the study area, as well as considering the location of the site within the built-up area of Amherstburg.

- 35% to/from the north
- 40% to/from the south
- 25% to/from the east.

For trips to/from the east, 75% were assigned to the Alma Street corridor while the remaining 25% were assigned to the Fort Street corridor.

The distribution of pass-by trips was proportional to the volume of traffic passing by the site along Sandwich Street South, which has been found to be essentially equal during both the weekday PM and Saturday mid-day peak hours. As a result, there would be a reduction in the number of vehicles travelling both north and south across the proposed driveway location.

Figure 3 shows how the vehicle trips generated by the proposed development were distributed and assigned in the study area.

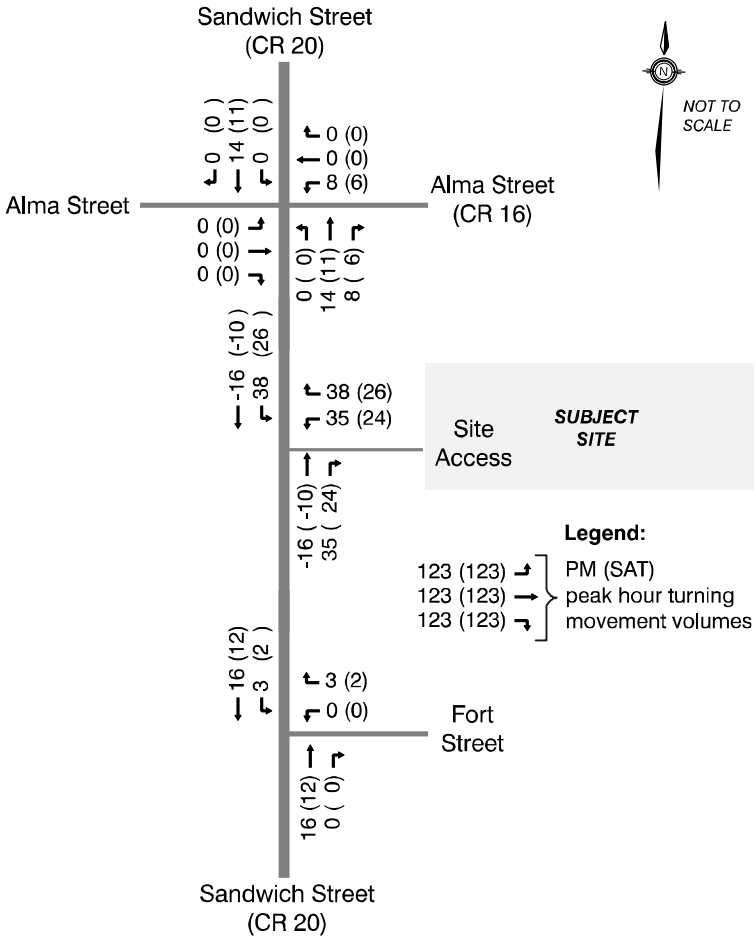



Figure 3: Site-Generated Vehicle Trips (includes both Pass-by and Primary)

# Total Future (2028) Conditions

## Total Future (2028) Traffic Volumes

Total future (2028) traffic volumes represent the level of traffic that would be anticipated with the development of the site, and were calculated by adding the site traffic volumes (both primary and pass-by trips) to the future background (2028) traffic volumes.

The resulting total future (2028) traffic volumes are illustrated in Figure 4.

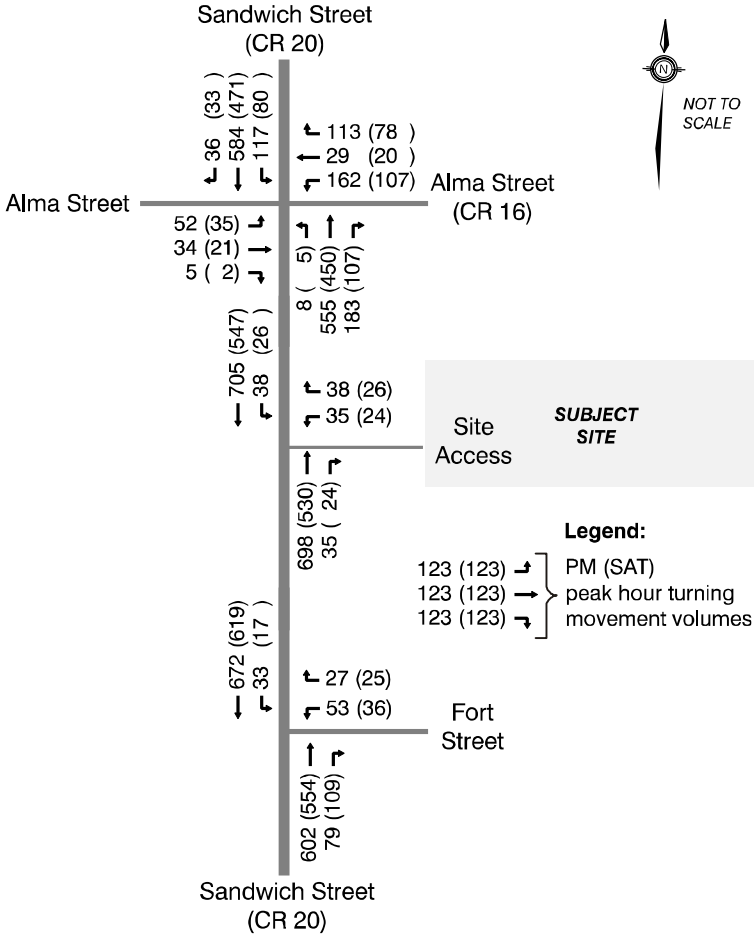



Figure 4: Total Future (2028) Traffic Volumes

## Total Future (2028) Intersection Operations

Total future (2028) intersection operations were assessed using the same methodology as the existing (2022) and future background (2028) conditions analyses. At the proposed site driveway, a single outbound (westbound) lane was assumed. The total future analysis results are presented in Table 5.

**Table 5: Total Future (2028) Intersection Operations**

| Intersection | Movement | Weekday PM Peak Hour | | | | Saturday Mid-day Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | v/c | LOS | Delay (s/veh) | 95th %ile queue (m) | v/c | LOS | Delay (s/veh) | 95th %ile queue (m) |
| Sandwich Street South and Alma Street | EBLTR | 0.24 | C | 24.5 | 26 | 0.17 | C | 21.6 | 15 |
| | WBTL | 0.52 | C | 30.5 | 53 | 0.41 | C | 26.6 | 31 |
| | WBR | 0.23 | A | 6.5 | 13 | 0.19 | A | 6.9 | 10 |
| | NBL | 0.02 | B | 12.8 | 3 | 0.01 | B | 10.8 | 2 |
| | NBT | 0.63 | B | 19.4 | 116 | 0.49 | B | 15.1 | 75 |
| | NBR | 0.22 | A | 3.0 | 11 | 0.13 | A | 3.1 | 8 |
| | SBL | 0.28 | A | 8.4 | 17 | 0.16 | A | 5.9 | 10 |
| | SBTR | 0.57 | B | 11.9 | 102 | 0.44 | A | 8.4 | 59 |
| | Overall | - | B | 15.2 | - | - | B | 12.1 | - |
| Sandwich Street South and Fort Street | WBLR | 0.21 | C | 16.8 | 6 | 0.15 | B | 14.8 | 4 |
| | SBL | 0.04 | A | 9.2 | 1 | 0.02 | A | 9.0 | 1 |
| Proposed Driveway | WBLR | 0.23 | C | 18.8 | 7 | 0.11 | B | 13.5 | 3 |
| | SBL | 0.05 | A | 9.6 | 1 | 0.03 | A | 8.7 | 1 |

Under the total future (2028) traffic volumes, the two study area intersections are projected to continue operating in generally the same manner as the future background (2028) conditions. All movements (including the proposed site driveway) are projected to operate at LOS C or better. The signalized intersection is projected to continue operating at LOS B overall during the weekday PM and Saturday mid-day peak hours.

## On-Site Circulation

As noted in Appendix A, the proposed development includes a single site driveway to Sandwich Street South. All vehicles entering and exiting the site would use this driveway.

All vehicles entering the site to access the proposed Dairy Queen restaurant would need to travel along the drive-aisle found on the south limits of the site. This drive aisle connects to the on-site parking as well as to the Dairy Queen drive-through entrance. Waste collection vehicles would need to travel to the rear (east side) of the Dairy Queen restaurant to pick up any refuse. It is understood that the waste collection for both buildings will occur to the immediate east of the Dairy Queen restaurant.

## Active Transportation

Concrete sidewalks are proposed along the edges of the proposed mixed-use building and the proposed Dairy Queen restaurant. However, there are no pedestrian connections found that would link to the existing sidewalk located on the east side of Sandwich Street South.

Residents in the mixed-use building would be required to walk along the drive aisle found on the south limits of the parcel and through the proposed driveway in order to access the sidewalk on the east side of Sandwich Street South.

## Summary

Dillon Consulting Limited has been retained by Toad One Inc. to undertake a Transportation Impact Study (TIS) to assess the traffic impacts associated with a proposed mixed-use development at 51 and 57 Sandwich Street South in the town of Amherstburg, Ontario.

The proposed development includes a Dairy Queen (DQ) restaurant (with drive-through lane) and a three-storey mixed-use building where the ground floor would include commercial (retail) floor space and the upper two floors would contain four residential dwelling units.

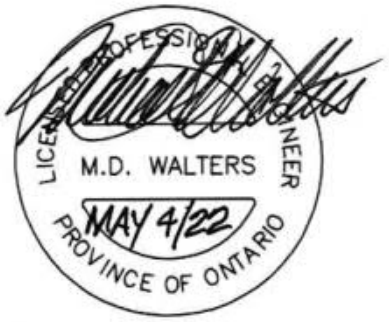
The proposed mixed-use development is projected to generate 82 net vehicle trips (41 inbound, 41 outbound) during the weekday PM peak hour and 60 net vehicle trips (30 inbound, 30 outbound) during the Saturday mid-day peak hour.

Both the study area intersections and the proposed driveway are projected to operate in an acceptable manner through to the 2028 horizon year. All movements are projected to operate at LOS C or better and the signalized intersection of Sandwich Street South and Alma Street is projected to operate at LOS B overall during the weekday PM and Saturday mid-day peak hours.

No modifications to off-site infrastructure or traffic control are needed to support this development.

Yours sincerely,

DILLON CONSULTING LIMITED

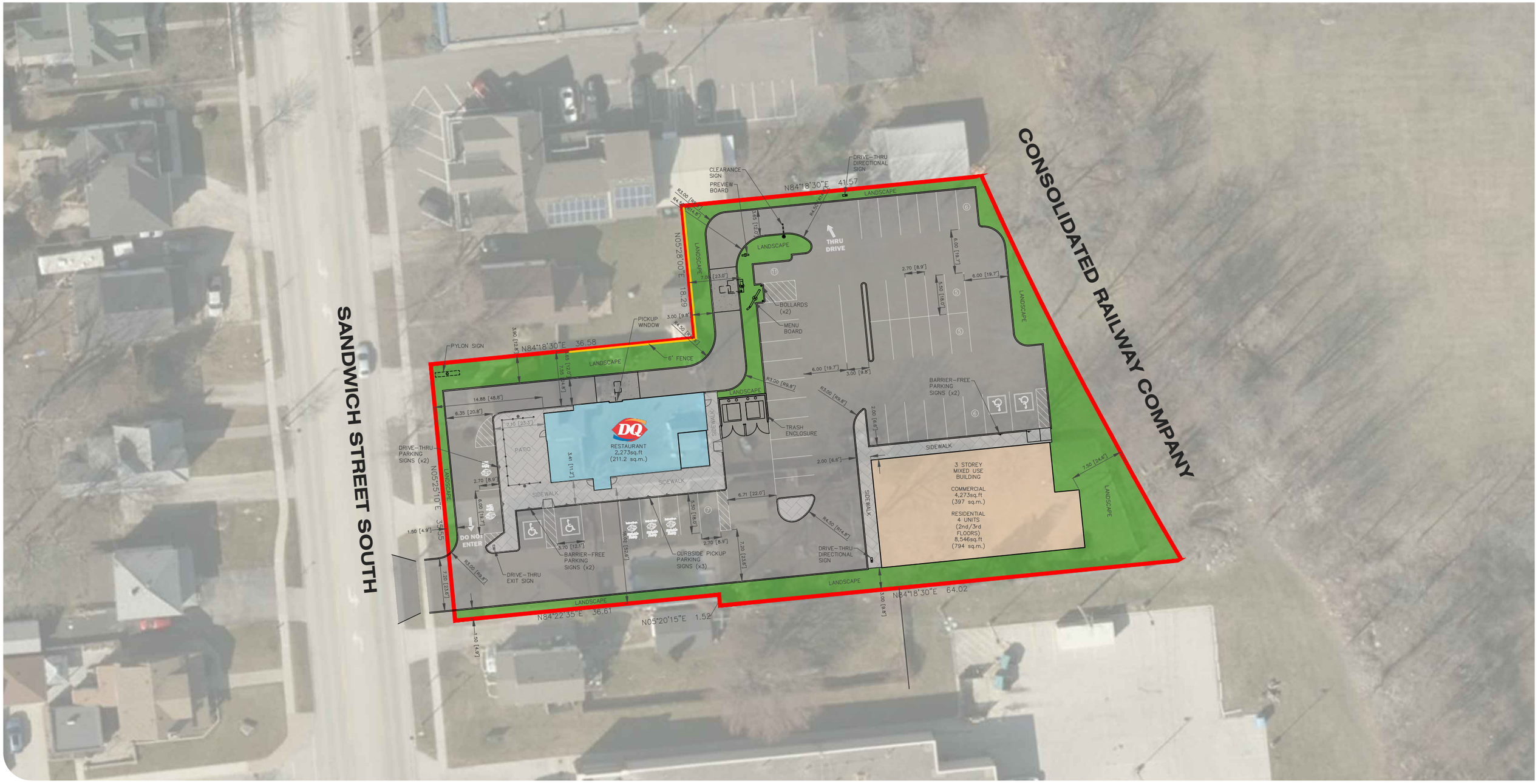



Tim Kooistra, C.E.T.
Traffic & Transportation Technologist

Mike Walters, P.Eng.
Transportation Engineer

# Appendix A

## Conceptual Development Plan




**TOAD ONE INC.**
51 & 57 SANDWICH ST. S., AMHERSTBURG, ON

**MIXED USE DEVELOPMENT**
CONCEPTUAL DEVELOPMENT PLAN

SUBJECT AREA (± 0.42 ha / 1.04 ac)

PROPOSED RESTAURANT WITH DRIVE-THRU

PROPOSED MIXED USE BUILDING

PROPOSED LANDSCAPE

PROPOSED SIDEWALK

PROPOSED FENCE

File Location:
c:\pw working directory\projects 2022\dillon_34jmm\dms13189\dq conceptual development plan.dwg
May, 04, 2022 3:49 PM

MAP/DRAWING INFORMATION
Base mapping from County of Essex Interactive Mapping.

CREATED BY: JMM
CHECKED BY: AMF

SCALE 1:500
0 5 10 20m

N W E S

DILLON CONSULTING

PROJECT: 22 3779
STATUS: FOR SUBMISSION
DATE: 22.05.04

# Appendix B

## Turning Movement Count (TMC Data)

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Project #22-138 - Dillon Consulting

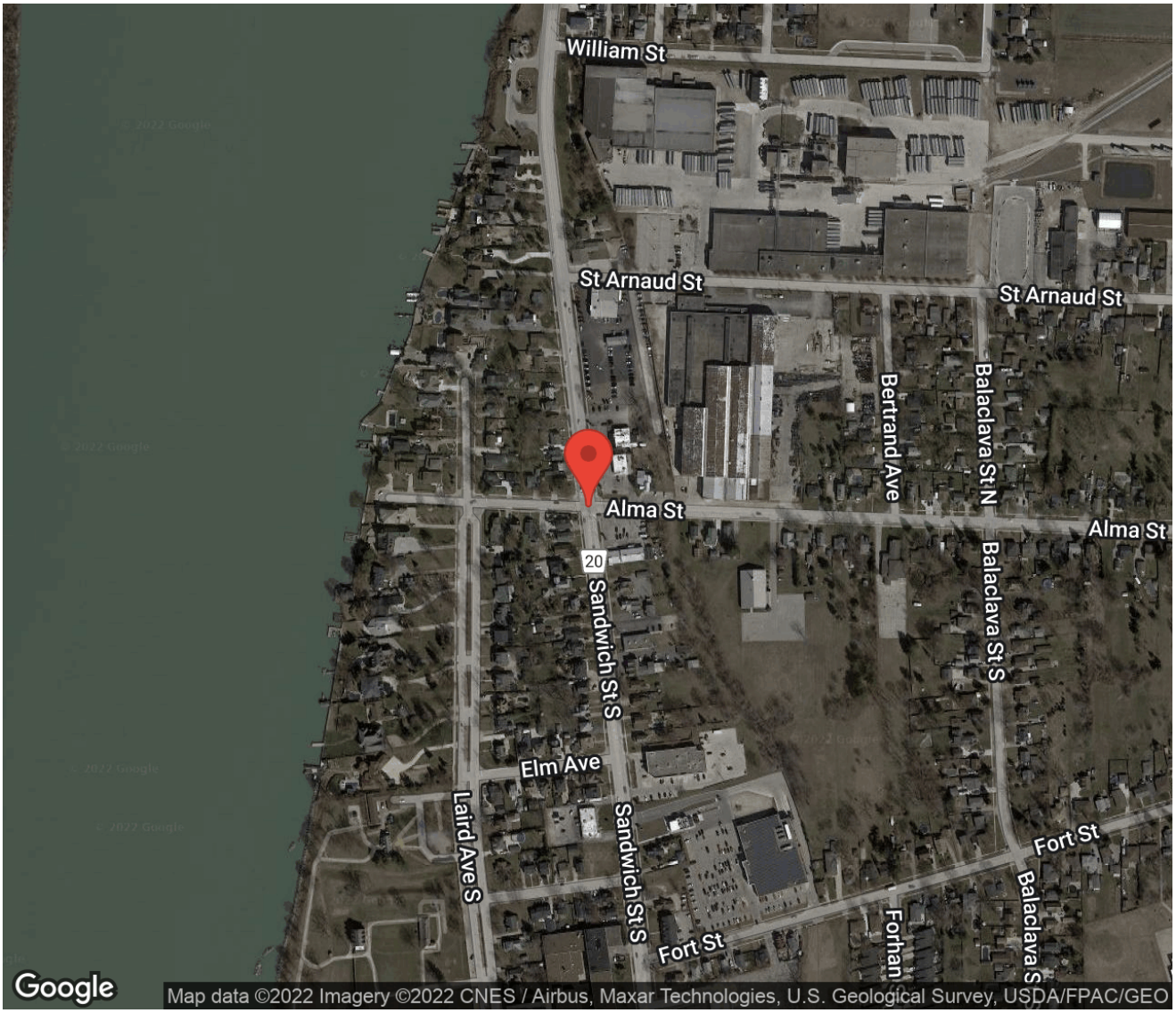
## Intersection Count Report

| | |
|---|---|
| **Intersection:** | Sandwich St S & Alma St |
| **Municipality:** | Amherstburg |
| **Count Date:** | Apr 22, 2022 |
| **Site Code:** | 2213800001 |
| **Count Categories:** | Cars, Trucks, Bicycles, Pedestrians |
| **Count Period:** | 16:00-19:00 |
| **Weather:** | Clear |

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Traffic Count Map

| | |
|---|---|
| Intersection: | Sandwich St S & Alma St |
| Site Code: | 2213800001 |
| Municipality: | Amherstburg |
| Count Date: | Apr 22, 2022 |



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Traffic Count Summary

| | |
|---|---|
| Intersection: | Sandwich St S & Alma St |
| Site Code: | 2213800001 |
| Municipality: | Amherstburg |
| Count Date: | Apr 22, 2022 |

## Sandwich St S - Traffic Summary

| | North Approach Totals | | | | | | South Approach Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Includes Cars, Trucks, Bicycles | | | | | | Includes Cars, Trucks, Bicycles | | | | | | |
| Hour | Left | Thru | Right | U-Turn | Total | Peds | Left | Thru | Right | U-Turn | Total | Peds | Total |
| 16:00 - 17:00 | 104 | 510 | 38 | 0 | 652 | 1 | 7 | 472 | 152 | 0 | 631 | 5 | 1283 |
| 17:00 - 18:00 | 102 | 538 | 37 | 0 | 677 | 4 | 9 | 517 | 145 | 0 | 671 | 4 | 1348 |
| 18:00 - 19:00 | 88 | 460 | 38 | 0 | 586 | 2 | 6 | 421 | 113 | 0 | 540 | 5 | 1126 |
| **GRAND TOTAL** | **294** | **1508** | **113** | **0** | **1915** | **7** | **22** | **1410** | **410** | **0** | **1842** | **14** | **3757** |

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Traffic Count Summary

Intersection: Sandwich St S & Alma St
Site Code: 2213800001
Municipality: Amherstburg
Count Date: Apr 22, 2022

## Alma St - Traffic Summary

| Hour | East Approach Totals (Includes Cars, Trucks, Bicycles) | | | | | | West Approach Totals (Includes Cars, Trucks, Bicycles) | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U-Turn | Total | Peds | Left | Thru | Right | U-Turn | Total | Peds | |
| 16:00 - 17:00 | 142 | 29 | 99 | 0 | 270 | 4 | 46 | 34 | 4 | 0 | 84 | 1 | 354 |
| 17:00 - 18:00 | 120 | 24 | 90 | 0 | 234 | 5 | 55 | 34 | 4 | 0 | 93 | 1 | 327 |
| 18:00 - 19:00 | 94 | 20 | 66 | 0 | 180 | 2 | 43 | 23 | 3 | 0 | 69 | 2 | 249 |
| **GRAND TOTAL** | **356** | **73** | **255** | **0** | **684** | **11** | **144** | **91** | **11** | **0** | **246** | **4** | **930** |

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800001
Municipality: Amherstburg
Count Date: Apr 22, 2022

## North Approach - Sandwich St S

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 16:00 | 23 | 128 | 10 | 0 | 161 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:15 | 26 | 122 | 8 | 0 | 156 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 27 | 131 | 12 | 0 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 28 | 127 | 8 | 0 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 26 | 134 | 7 | 0 | 167 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 2 |
| 17:15 | 22 | 141 | 9 | 0 | 172 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:30 | 25 | 136 | 11 | 0 | 172 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 27 | 122 | 10 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:00 | 24 | 128 | 8 | 0 | 160 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| 18:15 | 23 | 116 | 12 | 0 | 151 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 18:30 | 22 | 108 | 10 | 0 | 140 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:45 | 18 | 104 | 8 | 0 | 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| SUBTOTAL | 291 | 1497 | 113 | 0 | 1901 | 3 | 8 | 0 | 0 | 11 | 0 | 3 | 0 | 0 | 3 | 7 |
| GRAND TOTAL | 291 | 1497 | 113 | 0 | 1901 | 3 | 8 | 0 | 0 | 11 | 0 | 3 | 0 | 0 | 3 | 7 |

Ontario Traffic Inc.
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# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800001
Municipality: Amherstburg
Count Date: Apr 22, 2022

## South Approach - Sandwich St S

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 16:00 | 1 | 103 | 33 | 0 | 137 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:15 | 2 | 122 | 36 | 0 | 160 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 16:30 | 1 | 119 | 41 | 0 | 161 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 3 | 124 | 41 | 0 | 168 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 17:00 | 2 | 128 | 38 | 0 | 168 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 |
| 17:15 | 2 | 131 | 32 | 0 | 165 | 0 | 2 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 2 | 2 |
| 17:30 | 4 | 126 | 36 | 0 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| 17:45 | 1 | 122 | 37 | 0 | 160 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 18:00 | 3 | 118 | 38 | 0 | 159 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 |
| 18:15 | 1 | 109 | 32 | 0 | 142 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 18:30 | 2 | 103 | 22 | 0 | 127 | 0 | 2 | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 1 |
| 18:45 | 0 | 85 | 18 | 0 | 103 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 22 | 1390 | 404 | 0 | 1816 | 0 | 13 | 6 | 0 | 19 | 0 | 7 | 0 | 0 | 7 | 14 |
| GRAND TOTAL | 22 | 1390 | 404 | 0 | 1816 | 0 | 13 | 6 | 0 | 19 | 0 | 7 | 0 | 0 | 7 | 14 |

Ontario Traffic Inc.
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# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800001
Municipality: Amherstburg
Count Date: Apr 22, 2022

## East Approach - Alma St

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 16:00 | 36 | 6 | 23 | 0 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 16:15 | 33 | 7 | 22 | 0 | 62 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:30 | 34 | 8 | 24 | 0 | 66 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 38 | 6 | 28 | 0 | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 17:00 | 34 | 6 | 24 | 0 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 17:15 | 31 | 7 | 21 | 0 | 59 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 26 | 5 | 19 | 0 | 50 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 28 | 5 | 23 | 0 | 56 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 18:00 | 24 | 6 | 18 | 0 | 48 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:15 | 22 | 4 | 16 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:30 | 23 | 5 | 17 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 18:45 | 25 | 5 | 14 | 0 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 354 | 70 | 249 | 0 | 673 | 2 | 0 | 6 | 0 | 8 | 0 | 3 | 0 | 0 | 3 | 11 |
| GRAND TOTAL | 354 | 70 | 249 | 0 | 673 | 2 | 0 | 6 | 0 | 8 | 0 | 3 | 0 | 0 | 3 | 11 |

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# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800001
Municipality: Amherstburg
Count Date: Apr 22, 2022

## West Approach - Alma St

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 16:00 | 12 | 10 | 2 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 9 | 6 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 16:30 | 13 | 7 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 12 | 8 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| 17:00 | 14 | 10 | 1 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 13 | 6 | 2 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 17:30 | 16 | 8 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 17:45 | 12 | 8 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:00 | 14 | 6 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18:15 | 11 | 7 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 |
| 18:30 | 8 | 4 | 2 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 18:45 | 10 | 4 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 144 | 84 | 11 | 0 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 4 |
| GRAND TOTAL | 144 | 84 | 11 | 0 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 4 |

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# Peak Hour Diagram

| Specified Period | | One Hour Peak | |
|---|---|---|---|
| From: | 16:00:00 | From: | 16:30:00 |
| To: | 19:00:00 | To: | 17:30:00 |

**Intersection:** Sandwich St S & Alma St
**Site Code:** 2213800001
**Count Date:** Apr 22, 2022

**Weather conditions:** Clear

**** Signalized Intersection ****

**Major Road:** Sandwich St S runs N/S

## North Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 672 | 651 | 1323 |
| Trucks | 4 | 8 | 12 |
| Bicycles | 1 | 3 | 4 |
| | **677** | **662** | **1339** |

## Sandwich St S

| | | | | |
|---|---|---|---|---|
| Bicycles | 0 | 1 | 0 | 0 |
| Trucks | 0 | 3 | 1 | 0 |
| Cars | 36 | 533 | 103 | 0 |
| **Totals** | **36** | **537** | **104** | **0** |

## East Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 261 | 286 | 547 |
| Trucks | 3 | 4 | 7 |
| Bicycles | 2 | 3 | 5 |
| | **266** | **293** | **559** |

## Alma St

| Bicycles | Trucks | Cars | Totals | |
|---|---|---|---|---|
| 0 | 0 | 0 | **0** | |
| 0 | 0 | 52 | **52** | |
| 3 | 0 | 31 | **34** | |
| 0 | 0 | 5 | **5** | |

Peds: 0

Peds: 3

Peds: 3

Peds: 6

## Alma St

| | Totals | Cars | Trucks | Bicycles |
|---|---|---|---|---|
| | **0** | 0 | 0 | 0 |
| | **100** | 97 | 3 | 0 |
| | **29** | 27 | 0 | 2 |
| | **137** | 137 | 0 | 0 |

## West Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 88 | 71 | 159 |
| Trucks | 0 | 0 | 0 |
| Bicycles | 3 | 2 | 5 |
| | **91** | **73** | **164** |

## Sandwich St S

| | | | | |
|---|---|---|---|---|
| **Totals** | **8** | **510** | **155** | **0** |
| Cars | 8 | 502 | 152 | 0 |
| Trucks | 0 | 5 | 3 | 0 |
| Bicycles | 0 | 3 | 0 | 0 |

## South Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 662 | 675 | 1337 |
| Trucks | 8 | 3 | 11 |
| Bicycles | 3 | 1 | 4 |
| | **673** | **679** | **1352** |

Cars - Trucks - Bicycles

## Comments

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# Peak Hour Summary

Intersection: Sandwich St S & Alma St
Site Code: 2213800001
Count Date: Apr 22, 2022
Period: 16:00 - 19:00

## Peak Hour Data (16:30 - 17:30)

| Start Time | North Approach Sandwich St S | | | | | | South Approach Sandwich St S | | | | | | East Approach Alma St | | | | | | West Approach Alma St | | | | | | Total Vehicles |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Peds | Total | | | | | Peds | Total | | | | | Peds | Total | | | | | Peds | Total | |
| 16:30 | 27 | 131 | 12 | 0 | 0 | 170 | 1 | 120 | 42 | 0 | 0 | 163 | 34 | 8 | 25 | 0 | 1 | 67 | 13 | 7 | 1 | 0 | 0 | 21 | 421 |
| 16:45 | 28 | 127 | 8 | 0 | 0 | 163 | 3 | 125 | 41 | 0 | 3 | 169 | 38 | 7 | 28 | 0 | 0 | 73 | 12 | 10 | 1 | 0 | 0 | 23 | 428 |
| 17:00 | 27 | 136 | 7 | 0 | 2 | 170 | 2 | 130 | 39 | 0 | 1 | 171 | 34 | 7 | 24 | 0 | 2 | 65 | 14 | 10 | 1 | 0 | 0 | 25 | 431 |
| 17:15 | 22 | 143 | 9 | 0 | 1 | 174 | 2 | 135 | 33 | 0 | 2 | 170 | 31 | 7 | 23 | 0 | 0 | 61 | 13 | 7 | 2 | 0 | 0 | 22 | 427 |
| **Grand Total** | **104** | **537** | **36** | **0** | **3** | **677** | **8** | **510** | **155** | **0** | **6** | **673** | **137** | **29** | **100** | **0** | **3** | **266** | **52** | **34** | **5** | **0** | **0** | **91** | **1707** |
| Approach % | 15.4 | 79.3 | 5.3 | 0 | | - | 1.2 | 75.8 | 23 | 0 | | - | 51.5 | 10.9 | 37.6 | 0 | | - | 57.1 | 37.4 | 5.5 | 0 | | - | |
| Totals % | 6.1 | 31.5 | 2.1 | 0 | | 39.7 | 0.5 | 29.9 | 9.1 | 0 | | 39.4 | 8 | 1.7 | 5.9 | 0 | | 15.6 | 3 | 2 | 0.3 | 0 | | 5.3 | |
| **PHF** | **0.93** | **0.94** | **0.75** | **0** | | **0.97** | **0.67** | **0.94** | **0.92** | **0** | | **0.98** | **0.9** | **0.91** | **0.89** | **0** | | **0.91** | **0.93** | **0.85** | **0.63** | **0** | | **0.91** | **0.99** |
| Cars | 103 | 533 | 36 | 0 | | 672 | 8 | 502 | 152 | 0 | | 662 | 137 | 27 | 97 | 0 | | 261 | 52 | 31 | 5 | 0 | | 88 | 1683 |
| % Cars | 99 | 99.3 | 100 | 0 | | 99.3 | 100 | 98.4 | 98.1 | 0 | | 98.4 | 100 | 93.1 | 97 | 0 | | 98.1 | 100 | 91.2 | 100 | 0 | | 96.7 | 98.6 |
| Trucks | 1 | 3 | 0 | 0 | | 4 | 0 | 5 | 3 | 0 | | 8 | 0 | 0 | 3 | 0 | | 3 | 0 | 0 | 0 | 0 | | 0 | 15 |
| % Trucks | 1 | 0.6 | 0 | 0 | | 0.6 | 0 | 1 | 1.9 | 0 | | 1.2 | 0 | 0 | 3 | 0 | | 1.1 | 0 | 0 | 0 | 0 | | 0 | 0.9 |
| Bicycles | 0 | 1 | 0 | 0 | | 1 | 0 | 3 | 0 | 0 | | 3 | 0 | 2 | 0 | 0 | | 2 | 0 | 3 | 0 | 0 | | 3 | 9 |
| % Bicycles | 0 | 0.2 | 0 | 0 | | 0.1 | 0 | 0.6 | 0 | 0 | | 0.4 | 0 | 6.9 | 0 | 0 | | 0.8 | 0 | 8.8 | 0 | 0 | | 3.3 | 0.5 |
| Peds | | | | | 3 | - | | | | | 6 | - | | | | | 3 | - | | | | | 0 | - | 12 |
| % Peds | | | | | 25 | - | | | | | 50 | - | | | | | 25 | - | | | | | 0 | - | |

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# Project #22-138 - Dillon Consulting

## Intersection Count Report

| | |
|---|---|
| **Intersection:** | Sandwich St S & Alma St |
| **Municipality:** | Amherstburg |
| **Count Date:** | Apr 23, 2022 |
| **Site Code:** | 2213800002 |
| **Count Categories:** | Cars, Trucks, Bicycles, Pedestrians |
| **Count Period:** | 11:00-14:00 |
| **Weather:** | Clear |

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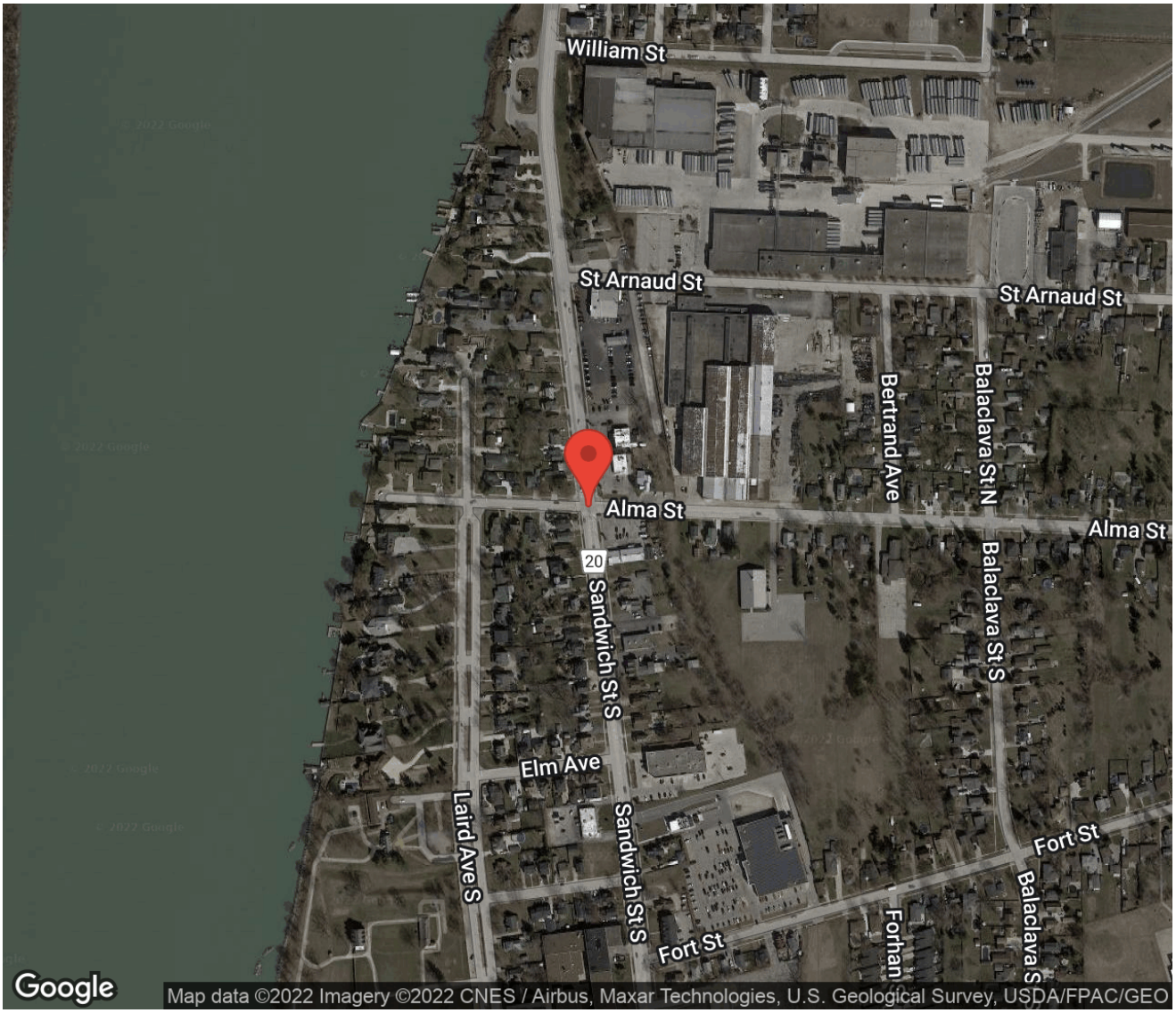
# Traffic Count Map

| | |
|---|---|
| Intersection: | Sandwich St S & Alma St |
| Site Code: | 2213800002 |
| Municipality: | Amherstburg |
| Count Date: | Apr 23, 2022 |



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# Traffic Count Summary

| | |
|---|---|
| Intersection: | Sandwich St S & Alma St |
| Site Code: | 2213800002 |
| Municipality: | Amherstburg |
| Count Date: | Apr 23, 2022 |

## Sandwich St S - Traffic Summary

| | North Approach Totals | | | | | | South Approach Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Includes Cars, Trucks, Bicycles | | | | | | Includes Cars, Trucks, Bicycles | | | | | | |
| Hour | Left | Thru | Right | U-Turn | Total | Peds | Left | Thru | Right | U-Turn | Total | Peds | Total |
| 11:00 - 12:00 | 62 | 415 | 23 | 0 | 500 | 2 | 2 | 349 | 71 | 0 | 422 | 4 | 922 |
| 12:00 - 13:00 | 77 | 410 | 34 | 0 | 521 | 4 | 4 | 424 | 90 | 0 | 518 | 5 | 1039 |
| 13:00 - 14:00 | 62 | 420 | 26 | 0 | 508 | 4 | 4 | 374 | 85 | 0 | 463 | 5 | 971 |
| **GRAND TOTAL** | **201** | **1245** | **83** | **0** | **1529** | **10** | **10** | **1147** | **246** | **0** | **1403** | **14** | **2932** |

Ontario Traffic Inc.
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# Traffic Count Summary

| | |
|---|---|
| Intersection: | Sandwich St S & Alma St |
| Site Code: | 2213800002 |
| Municipality: | Amherstburg |
| Count Date: | Apr 23, 2022 |

## Alma St - Traffic Summary

| | East Approach Totals | | | | | | West Approach Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Includes Cars, Trucks, Bicycles | | | | | | Includes Cars, Trucks, Bicycles | | | | | | |
| Hour | Left | Thru | Right | U-Turn | Total | Peds | Left | Thru | Right | U-Turn | Total | Peds | Total |
| 11:00 - 12:00 | 74 | 18 | 50 | 0 | 142 | 4 | 21 | 19 | 2 | 0 | 42 | 1 | 184 |
| 12:00 - 13:00 | 89 | 24 | 61 | 0 | 174 | 5 | 31 | 14 | 2 | 0 | 47 | 4 | 221 |
| 13:00 - 14:00 | 90 | 17 | 62 | 0 | 169 | 7 | 35 | 20 | 3 | 0 | 58 | 2 | 227 |
| **GRAND TOTAL** | **253** | **59** | **173** | **0** | **485** | **16** | **87** | **53** | **7** | **0** | **147** | **7** | **632** |

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# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800002
Municipality: Amherstburg
Count Date: Apr 23, 2022

## North Approach - Sandwich St S

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 11:00 | 16 | 94 | 7 | 0 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 13 | 99 | 5 | 0 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:30 | 15 | 112 | 5 | 0 | 132 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:45 | 18 | 108 | 6 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 12:00 | 22 | 96 | 8 | 0 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 18 | 98 | 7 | 0 | 123 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 12:30 | 16 | 103 | 10 | 0 | 129 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 12:45 | 21 | 109 | 9 | 0 | 139 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 13:00 | 17 | 105 | 8 | 0 | 130 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 13:15 | 16 | 112 | 6 | 0 | 134 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 13:30 | 13 | 106 | 7 | 0 | 126 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 13:45 | 15 | 94 | 5 | 0 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| SUBTOTAL | 200 | 1236 | 83 | 0 | 1519 | 1 | 4 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 5 | 10 |
| GRAND TOTAL | 200 | 1236 | 83 | 0 | 1519 | 1 | 4 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 5 | 10 |

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# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800002
Municipality: Amherstburg
Count Date: Apr 23, 2022

## South Approach - Sandwich St S

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 11:00 | 0 | 82 | 16 | 0 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 88 | 18 | 0 | 106 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 11:30 | 1 | 94 | 22 | 0 | 117 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 11:45 | 1 | 82 | 14 | 0 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 12:00 | 0 | 97 | 23 | 0 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 12:15 | 2 | 113 | 19 | 0 | 134 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 12:30 | 0 | 108 | 21 | 0 | 129 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:45 | 2 | 104 | 26 | 0 | 132 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:00 | 2 | 94 | 24 | 0 | 120 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 13:15 | 1 | 103 | 18 | 0 | 122 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 3 |
| 13:30 | 1 | 85 | 22 | 0 | 108 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:45 | 0 | 88 | 20 | 0 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| SUBTOTAL | 10 | 1138 | 243 | 0 | 1391 | 0 | 6 | 3 | 0 | 9 | 0 | 3 | 0 | 0 | 3 | 14 |
| GRAND TOTAL | 10 | 1138 | 243 | 0 | 1391 | 0 | 6 | 3 | 0 | 9 | 0 | 3 | 0 | 0 | 3 | 14 |

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800002
Municipality: Amherstburg
Count Date: Apr 23, 2022

## East Approach - Alma St

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 11:00 | 17 | 5 | 12 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 16 | 4 | 16 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 |
| 11:30 | 19 | 4 | 8 | 0 | 31 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 11:45 | 22 | 3 | 13 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 | 24 | 6 | 16 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| 12:15 | 23 | 5 | 12 | 0 | 40 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:30 | 19 | 4 | 15 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 12:45 | 23 | 7 | 17 | 0 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:00 | 26 | 4 | 21 | 0 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 13:15 | 22 | 4 | 16 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 13:30 | 24 | 5 | 13 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 13:45 | 18 | 4 | 12 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 253 | 55 | 171 | 0 | 479 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 0 | 4 | 16 |
| GRAND TOTAL | 253 | 55 | 171 | 0 | 479 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 0 | 4 | 16 |

Ontario Traffic Inc.
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# Traffic Count Data

Intersection: Sandwich St S & Alma St
Site Code: 2213800002
Municipality: Amherstburg
Count Date: Apr 23, 2022

## West Approach - Alma St

| Start Time | Cars | | | | | Trucks | | | | | Bicycles | | | | | Total Peds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | ↰ | ↑ | ↱ | ↶ | Total | |
| 11:00 | 5 | 5 | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 4 | 2 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 11:30 | 6 | 4 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 6 | 4 | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| 12:00 | 7 | 3 | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:15 | 8 | 2 | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 12:30 | 10 | 6 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 6 | 2 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 13:00 | 9 | 5 | 2 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| 13:15 | 10 | 5 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 13:30 | 8 | 4 | 1 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:45 | 8 | 3 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 87 | 45 | 7 | 0 | 139 | 0 | 1 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 7 | 7 |
| GRAND TOTAL | 87 | 45 | 7 | 0 | 139 | 0 | 1 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 7 | 7 |

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

# Peak Hour Diagram

| Specified Period | | One Hour Peak | |
|---|---|---|---|
| From: | 11:00:00 | From: | 12:30:00 |
| To: | 14:00:00 | To: | 13:30:00 |

**Intersection:** Sandwich St S & Alma St
**Site Code:** 2213800002
**Count Date:** Apr 23, 2022

**Weather conditions:** Clear

**** Signalized Intersection ****

**Major Road:** Sandwich St S runs N/S

## North Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 532 | 513 | 1045 |
| Trucks | 2 | 3 | 5 |
| Bicycles | 3 | 2 | 5 |
| | **537** | **518** | **1055** |

## Sandwich St S

| | | | | |
|---|---|---|---|---|
| Bicycles | 0 | 3 | 0 | 0 |
| Trucks | 0 | 1 | 1 | 0 |
| Cars | 33 | 429 | 70 | 0 |
| **Totals** | **33** | **433** | **71** | **0** |

## East Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 178 | 177 | 355 |
| Trucks | 0 | 2 | 2 |
| Bicycles | 1 | 3 | 4 |
| | **179** | **182** | **361** |

## Alma St

| Bicycles | Trucks | Cars | Totals |
|---|---|---|---|
| 0 | 0 | 0 | **0** |
| 0 | 0 | 35 | **35** |
| 3 | 0 | 18 | **21** |
| 0 | 0 | 2 | **2** |

Peds: 4

Peds: 3

Peds: 6

Peds: 5

## Alma St

| Totals | Cars | Trucks | Bicycles |
|---|---|---|---|
| **0** | 0 | 0 | 0 |
| **69** | 69 | 0 | 0 |
| **20** | 19 | 0 | 1 |
| **90** | 90 | 0 | 0 |

## West Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 55 | 57 | 112 |
| Trucks | 0 | 0 | 0 |
| Bicycles | 3 | 1 | 4 |
| | **58** | **58** | **116** |

## Sandwich St S

| | | | | |
|---|---|---|---|---|
| **Totals** | **5** | **414** | **90** | **0** |
| Cars | 5 | 409 | 89 | 0 |
| Trucks | 0 | 3 | 1 | 0 |
| Bicycles | 0 | 2 | 0 | 0 |

## South Approach

| | Out | In | Total |
|---|---|---|---|
| Cars | 503 | 521 | 1024 |
| Trucks | 4 | 1 | 5 |
| Bicycles | 2 | 3 | 5 |
| | **509** | **525** | **1034** |

Cars - Trucks - Bicycles

## Comments

Ontario Traffic Inc.
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# Peak Hour Summary

Intersection: Sandwich St S & Alma St
Site Code: 2213800002
Count Date: Apr 23, 2022
Period: 11:00 - 14:00

## Peak Hour Data (12:30 - 13:30)

| Start Time | North Approach Sandwich St S | | | | | | South Approach Sandwich St S | | | | | | East Approach Alma St | | | | | | West Approach Alma St | | | | | | Total Vehicles |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Peds | Total | | | | | Peds | Total | | | | | Peds | Total | | | | | Peds | Total | |
| 12:30 | 16 | 105 | 10 | 0 | 0 | 131 | 0 | 108 | 22 | 0 | 1 | 130 | 19 | 5 | 15 | 0 | 1 | 39 | 10 | 6 | 0 | 0 | 0 | 16 | 316 |
| 12:45 | 21 | 110 | 9 | 0 | 2 | 140 | 2 | 105 | 26 | 0 | 0 | 133 | 23 | 7 | 17 | 0 | 0 | 47 | 6 | 2 | 0 | 0 | 2 | 8 | 328 |
| 13:00 | 17 | 106 | 8 | 0 | 0 | 131 | 2 | 96 | 24 | 0 | 1 | 122 | 26 | 4 | 21 | 0 | 4 | 51 | 9 | 7 | 2 | 0 | 0 | 18 | 322 |
| 13:15 | 17 | 112 | 6 | 0 | 1 | 135 | 1 | 105 | 18 | 0 | 3 | 124 | 22 | 4 | 16 | 0 | 1 | 42 | 10 | 6 | 0 | 0 | 2 | 16 | 317 |
| **Grand Total** | **71** | **433** | **33** | **0** | **3** | **537** | **5** | **414** | **90** | **0** | **5** | **509** | **90** | **20** | **69** | **0** | **6** | **179** | **35** | **21** | **2** | **0** | **4** | **58** | **1283** |
| **Approach %** | 13.2 | 80.6 | 6.1 | 0 | | - | 1 | 81.3 | 17.7 | 0 | | - | 50.3 | 11.2 | 38.5 | 0 | | - | 60.3 | 36.2 | 3.4 | 0 | | - | |
| **Totals %** | 5.5 | 33.7 | 2.6 | 0 | | 41.9 | 0.4 | 32.3 | 7 | 0 | | 39.7 | 7 | 1.6 | 5.4 | 0 | | 14 | 2.7 | 1.6 | 0.2 | 0 | | 4.5 | |
| **PHF** | **0.85** | **0.97** | **0.83** | **0** | | **0.96** | **0.63** | **0.96** | **0.87** | **0** | | **0.96** | **0.87** | **0.71** | **0.82** | **0** | | **0.88** | **0.88** | **0.75** | **0.25** | **0** | | **0.81** | **0.98** |
| **Cars** | 70 | 429 | 33 | 0 | | 532 | 5 | 409 | 89 | 0 | | 503 | 90 | 19 | 69 | 0 | | 178 | 35 | 18 | 2 | 0 | | 55 | 1268 |
| **% Cars** | 98.6 | 99.1 | 100 | 0 | | 99.1 | 100 | 98.8 | 98.9 | 0 | | 98.8 | 100 | 95 | 100 | 0 | | 99.4 | 100 | 85.7 | 100 | 0 | | 94.8 | 98.8 |
| **Trucks** | 1 | 1 | 0 | 0 | | 2 | 0 | 3 | 1 | 0 | | 4 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 6 |
| **% Trucks** | 1.4 | 0.2 | 0 | 0 | | 0.4 | 0 | 0.7 | 1.1 | 0 | | 0.8 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0.5 |
| **Bicycles** | 0 | 3 | 0 | 0 | | 3 | 0 | 2 | 0 | 0 | | 2 | 0 | 1 | 0 | 0 | | 1 | 0 | 3 | 0 | 0 | | 3 | 9 |
| **% Bicycles** | 0 | 0.7 | 0 | 0 | | 0.6 | 0 | 0.5 | 0 | 0 | | 0.4 | 0 | 5 | 0 | 0 | | 0.6 | 0 | 14.3 | 0 | 0 | | 5.2 | 0.7 |
| **Peds** | | | | | 3 | - | | | | | 5 | - | | | | | 6 | - | | | | | 4 | - | 18 |
| **% Peds** | | | | | 16.7 | - | | | | | 27.8 | - | | | | | 33.3 | - | | | | | 22.2 | - | |

# Turning Movement Count Report

*Report Generated Using Turning Movement Count for Android by PortableStudies.com*

## Study Information

**Study Summary**

| Count Name |
|---|
| Amherstburg Sobeys |
| Location |
| Sandwich Street South and Fort Street |
| Performed By |
| Karl K |
| Date |
| August 24, 2018 |

**Notes**

U = U Turn  L = Left Turn  T = Thru  R = Right Turn
P1 = Pedestrian Direction 1  P2 = Pedestrian Direction 2
Veh = Total Vehicles for Approach

| Peak Hour Volume | |
|---|---|
| 1255 | |
| % Bank 1 | % Bank 2 |
| 99.1% | 0.9% |
| % Bank 3 | % Bank 4 |
| 0.0% | 0.0% |
| Pedestrians Volume | |
| 5 | |

## Peak Hour Data

| Time Period | Amherst highschool | | | | | | | Westbound Fort Street | | | | | | | Northbound Sandwich Street | | | | | | | Southbound Sandwich Street South | | | | | | | Total Vehicles | Total Pedestrians |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | | |
| 4:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 16 | 0 | 3 | 0 | 1 | 19 | 0 | 0 | 124 | 20 | 0 | 0 | 144 | 0 | 6 | 153 | 0 | 0 | 0 | 159 | 322 | 2 |
| 4:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 10 | 0 | 4 | 0 | 0 | 14 | 0 | 0 | 125 | 16 | 0 | 0 | 141 | 0 | 3 | 156 | 0 | 0 | 0 | 159 | 315 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 9 | 0 | 0 | 26 | 0 | 0 | 118 | 19 | 0 | 0 | 137 | 0 | 10 | 126 | 0 | 0 | 0 | 136 | 299 | 0 |
| 5:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 6 | 0 | 6 | 2 | 0 | 12 | 0 | 0 | 143 | 18 | 0 | 0 | 161 | 0 | 9 | 136 | 0 | 0 | 0 | 145 | 319 | 3 |

## Vehicle Movement Summary

| Movement / Details | Amherst highschool | | | | | | | Westbound Fort Street | | | | | | | Northbound Sandwich Street | | | | | | | Southbound Sandwich Street South | | | | | | | Entire Intersection | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | Vehicles | Pedestrians |
| Movement Volume | 0 | 0 | 0 | 2 | 2 | 0 | 2 | 0 | 49 | 0 | 22 | 2 | 1 | 71 | 0 | 0 | 510 | 73 | 0 | 0 | 583 | 0 | 28 | 571 | 0 | 0 | 0 | 599 | 1255 | 5 |
| PHF | - | - | - | 0.50 | 0.50 | - | 0.50 | - | 0.72 | - | 0.61 | 0.25 | 0.25 | 0.68 | - | - | 0.89 | 0.91 | - | - | 0.91 | - | 0.70 | 0.92 | - | - | - | 0.94 | 0.97 | 0.42 |
| % Bank 1 | 0.0% | 0.0% | 0.0% | 100.0% | | | | 0.0% | 100.0% | 0.0% | 100.0% | | | | 0.0% | 100.0% | 99.6% | 100.0% | | | | 0.0% | 100.0% | 98.2% | 100.0% | | | | | |
| % Bank 2 | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.4% | 0.0% | | | | 0.0% | 0.0% | 1.8% | 0.0% | | | | | |
| % Bank 3 | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | | |
| % Bank 4 | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | | |

| Raw Data | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | Amherst highschool | | | | | | Westbound Fort Street | | | | | | Northbound Sandwich Street | | | | | | Southbound Sandwich Street South | | | | | | Total | |
| | U | L | T | R | P1 | P2 | U | L | T | R | P1 | P2 | U | L | T | R | P1 | P2 | U | L | T | R | P1 | P2 | Vehicles | Peds |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 4 | 0 | 0 | 0 | 0 | 99 | 14 | 0 | 0 | 0 | 6 | 129 | 0 | 0 | 0 | 261 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 3 | 0 | 1 | 0 | 1 | 140 | 21 | 0 | 0 | 0 | 7 | 126 | 0 | 0 | 0 | 309 | 1 |
| 4:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 16 | 0 | 3 | 0 | 1 | 0 | 0 | 124 | 20 | 0 | 0 | 0 | 6 | 153 | 0 | 0 | 0 | 322 | 2 |
| 4:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 10 | 0 | 4 | 0 | 0 | 0 | 0 | 125 | 16 | 0 | 0 | 0 | 3 | 156 | 0 | 0 | 0 | 315 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 9 | 0 | 0 | 0 | 0 | 118 | 19 | 0 | 0 | 0 | 10 | 126 | 0 | 0 | 0 | 299 | 0 |
| 5:15 PM | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 6 | 0 | 6 | 2 | 0 | 0 | 0 | 143 | 18 | 0 | 0 | 0 | 9 | 136 | 0 | 0 | 0 | 319 | 3 |
| 5:30 PM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 4 | 0 | 1 | 0 | 0 | 109 | 19 | 0 | 0 | 0 | 1 | 132 | 0 | 0 | 0 | 269 | 2 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 11 | 0 | 1 | 0 | 0 | 0 | 0 | 116 | 18 | 0 | 0 | 0 | 3 | 111 | 0 | 0 | 0 | 260 | 1 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 4 | 3 | 1 | 0 | 0 | 123 | 10 | 0 | 0 | 0 | 3 | 131 | 0 | 0 | 0 | 281 | 4 |
| 6:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 11 | 0 | 4 | 3 | 0 | 0 | 0 | 104 | 17 | 0 | 0 | 0 | 2 | 97 | 0 | 0 | 0 | 236 | 3 |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 3 | 3 | 0 | 0 | 0 | 86 | 16 | 0 | 0 | 0 | 4 | 121 | 0 | 0 | 0 | 239 | 3 |
| 6:45 PM | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 5 | 0 | 1 | 0 | 7 | 0 | 0 | 108 | 15 | 0 | 0 | 0 | 6 | 91 | 0 | 0 | 0 | 226 | 10 |

# Turning Movement Count Report

*Report Generated Using Turning Movement Count for Android by PortableStudies.com*

## Study Information

**Study Summary**

| Count Name |
|---|
| Amherstburg Sobeys |
| Location |
| Sandwich Street South and Fort Street |
| Performed By |
| Karl K |
| Date |
| August 25, 2018 |

**Notes**

U = U Turn  L = Left Turn  T = Thru  R = Right Turn
P1 = Pedestrian Direction 1  P2 = Pedestrian Direction 2
Veh = Total Vehicles for Approach

| Peak Hour Volume | |
|---|---|
| 1172 | |
| % Bank 1 | % Bank 2 |
| 99.7% | 0.0% |
| % Bank 3 | % Bank 4 |
| 0.0% | 0.3% |
| Pedestrians Volume | |
| 4 | |

## Peak Hour Data

| Time Period | Amherst Highschool | | | | | | | Westbound Fort Street | | | | | | | Northbound Sandwich Street South | | | | | | | Southbound Sandwich Street South | | | | | | | Total Vehicles | Total Pedestrians |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | | |
| 12:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 7 | 2 | 0 | 13 | 0 | 0 | 104 | 27 | 0 | 0 | 131 | 0 | 4 | 144 | 0 | 0 | 0 | 148 | 292 | 2 |
| 12:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 7 | 0 | 0 | 16 | 0 | 0 | 136 | 28 | 0 | 0 | 164 | 0 | 3 | 114 | 0 | 1 | 0 | 117 | 298 | 1 |
| 1:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 1 | 2 | 0 | 1 | 16 | 0 | 0 | 120 | 14 | 0 | 0 | 134 | 0 | 3 | 146 | 1 | 0 | 0 | 150 | 300 | 1 |
| 1:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 10 | 0 | 0 | 112 | 32 | 0 | 0 | 144 | 0 | 4 | 124 | 0 | 0 | 0 | 128 | 282 | 0 |

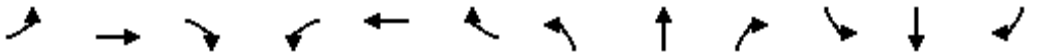
## Vehicle Movement Summary

| Movement / Details | Amherst Highschool | | | | | | | Westbound Fort Street | | | | | | | Northbound Sandwich Street South | | | | | | | Southbound Sandwich Street South | | | | | | | Entire Intersection | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | U | L | T | R | P1 | P2 | Veh | Vehicles | Pedestrians |
| Movement Volume | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 33 | 1 | 21 | 2 | 1 | 55 | 0 | 0 | 472 | 101 | 0 | 0 | 573 | 0 | 14 | 528 | 1 | 1 | 0 | 543 | 1172 | 4 |
| PHF | 0.25 | - | - | - | - | - | 0.25 | - | 0.63 | 0.25 | 0.75 | 0.25 | 0.25 | 0.86 | - | - | 0.87 | 0.79 | - | - | 0.87 | - | 0.88 | 0.90 | 0.25 | 0.25 | - | 0.91 | 0.98 | 0.50 |
| % Bank 1 | 100.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 100.0% | 100.0% | 100.0% | | | | 0.0% | 0.0% | 99.2% | 100.0% | | | | 0.0% | 100.0% | 100.0% | 100.0% | | | | | |
| % Bank 2 | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | | |
| % Bank 3 | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | | |
| % Bank 4 | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | 0.0% | 0.0% | 0.8% | 0.0% | | | | 0.0% | 0.0% | 0.0% | 0.0% | | | | | |

| Raw Data | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | Amherst Highschool | | | | | | Westbound Fort Street | | | | | | Northbound Sandwich Street South | | | | | | Southbound Sandwich Street South | | | | | | Total | |
| | U | L | T | R | P1 | P2 | U | L | T | R | P1 | P2 | U | L | T | R | P1 | P2 | U | L | T | R | P1 | P2 | Vehicles | Peds |
| 11:00 AM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 10 | 0 | 2 | 0 | 0 | 0 | 1 | 115 | 23 | 0 | 0 | 0 | 1 | 125 | 0 | 0 | 0 | 279 | 0 |
| 11:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 0 | 4 | 0 | 0 | 0 | 0 | 136 | 36 | 0 | 0 | 0 | 2 | 105 | 0 | 0 | 0 | 296 | 0 |
| 11:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 3 | 5 | 0 | 0 | 0 | 115 | 31 | 0 | 0 | 0 | 1 | 108 | 0 | 0 | 0 | 268 | 5 |
| 11:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 95 | 25 | 0 | 0 | 0 | 3 | 110 | 0 | 0 | 0 | 243 | 0 |
| 12:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 7 | 0 | 0 | 0 | 0 | 117 | 27 | 0 | 0 | 0 | 3 | 107 | 0 | 0 | 0 | 273 | 0 |
| 12:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 2 | 0 | 0 | 0 | 0 | 115 | 27 | 0 | 0 | 0 | 1 | 118 | 0 | 0 | 0 | 273 | 0 |
| 12:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 7 | 2 | 0 | 0 | 0 | 104 | 27 | 0 | 0 | 0 | 4 | 144 | 0 | 0 | 0 | 292 | 2 |
| 12:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 7 | 0 | 0 | 0 | 0 | 136 | 28 | 0 | 0 | 0 | 3 | 114 | 0 | 1 | 0 | 298 | 1 |
| 1:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 1 | 2 | 0 | 1 | 0 | 0 | 120 | 14 | 0 | 0 | 0 | 3 | 146 | 1 | 0 | 0 | 300 | 1 |
| 1:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 112 | 32 | 0 | 0 | 0 | 4 | 124 | 0 | 0 | 0 | 282 | 0 |
| 1:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 8 | 0 | 0 | 0 | 1 | 119 | 22 | 0 | 0 | 0 | 4 | 119 | 0 | 0 | 0 | 277 | 0 |
| 1:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 10 | 2 | 0 | 0 | 1 | 118 | 28 | 0 | 0 | 0 | 1 | 144 | 0 | 0 | 0 | 311 | 2 |

# Appendix C

## Synchro Analysis Worksheets

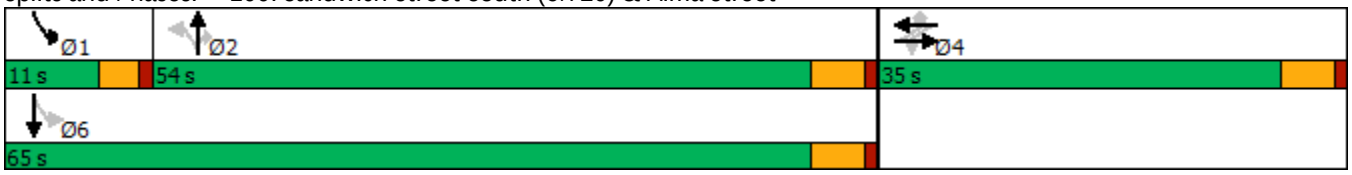


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 34 | 5 | 137 | 29 | 100 | 8 | 510 | 155 | 104 | 537 | 35 |
| Future Volume (vph) | 52 | 34 | 5 | 137 | 29 | 100 | 8 | 510 | 155 | 104 | 537 | 35 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 0.0 | | 0.0 | 25.0 | | 0.0 | 60.0 | | 60.0 | 60.0 | | 0.0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (m) | 30.0 | | | 30.0 | | | 30.0 | | | 30.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | | | 0.99 | 0.98 | | | 0.97 | 1.00 | 1.00 | |
| Frt | | 0.993 | | | | 0.850 | | | 0.850 | | 0.991 | |
| Flt Protected | | 0.972 | | | 0.960 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1830 | 0 | 0 | 1824 | 1568 | 1805 | 1881 | 1583 | 1805 | 1862 | 0 |
| Flt Permitted | | 0.766 | | | 0.745 | | 0.447 | | | 0.298 | | |
| Satd. Flow (perm) | 0 | 1439 | 0 | 0 | 1401 | 1540 | 849 | 1881 | 1539 | 565 | 1862 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 3 | | | | 101 | | | 157 | | 6 | |
| Link Speed (k/h) | | 50 | | | 50 | | | 50 | | | 50 | |
| Link Distance (m) | | 123.8 | | | 531.3 | | | 195.3 | | | 178.5 | |
| Travel Time (s) | | 8.9 | | | 38.3 | | | 14.1 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 6 | 6 | | 3 | | | 3 | 3 | | |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 3 | | | 1 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 3% | 0% | 1% | 2% | 0% | 1% | 1% |
| Adj. Flow (vph) | 53 | 34 | 5 | 138 | 29 | 101 | 8 | 515 | 157 | 105 | 542 | 35 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 92 | 0 | 0 | 167 | 101 | 8 | 515 | 157 | 105 | 577 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 0.0 | | | 0.0 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 9.0 | | | 9.0 | | | 9.0 | | | 9.0 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 4 | | 4 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | 30.0 | 30.0 | 30.0 | 6.0 | 30.0 | |
| Minimum Split (s) | 34.6 | 34.6 | | 34.6 | 34.6 | 34.6 | 36.2 | 36.2 | 36.2 | 11.0 | 36.2 | |
| Total Split (s) | 35.0 | 35.0 | | 35.0 | 35.0 | 35.0 | 54.0 | 54.0 | 54.0 | 11.0 | 65.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | 35.0% | 54.0% | 54.0% | 54.0% | 11.0% | 65.0% | |
| Yellow Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | | None | None | None | Ped | Ped | Ped | None | Ped | |
| Act Effct Green (s) | | 17.8 | | | 17.8 | 17.8 | 33.5 | 33.5 | 33.5 | 43.0 | 41.9 | |
| Actuated g/C Ratio | | 0.25 | | | 0.25 | 0.25 | 0.48 | 0.48 | 0.48 | 0.62 | 0.60 | |
| v/c Ratio | | 0.25 | | | 0.47 | 0.22 | 0.02 | 0.57 | 0.19 | 0.22 | 0.52 | |
| Control Delay | | 23.5 | | | 28.1 | 6.6 | 12.1 | 17.6 | 3.0 | 7.2 | 10.4 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 23.5 | | | 28.1 | 6.6 | 12.1 | 17.6 | 3.0 | 7.2 | 10.4 | |
| LOS | | C | | | C | A | B | B | A | A | B | |
| Approach Delay | | 23.5 | | | 20.0 | | | 14.2 | | | 9.9 | |
| Approach LOS | | C | | | C | | | B | | | A | |
| Queue Length 50th (m) | | 9.5 | | | 19.0 | 0.0 | 0.6 | 47.3 | 0.0 | 4.5 | 34.9 | |
| Queue Length 95th (m) | | 24.5 | | | 42.8 | 11.2 | 3.2 | 96.2 | 9.9 | 13.7 | 81.7 | |
| Internal Link Dist (m) | | 99.8 | | | 507.3 | | | 171.3 | | | 154.5 | |
| Turn Bay Length (m) | | | | | | | 60.0 | | 60.0 | 60.0 | | |
| Base Capacity (vph) | | 630 | | | 612 | 730 | 606 | 1342 | 1143 | 473 | 1620 | |
| Starvation Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | 0.15 | | | 0.27 | 0.14 | 0.01 | 0.38 | 0.14 | 0.22 | 0.36 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 69.9 | | | |
| Natural Cycle: 85 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.57 | | | |
| Intersection Signal Delay: 13.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 81.2% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

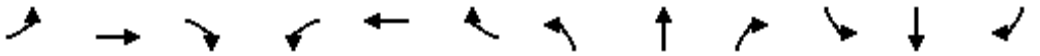
Splits and Phases: 100: Sandwich Street South (CR 20) & Alma Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 53 | 24 | 552 | 79 | 30 | 618 |
| Future Volume (Veh/h) | 53 | 24 | 552 | 79 | 30 | 618 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Hourly flow rate (vph) | 55 | 25 | 569 | 81 | 31 | 637 |
| Pedestrians | 3 | | | | | |
| Lane Width (m) | 3.6 | | | | | |
| Walking Speed (m/s) | 1.2 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1312 | 612 | | | 653 | |
| vC1, stage 1 conf vol | 612 | | | | | |
| vC2, stage 2 conf vol | 699 | | | | | |
| vCu, unblocked vol | 1312 | 612 | | | 653 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 86 | 95 | | | 97 | |
| cM capacity (veh/h) | 386 | 495 | | | 941 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 80 | 650 | 31 | 637 |
| Volume Left | 55 | 0 | 31 | 0 |
| Volume Right | 25 | 81 | 0 | 0 |
| cSH | 415 | 1700 | 941 | 1700 |
| Volume to Capacity | 0.19 | 0.38 | 0.03 | 0.37 |
| Queue Length 95th (m) | 5.6 | 0.0 | 0.8 | 0.0 |
| Control Delay (s) | 15.7 | 0.0 | 9.0 | 0.0 |
| Lane LOS | C | | A | |
| Approach Delay (s) | 15.7 | 0.0 | 0.4 | |
| Approach LOS | C | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.1 | | |
| Intersection Capacity Utilization | 45.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

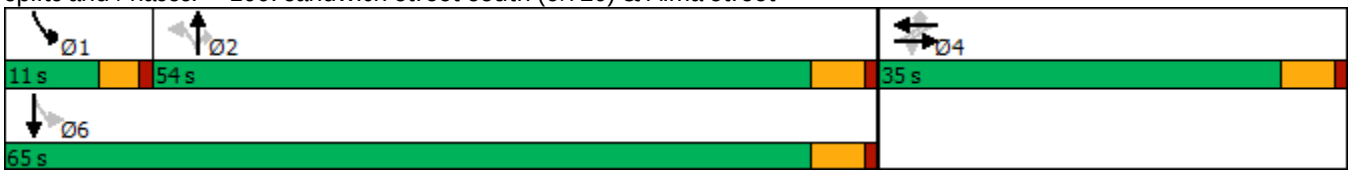


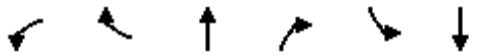
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 21 | 2 | 90 | 20 | 69 | 5 | 414 | 90 | 71 | 433 | 33 |
| Future Volume (vph) | 35 | 21 | 2 | 90 | 20 | 69 | 5 | 414 | 90 | 71 | 433 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 0.0 | | 0.0 | 25.0 | | 0.0 | 60.0 | | 60.0 | 60.0 | | 0.0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (m) | 30.0 | | | 30.0 | | | 30.0 | | | 30.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | | | 0.99 | 0.98 | 1.00 | | 0.97 | 1.00 | 1.00 | |
| Frt | | 0.995 | | | | 0.850 | | | 0.850 | | 0.989 | |
| Flt Protected | | 0.970 | | | 0.961 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1832 | 0 | 0 | 1826 | 1615 | 1805 | 1881 | 1599 | 1787 | 1875 | 0 |
| Flt Permitted | | 0.777 | | | 0.724 | | 0.491 | | | 0.400 | | |
| Satd. Flow (perm) | 0 | 1464 | 0 | 0 | 1363 | 1585 | 929 | 1881 | 1546 | 749 | 1875 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 2 | | | | 70 | | | 92 | | 7 | |
| Link Speed (k/h) | | 50 | | | 50 | | | 50 | | | 50 | |
| Link Distance (m) | | 123.8 | | | 531.3 | | | 195.3 | | | 178.5 | |
| Travel Time (s) | | 8.9 | | | 38.3 | | | 14.1 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 5 | 5 | | 3 | 4 | | 6 | 6 | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 3 | | | 2 | | | 1 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% |
| Adj. Flow (vph) | 36 | 21 | 2 | 92 | 20 | 70 | 5 | 422 | 92 | 72 | 442 | 34 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 59 | 0 | 0 | 112 | 70 | 5 | 422 | 92 | 72 | 476 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 0.0 | | | 0.0 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 9.0 | | | 9.0 | | | 9.0 | | | 9.0 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 4 | | 4 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | 30.0 | 30.0 | 30.0 | 6.0 | 30.0 | |
| Minimum Split (s) | 34.6 | 34.6 | | 34.6 | 34.6 | 34.6 | 36.2 | 36.2 | 36.2 | 11.0 | 36.2 | |
| Total Split (s) | 35.0 | 35.0 | | 35.0 | 35.0 | 35.0 | 54.0 | 54.0 | 54.0 | 11.0 | 65.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | 35.0% | 54.0% | 54.0% | 54.0% | 11.0% | 65.0% | |
| Yellow Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | | None | None | None | Ped | Ped | Ped | None | Ped | |
| Act Effct Green (s) | | 16.1 | | | 16.1 | 16.1 | 35.5 | 35.5 | 35.5 | 43.3 | 43.6 | |
| Actuated g/C Ratio | | 0.25 | | | 0.25 | 0.25 | 0.56 | 0.56 | 0.56 | 0.68 | 0.69 | |
| v/c Ratio | | 0.16 | | | 0.32 | 0.15 | 0.01 | 0.40 | 0.10 | 0.12 | 0.37 | |
| Control Delay | | 20.7 | | | 24.0 | 6.7 | 11.2 | 13.9 | 3.5 | 5.7 | 7.5 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 20.7 | | | 24.0 | 6.7 | 11.2 | 13.9 | 3.5 | 5.7 | 7.5 | |
| LOS | | C | | | C | A | B | B | A | A | A | |
| Approach Delay | | 20.7 | | | 17.3 | | | 12.1 | | | 7.3 | |
| Approach LOS | | C | | | B | | | B | | | A | |
| Queue Length 50th (m) | | 5.9 | | | 12.1 | 0.0 | 0.3 | 35.7 | 0.0 | 3.0 | 26.4 | |
| Queue Length 95th (m) | | 14.5 | | | 25.1 | 8.6 | 2.2 | 68.0 | 7.6 | 8.6 | 53.5 | |
| Internal Link Dist (m) | | 99.8 | | | 507.3 | | | 171.3 | | | 154.5 | |
| Turn Bay Length (m) | | | | | | | 60.0 | | 60.0 | 60.0 | | |
| Base Capacity (vph) | | 702 | | | 653 | 796 | 727 | 1472 | 1230 | 627 | 1723 | |
| Starvation Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | 0.08 | | | 0.17 | 0.09 | 0.01 | 0.29 | 0.07 | 0.11 | 0.28 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 63.5 | | | |
| Natural Cycle: 85 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.40 | | | |
| Intersection Signal Delay: 11.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 75.6% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 100: Sandwich Street South (CR 20) & Alma Street





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 36 | 23 | 511 | 109 | 15 | 572 |
| Future Volume (Veh/h) | 36 | 23 | 511 | 109 | 15 | 572 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Hourly flow rate (vph) | 37 | 23 | 521 | 111 | 15 | 584 |
| Pedestrians | 3 | | | | | 1 |
| Lane Width (m) | 3.6 | | | | | 3.6 |
| Walking Speed (m/s) | 1.2 | | | | | 1.2 |
| Percent Blockage | 0 | | | | | 0 |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1194 | 580 | | | 635 | |
| vC1, stage 1 conf vol | 580 | | | | | |
| vC2, stage 2 conf vol | 614 | | | | | |
| vCu, unblocked vol | 1194 | 580 | | | 635 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 91 | 96 | | | 98 | |
| cM capacity (veh/h) | 423 | 516 | | | 956 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 60 | 632 | 15 | 584 |
| Volume Left | 37 | 0 | 15 | 0 |
| Volume Right | 23 | 111 | 0 | 0 |
| cSH | 455 | 1700 | 956 | 1700 |
| Volume to Capacity | 0.13 | 0.37 | 0.02 | 0.34 |
| Queue Length 95th (m) | 3.6 | 0.0 | 0.4 | 0.0 |
| Control Delay (s) | 14.1 | 0.0 | 8.8 | 0.0 |
| Lane LOS | B | | A | |
| Approach Delay (s) | 14.1 | 0.0 | 0.2 | |
| Approach LOS | B | | | |

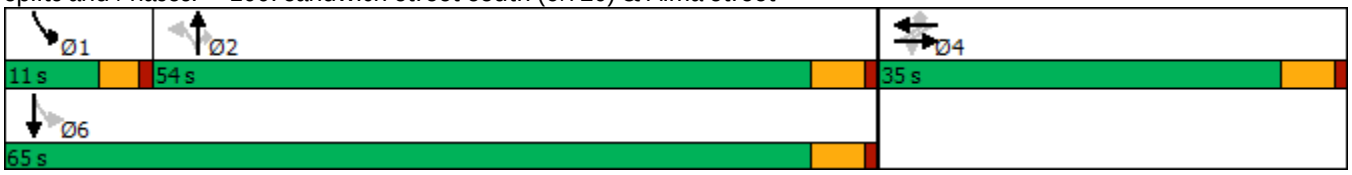
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 44.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 34 | 5 | 154 | 29 | 113 | 8 | 541 | 175 | 117 | 570 | 36 |
| Future Volume (vph) | 52 | 34 | 5 | 154 | 29 | 113 | 8 | 541 | 175 | 117 | 570 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 0.0 | | 0.0 | 25.0 | | 0.0 | 60.0 | | 60.0 | 60.0 | | 0.0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (m) | 30.0 | | | 30.0 | | | 30.0 | | | 30.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | | | 0.99 | 0.98 | | | 0.97 | 1.00 | 1.00 | |
| Frt | | 0.993 | | | | 0.850 | | | 0.850 | | 0.991 | |
| Flt Protected | | 0.972 | | | 0.960 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1830 | 0 | 0 | 1824 | 1568 | 1805 | 1881 | 1583 | 1805 | 1862 | 0 |
| Flt Permitted | | 0.761 | | | 0.739 | | 0.426 | | | 0.272 | | |
| Satd. Flow (perm) | 0 | 1430 | 0 | 0 | 1389 | 1540 | 809 | 1881 | 1539 | 516 | 1862 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 3 | | | | 114 | | | 177 | | 6 | |
| Link Speed (k/h) | | 50 | | | 50 | | | 50 | | | 50 | |
| Link Distance (m) | | 123.8 | | | 531.3 | | | 195.3 | | | 178.5 | |
| Travel Time (s) | | 8.9 | | | 38.3 | | | 14.1 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 6 | 6 | | 3 | | | 3 | 3 | | |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 3 | | | 1 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 3% | 0% | 1% | 2% | 0% | 1% | 1% |
| Adj. Flow (vph) | 53 | 34 | 5 | 156 | 29 | 114 | 8 | 546 | 177 | 118 | 576 | 36 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 92 | 0 | 0 | 185 | 114 | 8 | 546 | 177 | 118 | 612 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 0.0 | | | 0.0 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 9.0 | | | 9.0 | | | 9.0 | | | 9.0 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 4 | | 4 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | 30.0 | 30.0 | 30.0 | 6.0 | 30.0 | |
| Minimum Split (s) | 34.6 | 34.6 | | 34.6 | 34.6 | 34.6 | 36.2 | 36.2 | 36.2 | 11.0 | 36.2 | |
| Total Split (s) | 35.0 | 35.0 | | 35.0 | 35.0 | 35.0 | 54.0 | 54.0 | 54.0 | 11.0 | 65.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | 35.0% | 54.0% | 54.0% | 54.0% | 11.0% | 65.0% | |
| Yellow Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | | None | None | None | Ped | Ped | Ped | None | Ped | |
| Act Effct Green (s) | | 19.0 | | | 19.0 | 19.0 | 34.5 | 34.5 | 34.5 | 44.0 | 43.0 | |
| Actuated g/C Ratio | | 0.26 | | | 0.26 | 0.26 | 0.48 | 0.48 | 0.48 | 0.61 | 0.59 | |
| v/c Ratio | | 0.24 | | | 0.51 | 0.23 | 0.02 | 0.61 | 0.21 | 0.27 | 0.55 | |
| Control Delay | | 24.2 | | | 29.9 | 6.5 | 12.5 | 18.8 | 3.0 | 8.1 | 11.4 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 24.2 | | | 29.9 | 6.5 | 12.5 | 18.8 | 3.0 | 8.1 | 11.4 | |
| LOS | | C | | | C | A | B | B | A | A | B | |
| Approach Delay | | 24.2 | | | 21.0 | | | 14.9 | | | 10.9 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Queue Length 50th (m) | | 9.5 | | | 21.4 | 0.0 | 0.6 | 53.6 | 0.0 | 5.4 | 40.7 | |
| Queue Length 95th (m) | | 25.7 | | | 50.2 | 12.3 | 3.3 | 109.4 | 10.8 | 16.3 | 96.0 | |
| Internal Link Dist (m) | | 99.8 | | | 507.3 | | | 171.3 | | | 154.5 | |
| Turn Bay Length (m) | | | | | | | 60.0 | | 60.0 | 60.0 | | |
| Base Capacity (vph) | | 615 | | | 596 | 725 | 567 | 1318 | 1131 | 443 | 1570 | |
| Starvation Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | 0.15 | | | 0.31 | 0.16 | 0.01 | 0.41 | 0.16 | 0.27 | 0.39 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 72.3 | | | |
| Natural Cycle: 85 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.61 | | | |
| Intersection Signal Delay: 14.8 | | Intersection LOS: B | |
| Intersection Capacity Utilization 84.3% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

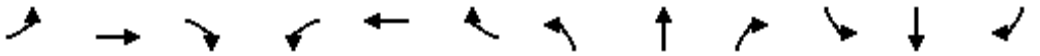
Splits and Phases: 100: Sandwich Street South (CR 20) & Alma Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 53 | 24 | 586 | 79 | 30 | 656 |
| Future Volume (Veh/h) | 53 | 24 | 586 | 79 | 30 | 656 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Hourly flow rate (vph) | 55 | 25 | 604 | 81 | 31 | 676 |
| Pedestrians | 3 | | | | | |
| Lane Width (m) | 3.6 | | | | | |
| Walking Speed (m/s) | 1.2 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1386 | 648 | | | 688 | |
| vC1, stage 1 conf vol | 648 | | | | | |
| vC2, stage 2 conf vol | 738 | | | | | |
| vCu, unblocked vol | 1386 | 648 | | | 688 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 85 | 95 | | | 97 | |
| cM capacity (veh/h) | 368 | 473 | | | 913 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 80 | 685 | 31 | 676 |
| Volume Left | 55 | 0 | 31 | 0 |
| Volume Right | 25 | 81 | 0 | 0 |
| cSH | 395 | 1700 | 913 | 1700 |
| Volume to Capacity | 0.20 | 0.40 | 0.03 | 0.40 |
| Queue Length 95th (m) | 6.0 | 0.0 | 0.8 | 0.0 |
| Control Delay (s) | 16.4 | 0.0 | 9.1 | 0.0 |
| Lane LOS | C | | A | |
| Approach Delay (s) | 16.4 | 0.0 | 0.4 | |
| Approach LOS | C | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.1 | | |
| Intersection Capacity Utilization | 46.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

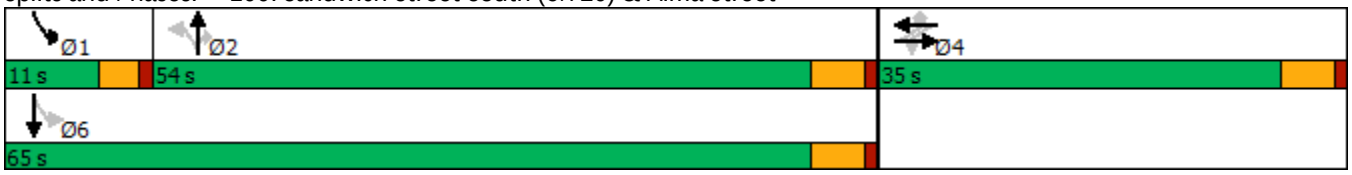


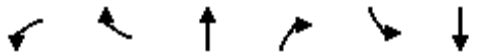
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 21 | 2 | 101 | 20 | 78 | 5 | 439 | 101 | 80 | 460 | 33 |
| Future Volume (vph) | 35 | 21 | 2 | 101 | 20 | 78 | 5 | 439 | 101 | 80 | 460 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 0.0 | | 0.0 | 25.0 | | 0.0 | 60.0 | | 60.0 | 60.0 | | 0.0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (m) | 30.0 | | | 30.0 | | | 30.0 | | | 30.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | | | 0.99 | 0.98 | 1.00 | | 0.97 | 1.00 | 1.00 | |
| Frt | | 0.995 | | | | 0.850 | | | 0.850 | | 0.990 | |
| Flt Protected | | 0.970 | | | 0.960 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1832 | 0 | 0 | 1824 | 1615 | 1805 | 1881 | 1599 | 1787 | 1877 | 0 |
| Flt Permitted | | 0.793 | | | 0.720 | | 0.479 | | | 0.359 | | |
| Satd. Flow (perm) | 0 | 1494 | 0 | 0 | 1355 | 1585 | 906 | 1881 | 1546 | 672 | 1877 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 2 | | | | 80 | | | 103 | | 7 | |
| Link Speed (k/h) | | 50 | | | 50 | | | 50 | | | 50 | |
| Link Distance (m) | | 123.8 | | | 531.3 | | | 195.3 | | | 178.5 | |
| Travel Time (s) | | 8.9 | | | 38.3 | | | 14.1 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 5 | 5 | | 3 | 4 | | 6 | 6 | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 3 | | | 2 | | | 1 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% |
| Adj. Flow (vph) | 36 | 21 | 2 | 103 | 20 | 80 | 5 | 448 | 103 | 82 | 469 | 34 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 59 | 0 | 0 | 123 | 80 | 5 | 448 | 103 | 82 | 503 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 0.0 | | | 0.0 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 9.0 | | | 9.0 | | | 9.0 | | | 9.0 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 4 | | 4 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | 30.0 | 30.0 | 30.0 | 6.0 | 30.0 | |
| Minimum Split (s) | 34.6 | 34.6 | | 34.6 | 34.6 | 34.6 | 36.2 | 36.2 | 36.2 | 11.0 | 36.2 | |
| Total Split (s) | 35.0 | 35.0 | | 35.0 | 35.0 | 35.0 | 54.0 | 54.0 | 54.0 | 11.0 | 65.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | 35.0% | 54.0% | 54.0% | 54.0% | 11.0% | 65.0% | |
| Yellow Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | | None | None | None | Ped | Ped | Ped | None | Ped | |
| Act Effct Green (s) | | 16.0 | | | 16.0 | 16.0 | 33.4 | 33.4 | 33.4 | 43.0 | 42.0 | |
| Actuated g/C Ratio | | 0.24 | | | 0.24 | 0.24 | 0.49 | 0.49 | 0.49 | 0.63 | 0.62 | |
| v/c Ratio | | 0.17 | | | 0.39 | 0.18 | 0.01 | 0.49 | 0.13 | 0.15 | 0.43 | |
| Control Delay | | 21.2 | | | 25.7 | 6.8 | 11.0 | 15.1 | 3.3 | 5.9 | 8.4 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 21.2 | | | 25.7 | 6.8 | 11.0 | 15.1 | 3.3 | 5.9 | 8.4 | |
| LOS | | C | | | C | A | B | B | A | A | A | |
| Approach Delay | | 21.2 | | | 18.3 | | | 12.9 | | | 8.0 | |
| Approach LOS | | C | | | B | | | B | | | A | |
| Queue Length 50th (m) | | 5.9 | | | 13.4 | 0.0 | 0.4 | 38.7 | 0.0 | 3.4 | 28.5 | |
| Queue Length 95th (m) | | 15.1 | | | 28.4 | 9.4 | 2.3 | 72.5 | 7.9 | 9.5 | 57.1 | |
| Internal Link Dist (m) | | 99.8 | | | 507.3 | | | 171.3 | | | 154.5 | |
| Turn Bay Length (m) | | | | | | | 60.0 | | 60.0 | 60.0 | | |
| Base Capacity (vph) | | 661 | | | 599 | 745 | 654 | 1358 | 1145 | 540 | 1660 | |
| Starvation Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | 0.09 | | | 0.21 | 0.11 | 0.01 | 0.33 | 0.09 | 0.15 | 0.30 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 68 | | | |
| Natural Cycle: 85 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.49 | | | |
| Intersection Signal Delay: 12.0 | | Intersection LOS: B | |
| Intersection Capacity Utilization 76.9% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 100: Sandwich Street South (CR 20) & Alma Street

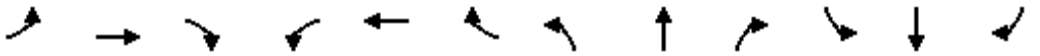




| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 36 | 23 | 542 | 109 | 15 | 607 |
| Future Volume (Veh/h) | 36 | 23 | 542 | 109 | 15 | 607 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Hourly flow rate (vph) | 37 | 23 | 553 | 111 | 15 | 619 |
| Pedestrians | 3 | | | | | 1 |
| Lane Width (m) | 3.6 | | | | | 3.6 |
| Walking Speed (m/s) | 1.2 | | | | | 1.2 |
| Percent Blockage | 0 | | | | | 0 |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1260 | 612 | | | 667 | |
| vC1, stage 1 conf vol | 612 | | | | | |
| vC2, stage 2 conf vol | 649 | | | | | |
| vCu, unblocked vol | 1260 | 612 | | | 667 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 91 | 95 | | | 98 | |
| cM capacity (veh/h) | 405 | 495 | | | 930 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 60 | 664 | 15 | 619 |
| Volume Left | 37 | 0 | 15 | 0 |
| Volume Right | 23 | 111 | 0 | 0 |
| cSH | 435 | 1700 | 930 | 1700 |
| Volume to Capacity | 0.14 | 0.39 | 0.02 | 0.36 |
| Queue Length 95th (m) | 3.8 | 0.0 | 0.4 | 0.0 |
| Control Delay (s) | 14.6 | 0.0 | 8.9 | 0.0 |
| Lane LOS | B | | A | |
| Approach Delay (s) | 14.6 | 0.0 | 0.2 | |
| Approach LOS | B | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.7 | | |
| Intersection Capacity Utilization | 45.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

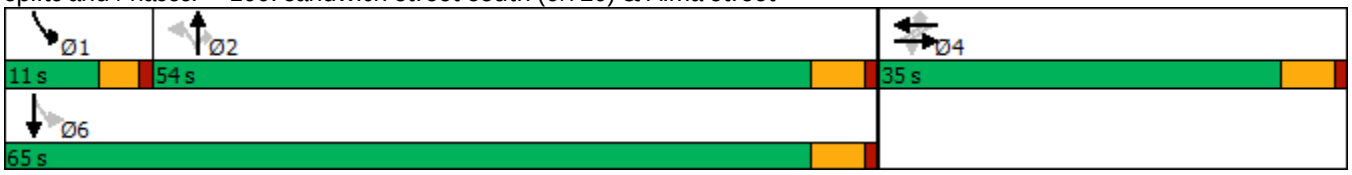


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 34 | 5 | 162 | 29 | 113 | 8 | 555 | 183 | 117 | 584 | 36 |
| Future Volume (vph) | 52 | 34 | 5 | 162 | 29 | 113 | 8 | 555 | 183 | 117 | 584 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 0.0 | | 0.0 | 25.0 | | 0.0 | 60.0 | | 60.0 | 60.0 | | 0.0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (m) | 30.0 | | | 30.0 | | | 30.0 | | | 30.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | | | 0.99 | 0.98 | | | 0.97 | 1.00 | 1.00 | |
| Frt | | 0.993 | | | | 0.850 | | | 0.850 | | 0.991 | |
| Flt Protected | | 0.972 | | | 0.959 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1830 | 0 | 0 | 1822 | 1568 | 1805 | 1881 | 1583 | 1805 | 1862 | 0 |
| Flt Permitted | | 0.759 | | | 0.737 | | 0.410 | | | 0.261 | | |
| Satd. Flow (perm) | 0 | 1426 | 0 | 0 | 1385 | 1540 | 779 | 1881 | 1539 | 495 | 1862 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 3 | | | | 114 | | | 185 | | 5 | |
| Link Speed (k/h) | | 50 | | | 50 | | | 50 | | | 50 | |
| Link Distance (m) | | 123.8 | | | 531.3 | | | 195.3 | | | 178.5 | |
| Travel Time (s) | | 8.9 | | | 38.3 | | | 14.1 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 6 | 6 | | 3 | | | 3 | 3 | | |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 3 | | | 1 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 3% | 0% | 1% | 2% | 0% | 1% | 1% |
| Adj. Flow (vph) | 53 | 34 | 5 | 164 | 29 | 114 | 8 | 561 | 185 | 118 | 590 | 36 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 92 | 0 | 0 | 193 | 114 | 8 | 561 | 185 | 118 | 626 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 0.0 | | | 0.0 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 9.0 | | | 9.0 | | | 9.0 | | | 9.0 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 4 | | 4 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | 30.0 | 30.0 | 30.0 | 6.0 | 30.0 | |
| Minimum Split (s) | 34.6 | 34.6 | | 34.6 | 34.6 | 34.6 | 36.2 | 36.2 | 36.2 | 11.0 | 36.2 | |
| Total Split (s) | 35.0 | 35.0 | | 35.0 | 35.0 | 35.0 | 54.0 | 54.0 | 54.0 | 11.0 | 65.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | 35.0% | 54.0% | 54.0% | 54.0% | 11.0% | 65.0% | |
| Yellow Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | | None | None | None | Ped | Ped | Ped | None | Ped | |
| Act Effct Green (s) | | 19.5 | | | 19.5 | 19.5 | 35.0 | 35.0 | 35.0 | 44.5 | 43.4 | |
| Actuated g/C Ratio | | 0.27 | | | 0.27 | 0.27 | 0.48 | 0.48 | 0.48 | 0.61 | 0.59 | |
| v/c Ratio | | 0.24 | | | 0.52 | 0.23 | 0.02 | 0.63 | 0.22 | 0.28 | 0.57 | |
| Control Delay | | 24.5 | | | 30.5 | 6.5 | 12.8 | 19.4 | 3.0 | 8.4 | 11.9 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 24.5 | | | 30.5 | 6.5 | 12.8 | 19.4 | 3.0 | 8.4 | 11.9 | |
| LOS | | C | | | C | A | B | B | A | A | B | |
| Approach Delay | | 24.5 | | | 21.6 | | | 15.3 | | | 11.4 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Queue Length 50th (m) | | 9.5 | | | 22.4 | 0.0 | 0.6 | 56.8 | 0.0 | 5.6 | 43.5 | |
| Queue Length 95th (m) | | 26.3 | | | 53.6 | 12.5 | 3.4 | 115.8 | 11.1 | 16.8 | 102.3 | |
| Internal Link Dist (m) | | 99.8 | | | 507.3 | | | 171.3 | | | 154.5 | |
| Turn Bay Length (m) | | | | | | | 60.0 | | 60.0 | 60.0 | | |
| Base Capacity (vph) | | 608 | | | 589 | 720 | 541 | 1306 | 1125 | 430 | 1551 | |
| Starvation Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | 0.15 | | | 0.33 | 0.16 | 0.01 | 0.43 | 0.16 | 0.27 | 0.40 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 73.3 | | | |
| Natural Cycle: 85 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.63 | | | |
| Intersection Signal Delay: 15.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 85.7% | | ICU Level of Service E | |
| Analysis Period (min) 15 | | | |

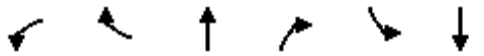
Splits and Phases: 100: Sandwich Street South (CR 20) & Alma Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 53 | 27 | 602 | 79 | 33 | 672 |
| Future Volume (Veh/h) | 53 | 27 | 602 | 79 | 33 | 672 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Hourly flow rate (vph) | 55 | 28 | 621 | 81 | 34 | 693 |
| Pedestrians | 3 | | | | | |
| Lane Width (m) | 3.6 | | | | | |
| Walking Speed (m/s) | 1.2 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1426 | 664 | | | 705 | |
| vC1, stage 1 conf vol | 664 | | | | | |
| vC2, stage 2 conf vol | 761 | | | | | |
| vCu, unblocked vol | 1426 | 664 | | | 705 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 85 | 94 | | | 96 | |
| cM capacity (veh/h) | 357 | 463 | | | 900 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 83 | 702 | 34 | 693 |
| Volume Left | 55 | 0 | 34 | 0 |
| Volume Right | 28 | 81 | 0 | 0 |
| cSH | 387 | 1700 | 900 | 1700 |
| Volume to Capacity | 0.21 | 0.41 | 0.04 | 0.41 |
| Queue Length 95th (m) | 6.4 | 0.0 | 0.9 | 0.0 |
| Control Delay (s) | 16.8 | 0.0 | 9.2 | 0.0 |
| Lane LOS | C | | A | |
| Approach Delay (s) | 16.8 | 0.0 | 0.4 | |
| Approach LOS | C | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.1 | | |
| Intersection Capacity Utilization | 47.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 35 | 38 | 698 | 35 | 38 | 705 |
| Future Volume (Veh/h) | 35 | 38 | 698 | 35 | 38 | 705 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 38 | 41 | 759 | 38 | 41 | 766 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | 195 |
| pX, platoon unblocked | 0.80 | | | | | |
| vC, conflicting volume | 1626 | 778 | | | 797 | |
| vC1, stage 1 conf vol | 778 | | | | | |
| vC2, stage 2 conf vol | 848 | | | | | |
| vCu, unblocked vol | 1657 | 778 | | | 797 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 87 | 90 | | | 95 | |
| cM capacity (veh/h) | 294 | 396 | | | 825 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 79 | 797 | 41 | 766 |
| Volume Left | 38 | 0 | 41 | 0 |
| Volume Right | 41 | 38 | 0 | 0 |
| cSH | 340 | 1700 | 825 | 1700 |
| Volume to Capacity | 0.23 | 0.47 | 0.05 | 0.45 |
| Queue Length 95th (m) | 7.1 | 0.0 | 1.3 | 0.0 |
| Control Delay (s) | 18.8 | 0.0 | 9.6 | 0.0 |
| Lane LOS | C | | A | |
| Approach Delay (s) | 18.8 | 0.0 | 0.5 | |
| Approach LOS | C | | | |

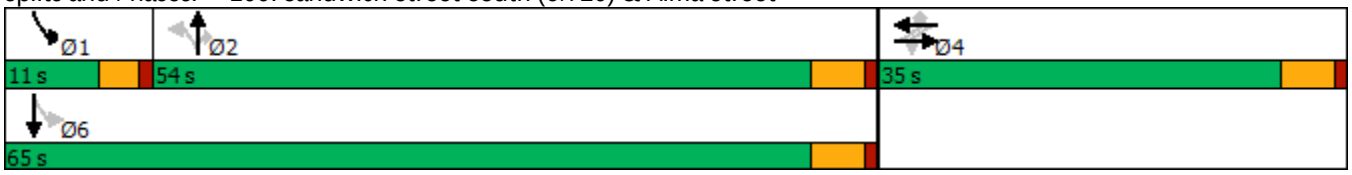
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.1 | | |
| Intersection Capacity Utilization | 49.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 21 | 2 | 107 | 20 | 78 | 5 | 450 | 107 | 80 | 471 | 33 |
| Future Volume (vph) | 35 | 21 | 2 | 107 | 20 | 78 | 5 | 450 | 107 | 80 | 471 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 0.0 | | 0.0 | 25.0 | | 0.0 | 60.0 | | 60.0 | 60.0 | | 0.0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (m) | 30.0 | | | 30.0 | | | 30.0 | | | 30.0 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | | | 0.99 | 0.98 | 1.00 | | 0.97 | 1.00 | 1.00 | |
| Frt | | 0.995 | | | | 0.850 | | | 0.850 | | 0.990 | |
| Flt Protected | | 0.970 | | | 0.959 | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1832 | 0 | 0 | 1822 | 1615 | 1805 | 1881 | 1599 | 1787 | 1877 | 0 |
| Flt Permitted | | 0.790 | | | 0.718 | | 0.474 | | | 0.352 | | |
| Satd. Flow (perm) | 0 | 1488 | 0 | 0 | 1351 | 1585 | 897 | 1881 | 1546 | 659 | 1877 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 2 | | | | 80 | | | 109 | | 6 | |
| Link Speed (k/h) | | 50 | | | 50 | | | 50 | | | 50 | |
| Link Distance (m) | | 123.8 | | | 531.3 | | | 195.3 | | | 178.5 | |
| Travel Time (s) | | 8.9 | | | 38.3 | | | 14.1 | | | 12.9 | |
| Confl. Peds. (#/hr) | 3 | | 5 | 5 | | 3 | 4 | | 6 | 6 | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 3 | | | 2 | | | 1 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% |
| Adj. Flow (vph) | 36 | 21 | 2 | 109 | 20 | 80 | 5 | 459 | 109 | 82 | 481 | 34 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 59 | 0 | 0 | 129 | 80 | 5 | 459 | 109 | 82 | 515 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(m) | | 0.0 | | | 0.0 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 9.0 | | | 9.0 | | | 9.0 | | | 9.0 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | |
| Protected Phases | | 4 | | | 4 | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 4 | | 4 | 2 | | 2 | 6 | | |
| Detector Phase | 4 | 4 | | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 | 30.0 | 30.0 | 30.0 | 6.0 | 30.0 | |
| Minimum Split (s) | 34.6 | 34.6 | | 34.6 | 34.6 | 34.6 | 36.2 | 36.2 | 36.2 | 11.0 | 36.2 | |
| Total Split (s) | 35.0 | 35.0 | | 35.0 | 35.0 | 35.0 | 54.0 | 54.0 | 54.0 | 11.0 | 65.0 | |
| Total Split (%) | 35.0% | 35.0% | | 35.0% | 35.0% | 35.0% | 54.0% | 54.0% | 54.0% | 11.0% | 65.0% | |
| Yellow Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.0 | | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | 5.0 | |
| Lead/Lag | | | | | | | Lag | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | | None | None | None | Ped | Ped | Ped | None | Ped | |
| Act Effct Green (s) | | 16.0 | | | 16.0 | 16.0 | 33.8 | 33.8 | 33.8 | 43.4 | 42.4 | |
| Actuated g/C Ratio | | 0.23 | | | 0.23 | 0.23 | 0.49 | 0.49 | 0.49 | 0.63 | 0.62 | |
| v/c Ratio | | 0.17 | | | 0.41 | 0.19 | 0.01 | 0.49 | 0.13 | 0.16 | 0.44 | |
| Control Delay | | 21.6 | | | 26.6 | 6.9 | 10.8 | 15.1 | 3.1 | 5.9 | 8.4 | |
| Queue Delay | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | | 21.6 | | | 26.6 | 6.9 | 10.8 | 15.1 | 3.1 | 5.9 | 8.4 | |
| LOS | | C | | | C | A | B | B | A | A | A | |
| Approach Delay | | 21.6 | | | 19.1 | | | 12.8 | | | 8.1 | |
| Approach LOS | | C | | | B | | | B | | | A | |
| Queue Length 50th (m) | | 5.9 | | | 14.2 | 0.0 | 0.4 | 39.9 | 0.0 | 3.4 | 29.6 | |
| Queue Length 95th (m) | | 15.4 | | | 30.6 | 9.7 | 2.2 | 74.5 | 8.0 | 9.5 | 58.6 | |
| Internal Link Dist (m) | | 99.8 | | | 507.3 | | | 171.3 | | | 154.5 | |
| Turn Bay Length (m) | | | | | | | 60.0 | | 60.0 | 60.0 | | |
| Base Capacity (vph) | | 655 | | | 594 | 742 | 644 | 1351 | 1141 | 533 | 1651 | |
| Starvation Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | 0.09 | | | 0.22 | 0.11 | 0.01 | 0.34 | 0.10 | 0.15 | 0.31 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 68.4 | | | |
| Natural Cycle: 85 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.49 | | | |
| Intersection Signal Delay: 12.1 | | Intersection LOS: B | |
| Intersection Capacity Utilization 77.5% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 100: Sandwich Street South (CR 20) & Alma Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 36 | 25 | 554 | 109 | 17 | 619 |
| Future Volume (Veh/h) | 36 | 25 | 554 | 109 | 17 | 619 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Hourly flow rate (vph) | 37 | 26 | 565 | 111 | 17 | 632 |
| Pedestrians | 3 | | | | | 1 |
| Lane Width (m) | 3.6 | | | | | 3.6 |
| Walking Speed (m/s) | 1.2 | | | | | 1.2 |
| Percent Blockage | 0 | | | | | 0 |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1290 | 624 | | | 679 | |
| vC1, stage 1 conf vol | 624 | | | | | |
| vC2, stage 2 conf vol | 666 | | | | | |
| vCu, unblocked vol | 1290 | 624 | | | 679 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 91 | 95 | | | 98 | |
| cM capacity (veh/h) | 397 | 487 | | | 920 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 63 | 676 | 17 | 632 |
| Volume Left | 37 | 0 | 17 | 0 |
| Volume Right | 26 | 111 | 0 | 0 |
| cSH | 429 | 1700 | 920 | 1700 |
| Volume to Capacity | 0.15 | 0.40 | 0.02 | 0.37 |
| Queue Length 95th (m) | 4.1 | 0.0 | 0.5 | 0.0 |
| Control Delay (s) | 14.8 | 0.0 | 9.0 | 0.0 |
| Lane LOS | B | | A | |
| Approach Delay (s) | 14.8 | 0.0 | 0.2 | |
| Approach LOS | B | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 46.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 24 | 26 | 530 | 24 | 26 | 547 |
| Future Volume (Veh/h) | 24 | 26 | 530 | 24 | 26 | 547 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Hourly flow rate (vph) | 24 | 27 | 541 | 24 | 27 | 558 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | TWLTL | | | TWLTL |
| Median storage veh) | | | 2 | | | 2 |
| Upstream signal (m) | | | | | | 195 |
| pX, platoon unblocked | 0.88 | | | | | |
| vC, conflicting volume | 1165 | 553 | | | 565 | |
| vC1, stage 1 conf vol | 553 | | | | | |
| vC2, stage 2 conf vol | 612 | | | | | |
| vCu, unblocked vol | 1119 | 553 | | | 565 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | 5.4 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 94 | 95 | | | 97 | |
| cM capacity (veh/h) | 421 | 533 | | | 1007 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 51 | 565 | 27 | 558 |
| Volume Left | 24 | 0 | 27 | 0 |
| Volume Right | 27 | 24 | 0 | 0 |
| cSH | 474 | 1700 | 1007 | 1700 |
| Volume to Capacity | 0.11 | 0.33 | 0.03 | 0.33 |
| Queue Length 95th (m) | 2.9 | 0.0 | 0.7 | 0.0 |
| Control Delay (s) | 13.5 | 0.0 | 8.7 | 0.0 |
| Lane LOS | B | | A | |
| Approach Delay (s) | 13.5 | 0.0 | 0.4 | |
| Approach LOS | B | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 39.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |