



Traffic Impact Study

Webster Elementary School Expansion El Paso County, Colorado

PCD File No. PPR-22-009

Prepared for:

Widefield School District #3


Kimley»Horn



T R A F F I C I M P A C T S T U D Y

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



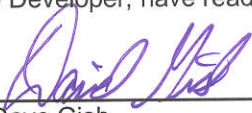
Jeffrey R. Planck, P.E., PE #53006

April 11, 2022

Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.



Mr. Dave Gish
Widefield School District #3
1820 Main Street
Colorado Springs, CO 80911

Date

April 13, 2022

Webster Elementary School Expansion

PCD File No. PPR-22-009

El Paso County, Colorado

Prepared for
Widefield School District #3
1820 Main Street
Colorado Springs, Colorado 80911

Prepared by
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April 2022

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TABLE OF CONTENTS

| | |
|---|----|
| TABLE OF CONTENTS | i |
| LIST OF TABLES | ii |
| LIST OF FIGURES | ii |
| 1.0 EXECUTIVE SUMMARY | 1 |
| 2.0 INTRODUCTION | 4 |
| 3.0 EXISTING AND FUTURE CONDITIONS | 7 |
| 3.1 Existing Study Area | 7 |
| 3.2 Existing and Future Roadway Network | 7 |
| 3.3 Existing Traffic Volumes | 18 |
| 3.4 Unspecified Development Traffic Growth | 18 |
| 4.0 PROJECT TRAFFIC CHARACTERISTICS | 21 |
| 4.1 Trip Generation | 21 |
| 4.2 Trip Distribution | 23 |
| 4.3 Total (Background Plus Project) Traffic | 23 |
| 5.0 TRAFFIC OPERATIONS ANALYSIS | 27 |
| 5.1 Analysis Methodology | 27 |
| 5.2 Key Intersection Operational Analysis | 28 |
| 5.3 Pedestrian and Bicycle Evaluation | 30 |
| 5.4 Access Spacing and Internal Roadway Classifications | 30 |
| 5.5 Sight Distance Evaluation | 31 |
| 5.6 Site Circulation Evaluation | 33 |
| 5.7 Safety Analysis | 35 |
| 5.8 Road Impact Fees | 36 |
| 6.0 CONCLUSIONS AND RECOMMENDATIONS | 37 |

APPENDICES

| |
|---|
| Appendix A – Intersection Count Sheets |
| Appendix B – Trip Generation Worksheets |
| Appendix C – Hourly Distribution |
| Appendix D – Intersection Analysis Worksheets |
| Appendix E – NC DOT Queue Worksheet |
| Appendix F – Summary of Crash Data |
| Appendix G – Conceptual Site Plan |

LIST OF TABLES

| | |
|--|----|
| Table 1 – Webster Elementary School Expansion Traffic Generation | 22 |
| Table 2 – Level of Service Definitions | 27 |
| Table 3 – Existing and Future LOS Results..... | 28 |
| Table 4 – Road Impact Fees | 36 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1 – Vicinity Map..... | 6 |
| Figure 2 – Existing Geometry and Control..... | 17 |
| Figure 3 – 2021 Existing Vehicle Traffic Volumes | 19 |
| Figure 4 – 2021 Existing Pedestrian Volumes..... | 20 |
| Figure 5 – Trip Distribution | 24 |
| Figure 6 – 2022 Total Vehicle Traffic Volumes..... | 25 |
| Figure 7 – 2022 Total Pedestrian Volumes | 26 |
| Figure 8 – Roadway Classification Map | 32 |

1.0 EXECUTIVE SUMMARY

Webster Elementary School is proposing an expansion to the existing school located on the southwest corner of the Jersey Lane and Quebec Street intersection in El Paso County, Colorado. Webster Elementary School is planning to expand the existing school and re-configure the parking lots along Syracuse Street while increasing the potential enrollment by 332 students for a potential maximum capacity of 850 students. The existing student enrollment is 518 students, and the future capacity accounts for an increase of approximately 64 percent. It should be noted the existing school has a capacity of 600 students, so it is not currently maximizing the potential enrollment for the existing school. For analysis purposes, it was assumed that the Webster Elementary School Expansion will be completed in the next year; therefore, analysis was conducted for the 2022 school year. However, the buildout year is not critical as the studied intersections are in a fully built out area and future traffic growth is not expected along the local streets other than the expansion of the school; therefore, only a buildout scenario was evaluated in this traffic study. Within the last five years, the new storage facility that was recently constructed to the south likely had a traffic study performed. However, since this facility was completed and open at the time the traffic counts were collected for this study, the storage facility traffic volumes were already on the street network and are provided within the existing count data.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County standards and requirements:

- Jersey Lane and Syracuse Street (Intersection #1)
- Jersey Lane and Bickley Street (#2)
- Jersey Lane and Quebec Street (#3)
- Jersey Lane Faculty Exit (Existing Condition Only) (#4)
- Jersey Lane East Access (Bus Entrance Only) (#5)
- Syracuse Street North Access (Student Drop-off/Pick-up Exit) (#6)
- Syracuse Street South Access (Student Drop-off Pick-up Entrance) (#7)
- Quebec Street Access (Bus Exit Only) (#8)
- Syracuse Street Faculty Entrance (Existing Condition Only) (#9)

Webster Elementary School currently primarily serves the neighborhoods surrounding the school; therefore, limited regional access is currently provided from Interstate 25 (I-25), US-85, and Mesa Ridge Parkway (SH-16). Primary access is provided by Fontaine Boulevard, Fountain Mesa Road, and Syracuse Street while direct access is provided by Jersey Lane, Syracuse Street and Quebec Street.

Webster Elementary School Expansion is expected to generate a net increase of approximately 754 weekday daily trips, with 249 of these trips occurring during the school's morning peak hour and 150 of these trips occurring during the school's afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes the Webster Elementary School expansion project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

- With the expansion of the school, the drop-off and pick-up parking lot along Syracuse Street will expand to the north and the south while the faculty parking lot located on the southeast corner of the Jersey Lane and Syracuse Street intersection will be removed. The expansion of the drop-off and pick-up parking lot will provide additional parking for the faculty/staff and account for the increase in drop-off/pick-up with the proposed increase in students. The entrance to the parking lot is proposed to be moved and align with Fay Drive. The circulation will remain the same with vehicles entering at the south access through the parking lot and exiting to the north.
- The movements at all studied intersections and accesses currently operate acceptably and are expected to continue to operate acceptably with LOS B or better during the peak hours with the school expansion. Therefore, no modifications to the existing lane configurations and control are recommended at the study area key intersections. The existing street network is expected to accommodate the increase in school traffic. However, to further identify the exiting only accesses and to restrict entering movements, R5-1 "Do Not Enter" signs could be installed at the approaches of the Syracuse Street North Access (#6) and the access along Quebec Street (#8). Likewise, to further identify the entrance only accesses and to restrict exiting movements, R6-1 "One Way" signs could be installed at the entering approaches of the Jersey Lane East Access (#5) and the relocated Syracuse Street South Access (#7).

Lastly, R1-1 “Stop” signs could be installed on the exiting approaches of the Syracuse Street North Access (#6) and the Quebec Street Access (#8).

- To mitigate existing conditions and future enrollment capacity of 850 students, the following improvements may be considered by the school:
 - Provide additional school personnel to direct parents with the student drop-off and pick-up circulation. This would potentially allow for additional vehicles to enter the drop-off/pick-up zone to minimize drivers from using other means of drop-off/pick-up in the public right-of-way (ROW) of the adjacent streets.
 - The school could encourage more pedestrian and bicycle traffic and discourage vehicular traffic to reduce the number of vehicle trips to and from the school. Programs could be developed to incentivize reducing single family vehicle trips such as carpooling, bicycle and pedestrian usage. In addition, providing sufficient, convenient, and safe bicycle storage could encourage more bicycle usage.
- Any onsite or offsite improvements will be incorporated into the Civil Drawings and conform to standards of the El Paso County and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

Deviations Required

- A deviation will be provided to request inbound only access to the school along Syracuse Street for the future access aligning with Fay Drive. The entrance only access along Syracuse Street will be located 215 feet north of Harvard Street. According to El Paso County ECM section 2.2.5.B, spacing along an urban residential collector roadway shall be spaced 330 feet to a local roadway. This access being inbound only, relocated, and meeting acceptable operations, it is believed the access should be granted.

Please provide deviation request.

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study for the proposed school expansion at the existing Webster Elementary School located on the southwest corner of the Jersey Lane and Quebec Street intersection in El Paso County, Colorado. A vicinity map illustrating Webster Elementary School location is shown in **Figure 1**. Webster Elementary School is planning to expand the existing school and re-configure the parking lots along Syracuse Street while increasing the potential enrollment by 332 students for a potential maximum capacity of 850 students. A conceptual site plan is attached in **Appendix G**. The existing student enrollment is 518 students, and the future capacity accounts for an increase of approximately 64 percent. It should be noted the existing school has a capacity of 600 students, so it is not currently maximizing the potential enrollment for the existing school. For analysis purposes, it was assumed that the Webster Elementary School Expansion will be completed in the next year; therefore, analysis was conducted for the 2022 school year. However, the buildout year is not critical as the studied intersections are in a fully built out area and future traffic growth is not expected along the local streets other than the expansion of the school; therefore, only a buildout scenario was evaluated in this traffic study.

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- Syracuse Street Faculty Entrance (Existing Condition Only) (#9)

Webster Elementary School currently primarily serves the neighborhoods surrounding the school; therefore, limited regional access is currently provided from Interstate 25 (I-25), US-85, and Mesa Ridge Parkway (SH-16). Primary access is provided by Fontaine Boulevard, Fountain Mesa Road, and Syracuse Street while direct access is provided by Jersey Lane, Syracuse Street and Quebec Street.

It is believed the only development to be built within the past 5 years near the vicinity of the site is the Blue Sky Self Storage, directly south of the school. A traffic study was performed prior to the self-storage opening. Since the self-storage facility was open when the traffic counts were performed, the development traffic is included in the existing traffic counts.

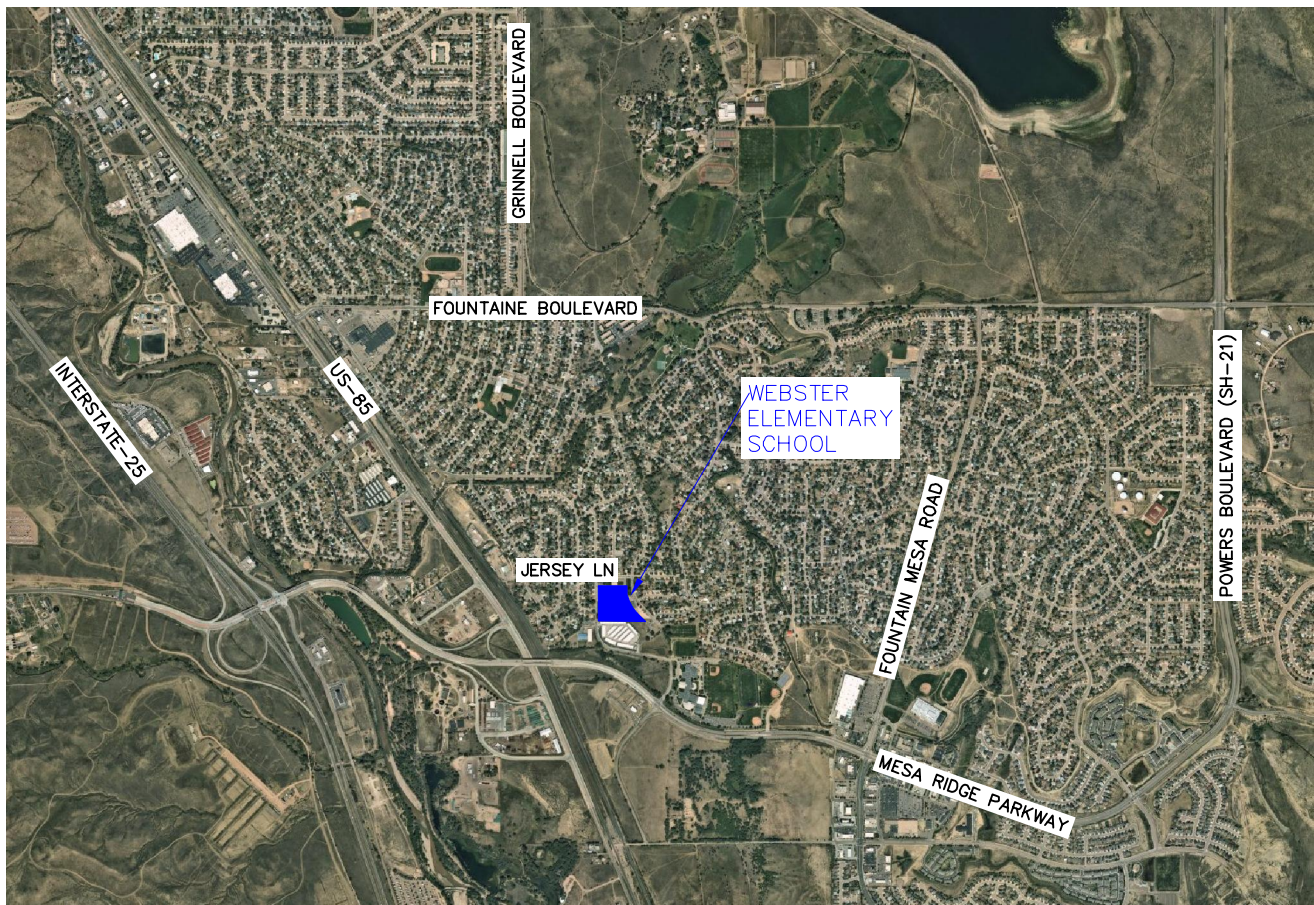


FIGURE 1
WEBSTER ELEMENTARY SCHOOL
EL PASO COUNTY, COLORADO
VICINITY MAP

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site contains Webster Elementary School while single family residential homes are in the immediate surrounding area. A storage facility is located to the south of the site while James Madison Charter Academy is located southwest of the site. Santa Fe Avenue (US-85) is located in the extended area to the west while Mesa Ridge Parkway is located in the extended area to the south.

3.2 Existing and Future Roadway Network

Jersey Lane extends in the east-west direction as a two-lane roadway and has a posted speed limit of 20 miles per hour (mph) near the school.

Fay Drive extends in the east-west direction as a two-lane roadway when intersecting with Syracuse Street but bends to be a north-south street when intersecting with Jersey Lane. The roadway does not provide a posted speed limit, but the neighborhood characteristics would assume 20 mph.

Syracuse Street, Bickley Street, and Quebec Street extend northbound and southbound and provide one through lane in each direction. The posted speed limits are 20 mph near the school and increases to 25 mph at the posted “End School Zone” signs.

The unsignalized intersection of Jersey Lane and Syracuse Street (#1) operates with stop control on all four approaches. In addition, all four approaches provide a single lane shared with all movements. An aerial photo of the existing intersection configuration is below (north is up - typical).



Jersey Lane & Syracuse Street (#1)

The signalized 'T'-intersection of Jersey Lane and Bickley Street (#2) operates with permissive only phasing on all three approaches with signal control intended for pedestrian crossings. All three approaches provide a single lane shared with all movements. An aerial photo of the existing intersection configuration is below.



Jersey Lane & Bickley Street (#2)

The unsignalized intersection of Jersey Lane and Quebec Street (#3) operates with stop control on all four approaches. In addition, all four approaches provide a single lane shared with all movements. An aerial photo of the existing intersection configuration is below.



Jersey Lane & Quebec Street (#3)

The unsignalized 'T'-intersection of the Jersey Lane Faculty Exit (#4) operates with assumed stop control on the northbound exiting approach of the West Access. A stop sign is not present on the northbound exiting approach of this access intersection. This access allows exiting movements only and is intended only for faculty use. The exiting northbound approach of this access intersection provides a single shared lane for left and right turning movements. The faculty parking lot and accesses are proposed to be removed with the expansion of the school. An aerial photo of the existing intersection configuration is below.



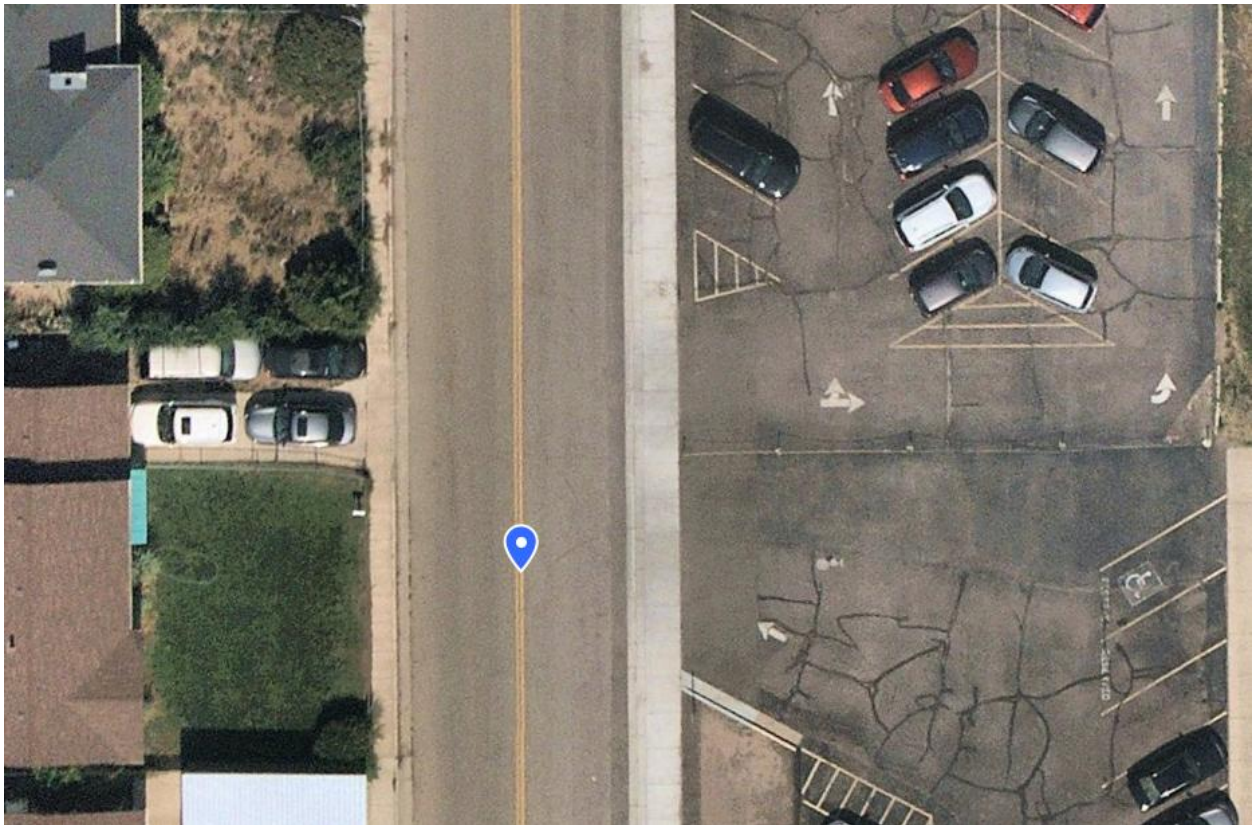
Jersey Lane Faculty Exit (Existing Condition Only) (#4)

The unsignalized 'T'-intersection of the Jersey Lane East Access (#5) operates as an inbound-only uncontrolled access. Therefore, stop control is not present at this intersection. This access is intended for school buses only and is signed accordingly with "School Buses Only" on the southbound entering approach. The eastbound approach of this access intersection provides a shared through/right turn lane while the westbound approach provides a shared left turn/through lane. An aerial photo of the existing intersection configuration is below.



Jersey Lane East Access (Bus Entrance) (#5)

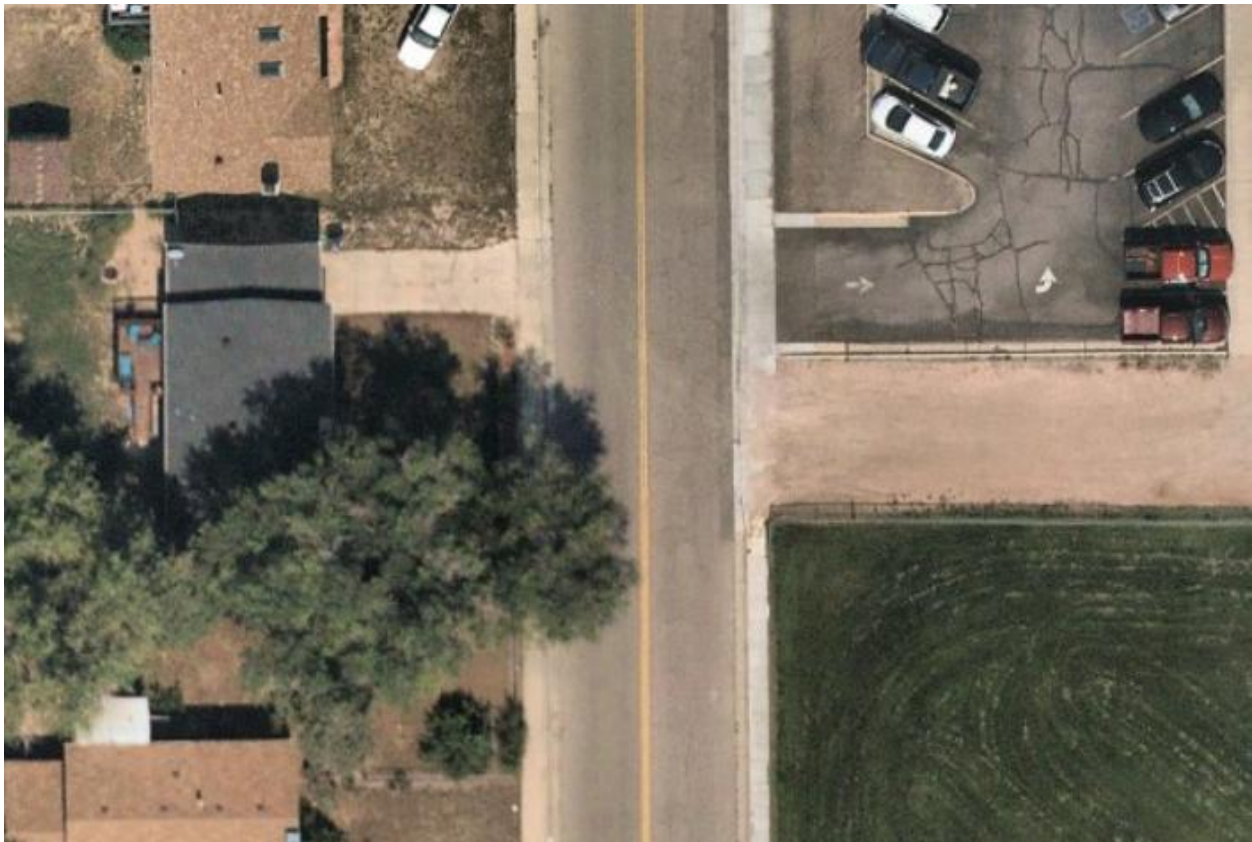
The unsignalized 'T'-intersection of the Syracuse Street North Access (#6) operates with assumed stop control on the westbound exiting approach of the North Access. A stop sign is not present on the westbound exiting approach of this access intersection. The Faculty Entrance Access (#9) and North Access (#6) along Syracuse Street is divided with a chain to separate the faculty and student pick-up/drop-off parking lots. This access allows exiting movements only and is primarily intended for student drop-off/pick-up use during the peak student drop-off and pick-ups times. Faculty parking and use is also provided at this access but primarily occurs outside of the peak student drop-off and pick-ups times. The exiting west approach of this access intersection provides a single shared lane for left and right turning movements. It should be noted that this access is proposed to be reconfigured and located approximately 50 feet north of the current alignment. An aerial photo of the existing intersection configuration is below.



Syracuse Street North Access (Existing Student Drop-off/Pick-up Exit) (#6)

The unsignalized 'T'-intersection of the Syracuse Street South Access (#7) operates as an inbound-only uncontrolled access. Therefore, stop control is not present at this intersection. The South Access is primarily intended for student drop-off/pick-up use during the peak student drop-off and pick-ups times. Faculty parking and use is also provided at this access but primarily occurs outside of the peak student drop-off and pick-ups times. The northbound approach of this access provides a shared through/right turn lane while the southbound approach includes a shared left turn/through lane. Of note, a small additional dirt lot is located directly south of this access and several parents were observed using this lot for additional pick-up and drop-offs. An aerial photo of the existing intersection configuration is below.

With the expansion of the school, this drop-off/pick-up area and lot will extend to the south. The entrance will align with Fay Drive, and it is proposed that this access will provide the same circulation patterns as existing with drop-off/pick-up entering from the south and exiting to the north.



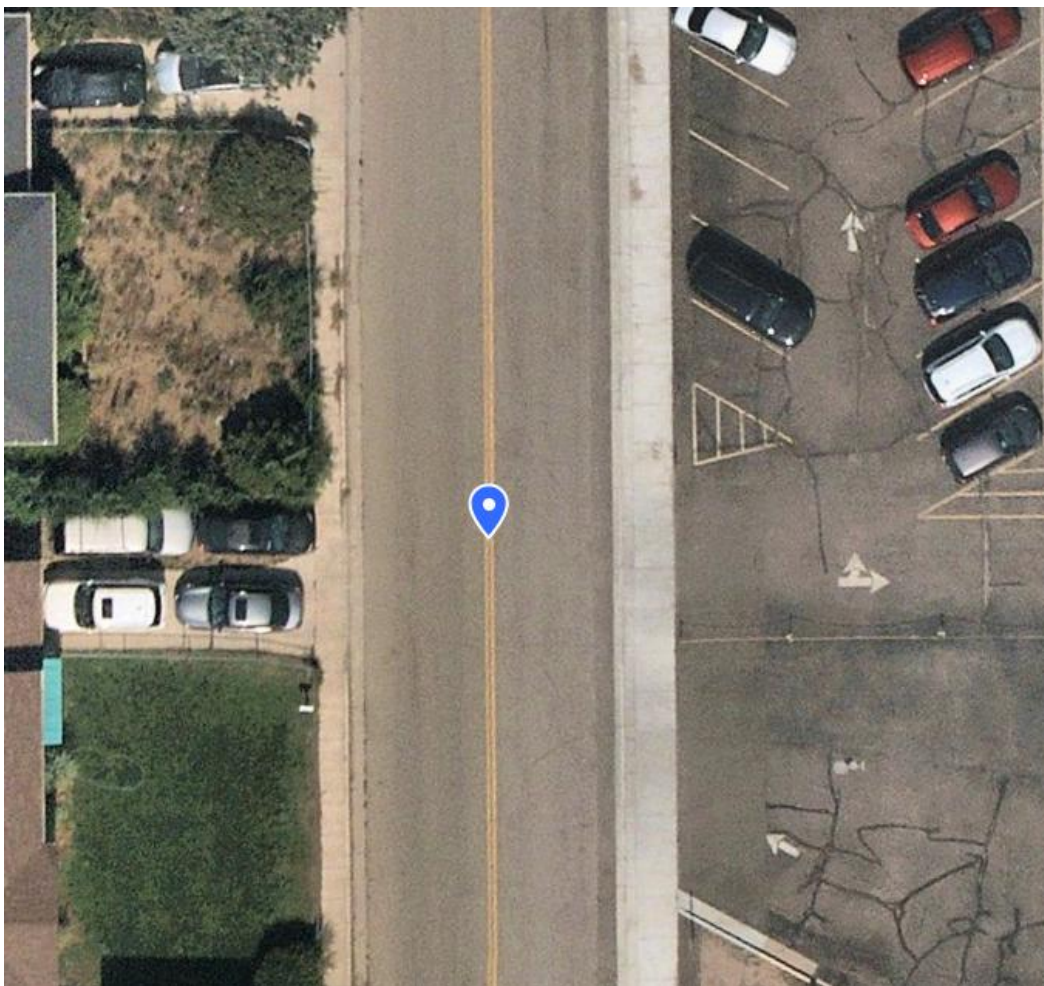
Syracuse Street South Access (Existing Student Drop-off/Pick-up Entrance) (#7)

The unsignalized 'T'-intersection of the Quebec Street Access (#8) operates with assumed stop control on the eastbound exiting approach this access. A stop sign is not present on the eastbound exiting approach of this access intersection. The access is designated for school buses only and is intended for outbound-only bus traffic. The exiting eastbound approach of this access intersection provides a single lane shared between the left and right movements. An aerial photo of the existing intersection configuration is below.



Quebec Street Access (Bus Exit Only) (#8)

The unsignalized 'T'-intersection of the Syracuse Street Faculty Entrance (#9) operates as an inbound-only uncontrolled access. Therefore, stop control is not present at this intersection. The North Access is intended inbound-only faculty traffic. The Faculty Entrance (#9) and North Access (#6) along Syracuse Street is divided with a chain to separate the faculty and student pick-up/drop-off parking lots. The northbound approach of this access provides a shared through/right turn lane while the southbound approach includes a shared left turn/through lane. Of note, vehicle traffic was not observed entering this access during the peak hours of the school traffic. The faculty parking lot and accesses are proposed to be removed with the expansion of the school. An aerial photo of the existing intersection configuration is below.



Syracuse Street Faculty Entrance (Existing Conditions Only) (#9)

The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.

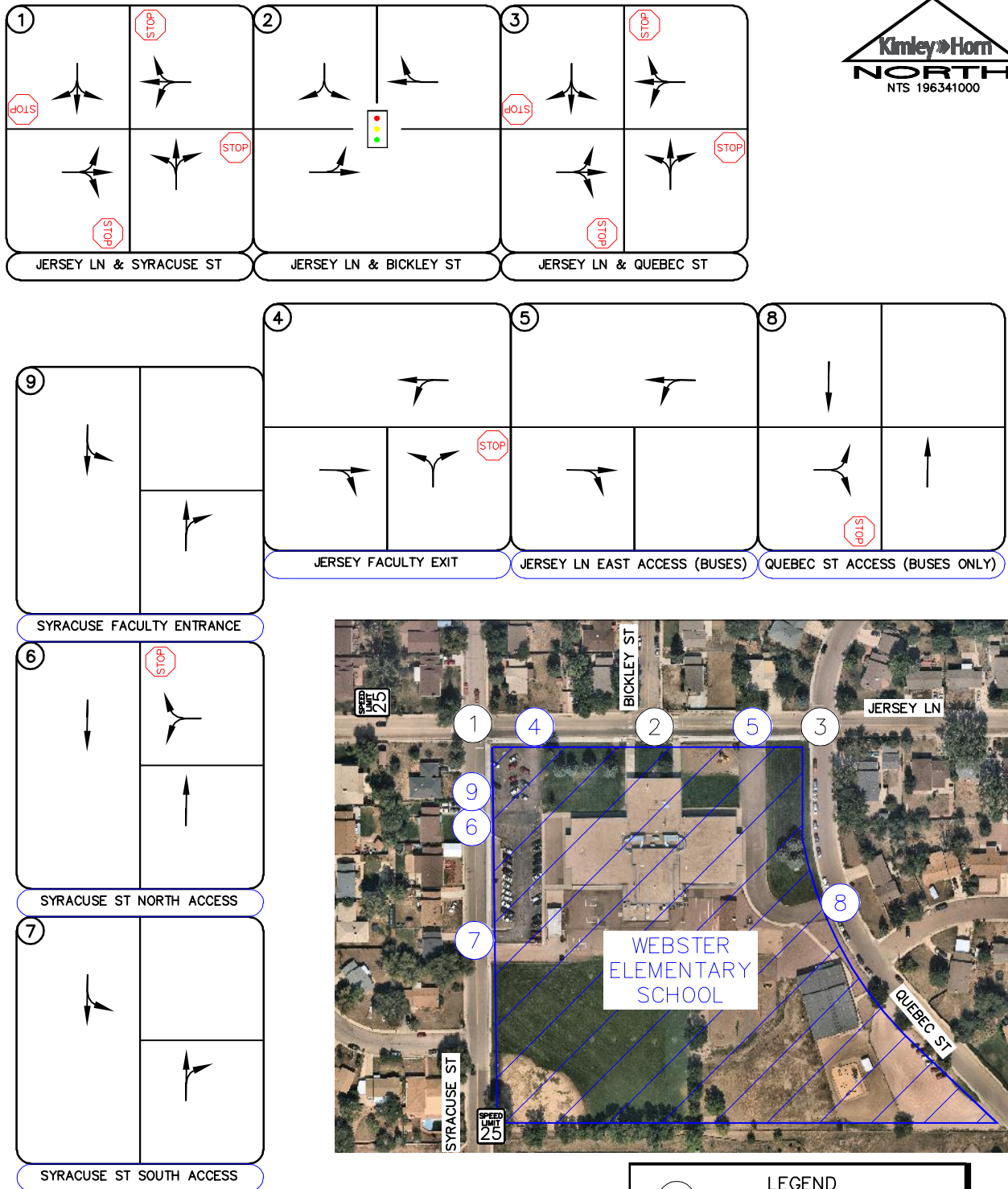
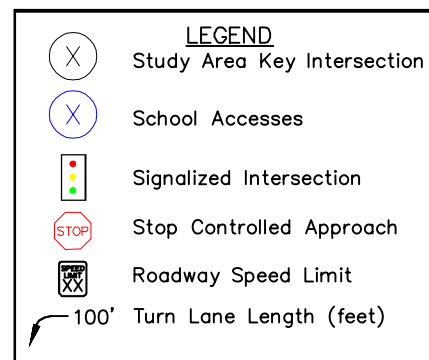


FIGURE 2
 WEBSTER ELEMENTARY SCHOOL
 EL PASO COUNTY, COLORADO
 EXISTING GEOMETRY AND CONTROL



3.3 Existing Traffic Volumes

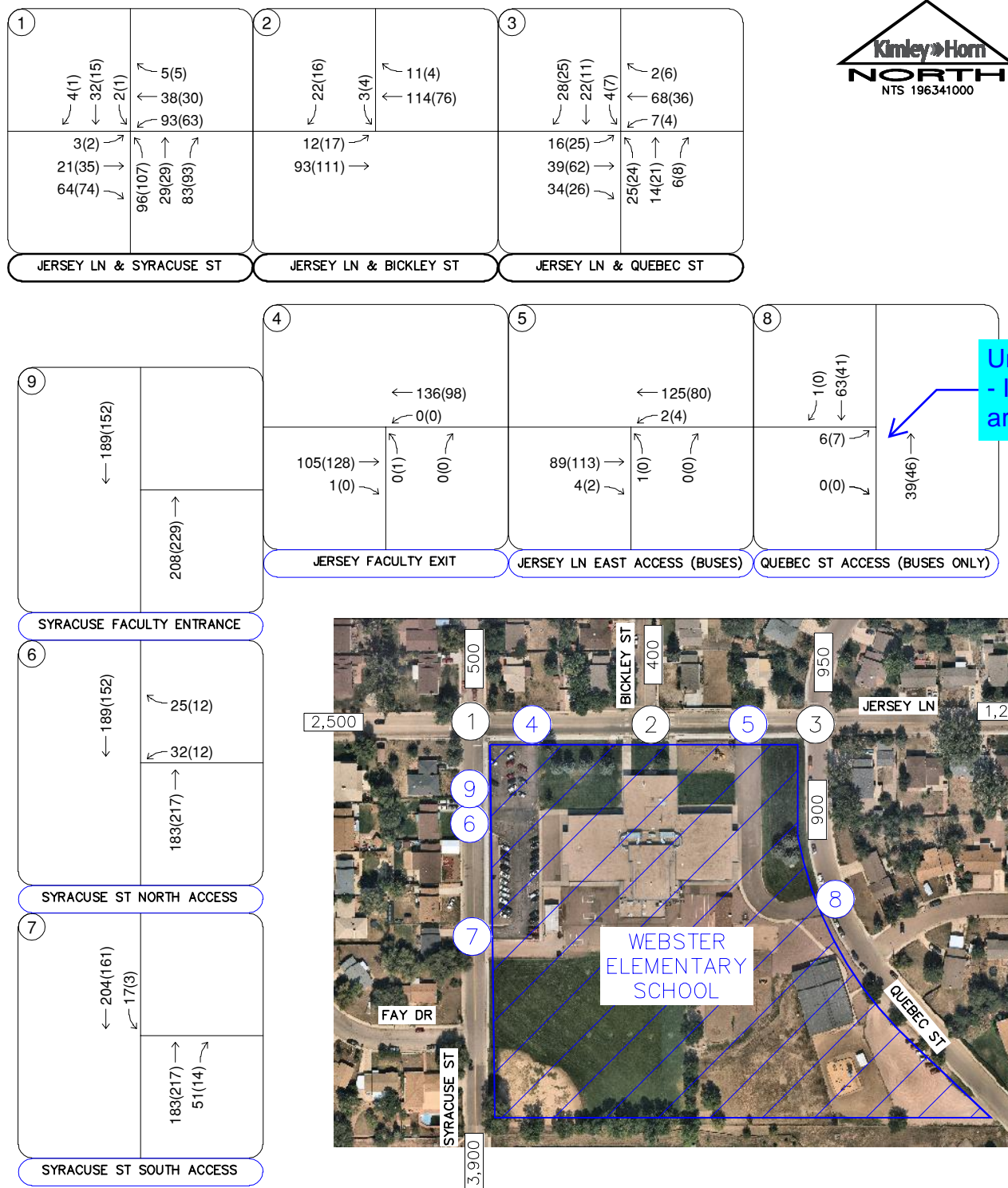
Existing vehicle turning movement counts and pedestrian counts were conducted at the study intersections on Thursday, December 2, 2021 during the school's morning and afternoon peak hours. The school's bell schedule signals a start at 8:00 AM and ending at 2:40 PM. Therefore, the counts were conducted during the morning and afternoon peak hours of the school traffic in 15-minute intervals from 7:15 AM to 8:15 AM and 2:15 PM to 3:15 PM on this count date.

The in and out volumes at the school's driveways were counted during the school's morning and afternoon peak hours also. The through volumes at the driveways along Syracuse Street, Jersey Lane, and Quebec Street were balanced based on the in and out movements at the adjacent intersections. The average daily traffic volumes were calculated based on the estimation that the afternoon peak hour of generator is 10 percent of the daily traffic volume.

The existing intersection vehicle traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix A**. Likewise, existing pedestrian counts are shown in **Figure 4**.

3.4 Unspecified Development Traffic Growth

The Webster Elementary School Expansion is planned to have a potential increased enrollment from 518 students to a capacity of 850 students for the 2022-2023 school year. It should be noted that the future capacity of the school is not expected to occur in the first year; however, the full capacity of students was utilized to provide a conservative analysis. Of note, the buildout year is not critical as the studied intersections are in a fully built out area and future traffic growth is not expected along the local streets other than the expansion of the school; therefore, future volumes at the studied intersections consist of existing plus net increase of school traffic. Of note, possible expansions of nearby James Madison Charter School or Mesa Ridge High School are not known at this time.



All Intersection Counts Collected On:
Thursday, December 2, 2021
7:15 to 8:15AM (2:15 to 3:15PM)

FIGURE 3
WEBSTER ELEMENTARY SCHOOL
EL PASO COUNTY, COLORADO
2021 EXISTING TRAFFIC VOLUMES

| LEGEND | |
|----------|---|
| | Study Area Key Intersection |
| | School Accesses |
| xxx(xxx) | Weekday AM(PM) Peak Hour Traffic Volumes |
| xx,x00 | Estimated Daily Traffic Volume |

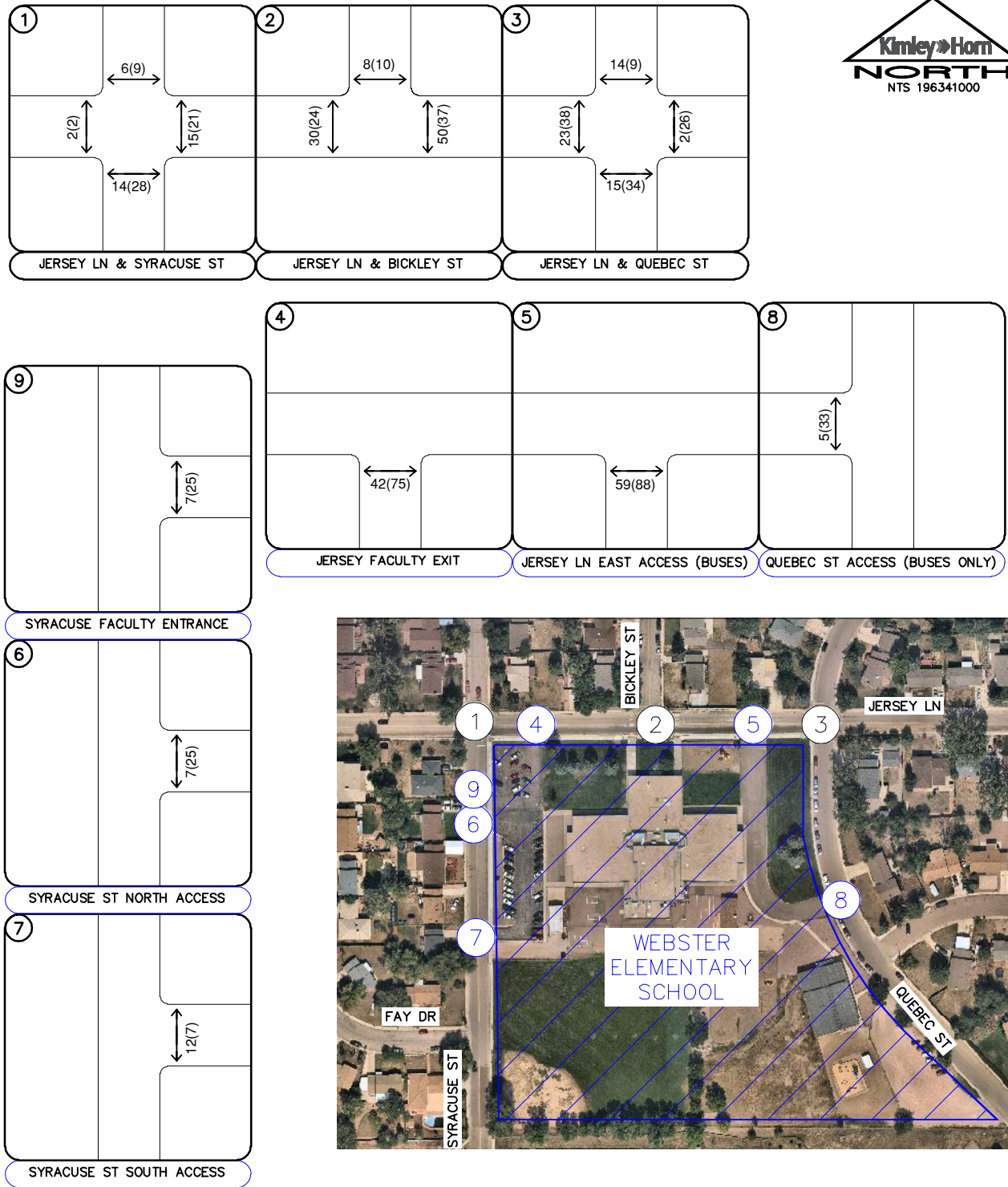


FIGURE 4
 WEBSTER ELEMENTARY SCHOOL
 EL PASO COUNTY, COLORADO
 2021 EXISTING PEDESTRIAN VOLUMES

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. The ITE Trip Generation Report fitted curve equations that applies to Elementary School (ITE Land Use Code 520) was used to determine the increase in trips from the existing 518 students to future capacity of 850 students. For this study, Kimley-Horn used the current conditions at the school driveways to predict future driveway trips associated with the expansion of the elementary school. The existing school has a current enrollment of 518 students and is proposed to increase to a maximum capacity of 850 students. This equates to an increase of approximately 64 percent which was applied to the existing entering and exiting driveway counts to predict future entering and exiting driveway volumes.

When the traffic counts were collected, observations and video footage showed parents dropping-off and picking-up students in the right-of-way of Syracuse Street, Jersey Lane, Bickley Street, and Quebec Street. Of note, Quebec Street does not provide access to the external street network, and it is believed the majority of traffic volumes on the south leg of the Jersey Lane and Quebec Street intersection are vehicles parking in the public ROW for student pick-up and drop-off. From the volumes into and out of Quebec Street from Jersey Lane, 90 percent of the traffic was assumed to be associated with student pick-up and drop-off.

Based on ITE trip generation, the 850-student enrollment increases trip generation by 64 percent or a factor of 1.64 when compared to the existing 518 student enrollment. The existing traffic volumes along Quebec Street (south of Jersey Lane) were also increased by 64 percent to account for future student drop-off and pick-up volumes in the ROW of Quebec Street. Therefore, the remaining school traffic (beyond driveway volumes and Quebec Street ROW) is still using the

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

ROW of Syracuse Street, Jersey Lane, and Bickley Street. As such, traffic volumes were also added to the surrounding street network and are based on a proportionate share of the increase of enrollment to 850 students from the existing 518 students.

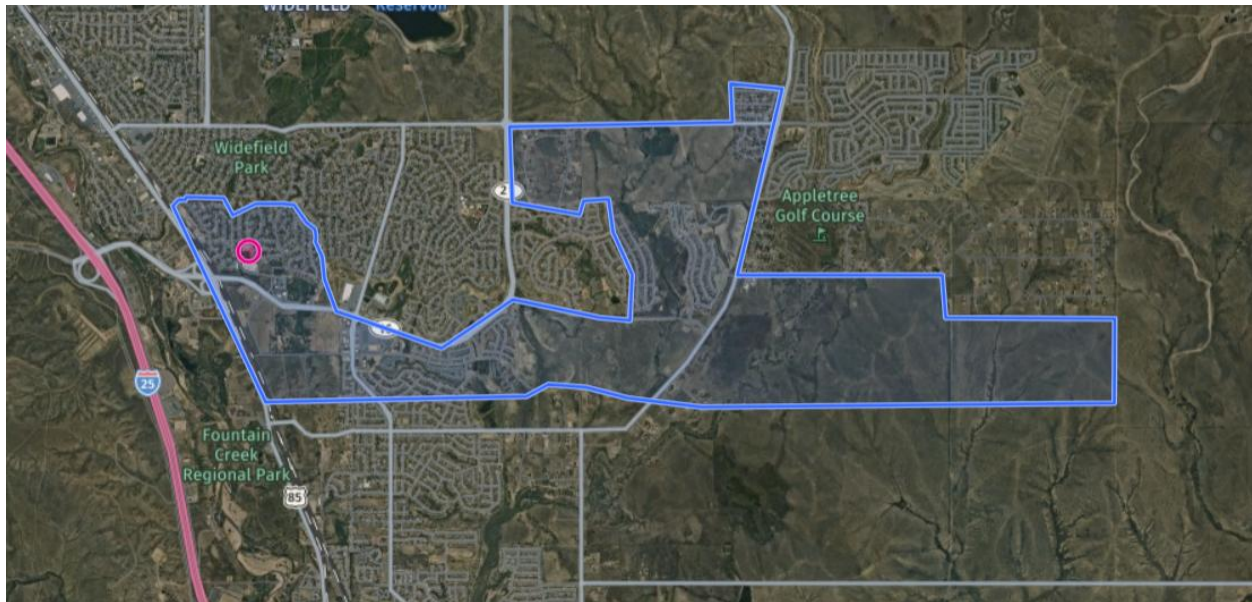
The Webster Elementary School expansion is expected to generate a net increase of approximately 754 weekday daily trips, with 249 of these trips occurring during the school's morning peak hour and 150 of these trips occurring during the school's afternoon peak hour. Calculations were based on the procedure and information provided in the *ITE Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook, 2021*. **Table 1** summarizes the estimated trip generation for the Webster Elementary School Expansion. The trip generation worksheets are included in **Appendix B**. In addition, an hourly distribution table in 15-minute intervals is included in **Appendix C**.

Table 1 – Webster Elementary School Expansion Traffic Generation

| Land Use and Size | Weekday Vehicle Trips | | | | | | |
|---|-----------------------|---------------------|-----|-------|---------------------|-----|-------|
| | Daily | School AM Peak Hour | | | School PM Peak Hour | | |
| | | In | Out | Total | In | Out | Total |
| ITE Trip Generation | | | | | | | |
| (A) Elementary School (ITE 520) – Existing 518 Students | 1,176 | 210 | 179 | 389 | 107 | 126 | 233 |
| (B) Elementary School (ITE 520) – Future 850 Students | 1,930 | 345 | 293 | 638 | 176 | 207 | 383 |
| (C) Increase in ITE Trips | 754 | 135 | 114 | 249 | 69 | 81 | 150 |
| Site Specific Data – Existing 518 Students | | | | | | | |
| (D) Existing Counts Driveway Counts 518 Students | | 76 | 64 | 140 | 23 | 32 | 55 |
| (E) Existing ROW Counts along Quebec St | | 57 | 41 | 98 | 37 | 48 | 85 |
| School Expansion – 850 Students | | | | | | | |
| (F) Future Driveway Volumes ($F = D*1.64$) | | 125 | 105 | 230 | 38 | 52 | 90 |
| (G) Future Quebec ROW Volumes ($G = E*1.64$) | | 93 | 67 | 160 | 60 | 79 | 139 |

4.2 Trip Distribution

Webster Elementary School serves the neighboring residential neighborhood to the north, south, and east of the site. As shown in the aerial clip below with the school's zoning boundary, most the school's attendance zone east of Powers Boulevard and south of Mesa Ridge Parkway is undeveloped land. The trip distribution is based on the existing driveway counts and the future residential developments that will be zoned for Webster Elementary School. A majority of the homes are within the two-mile radius. However, future residential development to the east will bring in the extra bus proposed with the school's expansion. Accounting for the existing school zone map, the school's trip distribution at the intersections in the study area is illustrated in **Figure 5**.



Webster Elementary School Boundary Map

(<https://colorado.hometownlocator.com/schools/profiles.n.webster%20elementary%20school.z.80911.t.pb.i.1021068.cfm>)

4.3 Total (Background Plus Project) Traffic

The remaining site generated traffic volumes associated with the Webster Elementary School expansion were added to the existing traffic volumes to represent estimated traffic conditions for a maximum enrollment of 850 students. These total vehicle traffic volumes for the study area are illustrated for the opening 2022 year in **Figures 6** while the total pedestrian volumes accounting for the school expansion are shown in **Figure 7**.

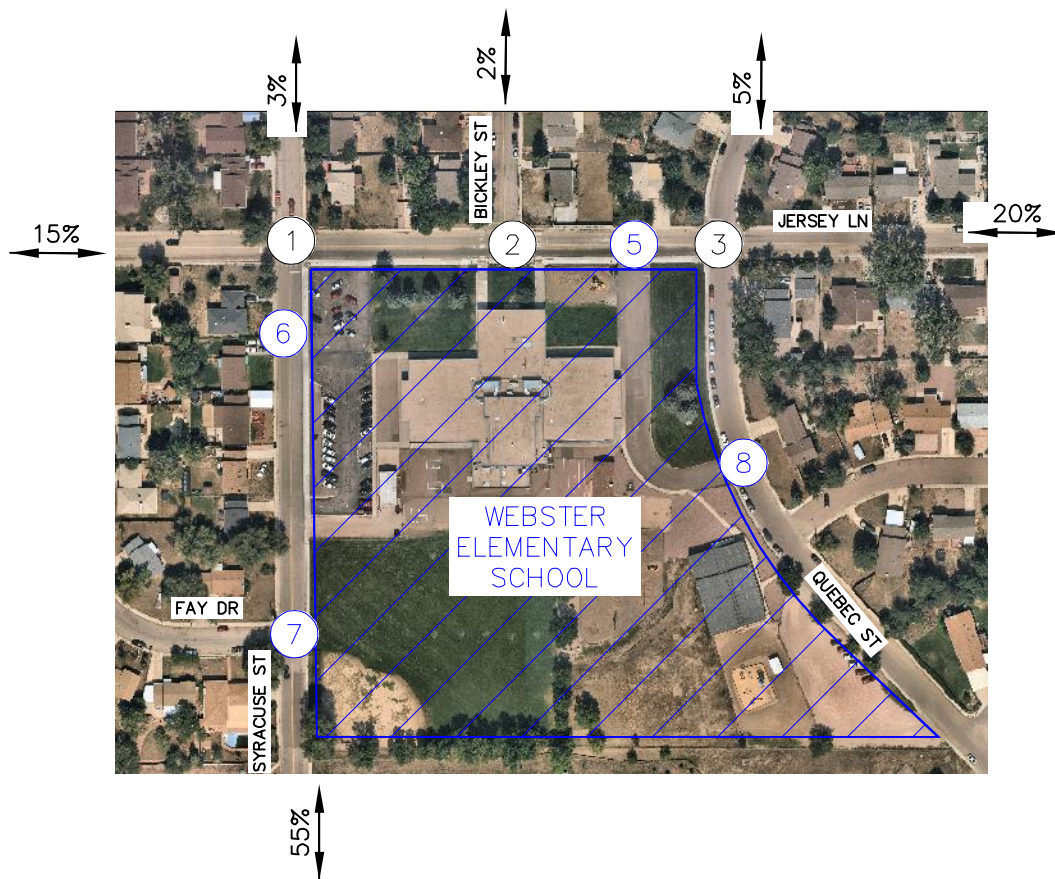
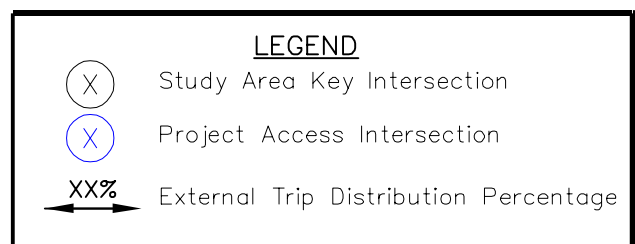


FIGURE 5
WEBSTER ELEMENTARY SCHOOL
EL PASO COUNTY, COLORADO
TRIP DISTRIBUTION



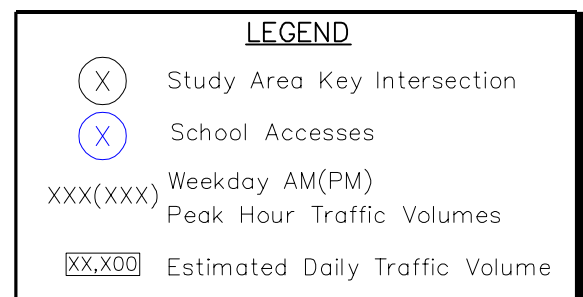
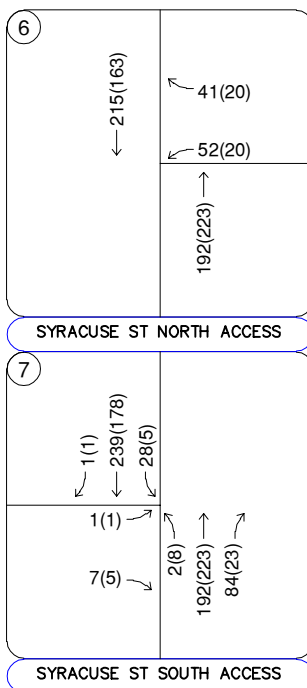
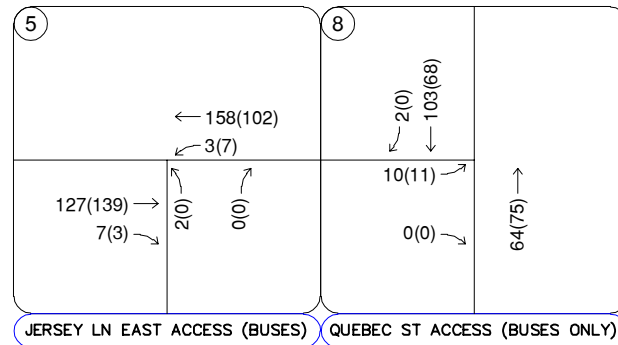
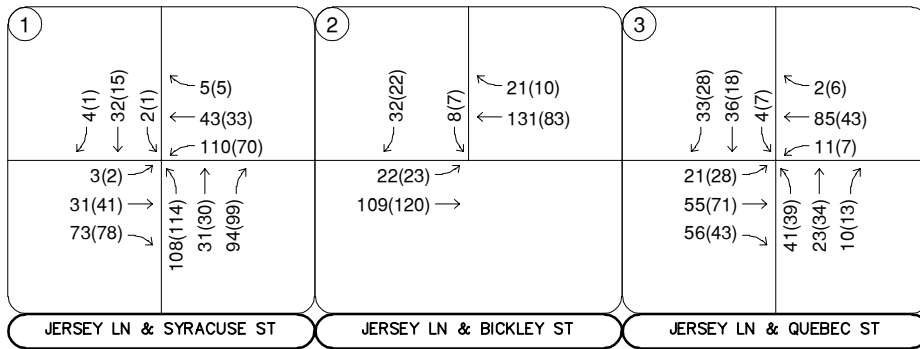


FIGURE 6
 WEBSTER ELEMENTARY SCHOOL
 EL PASO COUNTY, COLORADO
 2022 TOTAL TRAFFIC VOLUMES

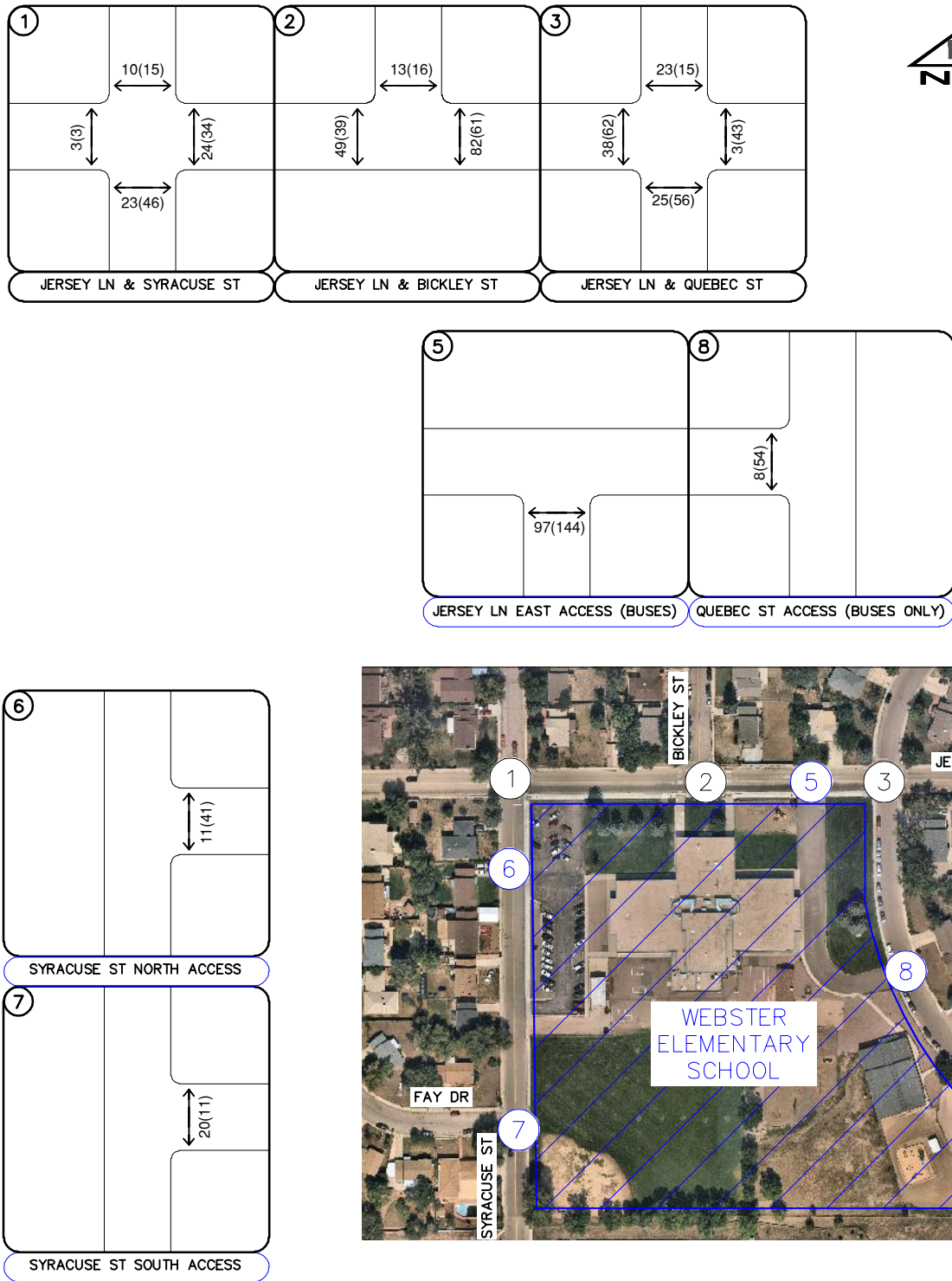


FIGURE 7
 WEBSTER ELEMENTARY SCHOOL
 EL PASO COUNTY, COLORADO
 2022 TOTAL PEDESTRIAN VOLUMES

LEGEND

- (X) Study Area Key Intersection
- (X) School Accesses
- ↔ Weekday AM(PM)
 XX(XX) Peak Hour Pedestrian Volumes

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2022 development horizon at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*².

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

| Level of Service | Signalized Intersection Average Total Delay (sec/veh) | Unsignalized Intersection Average Total Delay (sec/veh) |
|------------------|---|---|
| A | ≤ 10 | ≤ 10 |
| B | > 10 and ≤ 20 | > 10 and ≤ 15 |
| C | > 20 and ≤ 35 | > 15 and ≤ 25 |
| D | > 35 and ≤ 55 | > 25 and ≤ 35 |
| E | > 55 and ≤ 80 | > 35 and ≤ 50 |
| F | > 80 | > 50 |

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.












Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.



² Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Existing peak hour factors were utilized in the existing and 2022 horizon analysis years. Synchro traffic analysis software was used to analyze the signalized, and unsignalized key intersections for HCM level of service. **Table 3** provides the level of service operational results of all the study intersections.

Table 3 – Existing and Future LOS Results

| Intersection | Movement | Control | 2021 Existing | | 2022 Total | |
|---|---------------------|---|---------------|--------------|-------------------------------|--------------|
| | | | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour |
| | | | LOS (Delay) | LOS (Delay) | LOS (Delay) | LOS (Delay) |
| Jersey Lane & Syracuse Street (#1) | Overall | | 9.1 A | 10.6 B | 9.6 A | 11.1 B |
| | Eastbound Approach |  | 8.1 A | 9.2 A | 8.5 A | 9.5 A |
| | Westbound Approach |  | 9.3 A | 9.8 A | 9.8 A | 10.2 B |
| | Northbound Approach |  | 9.6 A | 11.7 B | 10.2 B | 12.5 B |
| | Southbound Approach |  | 8.2 A | 8.5 A | 8.4 A | 8.7 A |
| Jersey Lane & Bickley Street (#2) | Signal (Overall) |  | 6.3 A | 6.2 A | 6.4 A | 6.2 A |
| Jersey Lane & Quebec Street (#3) | Overall | | 8.0 A | 8.4 A | 8.7 A | 9.3 A |
| | Eastbound Approach |  | 8.0 A | 8.8 A | 8.8 A | 9.8 A |
| | Westbound Approach |  | 8.1 A | 8.1 A | 8.8 A | 8.6 A |
| | Northbound Approach |  | 8.0 A | 8.4 A | 8.8 A | 9.3 A |
| | Southbound Approach |  | 7.7 A | 7.9 A | 8.4 A | 8.4 A |
| Jersey Lane Faculty Exit (#4) | Northbound Approach |  | 0.0 A | 10.7 B | Removed with School Expansion | |
| Jersey Lane East Access (#5) – (Inbound Bus Access) | Westbound Left | | 0.2 A | 0.4 A | 0.2 A | 0.6 A |
| Syracuse Street North Access (#6) (Student drop-off/pick-up Exit) | Westbound Approach |  | 12.5 B | 11.9 B | 14.3 B | 12.4 B |
| Syracuse Street South Access (#7) (Student drop-off/pick-up entrance) | Southbound Left | | 1.0 A | 0.2 A | Relocated | |

| Intersection | Movement | Control | 2021 Existing | | 2022 Total | |
|--|--------------------|---|--|--------------|-------------------------------|--------------|
| | | | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour |
| | | | LOS (Delay) | LOS (Delay) | LOS (Delay) | LOS (Delay) |
| Syracuse Street South Access (#7) (Student drop-off/pick-up entrance) – Proposed to align with Fay Drive | Northbound Left | | Associated with School Expansion in 2022 | | 8.1 A | 7.9 A |
| | Eastbound Approach |  | | | 11.3 B | 10.6 B |
| | Southbound Left | | | | 8.3 A | 8.1 A |
| Quebec Street Access (#8) – (Outbound Bus Access) | Eastbound Approach |  | 9.7 A | 9.5 A | 10.6 B | 10.3 B |
| Syracuse Street Faculty Entrance (#9) | Southbound Left | | No Observed Vehicles | | Removed with School Expansion | |

Green = LOS A-C, Yellow = LOS D (Not Experienced), Orange = LOS E (Not Experienced), Red = LOS F (Not Experienced)

As shown in **Table 3**, the movements at all of the studied intersections and accesses currently operate acceptably and are expected to continue to operate acceptably with LOS B or better during the peak hours with the school expansion.

As shown in the table, the Faculty Accesses (Intersections #4 and #9) will be removed when the school is expanded and the parking lot along Syracuse Street is re-configured. In addition, the south entrance along Syracuse Street is proposed to align with Fay Drive when the drop-off/pick-up parking lot expands to the south.

Therefore, no modifications to the existing lane configurations and control are recommended at the study area key intersections. The existing street network is expected to be able to accommodate the increase in school traffic. However, to further identify the exiting only accesses and to restrict entering movements, R5-1 “Do Not Enter” signs could be installed at the approaches of the Syracuse Street North Access (#6) and the access along Quebec Street (#8). Likewise, to further identify the entrance only accesses and to restrict exiting movements, R6-1 “One Way” signs could be installed at the entering approaches of the Jersey Lane East Access (#5) and the relocated Syracuse Street South Access (#7). Lastly, R1-1 “Stop” signs could be installed on the exiting approaches of the Syracuse Street North Access (#6) and the Quebec Street Access (#8).

In addition, exclusive left turn lanes are warranted for ingress turning volumes of 25 vehicles per hour or greater whereas exclusive right turn lanes are warranted for ingress turning volumes of 50 vph or greater along “Minor Arterial and Lower Classification”. Of note, the surrounding roadway network primarily consists of local streets without the implementation of any designated left and right turn lanes; therefore, auxiliary turn lanes are not recommended at the studied intersections. Further, all studied intersections are expected to operate at LOS B or better during the peak hours.

5.3 Pedestrian and Bicycle Evaluation

There are existing sidewalks located along both sides of Jersey Lane, Syracuse Street, Bickley Street, and Quebec Street. East-west crosswalk pavement markings are provided along Syracuse Street and Quebec Street intersecting with Jersey Lane. In addition, North-south crosswalk pavement markings are provided along Jersey Lane at Bickley Street. Even though the crosswalk pavement markings are provided on only some of the intersection legs, crossings can occur and are only allowed at any leg of the Jersey Lane intersections with Syracuse Street, Bickley Street, and Quebec Street. There are currently no on-street bike lanes along any of the surrounding roadways.

5.4 Access Spacing and Internal Roadway Classifications

The studied roadways all meet the characteristics of as urban local roadway with exception of the Syracuse Street south of Jersey Lane. According to El Paso Engineering Criteria Manual (ECM), spacing of roads along local roadways is 175 feet, whereas spacing along collector residential roadways is 330 feet when intersecting with local roadways.

All existing and proposed intersection spacing meet the intersection spacing guidelines outlined in the ECM with the exception at three locations. The access spacing between the existing Buckley Street and the Bus Entrance along Jersey Lane provides 160 feet of spacing (measured center to center) and the access spacing between the Bus Entrance and Quebec Street provides 110 feet of spacing (measured center to center). Both locations are existing, and the Bus Entrance is an inbound only access. The existing north access along Syracuse Street only provides 150 feet (measured center to center) to Jersey Lane instead of ECM standards of 330 feet. This access is proposed to be an outbound only with the future expansion. These three accesses are existing and have been constructed to substandard access spacing. The future inbound only

access aligning with Fay Drive along Syracuse Street is 345 feet (measured center to center) from the North Access. Whereas the Fay Drive alignment access is only 215 feet (measured center to center) to Harvard Street. Therefore, a deviation will need to be provided to requires for this proposed access to remain at the proposed location.

The average daily traffic (ADT) among the studied roadways is expected to be less than 3,000 vehicles per day (vpd) with exception of Syracuse Street south of Jersey Lane. The south leg of Jersey Lane and Syracuse Street has a projected ADT of 4,100 vpd which matches the classification of an urban residential collector roadway. **Figure 8** illustrates the street classification map and the access spacing for the surrounding area.

5.5 Sight Distance Evaluation

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. ECM design intersection sight distances for left turn from stop at all the study intersection is recommended to provide an intersection sight distance of 280 feet. Of note, because the intersections are between two local roadways or a local and an access, the distance from the driver's eye to the edge of pavement can be reduced to 10 feet (footnote 2 in Table 2-21 of the ECM) and the sight distance can be measured to the centerline of the road. It is believed that all existing intersections provide the necessary sight distance.

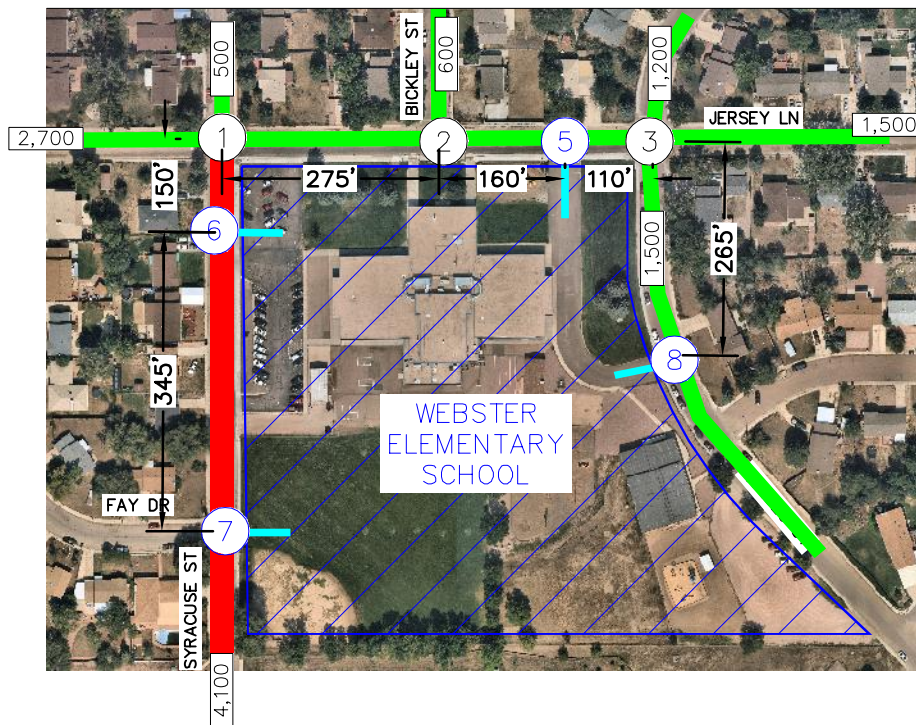
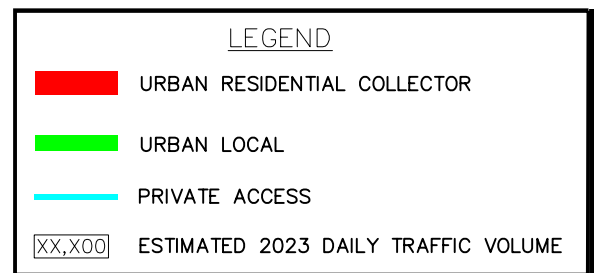


FIGURE 8
WEBSTER ELEMENTARY SCHOOL
EL PASO COUNTY, COLORADO
ROADWAY CLASSIFICATION MAP



5.6 Site Circulation Evaluation

Based on the videos and counts at the study intersections, the Syracuse Street North Access and South Access are used for student drop-off/pick-up on the west side of the school. Vehicles enter the south access, circulate counterclockwise and drop off or pick up the student, and then exit from the north access along Syracuse Street. With this circulation pattern for student drop-offs and pick-ups, the passenger side of vehicles is appropriately located on the side of the school to minimize vehicle doors opening on the side with circulating traffic. Two vehicles were observed extending beyond the student drop-off area and to the south along Syracuse Street during the arrival morning peak hour. Likewise, approximately 10 vehicles were observed extending beyond the student pick-off area and to the south along Syracuse Street during the dismissal afternoon peak hour.

The existing parking lot to the north of the designated student drop-off and pick-up area is intended for faculty and generated negligible volumes during the school's peak morning and afternoon hours. Typically, faculty and staff arrive prior to student drop-off and depart after student pick-up. Faculty enter from the Syracuse Street Faculty Entrance and circulate counterclockwise while exiting from the Jersey Lane Faculty Exit. Of note, vehicle traffic was not observed entering the north access along Syracuse Street during the peak hours of the school traffic, and this portion of the parking lot will be removed with the expansion of the school.

With the expansion of the school, the drop-off and pick-up parking lot along Syracuse Street will expand to the north and the south while the faculty parking lot located on the southeast corner of the Jersey Lane and Syracuse Street intersection will be removed. The expansion of the drop-off and pick-up parking lot will provide additional parking for the faculty/staff and account for the increase length in the drop-off/pick-up zone with the proposed increase in students. The entrance to the parking lot is proposed to be moved to the south and align with Fay Drive. The circulation will remain the same with vehicles entering at the south access through the parking lot and exit to the north. Routing plans with law enforcement are an ongoing discussion and will be continued in the future.

The North Carolina Department of Transportation MSTA School Traffic Calculator was used to determine the average queue length for the existing and future enrollment. Based on 518 students enrolled, the queue is projected to be 1,315 feet, approximately 60 vehicles (average car length

of 22 feet). There is currently 270 feet (12 vehicles) able to stack at the existing drop-off/pick-up zone within the parking lot located along Syracuse Street. The future 850 student enrollment is anticipated to have an average queue length of 2,150 feet (98 vehicles). The proposed drop-off/pick-up zone within the parking lot along Syracuse Street will provide a length of 450 feet (20 vehicles) for vehicles to queue. In addition, the existing gravel parking lot along Quebec Street will provide 10 vehicles to stack on-site. In summary, the existing west parking lot currently accommodates approximately 12 vehicles for student drop off/pick up while the expanded parking lot will be able to accommodate approximately 20 vehicles for student drop off/pick up. Further, the existing gravel parking lot along Quebec Street is planned for future student drop off/pick up and will be able to accommodate approximately 10 vehicles to stack on-site. The expanded west parking lot and the use of the southeast gravel lot accounts for increase in student drop off/pick up from 12 vehicles of stacking to approximately 30 vehicles. This is an increase of 150 percent compared to existing conditions. The remainder of drop-offs/pick-ups is occurring along the public street right-of-way (ROW). The NCDOT MSTA queue sheets are provided in **Appendix E**.

The east access along Jersey Street is designated for school buses entering the bus drop-off/pick-up zone and the access along Quebec Street is designated for buses exiting the school site. Five (5) school buses accommodate the existing school enrollment of 518 students with an additional bus used for the day care center. The future enrollment is anticipated to increase the school bus number to six (6) and still allow the one (1) day care bus to use the existing bus loop. The bus loop provides approximately 370 feet of stacking length on-site, which will accommodate approximately 10 medium sized school buses (standard school bus is 35 feet long) or seven (7) large sized school buses (45 feet long). Therefore, the seven (7) buses planned for the future school expansion will remain within the on-site queueing location.

Of note, many drop-offs/pick-ups are occurring along the public street right-of way surrounding the elementary school. As discussed above, minimal student drop-off and pick-ups occur along Syracuse Street. However, it was observed that parents park on the north side of Jersey Lane while the south side of Jersey Lane is restricted with traffic cones. Several vehicles were observed queuing on Bickley Street for student pick-ups. Quebec Street was fairly well utilized for student pick-up and drop-offs while several faculty members seem to utilize parking on Quebec Street. The following recommendations are intended to improve safety and site circulation at the school:

- To mitigate existing conditions and future enrollment capacity of 850 students, the following improvements may be considered by the school:
 - Provide additional school personnel to direct parents with the student drop-off and pick-up circulation. This would potentially allow for additional vehicles to enter the drop-off/pick-up zone to minimize drivers from using other means of drop-off/pick-up in the public right-of-way (ROW) of the adjacent streets.
 - The school could encourage more pedestrian and bicycle traffic and discourage vehicular traffic to reduce the number of vehicle trips to and from the school. Programs could be developed to incentivize reducing single family vehicle trips such as carpooling, bicycle and pedestrian usage. In addition, providing sufficient, convenient, and safe bicycle storage could encourage more bicycle usage.

There is not a need for any right-of-way dedication or preservation along any of the existing study area roadways due to these roadways being built to the ultimate street sections. Further, the study area intersections operate acceptably with level of service B or better during the peak hours.

5.7 Safety Analysis

As requested by El Paso County, a Safety Analysis was performed for the study area roadways and intersections fronting the school. Crash data was obtained for the most recent timeframe available from 2007 to 2019, as provided in **Appendix F**. A total of four (4) crashes have been reported with one (1) crash in 2017, one (1) crash in 2018, and two (2) crashes in 2019. None of the four crashes results in a fatality, one (1) crash resulted in injury while the other three (3) resulted in property damage only (PDO). The cross streets for the crashes occurred at Jersey Lane/Bickley Street (1), Jersey Lane/Fay Drive (2), and Fay Drive/Syracuse Street (1). All of them occurred in the daylight and one involved a bicycle.

5.8 Road Impact Fees

Road impact fees were evaluated based on the El Paso County Road Impact Fee Schedule. Based on these fee schedule guidelines, the fee per thousand square feet is \$3,372. Therefore, the road impact fee for the proposed 18,500 square feet of elementary school expansion is expected to be \$62,382. Road impact fee calculations are shown in **Table 4**.

Table 4 – Road Impact Fees

| Use | Square Feet | Fee / KSF | Total Fee |
|-----------------------------|-------------|-----------|-----------|
| Elementary School Expansion | 18,500 | \$3,372 | \$62,382 |

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the Webster Elementary School expansion project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

- With the expansion of the school, the drop-off and pick-up parking lot along Syracuse Street will expand to the north and the south while the faculty parking lot located on the southeast corner of the Jersey Lane and Syracuse Street intersection will be removed. The expansion of the drop-off and pick-up parking lot will provide additional parking for the faculty/staff and account for the increase in drop-off/pick-up with the proposed increase in students. The entrance to the parking lot is proposed to be moved and align with Fay Drive. The circulation will remain the same with vehicles entering at the south access through the parking lot and exiting to the north.
- The movements at all studied intersections and accesses currently operate acceptably and are expected to continue to operate acceptably with LOS B or better during the peak hours with the school expansion. Therefore, no modifications to the existing lane configurations and control are recommended at the study area key intersections. The existing street network is expected to accommodate the increase in school traffic. However, to further identify the exiting only accesses and to restrict entering movements, R5-1 “Do Not Enter” signs could be installed at the approaches of the Syracuse Street North Access (#6) and the access along Quebec Street (#8). Likewise, to further identify the entrance only accesses and to restrict exiting movements, R6-1 “One Way” signs could be installed at the entering approaches of the Jersey Lane East Access (#5) and the relocated Syracuse Street South Access (#7). Lastly, R1-1 “Stop” signs could be installed on the exiting approaches of the Syracuse Street North Access (#6) and the Quebec Street Access (#8).
- To mitigate existing conditions and future enrollment capacity of 850 students, the following improvements may be considered by the school:
 - Provide additional school personnel to direct parents with the student drop-off and pick-up circulation. This would potentially allow for additional vehicles to enter the drop-off/pick-

up zone to minimize drivers from using other means of drop-off/pick-up in the public right-of-way (ROW) of the adjacent streets.

- The school could encourage more pedestrian and bicycle traffic and discourage vehicular traffic to reduce the number of vehicle trips to and from the school. Programs could be developed to incentivize reducing single family vehicle trips such as carpooling, bicycle and pedestrian usage. In addition, providing sufficient, convenient, and safe bicycle storage could encourage more bicycle usage.
- Any onsite or offsite improvements will be incorporated into the Civil Drawings and conform to standards of the El Paso County and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

Deviations Required

- A deviation will be provided to request inbound only access to the school along Syracuse Street for the future access aligning with Fay Drive. The entrance only access along Syracuse Street will be located 215 feet north of Harvard Street. According to El Paso County ECM section 2.2.5.B, spacing along an urban residential collector roadway shall be spaced 330 feet to a local roadway. This access being inbound only, relocated, and meeting acceptable operations, it is believed the access should be granted.

Please include back in,
previous Figure 8
"Potential Improvements"

APPENDICES

APPENDIX A

Intersection Count Sheets



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Syracuse St

File Name : Jersey and Syracuse AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

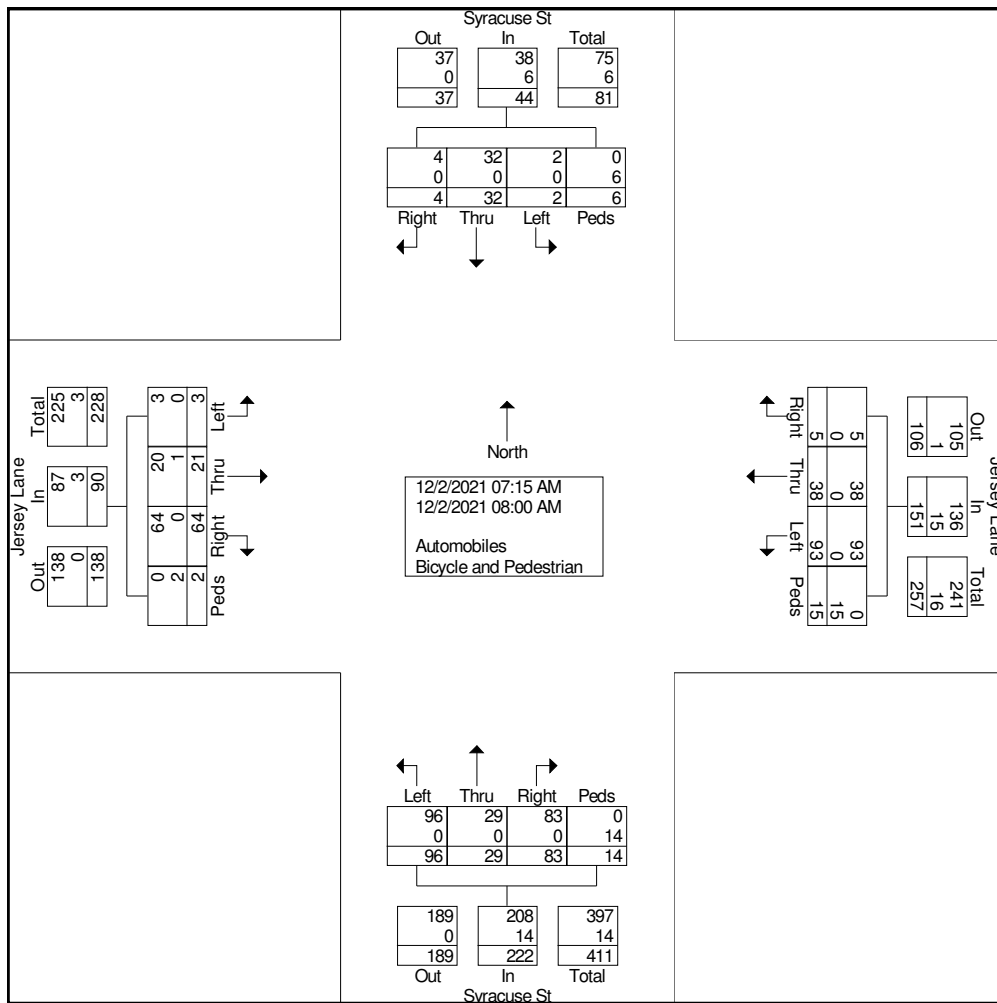
| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Syracuse St Northbound | | | | | Syracuse St Southbound | | | | | |
|--------------------------|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 07:15 AM | 1 | 2 | 28 | 0 | 31 | 26 | 5 | 0 | 0 | 31 | 41 | 10 | 22 | 0 | 73 | 0 | 18 | 0 | 0 | 18 | 153 |
| 07:30 AM | 1 | 7 | 13 | 2 | 23 | 18 | 13 | 0 | 9 | 40 | 16 | 8 | 19 | 4 | 47 | 0 | 7 | 0 | 2 | 9 | 119 |
| 07:45 AM | 0 | 6 | 11 | 0 | 17 | 17 | 11 | 2 | 3 | 33 | 23 | 6 | 24 | 9 | 62 | 0 | 1 | 3 | 1 | 5 | 117 |
| Total | 2 | 15 | 52 | 2 | 71 | 61 | 29 | 2 | 12 | 104 | 80 | 24 | 65 | 13 | 182 | 0 | 26 | 3 | 3 | 32 | 389 |
| 08:00 AM | 1 | 6 | 12 | 0 | 19 | 32 | 9 | 3 | 3 | 47 | 16 | 5 | 18 | 1 | 40 | 2 | 6 | 1 | 3 | 12 | 118 |
| Grand Total | 3 | 21 | 64 | 2 | 90 | 93 | 38 | 5 | 15 | 151 | 96 | 29 | 83 | 14 | 222 | 2 | 32 | 4 | 6 | 44 | 507 |
| Apprch % | 3.3 | 23.3 | 71.1 | 2.2 | | 61.6 | 25.2 | 3.3 | 9.9 | | 43.2 | 13.1 | 37.4 | 6.3 | | 4.5 | 72.7 | 9.1 | 13.6 | | |
| Total % | 0.6 | 4.1 | 12.6 | 0.4 | 17.8 | 18.3 | 7.5 | 1 | 3 | 29.8 | 18.9 | 5.7 | 16.4 | 2.8 | 43.8 | 0.4 | 6.3 | 0.8 | 1.2 | 8.7 | |
| Automobiles | 3 | 20 | 64 | 0 | 87 | 93 | 38 | 5 | 0 | 136 | 96 | 29 | 83 | 0 | 208 | 2 | 32 | 4 | 0 | 38 | 469 |
| % Automobiles | 100 | 95.2 | 100 | 0 | 96.7 | 100 | 100 | 100 | 0 | 90.1 | 100 | 100 | 100 | 0 | 93.7 | 100 | 100 | 100 | 0 | 86.4 | 92.5 |
| Bicycle and Pedestrian | 0 | 1 | 0 | 2 | 3 | 0 | 0 | 0 | 15 | 15 | 0 | 0 | 0 | 14 | 14 | 0 | 0 | 0 | 6 | 6 | 38 |
| % Bicycle and Pedestrian | 0 | 4.8 | 0 | 100 | 3.3 | 0 | 0 | 0 | 100 | 9.9 | 0 | 0 | 0 | 100 | 6.3 | 0 | 0 | 0 | 100 | 13.6 | 7.5 |



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Syracuse St

File Name : Jersey and Syracuse AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 2



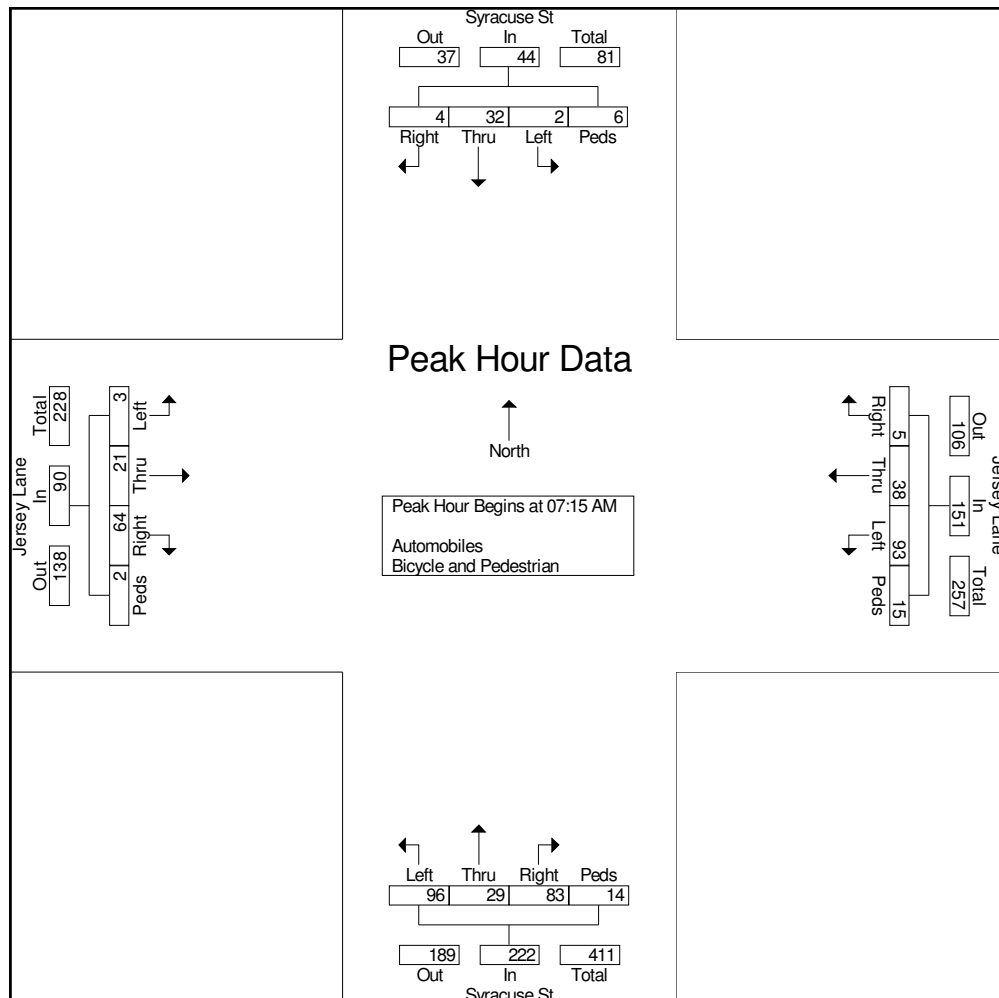


Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Syracuse St

File Name : Jersey and Syracuse AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 3

| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Syracuse St Northbound | | | | | Syracuse St Southbound | | | | | |
|--|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:15 AM | 1 | 2 | 28 | 0 | 31 | 26 | 5 | 0 | 0 | 31 | 41 | 10 | 22 | 0 | 73 | 0 | 18 | 0 | 0 | 18 | 153 |
| 07:30 AM | 1 | 7 | 13 | 2 | 23 | 18 | 13 | 0 | 9 | 40 | 16 | 8 | 19 | 4 | 47 | 0 | 7 | 0 | 2 | 9 | 119 |
| 07:45 AM | 0 | 6 | 11 | 0 | 17 | 17 | 11 | 2 | 3 | 33 | 23 | 6 | 24 | 9 | 62 | 0 | 1 | 3 | 1 | 5 | 117 |
| 08:00 AM | 1 | 6 | 12 | 0 | 19 | 32 | 9 | 3 | 3 | 47 | 16 | 5 | 18 | 1 | 40 | 2 | 6 | 1 | 3 | 12 | 118 |
| Total Volume | 3 | 21 | 64 | 2 | 90 | 93 | 38 | 5 | 15 | 151 | 96 | 29 | 83 | 14 | 222 | 2 | 32 | 4 | 6 | 44 | 507 |
| % App. Total | 3.3 | 23.3 | 71.1 | 2.2 | | 61.6 | 25.2 | 3.3 | 9.9 | | 43.2 | 13.1 | 37.4 | 6.3 | | 4.5 | 72.7 | 9.1 | 13.6 | | |
| PHF | .750 | .750 | .571 | .250 | .726 | .727 | .731 | .417 | .417 | .803 | .585 | .725 | .865 | .389 | .760 | .250 | .444 | .333 | .500 | .611 | .828 |





Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Syracuse St

File Name : Jersey and Syracuse PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

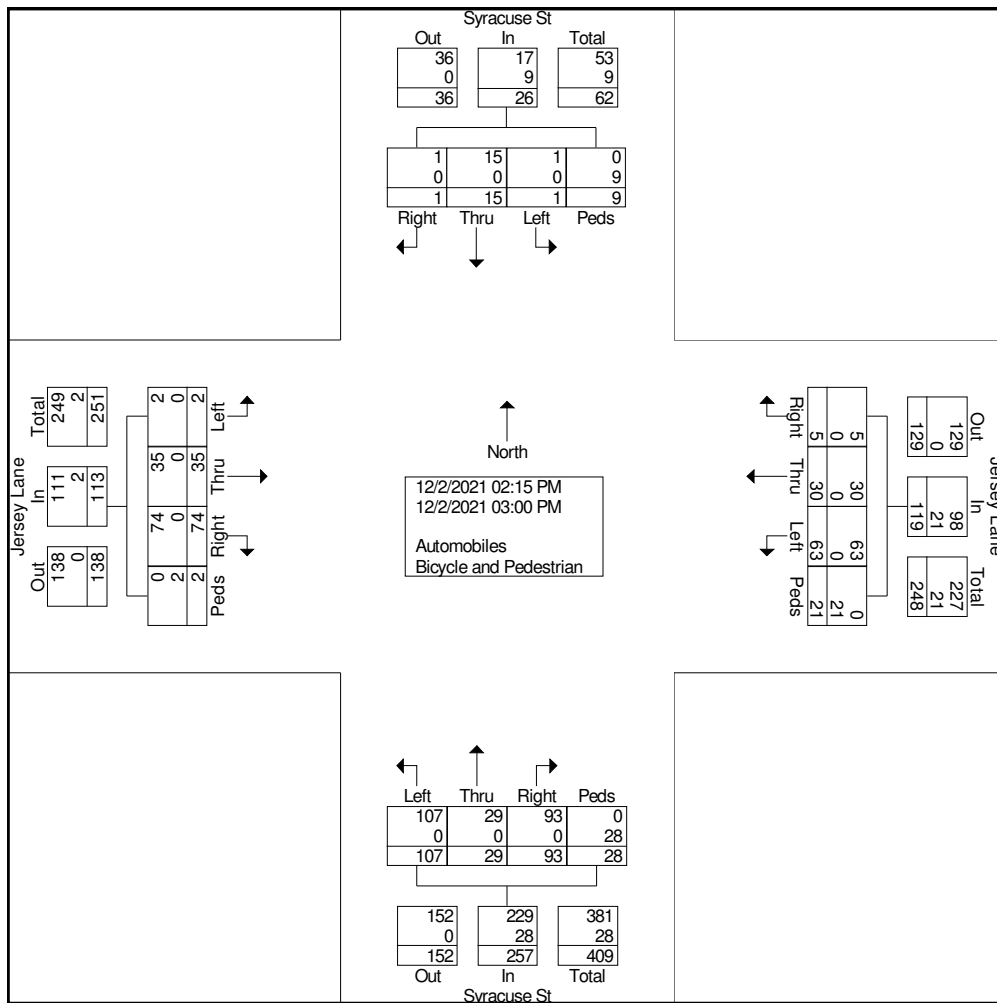
| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Syracuse St Northbound | | | | | Syracuse St Southbound | | | | | |
|--------------------------|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 02:15 PM | 1 | 6 | 16 | 0 | 23 | 7 | 3 | 0 | 0 | 10 | 8 | 4 | 18 | 0 | 30 | 1 | 4 | 0 | 0 | 5 | 68 |
| 02:30 PM | 1 | 7 | 23 | 2 | 33 | 10 | 5 | 2 | 10 | 27 | 14 | 5 | 17 | 16 | 52 | 0 | 2 | 0 | 2 | 4 | 116 |
| 02:45 PM | 0 | 16 | 18 | 0 | 34 | 35 | 17 | 2 | 9 | 63 | 49 | 12 | 29 | 8 | 98 | 0 | 5 | 1 | 5 | 11 | 206 |
| Total | 2 | 29 | 57 | 2 | 90 | 52 | 25 | 4 | 19 | 100 | 71 | 21 | 64 | 24 | 180 | 1 | 11 | 1 | 7 | 20 | 390 |
| 03:00 PM | 0 | 6 | 17 | 0 | 23 | 11 | 5 | 1 | 2 | 19 | 36 | 8 | 29 | 4 | 77 | 0 | 4 | 0 | 2 | 6 | 125 |
| Grand Total | 2 | 35 | 74 | 2 | 113 | 63 | 30 | 5 | 21 | 119 | 107 | 29 | 93 | 28 | 257 | 1 | 15 | 1 | 9 | 26 | 515 |
| Apprch % | 1.8 | 31 | 65.5 | 1.8 | | 52.9 | 25.2 | 4.2 | 17.6 | | 41.6 | 11.3 | 36.2 | 10.9 | | 3.8 | 57.7 | 3.8 | 34.6 | | |
| Total % | 0.4 | 6.8 | 14.4 | 0.4 | 21.9 | 12.2 | 5.8 | 1 | 4.1 | 23.1 | 20.8 | 5.6 | 18.1 | 5.4 | 49.9 | 0.2 | 2.9 | 0.2 | 1.7 | 5 | |
| Automobiles | 2 | 35 | 74 | 0 | 111 | 63 | 30 | 5 | 0 | 98 | 107 | 29 | 93 | 0 | 229 | 1 | 15 | 1 | 0 | 17 | 455 |
| % Automobiles | 100 | 100 | 100 | 0 | 98.2 | 100 | 100 | 100 | 0 | 82.4 | 100 | 100 | 100 | 0 | 89.1 | 100 | 100 | 100 | 0 | 65.4 | 88.3 |
| Bicycle and Pedestrian | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 21 | 21 | 0 | 0 | 0 | 28 | 28 | 0 | 0 | 0 | 9 | 9 | 60 |
| % Bicycle and Pedestrian | 0 | 0 | 0 | 100 | 1.8 | 0 | 0 | 0 | 100 | 17.6 | 0 | 0 | 0 | 100 | 10.9 | 0 | 0 | 0 | 100 | 34.6 | 11.7 |



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Syracuse St

File Name : Jersey and Syracuse PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 2



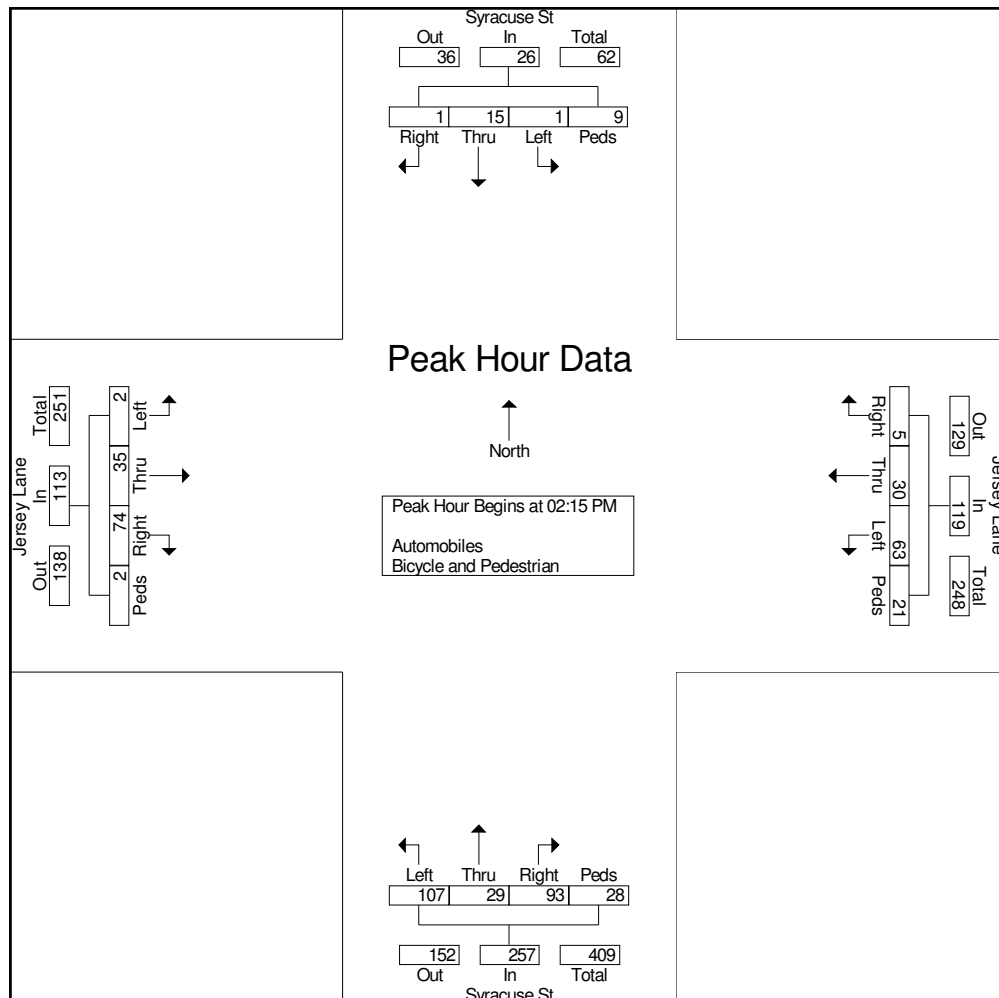


Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Syracuse St

File Name : Jersey and Syracuse PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 3

| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Syracuse St Northbound | | | | | Syracuse St Southbound | | | | | |
|--|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 02:15 PM | | | | | | | | | | | | | | | | | | | | | |
| 02:15 PM | 1 | 6 | 16 | 0 | 23 | 7 | 3 | 0 | 0 | 10 | 8 | 4 | 18 | 0 | 30 | 1 | 4 | 0 | 0 | 5 | 68 |
| 02:30 PM | 1 | 7 | 23 | 2 | 33 | 10 | 5 | 2 | 10 | 27 | 14 | 5 | 17 | 16 | 52 | 0 | 2 | 0 | 2 | 4 | 116 |
| 02:45 PM | 0 | 16 | 18 | 0 | 34 | 35 | 17 | 2 | 9 | 63 | 49 | 12 | 29 | 8 | 98 | 0 | 5 | 1 | 5 | 11 | 206 |
| 03:00 PM | 0 | 6 | 17 | 0 | 23 | 11 | 5 | 1 | 2 | 19 | 36 | 8 | 29 | 4 | 77 | 0 | 4 | 0 | 2 | 6 | 125 |
| Total Volume | 2 | 35 | 74 | 2 | 113 | 63 | 30 | 5 | 21 | 119 | 107 | 29 | 93 | 28 | 257 | 1 | 15 | 1 | 9 | 26 | 515 |
| % App. Total | 1.8 | 31 | 65.5 | 1.8 | | 52.9 | 25.2 | 4.2 | 17.6 | | 41.6 | 11.3 | 36.2 | 10.9 | | 3.8 | 57.7 | 3.8 | 34.6 | | |
| PHF | .500 | .547 | .804 | .250 | .831 | .450 | .441 | .625 | .525 | .472 | .546 | .604 | .802 | .438 | .656 | .250 | .750 | .250 | .450 | .591 | .625 |





Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Bickley St

File Name : Jersey and Bickley AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

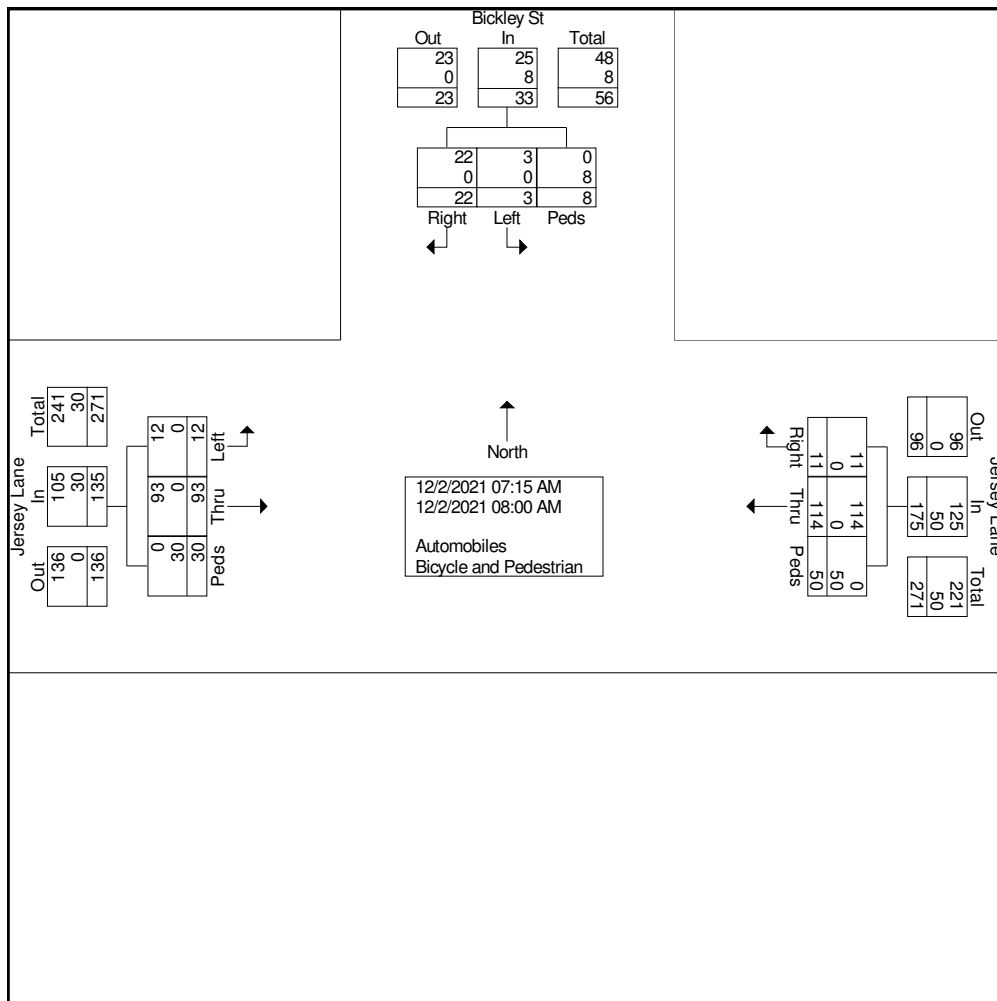
| Start Time | Jersey Lane Eastbound | | | | Jersey Lane Westbound | | | | Bickley St Southbound | | | | Int. Total |
|--------------------------|-----------------------|------|------|------------|-----------------------|-------|------|------------|-----------------------|-------|------|------------|------------|
| | Left | Thru | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Right | Peds | App. Total | |
| 07:15 AM | 2 | 22 | 0 | 24 | 27 | 1 | 0 | 28 | 0 | 3 | 0 | 3 | 55 |
| 07:30 AM | 2 | 20 | 2 | 24 | 25 | 0 | 5 | 30 | 0 | 5 | 0 | 5 | 59 |
| 07:45 AM | 6 | 30 | 15 | 51 | 34 | 5 | 26 | 65 | 2 | 2 | 3 | 7 | 123 |
| Total | 10 | 72 | 17 | 99 | 86 | 6 | 31 | 123 | 2 | 10 | 3 | 15 | 237 |
| 08:00 AM | 2 | 21 | 13 | 36 | 28 | 5 | 19 | 52 | 1 | 12 | 5 | 18 | 106 |
| Grand Total | 12 | 93 | 30 | 135 | 114 | 11 | 50 | 175 | 3 | 22 | 8 | 33 | 343 |
| Apprch % | 8.9 | 68.9 | 22.2 | | 65.1 | 6.3 | 28.6 | | 9.1 | 66.7 | 24.2 | | |
| Total % | 3.5 | 27.1 | 8.7 | 39.4 | 33.2 | 3.2 | 14.6 | 51 | 0.9 | 6.4 | 2.3 | 9.6 | |
| Automobiles | 12 | 93 | 0 | 105 | 114 | 11 | 0 | 125 | 3 | 22 | 0 | 25 | 255 |
| % Automobiles | 100 | 100 | 0 | 77.8 | 100 | 100 | 0 | 71.4 | 100 | 100 | 0 | 75.8 | 74.3 |
| Bicycle and Pedestrian | 0 | 0 | 30 | 30 | 0 | 0 | 50 | 50 | 0 | 0 | 8 | 8 | 88 |
| % Bicycle and Pedestrian | 0 | 0 | 100 | 22.2 | 0 | 0 | 100 | 28.6 | 0 | 0 | 100 | 24.2 | 25.7 |



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Bickley St

File Name : Jersey and Bickley AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 2



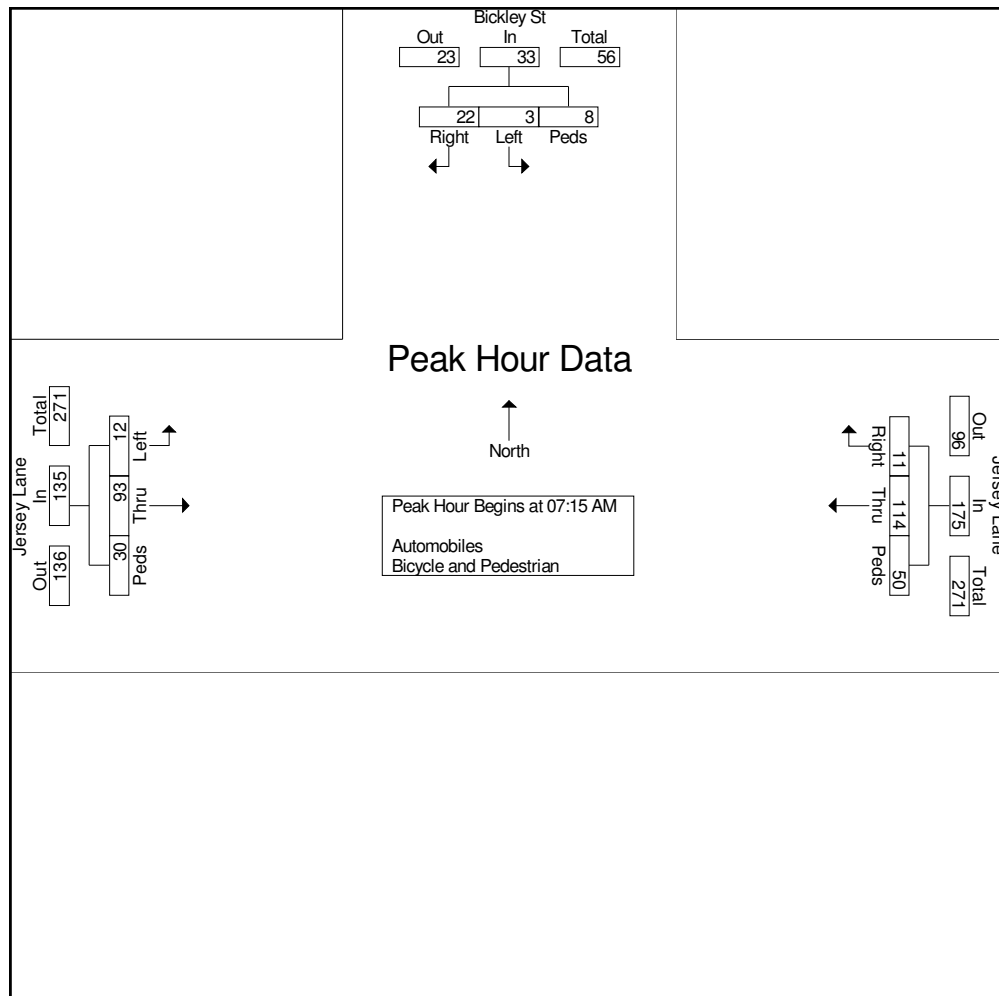


Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Bickley St

File Name : Jersey and Bickley AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 3

| | Jersey Lane Eastbound | | | | Jersey Lane Westbound | | | | Bickley St Southbound | | | | |
|--|-----------------------|-----------|-----------|------------|-----------------------|----------|-----------|------------|-----------------------|-----------|----------|------------|------------|
| Start Time | Left | Thru | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | |
| 07:15 AM | 2 | 22 | 0 | 24 | 27 | 1 | 0 | 28 | 0 | 3 | 0 | 3 | 55 |
| 07:30 AM | 2 | 20 | 2 | 24 | 25 | 0 | 5 | 30 | 0 | 5 | 0 | 5 | 59 |
| 07:45 AM | 6 | 30 | 15 | 51 | 34 | 5 | 26 | 65 | 2 | 2 | 3 | 7 | 123 |
| 08:00 AM | 2 | 21 | 13 | 36 | 28 | 5 | 19 | 52 | 1 | 12 | 5 | 18 | 106 |
| Total Volume | 12 | 93 | 30 | 135 | 114 | 11 | 50 | 175 | 3 | 22 | 8 | 33 | 343 |
| % App. Total | 8.9 | 68.9 | 22.2 | | 65.1 | 6.3 | 28.6 | | 9.1 | 66.7 | 24.2 | | |
| PHF | .500 | .775 | .500 | .662 | .838 | .550 | .481 | .673 | .375 | .458 | .400 | .458 | .697 |





Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Bickley St

File Name : Jersey and Bickley PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

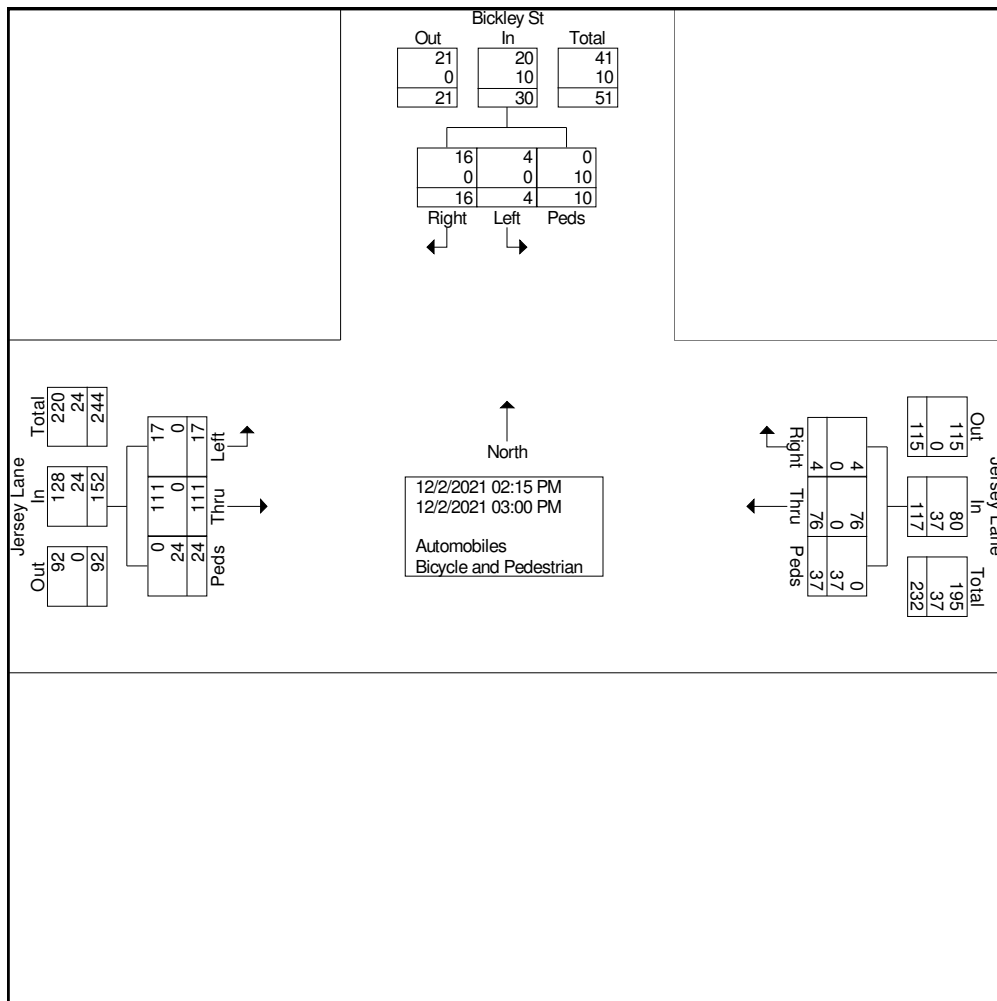
| Start Time | Jersey Lane Eastbound | | | | Jersey Lane Westbound | | | | Bickley St Southbound | | | | Int. Total |
|--------------------------|-----------------------|------|------|------------|-----------------------|-------|------|------------|-----------------------|-------|------|------------|------------|
| | Left | Thru | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Right | Peds | App. Total | |
| 02:15 PM | 4 | 19 | 0 | 23 | 8 | 0 | 0 | 8 | 1 | 2 | 0 | 3 | 34 |
| 02:30 PM | 5 | 19 | 15 | 39 | 15 | 1 | 26 | 42 | 0 | 3 | 7 | 10 | 91 |
| 02:45 PM | 5 | 37 | 9 | 51 | 39 | 3 | 11 | 53 | 3 | 10 | 3 | 16 | 120 |
| Total | 14 | 75 | 24 | 113 | 62 | 4 | 37 | 103 | 4 | 15 | 10 | 29 | 245 |
| 03:00 PM | 3 | 36 | 0 | 39 | 14 | 0 | 0 | 14 | 0 | 1 | 0 | 1 | 54 |
| Grand Total | 17 | 111 | 24 | 152 | 76 | 4 | 37 | 117 | 4 | 16 | 10 | 30 | 299 |
| Apprch % | 11.2 | 73 | 15.8 | | 65 | 3.4 | 31.6 | | 13.3 | 53.3 | 33.3 | | |
| Total % | 5.7 | 37.1 | 8 | 50.8 | 25.4 | 1.3 | 12.4 | 39.1 | 1.3 | 5.4 | 3.3 | 10 | |
| Automobiles | 17 | 111 | 0 | 128 | 76 | 4 | 0 | 80 | 4 | 16 | 0 | 20 | 228 |
| % Automobiles | 100 | 100 | 0 | 84.2 | 100 | 100 | 0 | 68.4 | 100 | 100 | 0 | 66.7 | 76.3 |
| Bicycle and Pedestrian | 0 | 0 | 24 | 24 | 0 | 0 | 37 | 37 | 0 | 0 | 10 | 10 | 71 |
| % Bicycle and Pedestrian | 0 | 0 | 100 | 15.8 | 0 | 0 | 100 | 31.6 | 0 | 0 | 100 | 33.3 | 23.7 |



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Bickley St

File Name : Jersey and Bickley PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 2



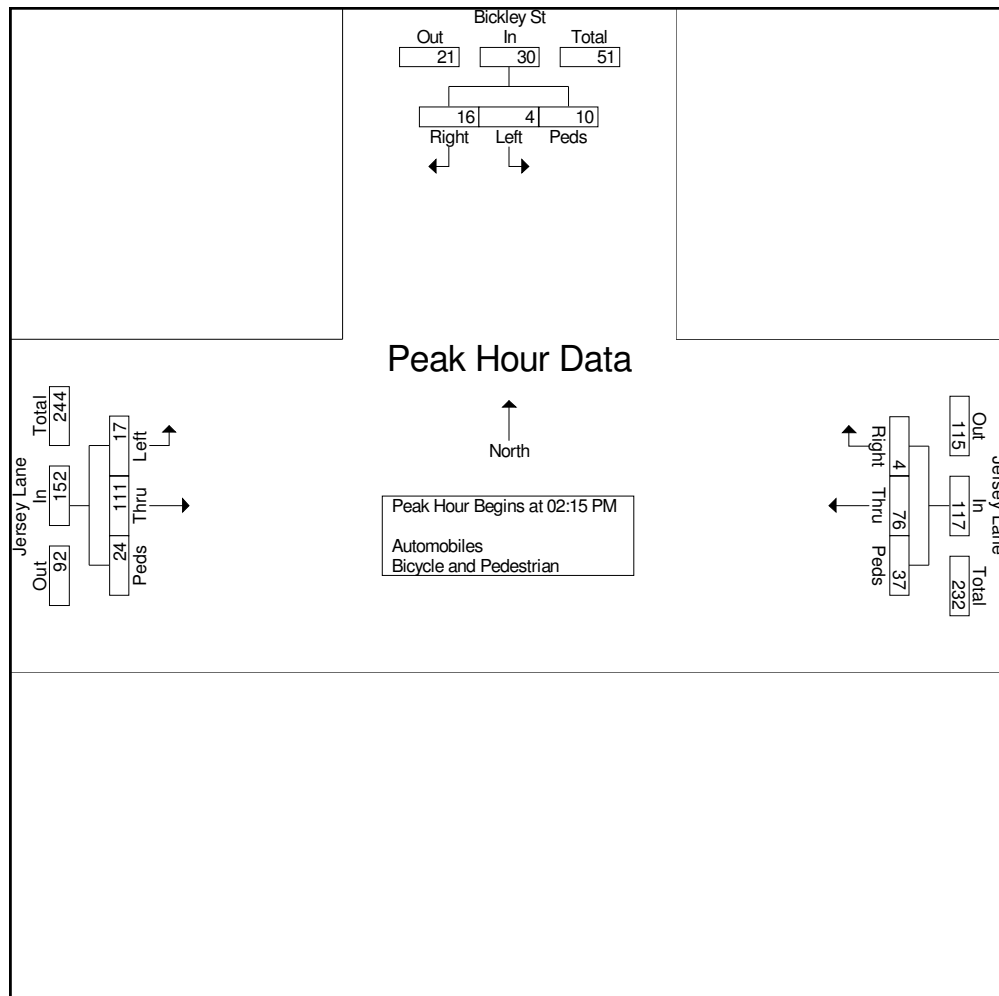


Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Bickley St

File Name : Jersey and Bickley PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 3

| | Jersey Lane Eastbound | | | | Jersey Lane Westbound | | | | Bickley St Southbound | | | | |
|--|-----------------------|------|------|------------|-----------------------|-------|------|------------|-----------------------|-------|------|------------|------------|
| Start Time | Left | Thru | Peds | App. Total | Thru | Right | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1 | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 02:15 PM | | | | | | | | | | | | | |
| 02:15 PM | 4 | 19 | 0 | 23 | 8 | 0 | 0 | 8 | 1 | 2 | 0 | 3 | 34 |
| 02:30 PM | 5 | 19 | 15 | 39 | 15 | 1 | 26 | 42 | 0 | 3 | 7 | 10 | 91 |
| 02:45 PM | 5 | 37 | 9 | 51 | 39 | 3 | 11 | 53 | 3 | 10 | 3 | 16 | 120 |
| 03:00 PM | 3 | 36 | 0 | 39 | 14 | 0 | 0 | 14 | 0 | 1 | 0 | 1 | 54 |
| Total Volume | 17 | 111 | 24 | 152 | 76 | 4 | 37 | 117 | 4 | 16 | 10 | 30 | 299 |
| % App. Total | 11.2 | 73 | 15.8 | | 65 | 3.4 | 31.6 | | 13.3 | 53.3 | 33.3 | | |
| PHF | .850 | .750 | .400 | .745 | .487 | .333 | .356 | .552 | .333 | .400 | .357 | .469 | .623 |





Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Quebec St

File Name : Jersey and Quebec AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

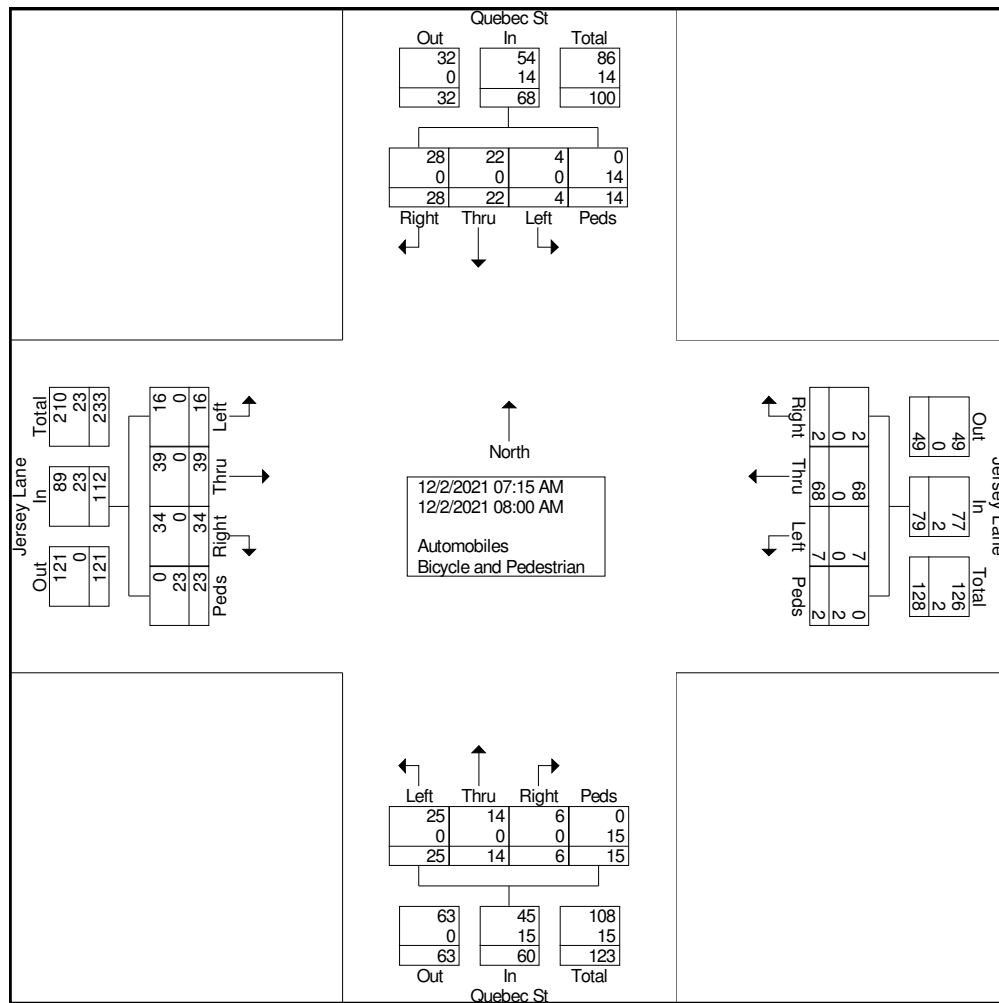
| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Quebec St Northbound | | | | | Quebec St Southbound | | | | | |
|--------------------------|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 07:15 AM | 5 | 13 | 4 | 0 | 22 | 1 | 16 | 0 | 0 | 17 | 2 | 0 | 0 | 0 | 2 | 1 | 4 | 9 | 0 | 14 | 55 |
| 07:30 AM | 2 | 6 | 9 | 5 | 22 | 1 | 16 | 0 | 1 | 18 | 7 | 3 | 0 | 2 | 12 | 0 | 4 | 5 | 5 | 14 | 66 |
| 07:45 AM | 6 | 8 | 11 | 9 | 34 | 4 | 24 | 1 | 1 | 30 | 10 | 6 | 3 | 13 | 32 | 1 | 10 | 7 | 4 | 22 | 118 |
| Total | 13 | 27 | 24 | 14 | 78 | 6 | 56 | 1 | 2 | 65 | 19 | 9 | 3 | 15 | 46 | 2 | 18 | 21 | 9 | 50 | 239 |
| 08:00 AM | 3 | 12 | 10 | 9 | 34 | 1 | 12 | 1 | 0 | 14 | 6 | 5 | 3 | 0 | 14 | 2 | 4 | 7 | 5 | 18 | 80 |
| Grand Total | 16 | 39 | 34 | 23 | 112 | 7 | 68 | 2 | 2 | 79 | 25 | 14 | 6 | 15 | 60 | 4 | 22 | 28 | 14 | 68 | 319 |
| Apprch % | 14.3 | 34.8 | 30.4 | 20.5 | | 8.9 | 86.1 | 2.5 | 2.5 | | 41.7 | 23.3 | 10 | 25 | | 5.9 | 32.4 | 41.2 | 20.6 | | |
| Total % | 5 | 12.2 | 10.7 | 7.2 | 35.1 | 2.2 | 21.3 | 0.6 | 0.6 | 24.8 | 7.8 | 4.4 | 1.9 | 4.7 | 18.8 | 1.3 | 6.9 | 8.8 | 4.4 | 21.3 | |
| Automobiles | 16 | 39 | 34 | 0 | 89 | 7 | 68 | 2 | 0 | 77 | 25 | 14 | 6 | 0 | 45 | 4 | 22 | 28 | 0 | 54 | 265 |
| % Automobiles | 100 | 100 | 100 | 0 | 79.5 | 100 | 100 | 100 | 0 | 97.5 | 100 | 100 | 100 | 0 | 75 | 100 | 100 | 100 | 0 | 79.4 | 83.1 |
| Bicycle and Pedestrian | 0 | 0 | 0 | 23 | 23 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 15 | 15 | 0 | 0 | 0 | 14 | 14 | 54 |
| % Bicycle and Pedestrian | 0 | 0 | 0 | 100 | 20.5 | 0 | 0 | 0 | 100 | 2.5 | 0 | 0 | 0 | 100 | 25 | 0 | 0 | 0 | 100 | 20.6 | 16.9 |



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Quebec St

File Name : Jersey and Quebec AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 2



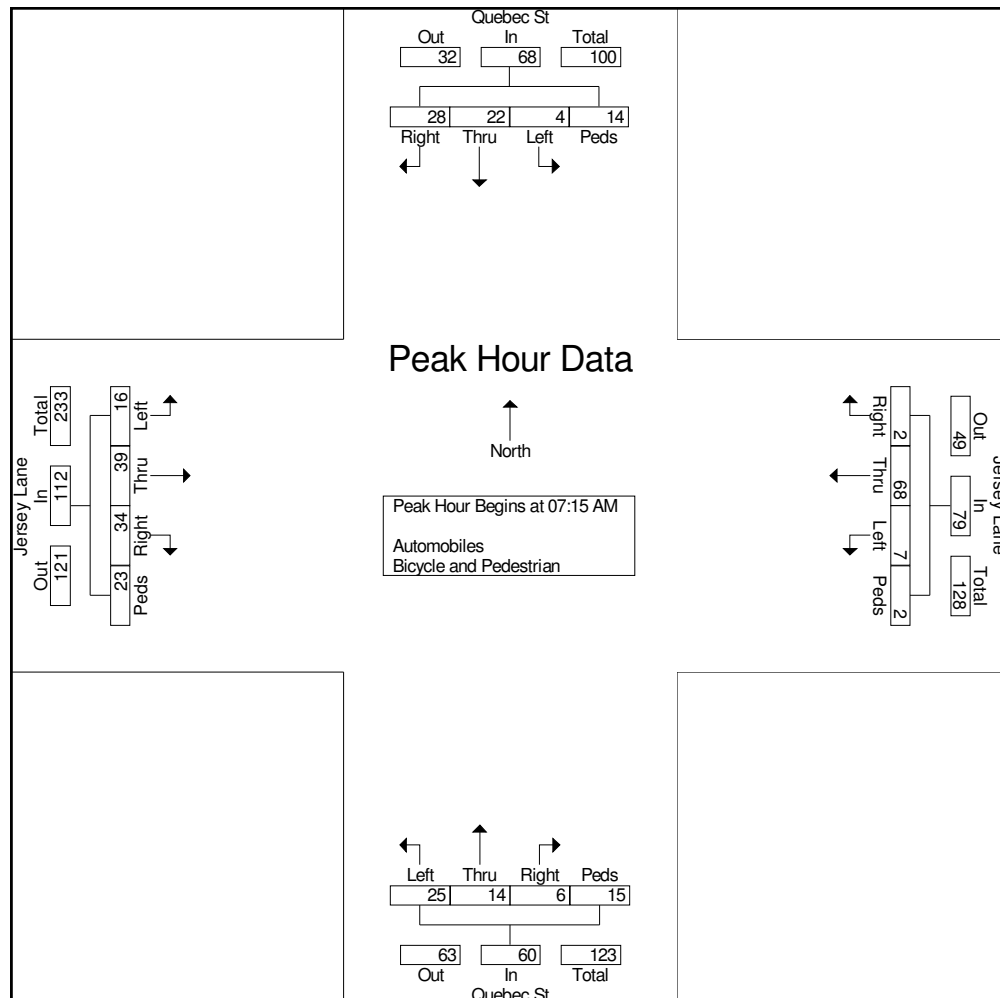


Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
AM Peak
Jersey Lane and Quebec St

File Name : Jersey and Quebec AM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 3

| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Quebec St Northbound | | | | | Quebec St Southbound | | | | | |
|--|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:15 AM | 5 | 13 | 4 | 0 | 22 | 1 | 16 | 0 | 0 | 17 | 2 | 0 | 0 | 0 | 2 | 1 | 4 | 9 | 0 | 14 | 55 |
| 07:30 AM | 2 | 6 | 9 | 5 | 22 | 1 | 16 | 0 | 1 | 18 | 7 | 3 | 0 | 2 | 12 | 0 | 4 | 5 | 5 | 14 | 66 |
| 07:45 AM | 6 | 8 | 11 | 9 | 34 | 4 | 24 | 1 | 1 | 30 | 10 | 6 | 3 | 13 | 32 | 1 | 10 | 7 | 4 | 22 | 118 |
| 08:00 AM | 3 | 12 | 10 | 9 | 34 | 1 | 12 | 1 | 0 | 14 | 6 | 5 | 3 | 0 | 14 | 2 | 4 | 7 | 5 | 18 | 80 |
| Total Volume | 16 | 39 | 34 | 23 | 112 | 7 | 68 | 2 | 2 | 79 | 25 | 14 | 6 | 15 | 60 | 4 | 22 | 28 | 14 | 68 | 319 |
| % App. Total | 14.3 | 34.8 | 30.4 | 20.5 | | 8.9 | 86.1 | 2.5 | 2.5 | | 41.7 | 23.3 | 10 | 25 | | 5.9 | 32.4 | 41.2 | 20.6 | | |
| PHF | .667 | .750 | .773 | .639 | .824 | .438 | .708 | .500 | .500 | .658 | .625 | .583 | .500 | .288 | .469 | .500 | .550 | .778 | .700 | .773 | .676 |





Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Quebec St

File Name : Jersey and Quebec PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

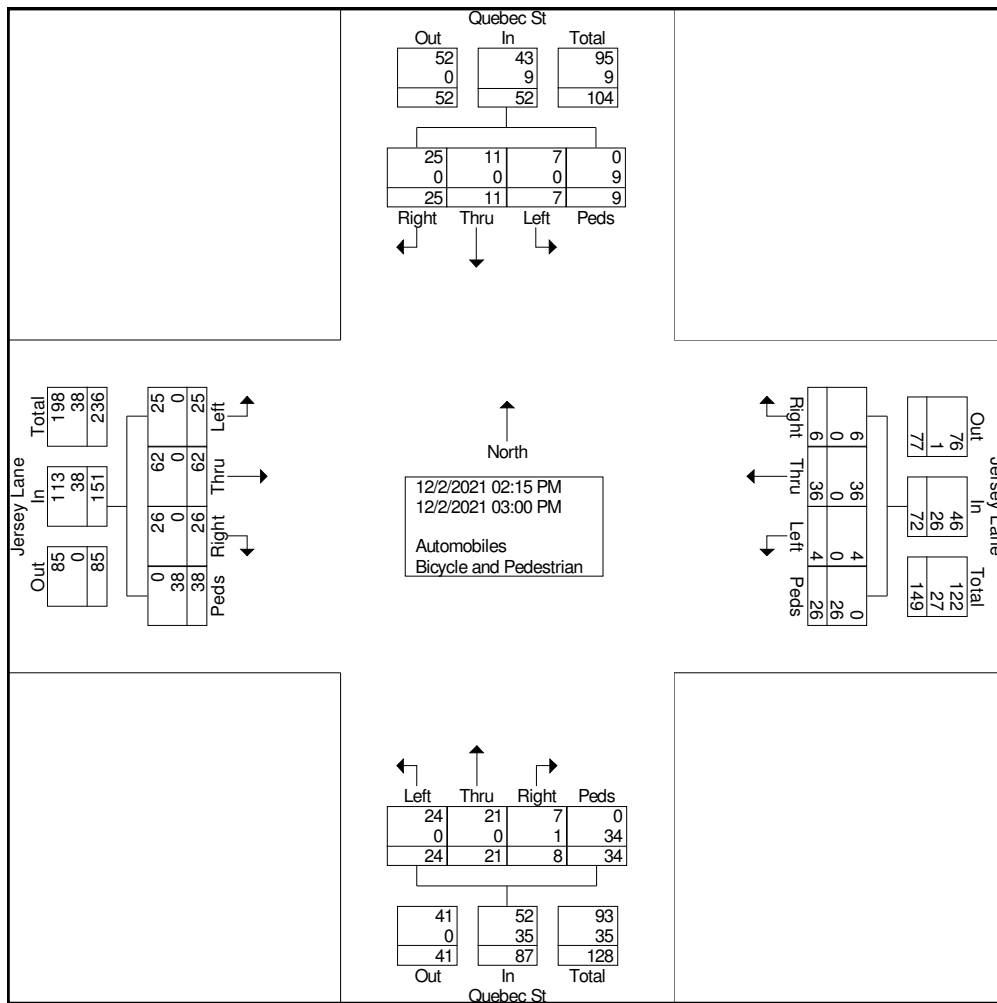
| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Quebec St Northbound | | | | | Quebec St Southbound | | | | | |
|--------------------------|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 02:15 PM | 2 | 9 | 6 | 1 | 18 | 1 | 5 | 1 | 0 | 7 | 2 | 0 | 1 | 1 | 4 | 3 | 0 | 9 | 0 | 12 | 41 |
| 02:30 PM | 8 | 4 | 9 | 15 | 36 | 3 | 11 | 2 | 1 | 17 | 0 | 1 | 2 | 23 | 26 | 2 | 5 | 4 | 6 | 17 | 96 |
| 02:45 PM | 10 | 25 | 7 | 17 | 59 | 0 | 13 | 2 | 24 | 39 | 19 | 18 | 4 | 7 | 48 | 2 | 5 | 7 | 3 | 17 | 163 |
| Total | 20 | 38 | 22 | 33 | 113 | 4 | 29 | 5 | 25 | 63 | 21 | 19 | 7 | 31 | 78 | 7 | 10 | 20 | 9 | 46 | 300 |
| 03:00 PM | 5 | 24 | 4 | 5 | 38 | 0 | 7 | 1 | 1 | 9 | 3 | 2 | 1 | 3 | 9 | 0 | 1 | 5 | 0 | 6 | 62 |
| Grand Total | 25 | 62 | 26 | 38 | 151 | 4 | 36 | 6 | 26 | 72 | 24 | 21 | 8 | 34 | 87 | 7 | 11 | 25 | 9 | 52 | 362 |
| Apprch % | 16.6 | 41.1 | 17.2 | 25.2 | | 5.6 | 50 | 8.3 | 36.1 | | 27.6 | 24.1 | 9.2 | 39.1 | | 13.5 | 21.2 | 48.1 | 17.3 | | |
| Total % | 6.9 | 17.1 | 7.2 | 10.5 | 41.7 | 1.1 | 9.9 | 1.7 | 7.2 | 19.9 | 6.6 | 5.8 | 2.2 | 9.4 | 24 | 1.9 | 3 | 6.9 | 2.5 | 14.4 | |
| Automobiles | 25 | 62 | 26 | 0 | 113 | 4 | 36 | 6 | 0 | 46 | 24 | 21 | 7 | 0 | 52 | 7 | 11 | 25 | 0 | 43 | 254 |
| % Automobiles | 100 | 100 | 100 | 0 | 74.8 | 100 | 100 | 100 | 0 | 63.9 | 100 | 100 | 87.5 | 0 | 59.8 | 100 | 100 | 100 | 0 | 82.7 | 70.2 |
| Bicycle and Pedestrian | 0 | 0 | 0 | 38 | 38 | 0 | 0 | 0 | 26 | 26 | 0 | 0 | 1 | 34 | 35 | 0 | 0 | 0 | 9 | 9 | 108 |
| % Bicycle and Pedestrian | 0 | 0 | 0 | 100 | 25.2 | 0 | 0 | 0 | 100 | 36.1 | 0 | 0 | 12.5 | 100 | 40.2 | 0 | 0 | 0 | 100 | 17.3 | 29.8 |



Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Quebec St

File Name : Jersey and Quebec PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 2



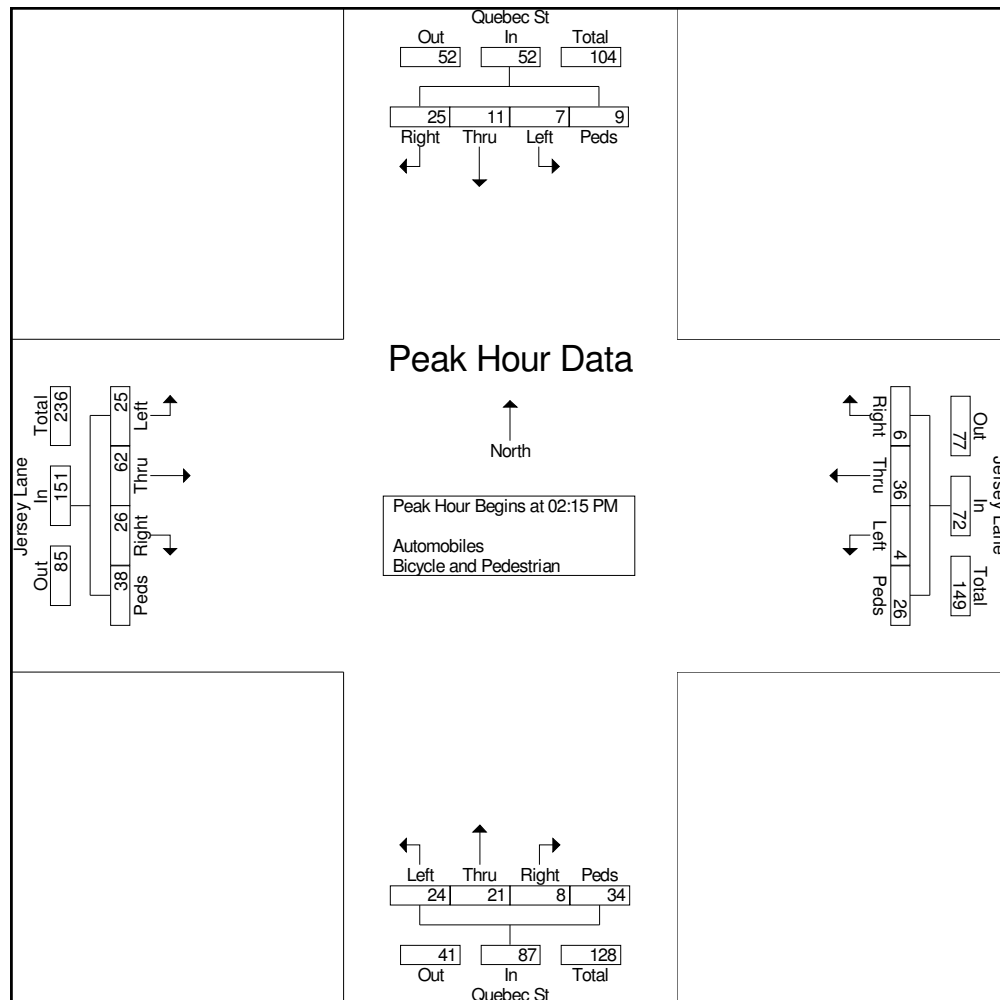


Ridgeview Data
Collection

El Paso County, CO
Webster Elementary School
PM Peak
Jersey Lane and Quebec St

File Name : Jersey and Quebec PM
Site Code : IPO 581
Start Date : 12/2/2021
Page No : 3

| | Jersey Lane Eastbound | | | | | Jersey Lane Westbound | | | | | Quebec St Northbound | | | | | Quebec St Southbound | | | | | |
|--|-----------------------|------|-------|------|------------|-----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 02:15 PM to 03:00 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 02:15 PM | | | | | | | | | | | | | | | | | | | | | |
| 02:15 PM | 2 | 9 | 6 | 1 | 18 | 1 | 5 | 1 | 0 | 7 | 2 | 0 | 1 | 1 | 4 | 3 | 0 | 9 | 0 | 12 | 41 |
| 02:30 PM | 8 | 4 | 9 | 15 | 36 | 3 | 11 | 2 | 1 | 17 | 0 | 1 | 2 | 23 | 26 | 2 | 5 | 4 | 6 | 17 | 96 |
| 02:45 PM | 10 | 25 | 7 | 17 | 59 | 0 | 13 | 2 | 24 | 39 | 19 | 18 | 4 | 7 | 48 | 2 | 5 | 7 | 3 | 17 | 163 |
| 03:00 PM | 5 | 24 | 4 | 5 | 38 | 0 | 7 | 1 | 1 | 9 | 3 | 2 | 1 | 3 | 9 | 0 | 1 | 5 | 0 | 6 | 62 |
| Total Volume | 25 | 62 | 26 | 38 | 151 | 4 | 36 | 6 | 26 | 72 | 24 | 21 | 8 | 34 | 87 | 7 | 11 | 25 | 9 | 52 | 362 |
| % App. Total | 16.6 | 41.1 | 17.2 | 25.2 | | 5.6 | 50 | 8.3 | 36.1 | | 27.6 | 24.1 | 9.2 | 39.1 | | 13.5 | 21.2 | 48.1 | 17.3 | | |
| PHF | .625 | .620 | .722 | .559 | .640 | .333 | .692 | .750 | .271 | .462 | .316 | .292 | .500 | .370 | .453 | .583 | .550 | .694 | .375 | .765 | .555 |





Webster Elementary School - December 2, 2021

Syracuse South Access

| | WB | | NB | SB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 7:15 | 0 | 0 | 7 | 8 | 0 |
| 7:30 | 0 | 0 | 9 | 5 | 1 |
| 7:45 | 0 | 0 | 29 | 4 | 4 |
| 8:00 | 0 | 0 | 6 | 0 | 7 |
| | 0 | 0 | 51 | 17 | 12 |

Syracuse North Access

| | WB | | NB | SB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 7:15 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 9 | 5 | 0 | 0 | 2 |
| 7:45 | 16 | 17 | 0 | 0 | 2 |
| 8:00 | 7 | 3 | 0 | 0 | 3 |
| | 32 | 25 | 0 | 0 | 7 |

Jersey West Access

| | NB | | EB | WB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 7:15 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 13 |
| 7:45 | 0 | 0 | 0 | 0 | 18 |
| 8:00 | 0 | 0 | 1 | 0 | 11 |
| | 0 | 0 | 1 | 0 | 42 |

Jersey East Access

| | NB | | EB | WB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 7:15 | 0 | 0 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 2 | 1 | 13 |
| 7:45 | 0 | 0 | 2 | 1 | 25 |
| 8:00 | 1 | 0 | 0 | 0 | 20 |
| | 1 | 0 | 4 | 2 | 59 |

Quebec Access

| | EB | | SB | NB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 7:15 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 2 |
| 7:45 | 5 | 0 | 0 | 0 | 2 |
| 8:00 | 1 | 0 | 1 | 0 | 1 |
| | 6 | 0 | 1 | 0 | 5 |

| | WB | | NB | SB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 2:15 | 0 | 0 | 4 | 1 | 0 |
| 2:30 | 0 | 0 | 7 | 1 | 3 |
| 2:45 | 0 | 0 | 2 | 1 | 4 |
| 3:00 | 0 | 0 | 1 | 0 | 0 |
| | 0 | 0 | 14 | 3 | 7 |

| | WB | | NB | SB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 2:15 | 2 | 2 | 0 | 0 | 0 |
| 2:30 | 4 | 3 | 0 | 0 | 23 |
| 2:45 | 5 | 6 | 0 | 0 | 2 |
| 3:00 | 1 | 1 | 0 | 0 | 0 |
| | 12 | 12 | 0 | 0 | 25 |

| | NB | | EB | WB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 2:15 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 33 |
| 2:45 | 0 | 0 | 0 | 0 | 33 |
| 3:00 | 1 | 0 | 0 | 0 | 9 |
| | 1 | 0 | 0 | 0 | 75 |

| | NB | | EB | WB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 2:15 | 0 | 0 | 0 | 3 | 0 |
| 2:30 | 0 | 0 | 0 | 1 | 61 |
| 2:45 | 0 | 0 | 0 | 0 | 20 |
| 3:00 | 0 | 0 | 2 | 0 | 7 |
| | 0 | 0 | 2 | 4 | 88 |

| | EB | | SB | NB | Peds |
|------|------|-------|-------|------|----------|
| | Left | Right | Right | Left | Crossing |
| 2:15 | 0 | 0 | 0 | 0 | 1 |
| 2:30 | 0 | 0 | 0 | 0 | 4 |
| 2:45 | 6 | 0 | 0 | 0 | 21 |
| 3:00 | 1 | 0 | 0 | 0 | 7 |
| | 7 | 0 | 0 | 0 | 33 |

APPENDIX B

Trip Generation Worksheets

Project Webster Elementary School Expansion (Existing)
 Subject Trip Generation for Elementary School
 Designed by MAG Date December 20, 2021 Job No. 196341000
 Checked by Date Sheet No. of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Elementary School (520)

Independent Variable - Students (X)

$$X = 518$$

T = Average Vehicle Trip Ends

AM Peak Hour of Generator (500 Series Page 329)

| | | | |
|----------------------|---------------------------|---------------------------|-----------|
| Average Weekday | Directional Distribution: | 54% ent. | 46% exit. |
| (T) = 0.75 (X) | T = 389 | Average Vehicle Trip Ends | |
| (T) = 0.75 * (518.0) | 210 entering | 179 | exiting |
| | 210 + 179 = 389 | | |

PM Peak Hour of Generator (500 Series Page 330)

| | | | |
|----------------------|---------------------------|---------------------------|-----------|
| Average Weekday | Directional Distribution: | 46% ent. | 54% exit. |
| (T) = 0.45 (X) | T = 233 | Average Vehicle Trip Ends | |
| (T) = 0.45 * (518.0) | 107 entering | 126 | exiting |
| | 107 + 126 = 233 | | |

Weekday (500 Series Page 326)

| | | |
|----------------------|---------------------------|---------------------------|
| Average Weekday | Directional Distribution: | 50% entering, 50% exiting |
| (T) = 2.27 (X) | T = 1176 | Average Vehicle Trip Ends |
| (T) = 2.27 * (518.0) | 588 entering | 588 exiting |
| | 588 + 588 = 1176 | |

Project Webster Elementary School Expansion (Future)
 Subject Trip Generation for Elementary School
 Designed by MAG Date December 20, 2021 Job No. 196341000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Elementary School (520)

Independent Variable - Students (X)

$$X = 850$$

T = Average Vehicle Trip Ends

AM Peak Hour of Generator (500 Series Page 329)

| | | | |
|----------------------|---------------------------|---------------------------|-----------|
| Average Weekday | Directional Distribution: | 54% ent. | 46% exit. |
| (T) = 0.75 (X) | T = 638 | Average Vehicle Trip Ends | |
| (T) = 0.75 * (850.0) | 345 entering | 293 exiting | |
| | 345 + 293 = 638 | | |

PM Peak Hour of Generator (500 Series Page 330)

| | | | |
|----------------------|---------------------------|---------------------------|-----------|
| Average Weekday | Directional Distribution: | 46% ent. | 54% exit. |
| (T) = 0.45 (X) | T = 383 | Average Vehicle Trip Ends | |
| (T) = 0.45 * (850.0) | 176 entering | 207 exiting | |
| | 176 + 207 = 383 | | |

Weekday (500 Series Page 326)

| | | |
|----------------------|---------------------------|---------------------------|
| Average Weekday | Directional Distribution: | 50% entering, 50% exiting |
| (T) = 2.27 (X) | T = 1930 | Average Vehicle Trip Ends |
| (T) = 2.27 * (850.0) | 965 entering | 965 exiting |
| | 965 + 965 = 1930 | |

APPENDIX C

Hourly Distribution

| Hourly Distribution - Webster Elemntary School | | |
|--|-----|-----|
| Start Time 8:00 AM | | |
| Time | In | Out |
| 7:15 AM | 20% | 20% |
| 7:30 AM | 20% | 20% |
| 7:45 AM | 50% | 50% |
| 8:00 AM | 10% | 10% |
| End Time 2:40 AM | | |
| 2:00 PM | 0% | 0% |
| 2:15 PM | 30% | 30% |
| 2:30 PM | 50% | 50% |
| 2:45 PM | 15% | 15% |
| 3:00 PM | 5% | 5% |

APPENDIX D

Intersection Analysis Worksheets

| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 9.1 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 21 | 64 | 93 | 38 | 5 | 96 | 29 | 83 | 2 | 32 | 4 |
| Future Vol, veh/h | 3 | 21 | 64 | 93 | 38 | 5 | 96 | 29 | 83 | 2 | 32 | 4 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 25 | 77 | 112 | 46 | 6 | 116 | 35 | 100 | 2 | 39 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|-----|-----|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8.1 | 9.3 | 9.6 | 8.2 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 46% | 3% | 68% | 5% |
| Vol Thru, % | 14% | 24% | 28% | 84% |
| Vol Right, % | 40% | 73% | 4% | 11% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 208 | 88 | 136 | 38 |
| LT Vol | 96 | 3 | 93 | 2 |
| Through Vol | 29 | 21 | 38 | 32 |
| RT Vol | 83 | 64 | 5 | 4 |
| Lane Flow Rate | 251 | 106 | 164 | 46 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.312 | 0.13 | 0.221 | 0.061 |
| Departure Headway (Hd) | 4.481 | 4.4 | 4.858 | 4.817 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 802 | 812 | 737 | 741 |
| Service Time | 2.516 | 2.443 | 2.9 | 2.865 |
| HCM Lane V/C Ratio | 0.313 | 0.131 | 0.223 | 0.062 |
| HCM Control Delay | 9.6 | 8.1 | 9.3 | 8.2 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 1.3 | 0.4 | 0.8 | 0.2 |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 10.6 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 2 | 35 | 74 | 63 | 30 | 5 | 107 | 29 | 93 | 1 | 15 | 1 |
| Future Vol, veh/h | 2 | 35 | 74 | 63 | 30 | 5 | 107 | 29 | 93 | 1 | 15 | 1 |
| Peak Hour Factor | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 56 | 117 | 100 | 48 | 8 | 170 | 46 | 148 | 2 | 24 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|-----|------|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.2 | 9.8 | 11.7 | 8.5 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 47% | 2% | 64% | 6% |
| Vol Thru, % | 13% | 32% | 31% | 88% |
| Vol Right, % | 41% | 67% | 5% | 6% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 229 | 111 | 98 | 17 |
| LT Vol | 107 | 2 | 63 | 1 |
| Through Vol | 29 | 35 | 30 | 15 |
| RT Vol | 93 | 74 | 5 | 1 |
| Lane Flow Rate | 363 | 176 | 156 | 27 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.466 | 0.229 | 0.224 | 0.039 |
| Departure Headway (Hd) | 4.619 | 4.679 | 5.182 | 5.176 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 774 | 761 | 688 | 684 |
| Service Time | 2.677 | 2.751 | 3.256 | 3.266 |
| HCM Lane V/C Ratio | 0.469 | 0.231 | 0.227 | 0.039 |
| HCM Control Delay | 11.7 | 9.2 | 9.8 | 8.5 |
| HCM Lane LOS | B | A | A | A |
| HCM 95th-tile Q | 2.5 | 0.9 | 0.9 | 0.1 |

| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 9.6 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 3 | 31 | 73 | 110 | 43 | 5 | 108 | 31 | 94 | 2 | 32 | 4 |
| Future Vol, veh/h | 3 | 31 | 73 | 110 | 43 | 5 | 108 | 31 | 94 | 2 | 32 | 4 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 37 | 88 | 133 | 52 | 6 | 130 | 37 | 113 | 2 | 39 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|-----|------|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8.5 | 9.8 | 10.2 | 8.4 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 46% | 3% | 70% | 5% |
| Vol Thru, % | 13% | 29% | 27% | 84% |
| Vol Right, % | 40% | 68% | 3% | 11% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 233 | 107 | 158 | 38 |
| LT Vol | 108 | 3 | 110 | 2 |
| Through Vol | 31 | 31 | 43 | 32 |
| RT Vol | 94 | 73 | 5 | 4 |
| Lane Flow Rate | 281 | 129 | 190 | 46 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.359 | 0.163 | 0.263 | 0.064 |
| Departure Headway (Hd) | 4.607 | 4.553 | 4.982 | 4.999 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 778 | 783 | 718 | 711 |
| Service Time | 2.657 | 2.613 | 3.038 | 3.067 |
| HCM Lane V/C Ratio | 0.361 | 0.165 | 0.265 | 0.065 |
| HCM Control Delay | 10.2 | 8.5 | 9.8 | 8.4 |
| HCM Lane LOS | B | A | A | A |
| HCM 95th-tile Q | 1.6 | 0.6 | 1.1 | 0.2 |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 11.1 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 2 | 41 | 78 | 70 | 33 | 5 | 114 | 30 | 99 | 1 | 15 | 1 |
| Future Vol, veh/h | 2 | 41 | 78 | 70 | 33 | 5 | 114 | 30 | 99 | 1 | 15 | 1 |
| Peak Hour Factor | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 65 | 124 | 111 | 52 | 8 | 181 | 48 | 157 | 2 | 24 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|------|------|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.5 | 10.2 | 12.5 | 8.7 |
| HCM LOS | A | B | B | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 47% | 2% | 65% | 6% |
| Vol Thru, % | 12% | 34% | 31% | 88% |
| Vol Right, % | 41% | 64% | 5% | 6% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 243 | 121 | 108 | 17 |
| LT Vol | 114 | 2 | 70 | 1 |
| Through Vol | 30 | 41 | 33 | 15 |
| RT Vol | 99 | 78 | 5 | 1 |
| Lane Flow Rate | 386 | 192 | 171 | 27 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.504 | 0.255 | 0.251 | 0.041 |
| Departure Headway (Hd) | 4.703 | 4.785 | 5.277 | 5.42 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 760 | 741 | 674 | 665 |
| Service Time | 2.776 | 2.874 | 3.37 | 3.42 |
| HCM Lane V/C Ratio | 0.508 | 0.259 | 0.254 | 0.041 |
| HCM Control Delay | 12.5 | 9.5 | 10.2 | 8.7 |
| HCM Lane LOS | B | A | B | A |
| HCM 95th-tile Q | 2.9 | 1 | 1 | 0.1 |

Timings 2: Jersey Lane & Bickley Street

2021 Existing AM
12/20/2021



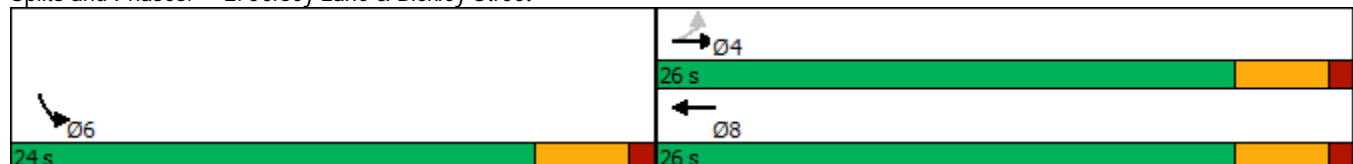
| Lane Group | EBL | EBT | WBT | SBL |
|----------------------|-------|-------|-------|-------|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 12 | 93 | 114 | 3 |
| Future Volume (vph) | 12 | 93 | 114 | 3 |
| Turn Type | Perm | NA | NA | Prot |
| Protected Phases | | 4 | 8 | 6 |
| Permitted Phases | 4 | | | |
| Detector Phase | 4 | 4 | 8 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 26.0 | 26.0 | 26.0 | 24.0 |
| Total Split (%) | 52.0% | 52.0% | 52.0% | 48.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | None | None | Min |
| Act Effect Green (s) | | 7.5 | 7.5 | 12.0 |
| Actuated g/C Ratio | | 0.35 | 0.35 | 0.55 |
| v/c Ratio | | 0.25 | 0.28 | 0.04 |
| Control Delay | | 6.2 | 6.0 | 3.7 |
| Queue Delay | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 6.2 | 6.0 | 3.7 |
| LOS | | A | A | A |
| Approach Delay | | 6.2 | 6.0 | 3.7 |
| Approach LOS | | A | A | A |

Intersection Summary

Cycle Length: 50
Actuated Cycle Length: 21.7
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.28
Intersection Signal Delay: 5.9
Intersection Capacity Utilization 26.6%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 2: Jersey Lane & Bickley Street

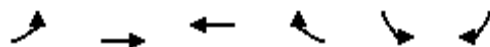


HCM 6th Signalized Intersection Summary

2: Jersey Lane & Bickley Street

2021 Existing AM

12/20/2021



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 12 | 93 | 114 | 11 | 3 | 22 |
| Future Volume (veh/h) | 12 | 93 | 114 | 11 | 3 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 17 | 133 | 163 | 16 | 4 | 31 |
| Peak Hour Factor | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 250 | 360 | 375 | 37 | 50 | 385 |
| Arrive On Green | 0.22 | 0.22 | 0.22 | 0.22 | 0.28 | 0.28 |
| Sat Flow, veh/h | 125 | 1610 | 1676 | 165 | 179 | 1388 |
| Grp Volume(v), veh/h | 150 | 0 | 0 | 179 | 36 | 0 |
| Grp Sat Flow(s), veh/h/ln | 1735 | 0 | 0 | 1841 | 1612 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 1.5 | 0.3 | 0.0 |
| Cycle Q Clear(g_c), s | 1.5 | 0.0 | 0.0 | 1.5 | 0.3 | 0.0 |
| Prop In Lane | 0.11 | | | 0.09 | 0.11 | 0.86 |
| Lane Grp Cap(c), veh/h | 611 | 0 | 0 | 412 | 447 | 0 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.00 | 0.43 | 0.08 | 0.00 |
| Avail Cap(c_a), veh/h | 2315 | 0 | 0 | 2194 | 1742 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 5.9 | 0.0 | 0.0 | 6.0 | 4.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.7 | 0.1 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%), veh/ln | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 6.1 | 0.0 | 0.0 | 6.7 | 4.9 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | | 150 | 179 | | 36 | |
| Approach Delay, s/veh | | 6.1 | 6.7 | | 4.9 | |
| Approach LOS | | A | A | | A | |
| Timer - Assigned Phs | | | | 4 | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | | | 8.5 | 9.5 | 8.5 |
| Change Period (Y+Rc), s | | | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | | | 21.5 | 19.5 | 21.5 |
| Max Q Clear Time (g_c+l1), s | | | | 3.5 | 2.3 | 3.5 |
| Green Ext Time (p_c), s | | | | 0.7 | 0.1 | 0.9 |
| Intersection Summary | | | | | | |
| HCM 6th Ctrl Delay | | | 6.3 | | | |
| HCM 6th LOS | | | A | | | |

Timings 2: Jersey Lane & Bickley Street

2021 Existing PM
12/20/2021



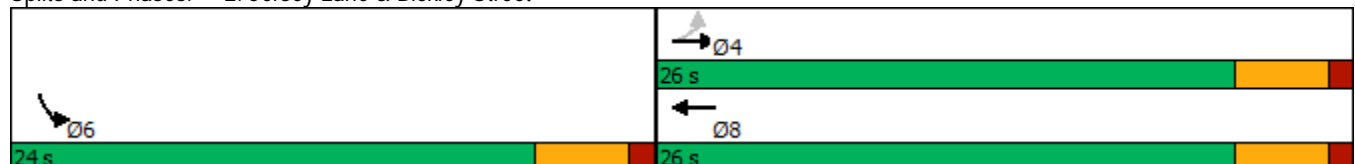
| Lane Group | EBL | EBT | WBT | SBL |
|----------------------|-------|-------|-------|-------|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 17 | 111 | 76 | 4 |
| Future Volume (vph) | 17 | 111 | 76 | 4 |
| Turn Type | Perm | NA | NA | Prot |
| Protected Phases | | 4 | 8 | 6 |
| Permitted Phases | 4 | | | |
| Detector Phase | 4 | 4 | 8 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 26.0 | 26.0 | 26.0 | 24.0 |
| Total Split (%) | 52.0% | 52.0% | 52.0% | 48.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | None | None | Min |
| Act Effect Green (s) | | 8.1 | 7.8 | 12.1 |
| Actuated g/C Ratio | | 0.37 | 0.35 | 0.55 |
| v/c Ratio | | 0.32 | 0.20 | 0.03 |
| Control Delay | | 6.6 | 5.5 | 4.2 |
| Queue Delay | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 6.6 | 5.5 | 4.2 |
| LOS | | A | A | A |
| Approach Delay | | 6.6 | 5.5 | 4.3 |
| Approach LOS | | A | A | A |

Intersection Summary

Cycle Length: 50
Actuated Cycle Length: 22
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 6.0
Intersection Capacity Utilization 25.1%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 2: Jersey Lane & Bickley Street

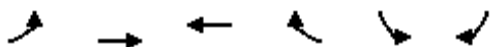


HCM 6th Signalized Intersection Summary

2: Jersey Lane & Bickley Street

2021 Existing PM

12/20/2021



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 17 | 111 | 76 | 4 | 4 | 16 |
| Future Volume (veh/h) | 17 | 111 | 76 | 4 | 4 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 27 | 179 | 123 | 6 | 6 | 26 |
| Peak Hour Factor | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 262 | 367 | 398 | 19 | 82 | 354 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | 0.23 | 0.28 | 0.28 |
| Sat Flow, veh/h | 163 | 1628 | 1769 | 86 | 295 | 1280 |
| Grp Volume(v), veh/h | 206 | 0 | 0 | 129 | 33 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1791 | 0 | 0 | 1855 | 1625 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 1.0 | 0.3 | 0.0 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 1.0 | 0.3 | 0.0 |
| Prop In Lane | 0.13 | | | 0.05 | 0.18 | 0.79 |
| Lane Grp Cap(c), veh/h | 629 | 0 | 0 | 418 | 450 | 0 |
| V/C Ratio(X) | 0.33 | 0.00 | 0.00 | 0.31 | 0.07 | 0.00 |
| Avail Cap(c_a), veh/h | 2326 | 0 | 0 | 2207 | 1754 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 6.1 | 0.0 | 0.0 | 5.8 | 4.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.4 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.4 | 0.0 | 0.0 | 6.2 | 4.9 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | | 206 | 129 | | 33 | |
| Approach Delay, s/veh | | 6.4 | 6.2 | | 4.9 | |
| Approach LOS | | A | A | | A | |
| Timer - Assigned Phs | | | | 4 | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | | | 8.6 | 9.5 | 8.6 |
| Change Period (Y+Rc), s | | | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | | | 21.5 | 19.5 | 21.5 |
| Max Q Clear Time (g_c+I1), s | | | | 3.8 | 2.3 | 3.0 |
| Green Ext Time (p_c), s | | | | 1.0 | 0.0 | 0.6 |
| Intersection Summary | | | | | | |
| HCM 6th Ctrl Delay | | | 6.2 | | | |
| HCM 6th LOS | | | A | | | |

Timings 2: Jersey Lane & Bickley Street

2022 Opening Year AM
12/21/2021



| Lane Group | EBL | EBT | WBT | SBL |
|----------------------|-------|-------|-------|-------|
| Lane Configurations | | ↰ | ↱ | ↱ |
| Traffic Volume (vph) | 22 | 109 | 131 | 8 |
| Future Volume (vph) | 22 | 109 | 131 | 8 |
| Turn Type | Perm | NA | NA | Prot |
| Protected Phases | | 4 | 8 | 6 |
| Permitted Phases | 4 | | | |
| Detector Phase | 4 | 4 | 8 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 25.0 | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | None | None | Min |
| Act Effect Green (s) | | 7.8 | 7.8 | 9.6 |
| Actuated g/C Ratio | | 0.33 | 0.33 | 0.41 |
| v/c Ratio | | 0.34 | 0.35 | 0.08 |
| Control Delay | | 7.5 | 6.8 | 3.9 |
| Queue Delay | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 7.5 | 6.8 | 3.9 |
| LOS | | A | A | A |
| Approach Delay | | 7.5 | 6.8 | 3.9 |
| Approach LOS | | A | A | A |

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 23.6

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 6.7

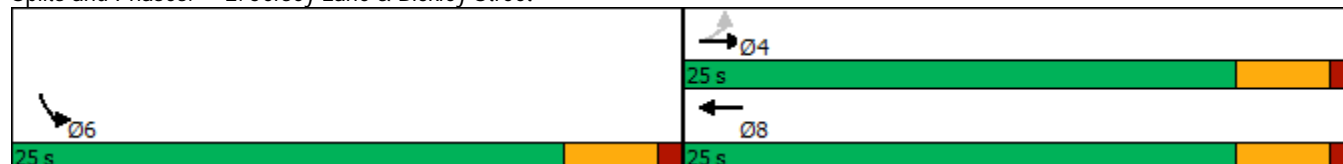
Intersection LOS: A

Intersection Capacity Utilization 30.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Jersey Lane & Bickley Street

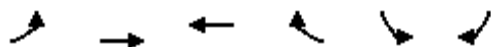


HCM 6th Signalized Intersection Summary

2: Jersey Lane & Bickley Street

2022 Opening Year AM

12/21/2021



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | | ↰ | ↰ | | ↰ | |
| Traffic Volume (veh/h) | 22 | 109 | 131 | 21 | 8 | 32 |
| Future Volume (veh/h) | 22 | 109 | 131 | 21 | 8 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 31 | 156 | 187 | 30 | 11 | 46 |
| Peak Hour Factor | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 267 | 333 | 377 | 60 | 84 | 350 |
| Arrive On Green | 0.24 | 0.24 | 0.24 | 0.24 | 0.27 | 0.27 |
| Sat Flow, veh/h | 161 | 1391 | 1573 | 252 | 308 | 1287 |
| Grp Volume(v), veh/h | 187 | 0 | 0 | 217 | 58 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1552 | 0 | 0 | 1825 | 1623 | 0 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 1.9 | 0.5 | 0.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 0.0 | 1.9 | 0.5 | 0.0 |
| Prop In Lane | 0.17 | | | 0.14 | 0.19 | 0.79 |
| Lane Grp Cap(c), veh/h | 600 | 0 | 0 | 437 | 441 | 0 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.00 | 0.50 | 0.13 | 0.00 |
| Avail Cap(c_a), veh/h | 2085 | 0 | 0 | 2032 | 1807 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 6.0 | 0.0 | 0.0 | 6.0 | 5.1 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.9 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.3 | 0.0 | 0.0 | 6.9 | 5.2 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | | 187 | 217 | | 58 | |
| Approach Delay, s/veh | | 6.3 | 6.9 | | 5.2 | |
| Approach LOS | | A | A | | A | |
| Timer - Assigned Phs | | | | 4 | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | | | 8.9 | 9.5 | 8.9 |
| Change Period (Y+Rc), s | | | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | | | 20.5 | 20.5 | 20.5 |
| Max Q Clear Time (g_c+l1), s | | | | 4.2 | 2.5 | 3.9 |
| Green Ext Time (p_c), s | | | | 0.9 | 0.1 | 1.1 |
| Intersection Summary | | | | | | |
| HCM 6th Ctrl Delay | | | 6.4 | | | |
| HCM 6th LOS | | | A | | | |

Timings 2: Jersey Lane & Bickley Street

2022 Opening Year PM

12/21/2021



| Lane Group | EBL | EBT | WBT | SBL |
|----------------------|-------|-------|-------|-------|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 23 | 120 | 83 | 7 |
| Future Volume (vph) | 23 | 120 | 83 | 7 |
| Turn Type | Perm | NA | NA | Prot |
| Protected Phases | | 4 | 8 | 6 |
| Permitted Phases | 4 | | | |
| Detector Phase | 4 | 4 | 8 | 6 |
| Switch Phase | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 26.0 | 26.0 | 26.0 | 24.0 |
| Total Split (%) | 52.0% | 52.0% | 52.0% | 48.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | | | | |
| Lead-Lag Optimize? | | | | |
| Recall Mode | None | None | None | Min |
| Act Effect Green (s) | | 8.3 | 8.2 | 9.7 |
| Actuated g/C Ratio | | 0.34 | 0.34 | 0.40 |
| v/c Ratio | | 0.39 | 0.24 | 0.07 |
| Control Delay | | 7.8 | 5.8 | 4.4 |
| Queue Delay | | 0.0 | 0.0 | 0.0 |
| Total Delay | | 7.8 | 5.8 | 4.4 |
| LOS | | A | A | A |
| Approach Delay | | 7.8 | 5.8 | 4.4 |
| Approach LOS | | A | A | A |

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 24.1

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 6.7

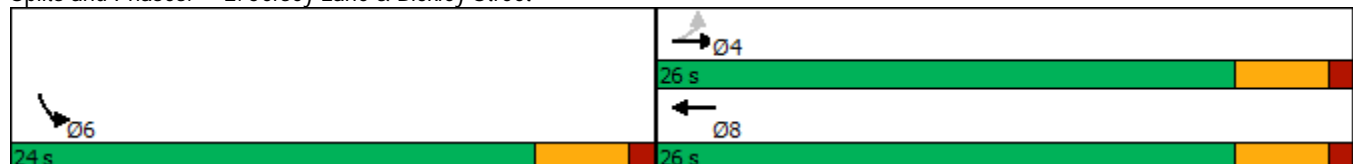
Intersection LOS: A

Intersection Capacity Utilization 25.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Jersey Lane & Bickley Street

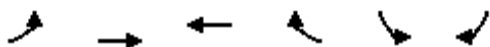


HCM 6th Signalized Intersection Summary

2: Jersey Lane & Bickley Street

2022 Opening Year PM

12/21/2021



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations | | ↰ | ↰ | | ↰ | |
| Traffic Volume (veh/h) | 23 | 120 | 83 | 10 | 7 | 22 |
| Future Volume (veh/h) | 23 | 120 | 83 | 10 | 7 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 37 | 194 | 134 | 16 | 11 | 35 |
| Peak Hour Factor | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 274 | 382 | 397 | 47 | 103 | 329 |
| Arrive On Green | 0.24 | 0.24 | 0.24 | 0.24 | 0.27 | 0.27 |
| Sat Flow, veh/h | 196 | 1574 | 1639 | 196 | 382 | 1216 |
| Grp Volume(v), veh/h | 231 | 0 | 0 | 150 | 47 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1770 | 0 | 0 | 1835 | 1632 | 0 |
| Q Serve(g_s), s | 0.7 | 0.0 | 0.0 | 1.2 | 0.4 | 0.0 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 0.0 | 1.2 | 0.4 | 0.0 |
| Prop In Lane | 0.16 | | | 0.11 | 0.23 | 0.74 |
| Lane Grp Cap(c), veh/h | 655 | 0 | 0 | 445 | 442 | 0 |
| V/C Ratio(X) | 0.35 | 0.00 | 0.00 | 0.34 | 0.11 | 0.00 |
| Avail Cap(c_a), veh/h | 2247 | 0 | 0 | 2135 | 1723 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 6.1 | 0.0 | 0.0 | 5.8 | 5.1 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.4 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.4 | 0.0 | 0.0 | 6.2 | 5.2 | 0.0 |
| LnGrp LOS | A | A | A | A | A | A |
| Approach Vol, veh/h | | 231 | 150 | | 47 | |
| Approach Delay, s/veh | | 6.4 | 6.2 | | 5.2 | |
| Approach LOS | | A | A | | A | |
| Timer - Assigned Phs | | | | 4 | 6 | 8 |
| Phs Duration (G+Y+Rc), s | | | | 9.0 | 9.5 | 9.0 |
| Change Period (Y+Rc), s | | | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | | | 21.5 | 19.5 | 21.5 |
| Max Q Clear Time (g_c+l1), s | | | | 4.0 | 2.4 | 3.2 |
| Green Ext Time (p_c), s | | | | 1.2 | 0.1 | 0.7 |
| Intersection Summary | | | | | | |
| HCM 6th Ctrl Delay | | | 6.2 | | | |
| HCM 6th LOS | | | A | | | |

| Intersection | |
|---------------------------|---|
| Intersection Delay, s/veh | 8 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 16 | 39 | 34 | 7 | 68 | 2 | 25 | 14 | 6 | 4 | 22 | 28 |
| Future Vol, veh/h | 16 | 39 | 34 | 7 | 68 | 2 | 25 | 14 | 6 | 4 | 22 | 28 |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 24 | 57 | 50 | 10 | 100 | 3 | 37 | 21 | 9 | 6 | 32 | 41 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|----|-----|----|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8 | 8.1 | 8 | 7.7 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 56% | 18% | 9% | 7% |
| Vol Thru, % | 31% | 44% | 88% | 41% |
| Vol Right, % | 13% | 38% | 3% | 52% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 45 | 89 | 77 | 54 |
| LT Vol | 25 | 16 | 7 | 4 |
| Through Vol | 14 | 39 | 68 | 22 |
| RT Vol | 6 | 34 | 2 | 28 |
| Lane Flow Rate | 66 | 131 | 113 | 79 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.084 | 0.153 | 0.139 | 0.094 |
| Departure Headway (Hd) | 4.595 | 4.198 | 4.406 | 4.257 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 781 | 857 | 816 | 843 |
| Service Time | 2.615 | 2.211 | 2.421 | 2.276 |
| HCM Lane V/C Ratio | 0.085 | 0.153 | 0.138 | 0.094 |
| HCM Control Delay | 8 | 8 | 8.1 | 7.7 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.3 | 0.5 | 0.5 | 0.3 |

| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 8.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 25 | 62 | 26 | 4 | 36 | 6 | 24 | 21 | 8 | 7 | 11 | 25 |
| Future Vol, veh/h | 25 | 62 | 26 | 4 | 36 | 6 | 24 | 21 | 8 | 7 | 11 | 25 |
| Peak Hour Factor | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 45 | 113 | 47 | 7 | 65 | 11 | 44 | 38 | 15 | 13 | 20 | 45 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|-----|-----|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8.8 | 8.1 | 8.4 | 7.9 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 45% | 22% | 9% | 16% |
| Vol Thru, % | 40% | 55% | 78% | 26% |
| Vol Right, % | 15% | 23% | 13% | 58% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 53 | 113 | 46 | 43 |
| LT Vol | 24 | 25 | 4 | 7 |
| Through Vol | 21 | 62 | 36 | 11 |
| RT Vol | 8 | 26 | 6 | 25 |
| Lane Flow Rate | 96 | 205 | 84 | 78 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.125 | 0.248 | 0.105 | 0.095 |
| Departure Headway (Hd) | 4.677 | 4.34 | 4.503 | 4.388 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 767 | 828 | 796 | 816 |
| Service Time | 2.704 | 2.362 | 2.529 | 2.416 |
| HCM Lane V/C Ratio | 0.125 | 0.248 | 0.106 | 0.096 |
| HCM Control Delay | 8.4 | 8.8 | 8.1 | 7.9 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.4 | 1 | 0.4 | 0.3 |

| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 8.7 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 21 | 55 | 56 | 11 | 85 | 2 | 41 | 23 | 10 | 4 | 36 | 33 |
| Future Vol, veh/h | 21 | 55 | 56 | 11 | 85 | 2 | 41 | 23 | 10 | 4 | 36 | 33 |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 31 | 81 | 82 | 16 | 125 | 3 | 60 | 34 | 15 | 6 | 53 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|-----|-----|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8.8 | 8.8 | 8.8 | 8.4 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 55% | 16% | 11% | 5% |
| Vol Thru, % | 31% | 42% | 87% | 49% |
| Vol Right, % | 14% | 42% | 2% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 74 | 132 | 98 | 73 |
| LT Vol | 41 | 21 | 11 | 4 |
| Through Vol | 23 | 55 | 85 | 36 |
| RT Vol | 10 | 56 | 2 | 33 |
| Lane Flow Rate | 109 | 194 | 144 | 107 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.147 | 0.237 | 0.187 | 0.137 |
| Departure Headway (Hd) | 4.866 | 4.4 | 4.68 | 4.584 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 735 | 815 | 765 | 779 |
| Service Time | 2.91 | 2.435 | 2.719 | 2.628 |
| HCM Lane V/C Ratio | 0.148 | 0.238 | 0.188 | 0.137 |
| HCM Control Delay | 8.8 | 8.8 | 8.8 | 8.4 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.5 | 0.9 | 0.7 | 0.5 |

| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 9.3 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 28 | 71 | 43 | 7 | 43 | 6 | 39 | 34 | 13 | 7 | 18 | 28 |
| Future Vol, veh/h | 28 | 71 | 43 | 7 | 43 | 6 | 39 | 34 | 13 | 7 | 18 | 28 |
| Peak Hour Factor | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 51 | 129 | 78 | 13 | 78 | 11 | 71 | 62 | 24 | 13 | 33 | 51 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|-----|-----|-----|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.8 | 8.6 | 9.3 | 8.4 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 45% | 20% | 12% | 13% |
| Vol Thru, % | 40% | 50% | 77% | 34% |
| Vol Right, % | 15% | 30% | 11% | 53% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 86 | 142 | 56 | 53 |
| LT Vol | 39 | 28 | 7 | 7 |
| Through Vol | 34 | 71 | 43 | 18 |
| RT Vol | 13 | 43 | 6 | 28 |
| Lane Flow Rate | 156 | 258 | 102 | 96 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.212 | 0.325 | 0.136 | 0.125 |
| Departure Headway (Hd) | 4.889 | 4.527 | 4.811 | 4.683 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 730 | 793 | 741 | 760 |
| Service Time | 2.942 | 2.57 | 2.864 | 2.742 |
| HCM Lane V/C Ratio | 0.214 | 0.325 | 0.138 | 0.126 |
| HCM Control Delay | 9.3 | 9.8 | 8.6 | 8.4 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.8 | 1.4 | 0.5 | 0.4 |

HCM 6th TWSC
4: West Access & Jersey Lane

2021 Existing AM
12/20/2021

| Intersection | | | | | | |
|--------------------------|--------|------|--------|------|--------|-------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | | | ↑ | ↕ | |
| Traffic Vol, veh/h | 105 | 1 | 0 | 136 | 0 | 0 |
| Future Vol, veh/h | 105 | 1 | 0 | 136 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 73 | 50 | 50 | 80 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 144 | 2 | 0 | 170 | 0 | 0 |
| | | | | | | |
| Major/Minor | Major1 | | Major2 | | Minor1 | |
| Conflicting Flow All | 0 | 0 | - | - | 315 | 145 |
| Stage 1 | - | - | - | - | 145 | - |
| Stage 2 | - | - | - | - | 170 | - |
| Critical Hdwy | - | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 678 | 902 |
| Stage 1 | - | - | 0 | - | 882 | - |
| Stage 2 | - | - | 0 | - | 860 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | 678 | 902 |
| Mov Cap-2 Maneuver | - | - | - | - | 678 | - |
| Stage 1 | - | - | - | - | 882 | - |
| Stage 2 | - | - | - | - | 860 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | | WB | | NB | |
| HCM Control Delay, s | 0 | | 0 | | 0 | |
| HCM LOS | | | | | A | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT | | |
| Capacity (veh/h) | - | - | - | - | | |
| HCM Lane V/C Ratio | - | - | - | - | | |
| HCM Control Delay (s) | 0 | - | - | - | | |
| HCM Lane LOS | A | - | - | - | | |
| HCM 95th %tile Q(veh) | - | - | - | - | | |

HCM 6th TWSC
4: West Access & Jersey Lane

2021 Existing PM
12/20/2021









| Intersection | | | | | | |
|--------------------------|--------|--------|--------|------|-------|-------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | | | ↑ | ↑ | |
| Traffic Vol, veh/h | 128 | 0 | 0 | 98 | 1 | 0 |
| Future Vol, veh/h | 128 | 0 | 0 | 98 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 83 | 50 | 47 | 47 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 154 | 0 | 0 | 209 | 2 | 0 |
| Major/Minor | Major1 | Major2 | Minor1 | | | |
| Conflicting Flow All | 0 | - | - | - | 363 | 154 |
| Stage 1 | - | - | - | - | 154 | - |
| Stage 2 | - | - | - | - | 209 | - |
| Critical Hdwy | - | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | 0 | 0 | - | 636 | 892 |
| Stage 1 | - | 0 | 0 | - | 874 | - |
| Stage 2 | - | 0 | 0 | - | 826 | - |
| Platoon blocked, % | - | | | - | | |
| Mov Cap-1 Maneuver | - | - | - | - | 636 | 892 |
| Mov Cap-2 Maneuver | - | - | - | - | 636 | - |
| Stage 1 | - | - | - | - | 874 | - |
| Stage 2 | - | - | - | - | 826 | - |
| Approach | EB | WB | | NB | | |
| HCM Control Delay, s | 0 | 0 | | 10.7 | | |
| HCM LOS | | | | B | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | WBT | | | |
| Capacity (veh/h) | 636 | - | - | | | |
| HCM Lane V/C Ratio | 0.003 | - | - | | | |
| HCM Control Delay (s) | 10.7 | - | - | | | |
| HCM Lane LOS | B | - | - | | | |
| HCM 95th %tile Q(veh) | 0 | - | - | | | |

HCM Unsignalized Intersection Capacity Analysis

5: East Access & Jersey Lane

2021 Existing AM

12/22/2021

| | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|--|--|--|
| |  |  |  |  |  |  | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | | |
| Lane Configurations |  | | |  | | | | | | |
| Traffic Volume (veh/h) | 89 | 4 | 2 | 125 | 1 | 0 | | | | |
| Future Volume (Veh/h) | 89 | 4 | 2 | 125 | 1 | 0 | | | | |
| Sign Control | Free | | | Free | Stop | | | | | |
| Grade | 0% | | | 0% | 0% | | | | | |
| Peak Hour Factor | 0.82 | 0.50 | 0.50 | 0.66 | 0.50 | 0.50 | | | | |
| Hourly flow rate (vph) | 109 | 8 | 4 | 189 | 2 | 0 | | | | |
| Pedestrians | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | |
| Median type | None | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | |
| Upstream signal (ft) | 160 | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | |
| vC, conflicting volume | | | 117 | | 310 | 113 | | | | |
| vC1, stage 1 conf vol | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | |
| vCu, unblocked vol | | | 117 | | 310 | 113 | | | | |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 | | | | |
| tC, 2 stage (s) | | | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | | | |
| p0 queue free % | | | 100 | | 100 | 100 | | | | |
| cM capacity (veh/h) | | | 1471 | | 681 | 940 | | | | |
| Direction, Lane # | EB 1 | WB 1 | | | | | | | | |
| Volume Total | 117 | 193 | | | | | | | | |
| Volume Left | 0 | 4 | | | | | | | | |
| Volume Right | 8 | 0 | | | | | | | | |
| cSH | 1700 | 1471 | | | | | | | | |
| Volume to Capacity | 0.07 | 0.00 | | | | | | | | |
| Queue Length 95th (ft) | 0 | 0 | | | | | | | | |
| Control Delay (s) | 0.0 | 0.2 | | | | | | | | |
| Lane LOS | | A | | | | | | | | |
| Approach Delay (s) | 0.0 | 0.2 | | | | | | | | |
| Approach LOS | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | |
| Average Delay | | | Err | | | | | | | |
| Intersection Capacity Utilization | | | Err% | ICU Level of Service | H | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | |

HCM Unsignalized Intersection Capacity Analysis

5: East Access & Jersey Lane

2021 Existing PM

12/22/2021

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------------|------|-------|------|----------------------|------|------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↰ | | | ↱ | | |
| Traffic Volume (veh/h) | 113 | 2 | 4 | 80 | 0 | 0 |
| Future Volume (Veh/h) | 113 | 2 | 4 | 80 | 0 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.64 | 0.50 | 0.46 | 0.46 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 177 | 4 | 9 | 174 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | 160 | | | | | |
| pX, platoon unblocked | | | 0.95 | | 0.95 | 0.95 |
| vC, conflicting volume | | | 181 | | 371 | 179 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 106 | | 307 | 104 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 100 |
| cM capacity (veh/h) | | | 1405 | | 644 | 900 |
| Direction, Lane # | EB 1 | WB 1 | | | | |
| Volume Total | 181 | 183 | | | | |
| Volume Left | 0 | 9 | | | | |
| Volume Right | 4 | 0 | | | | |
| cSH | 1700 | 1405 | | | | |
| Volume to Capacity | 0.11 | 0.01 | | | | |
| Queue Length 95th (ft) | 0 | 0 | | | | |
| Control Delay (s) | 0.0 | 0.4 | | | | |
| Lane LOS | | A | | | | |
| Approach Delay (s) | 0.0 | 0.4 | | | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | 0.2 | | | | |
| Intersection Capacity Utilization | | 10.8% | | ICU Level of Service | | A |
| Analysis Period (min) | | 15 | | | | |

HCM Unsignalized Intersection Capacity Analysis

5: East Access & Jersey Lane

2022 Opening Year AM

12/22/2021









| | | | | | | |
|-----------------------------------|------|------|----------------------|------|------|------|
| | → | ↘ | ↙ | ← | ↖ | ↗ |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↱ | | | ↰ | | |
| Traffic Volume (veh/h) | 127 | 7 | 3 | 158 | 2 | 0 |
| Future Volume (Veh/h) | 127 | 7 | 3 | 158 | 2 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.82 | 0.50 | 0.50 | 0.66 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 155 | 14 | 6 | 239 | 4 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh | | | | | | |
| Upstream signal (ft) | 160 | | | | | |
| pX, platoon unblocked | | | 0.97 | | 0.97 | 0.97 |
| vC, conflicting volume | | | 169 | | 413 | 162 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 130 | | 381 | 123 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 99 | 100 |
| cM capacity (veh/h) | | | 1414 | | 601 | 902 |
| Direction, Lane # | EB 1 | WB 1 | | | | |
| Volume Total | 169 | 245 | | | | |
| Volume Left | 0 | 6 | | | | |
| Volume Right | 14 | 0 | | | | |
| cSH | 1700 | 1414 | | | | |
| Volume to Capacity | 0.10 | 0.00 | | | | |
| Queue Length 95th (ft) | 0 | 0 | | | | |
| Control Delay (s) | 0.0 | 0.2 | | | | |
| Lane LOS | | A | | | | |
| Approach Delay (s) | 0.0 | 0.2 | | | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | Err | | | | |
| Intersection Capacity Utilization | | Err% | ICU Level of Service | | H | |
| Analysis Period (min) | | 15 | | | | |

HCM Unsignalized Intersection Capacity Analysis

5: East Access & Jersey Lane




2022 Opening Year PM

12/22/2021

| | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|--|--|--|--|
| |  |  |  |  |  |  | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | | |
| Lane Configurations |  | | |  | | | | | | |
| Traffic Volume (veh/h) | 139 | 3 | 7 | 102 | 0 | 0 | | | | |
| Future Volume (Veh/h) | 139 | 3 | 7 | 102 | 0 | 0 | | | | |
| Sign Control | Free | | | Free | Stop | | | | | |
| Grade | 0% | | | 0% | 0% | | | | | |
| Peak Hour Factor | 0.64 | 0.50 | 0.46 | 0.46 | 0.50 | 0.50 | | | | |
| Hourly flow rate (vph) | 217 | 6 | 15 | 222 | 0 | 0 | | | | |
| Pedestrians | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | |
| Median type | None | | None | | | | | | | |
| Median storage (veh) | | | | | | | | | | |
| Upstream signal (ft) | 160 | | | | | | | | | |
| pX, platoon unblocked | | | 0.94 | | 0.94 | 0.94 | | | | |
| vC, conflicting volume | | | 223 | | 472 | 220 | | | | |
| vC1, stage 1 conf vol | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | |
| vCu, unblocked vol | | | 144 | | 408 | 141 | | | | |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 | | | | |
| tC, 2 stage (s) | | | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | | | |
| p0 queue free % | | | 99 | | 100 | 100 | | | | |
| cM capacity (veh/h) | | | 1355 | | 558 | 854 | | | | |
| Direction, Lane # | EB 1 | WB 1 | | | | | | | | |
| Volume Total | 223 | 237 | | | | | | | | |
| Volume Left | 0 | 15 | | | | | | | | |
| Volume Right | 6 | 0 | | | | | | | | |
| cSH | 1700 | 1355 | | | | | | | | |
| Volume to Capacity | 0.13 | 0.01 | | | | | | | | |
| Queue Length 95th (ft) | 0 | 1 | | | | | | | | |
| Control Delay (s) | 0.0 | 0.6 | | | | | | | | |
| Lane LOS | | A | | | | | | | | |
| Approach Delay (s) | 0.0 | 0.6 | | | | | | | | |
| Approach LOS | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | |
| Average Delay | | | 0.3 | | | | | | | |
| Intersection Capacity Utilization | | | 14.5% | ICU Level of Service | A | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | |

HCM 6th TWSC
6: Syracuse Street & Middle Access

2021 Existing AM
12/22/2021

| Intersection | | | | | | |
|--------------------------|---|--------|---|------|------|---|
| Int Delay, s/veh | 2.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 32 | 25 | 183 | 0 | 0 | 189 |
| Future Vol, veh/h | 32 | 25 | 183 | 0 | 0 | 189 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 50 | 50 | 76 | 50 | 50 | 61 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 64 | 50 | 241 | 0 | 0 | 310 |
| Major/Minor | Minor1 | Major1 | Major2 | | | |
| Conflicting Flow All | 551 | 241 | 0 | - | - | - |
| Stage 1 | 241 | - | - | - | - | - |
| Stage 2 | 310 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 495 | 798 | - | 0 | 0 | - |
| Stage 1 | 799 | - | - | 0 | 0 | - |
| Stage 2 | 744 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 495 | 798 | - | - | - | - |
| Mov Cap-2 Maneuver | 495 | - | - | - | - | - |
| Stage 1 | 799 | - | - | - | - | - |
| Stage 2 | 744 | - | - | - | - | - |
| Approach | WB | NB | SB | | | |
| HCM Control Delay, s | 12.5 | 0 | 0 | | | |
| HCM LOS | B | | | | | |
| Minor Lane/Major Mvmt | NBTWBLn1 | | SBT | | | |
| Capacity (veh/h) | - 594 | | - | | | |
| HCM Lane V/C Ratio | - 0.192 | | - | | | |
| HCM Control Delay (s) | - 12.5 | | - | | | |
| HCM Lane LOS | - B | | - | | | |
| HCM 95th %tile Q(veh) | - 0.7 | | - | | | |

HCM 6th TWSC
6: Syracuse Street & Middle Access

2021 Existing PM
12/22/2021




| Intersection | | | | | | |
|--------------------------|----------|--------|--------|------|------|------|
| Int Delay, s/veh | 0.9 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↔↔ | | ↑ | | | ↑ |
| Traffic Vol, veh/h | 12 | 12 | 217 | 0 | 0 | 152 |
| Future Vol, veh/h | 12 | 12 | 217 | 0 | 0 | 152 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 50 | 50 | 66 | 50 | 50 | 59 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 24 | 24 | 329 | 0 | 0 | 258 |
| Major/Minor | Minor1 | Major1 | Major2 | | | |
| Conflicting Flow All | 587 | 329 | 0 | - | - | - |
| Stage 1 | 329 | - | - | - | - | - |
| Stage 2 | 258 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 472 | 712 | - | 0 | 0 | - |
| Stage 1 | 729 | - | - | 0 | 0 | - |
| Stage 2 | 785 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 472 | 712 | - | - | - | - |
| Mov Cap-2 Maneuver | 472 | - | - | - | - | - |
| Stage 1 | 729 | - | - | - | - | - |
| Stage 2 | 785 | - | - | - | - | - |
| Approach | WB | NB | SB | | | |
| HCM Control Delay, s | 11.9 | 0 | 0 | | | |
| HCM LOS | B | | | | | |
| Minor Lane/Major Mvmt | NBTWBLn1 | | SBT | | | |
| Capacity (veh/h) | - 568 | | - | | | |
| HCM Lane V/C Ratio | - 0.085 | | - | | | |
| HCM Control Delay (s) | - 11.9 | | - | | | |
| HCM Lane LOS | - B | | - | | | |
| HCM 95th %tile Q(veh) | - 0.3 | | - | | | |

HCM 6th TWSC
6: Syracuse Street & Middle Access

2022 Opening Year AM
12/22/2021

Intersection

Int Delay, s/veh 3.4

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|---|------|---|------|------|---|
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 52 | 41 | 188 | 0 | 0 | 209 |
| Future Vol, veh/h | 52 | 41 | 188 | 0 | 0 | 209 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 50 | 50 | 76 | 50 | 50 | 61 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 104 | 82 | 247 | 0 | 0 | 343 |

| Major/Minor | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 590 | 247 | 0 |
| Stage 1 | 247 | - | - |
| Stage 2 | 343 | - | - |
| Critical Hdwy | 6.42 | 6.22 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - |
| Pot Cap-1 Maneuver | 470 | 792 | 0 |
| Stage 1 | 794 | - | 0 |
| Stage 2 | 719 | - | 0 |
| Platoon blocked, % | | - | - |
| Mov Cap-1 Maneuver | 470 | 792 | - |
| Mov Cap-2 Maneuver | 470 | - | - |
| Stage 1 | 794 | - | - |
| Stage 2 | 719 | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 14.3 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBTWBLn1 | SBT |
|-----------------------|----------|-----|
| Capacity (veh/h) | - 573 | - |
| HCM Lane V/C Ratio | - 0.325 | - |
| HCM Control Delay (s) | - 14.3 | - |
| HCM Lane LOS | - B | - |
| HCM 95th %tile Q(veh) | - 1.4 | - |

HCM 6th TWSC
6: Syracuse Street & Middle Access









2022 Opening Year PM
12/22/2021

| Intersection | | | | | | |
|--------------------------|----------|--------|--------|------|------|------|
| Int Delay, s/veh | 1.5 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | W | W | T | | | T |
| Traffic Vol, veh/h | 20 | 20 | 217 | 0 | 0 | 154 |
| Future Vol, veh/h | 20 | 20 | 217 | 0 | 0 | 154 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 50 | 50 | 66 | 50 | 50 | 59 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 40 | 40 | 329 | 0 | 0 | 261 |
| Major/Minor | Minor1 | Major1 | Major2 | | | |
| Conflicting Flow All | 590 | 329 | 0 | - | - | - |
| Stage 1 | 329 | - | - | - | - | - |
| Stage 2 | 261 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 470 | 712 | - | 0 | 0 | - |
| Stage 1 | 729 | - | - | 0 | 0 | - |
| Stage 2 | 783 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 470 | 712 | - | - | - | - |
| Mov Cap-2 Maneuver | 470 | - | - | - | - | - |
| Stage 1 | 729 | - | - | - | - | - |
| Stage 2 | 783 | - | - | - | - | - |
| Approach | WB | NB | SB | | | |
| HCM Control Delay, s | 12.4 | 0 | 0 | | | |
| HCM LOS | B | | | | | |
| Minor Lane/Major Mvmt | NBTWBLn1 | | SBT | | | |
| Capacity (veh/h) | - 566 | | - | | | |
| HCM Lane V/C Ratio | - 0.141 | | - | | | |
| HCM Control Delay (s) | - 12.4 | | - | | | |
| HCM Lane LOS | - B | | - | | | |
| HCM 95th %tile Q(veh) | - 0.5 | | - | | | |

HCM Unsignalized Intersection Capacity Analysis

7: Syracuse Street & South Access

2021 Existing AM
12/22/2021









| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 183 | 51 | 17 | 204 |
| Future Volume (Veh/h) | 0 | 0 | 183 | 51 | 17 | 204 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.50 | 0.50 | 0.76 | 0.50 | 0.50 | 0.61 |
| Hourly flow rate (vph) | 0 | 0 | 241 | 102 | 34 | 334 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 694 | 292 | | | 343 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 694 | 292 | | | 343 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 97 | |
| cM capacity (veh/h) | 397 | 747 | | | 1216 | |
| Direction, Lane # | NB 1 | SB 1 | | | | |
| Volume Total | 343 | 368 | | | | |
| Volume Left | 0 | 34 | | | | |
| Volume Right | 102 | 0 | | | | |
| cSH | 1700 | 1216 | | | | |
| Volume to Capacity | 0.20 | 0.03 | | | | |
| Queue Length 95th (ft) | 0 | 2 | | | | |
| Control Delay (s) | 0.0 | 1.0 | | | | |
| Lane LOS | | A | | | | |
| Approach Delay (s) | 0.0 | 1.0 | | | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.5 | | | |
| Intersection Capacity Utilization | | | 28.1% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis

7: Syracuse Street & South Access

2021 Existing PM

12/22/2021

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 217 | 14 | 3 | 161 |
| Future Volume (Veh/h) | 0 | 0 | 217 | 14 | 3 | 161 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.50 | 0.50 | 0.66 | 0.50 | 0.50 | 0.59 |
| Hourly flow rate (vph) | 0 | 0 | 329 | 28 | 6 | 273 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 628 | 343 | | | 357 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 628 | 343 | | | 357 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 445 | 700 | | | 1202 | |
| Direction, Lane # | NB 1 | SB 1 | | | | |
| Volume Total | 357 | 279 | | | | |
| Volume Left | 0 | 6 | | | | |
| Volume Right | 28 | 0 | | | | |
| cSH | 1700 | 1202 | | | | |
| Volume to Capacity | 0.21 | 0.00 | | | | |
| Queue Length 95th (ft) | 0 | 0 | | | | |
| Control Delay (s) | 0.0 | 0.2 | | | | |
| Lane LOS | | A | | | | |
| Approach Delay (s) | 0.0 | 0.2 | | | | |
| Approach LOS | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 15.6% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM 6th TWSC
7: Syracuse Street & Fay Drive/South Access

2022 Opening Year AM

01/05/2022

Intersection

Int Delay, s/veh 0.6

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 0 | 7 | 0 | 0 | 0 | 2 | 192 | 84 | 28 | 239 | 1 |
| Future Vol, veh/h | 1 | 0 | 7 | 0 | 0 | 0 | 2 | 192 | 84 | 28 | 239 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 50 | 92 | 50 | 92 | 76 | 50 | 50 | 61 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 0 | 8 | 0 | 0 | 0 | 2 | 253 | 168 | 56 | 392 | 1 |

| Major/Minor | Minor2 | | | Major1 | Major2 | | | | |
|----------------------|--------|-------|-------|--------|--------|---|-------|---|---|
| Conflicting Flow All | 846 | 930 | 393 | 393 | 0 | 0 | 421 | 0 | 0 |
| Stage 1 | 505 | 505 | - | - | - | - | - | - | - |
| Stage 2 | 341 | 425 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 333 | 267 | 656 | 1166 | - | - | 1138 | - | - |
| Stage 1 | 606 | 540 | - | - | - | - | - | - | - |
| Stage 2 | 720 | 586 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 311 | 0 | 656 | 1166 | - | - | 1138 | - | - |
| Mov Cap-2 Maneuver | 311 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 605 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 675 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 11.3 | 0 | 1 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-----|-----|
| Capacity (veh/h) | 1166 | - | - | 576 | 1138 | - | - |
| HCM Lane V/C Ratio | 0.002 | - | - | 0.015 | 0.049 | - | - |
| HCM Control Delay (s) | 8.1 | - | - | 11.3 | 8.3 | 0 | - |
| HCM Lane LOS | A | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.2 | - | - |

HCM 6th TWSC
7: Syracuse Street & Fay Drive/South Access

2022 Opening Year PM




01/05/2022




| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 0 | 5 | 0 | 0 | 0 | 8 | 223 | 23 | 5 | 178 | 1 |
| Future Vol, veh/h | 1 | 0 | 5 | 0 | 0 | 0 | 8 | 223 | 23 | 5 | 178 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 50 | 92 | 50 | 92 | 66 | 50 | 50 | 59 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 0 | 5 | 0 | 0 | 0 | 9 | 338 | 46 | 10 | 302 | 1 |




| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 702 | 725 | 303 | 303 | 0 | 0 | 384 | 0 | 0 |
| Stage 1 | 323 | 323 | - | - | - | - | - | - | - |
| Stage 2 | 379 | 402 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 404 | 352 | 737 | 1258 | - | - | 1174 | - | - |
| Stage 1 | 734 | 650 | - | - | - | - | - | - | - |
| Stage 2 | 692 | 600 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 396 | 0 | 737 | 1258 | - | - | 1174 | - | - |
| Mov Cap-2 Maneuver | 396 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 727 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 685 | 0 | - | - | - | - | - | - | - |




| Approach | EB | NB | SB |
|----------------------|------|-----|-----|
| HCM Control Delay, s | 10.6 | 0.2 | 0.3 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-----|-----|
| Capacity (veh/h) | 1258 | - | - | 645 | 1174 | - | - |
| HCM Lane V/C Ratio | 0.007 | - | - | 0.01 | 0.009 | - | - |
| HCM Control Delay (s) | 7.9 | - | - | 10.6 | 8.1 | 0 | - |
| HCM Lane LOS | A | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|---|--------|--------|---|---|------|
| Int Delay, s/veh | 0.5 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Vol, veh/h | 6 | 0 | 0 | 39 | 63 | 1 |
| Future Vol, veh/h | 6 | 0 | 0 | 39 | 63 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 0 | 0 | 78 | 126 | 2 |
| Major/Minor | Minor2 | Major1 | Major2 | | | |
| Conflicting Flow All | 205 | 127 | - | 0 | - | 0 |
| Stage 1 | 127 | - | - | - | - | - |
| Stage 2 | 78 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 783 | 923 | 0 | - | - | - |
| Stage 1 | 899 | - | 0 | - | - | - |
| Stage 2 | 945 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 783 | 923 | - | - | - | - |
| Mov Cap-2 Maneuver | 783 | - | - | - | - | - |
| Stage 1 | 899 | - | - | - | - | - |
| Stage 2 | 945 | - | - | - | - | - |
| Approach | EB | NB | SB | | | |
| HCM Control Delay, s | 9.7 | 0 | 0 | | | |
| HCM LOS | A | | | | | |
| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | SBR | | |
| Capacity (veh/h) | - | 783 | - | - | | |
| HCM Lane V/C Ratio | - | 0.015 | - | - | | |
| HCM Control Delay (s) | - | 9.7 | - | - | | |
| HCM Lane LOS | - | A | - | - | | |
| HCM 95th %tile Q(veh) | - | 0 | - | - | | |

| Intersection | | | | | | |
|--------------------------|---|--------|--------|---|---|------|
| Int Delay, s/veh | 0.7 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Vol, veh/h | 7 | 0 | 0 | 46 | 41 | 0 |
| Future Vol, veh/h | 7 | 0 | 0 | 46 | 41 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 0 | 0 | 92 | 82 | 0 |
| Major/Minor | Minor2 | Major1 | Major2 | | | |
| Conflicting Flow All | 174 | 82 | - | 0 | - | 0 |
| Stage 1 | 82 | - | - | - | - | - |
| Stage 2 | 92 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 816 | 978 | 0 | - | - | 0 |
| Stage 1 | 941 | - | 0 | - | - | 0 |
| Stage 2 | 932 | - | 0 | - | - | 0 |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 816 | 978 | - | - | - | - |
| Mov Cap-2 Maneuver | 816 | - | - | - | - | - |
| Stage 1 | 941 | - | - | - | - | - |
| Stage 2 | 932 | - | - | - | - | - |
| Approach | EB | NB | SB | | | |
| HCM Control Delay, s | 9.5 | 0 | 0 | | | |
| HCM LOS | A | | | | | |
| Minor Lane/Major Mvmt | NBT EBLn1 | | SBT | | | |
| Capacity (veh/h) | - | 816 | - | | | |
| HCM Lane V/C Ratio | - | 0.017 | - | | | |
| HCM Control Delay (s) | - | 9.5 | - | | | |
| HCM Lane LOS | - | A | - | | | |
| HCM 95th %tile Q(veh) | - | 0.1 | - | | | |

| Intersection | | | | | | |
|--------------------------|---|--------|------|---|---|------|
| Int Delay, s/veh | 0.6 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Vol, veh/h | 10 | 0 | 0 | 64 | 103 | 2 |
| Future Vol, veh/h | 10 | 0 | 0 | 64 | 103 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 20 | 0 | 0 | 128 | 206 | 4 |
| Major/Minor | Minor2 | Major1 | | Major2 | | |
| Conflicting Flow All | 336 | 208 | - | 0 | - | 0 |
| Stage 1 | 208 | - | - | - | - | - |
| Stage 2 | 128 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 659 | 832 | 0 | - | - | - |
| Stage 1 | 827 | - | 0 | - | - | - |
| Stage 2 | 898 | - | 0 | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 659 | 832 | - | - | - | - |
| Mov Cap-2 Maneuver | 659 | - | - | - | - | - |
| Stage 1 | 827 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |
| Approach | EB | NB | | SB | | |
| HCM Control Delay, s | 10.6 | 0 | | 0 | | |
| HCM LOS | B | | | | | |
| Minor Lane/Major Mvmt | NBT EBLn1 | | SBT | SBR | | |
| Capacity (veh/h) | - | | 659 | - | - | |
| HCM Lane V/C Ratio | - | | 0.03 | - | - | |
| HCM Control Delay (s) | - | | 10.6 | - | - | |
| HCM Lane LOS | - | | B | - | - | |
| HCM 95th %tile Q(veh) | - | | 0.1 | - | - | |

| Intersection | | | | | | |
|--------------------------|---|--------|--------|---|---|------|
| Int Delay, s/veh | 0.7 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Vol, veh/h | 11 | 0 | 0 | 75 | 68 | 0 |
| Future Vol, veh/h | 11 | 0 | 0 | 75 | 68 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 50 | 50 | 50 | 50 | 50 | 50 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 22 | 0 | 0 | 150 | 136 | 0 |
| Major/Minor | Minor2 | Major1 | Major2 | | | |
| Conflicting Flow All | 286 | 136 | - | 0 | - | 0 |
| Stage 1 | 136 | - | - | - | - | - |
| Stage 2 | 150 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | - | - |
| Pot Cap-1 Maneuver | 704 | 913 | 0 | - | - | 0 |
| Stage 1 | 890 | - | 0 | - | - | 0 |
| Stage 2 | 878 | - | 0 | - | - | 0 |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 704 | 913 | - | - | - | - |
| Mov Cap-2 Maneuver | 704 | - | - | - | - | - |
| Stage 1 | 890 | - | - | - | - | - |
| Stage 2 | 878 | - | - | - | - | - |
| Approach | EB | NB | SB | | | |
| HCM Control Delay, s | 10.3 | 0 | 0 | | | |
| HCM LOS | B | | | | | |
| Minor Lane/Major Mvmt | NBT | EBLn1 | SBT | | | |
| Capacity (veh/h) | - | 704 | - | | | |
| HCM Lane V/C Ratio | - | 0.031 | - | | | |
| HCM Control Delay (s) | - | 10.3 | - | | | |
| HCM Lane LOS | - | B | - | | | |
| HCM 95th %tile Q(veh) | - | 0.1 | - | | | |

APPENDIX E

NC DOT Queue Worksheets

AM and PM Peak Traffic Estimates
(These numbers do not reflect peak hour traffic volumes)

Values are different than if i input manually, I obtain lower numbers.

| AM Cars / Student | PM Cars / Student | Avg. Car Length | PM At one Time |
|-------------------------|-------------------------|-----------------------|----------------------|
| 36.56% | 25.00% | 22.19 | 45.50% |
| 34.58% | 16.00% | 22.70 | 51.90% |
| 9.20% | 10.60% | 24.42 | 55.71% |

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

School Name: Webster Elementary (Existing Enrollment)

Type: Typical Public with buses

Version: 04012021

| MSTA School Queue Input | | | | | Calculations | | | | | |
|-------------------------|--------------------|-----------------|---------------|-----------------|-------------------|------------------|----------------------|----------------|----------------|--------------------|
| Type School | Student Population | Number of Buses | Staff Members | Student Drivers | PM Total Vehicles | PM Peak Vehicles | Average Queue Length | Total AM Trips | Total PM Trips | High Demand Length |
| Elementary | 518 | 5 | 50 | | 130 | 59 | 1313 | 434 | 265 | 1313 |
| Middle | | | | | | | | | | |
| High | | | | | | | | | | |
| | | | | | | | 1313 | 434 | 265 | 1313 |

| | Elementary School Data | | | | | | | |
|-----------|------------------------|---------------------|-------|-------|--------------------|---------------------|-------|-------|
| | AM Trips Generated | | | | PM Trips Generated | | | |
| Direction | Parents | Buses | Staff | Trips | Parents | Buses | Staff | Trips |
| IN | 189 | 5 | 50 | 244 | 130 | | | 130 |
| OUT | 189 | | | 189 | 130 | 5 | | 135 |
| | | AM Elementary Trips | | 434 | | PM Elementary Trips | | 265 |

| | AM Trips Generated | | | | | | | | | | | | PM Trips Generated | | | |
|-----------|--------------------|-----------------|-------|-------|--|---------|-----------------|-------|-------|--|---------|-------|--------------------|-------|--|--|
| Direction | Parents | Buses | Staff | Trips | | Parents | Buses | Staff | Trips | | Parents | Buses | Staff | Trips | | |
| IN | | | | | | | | | | | | | | | | |
| OUT | | | | | | | | | | | | | | | | |
| | | AM Middle Trips | | | | | PM Middle Trips | | | | | | | | | |

| AM Trips Generated | | | | | | | | | | | PM Trips Generated | | | | |
|--------------------|---------|-------|-------|-------|-------|---------|---------------|-------|-------|--|--------------------|-------|-----|--|--|
| Direction | Parents | Buses | Staff | Trips | | Parents | Buses | Staff | Trips | | | | | | |
| IN | | | | | | | | | | | | | | | |
| OUT | | | | | | | | | | | | | | | |
| AM High Trips | | | | | | | PM High Trips | | | | | | | | |
| All AM TRIPS | | | | | In | 244 | All PM TRIPS | | | | | In | 130 | | |
| | | | | | Out | 189 | | | | | | Out | 135 | | |
| | | | | | Total | 434 | | | | | | Total | 265 | | |

| |
|-----|
| ADT |
| 749 |
| |
| |
| |
| |
| |
| 749 |

APPENDIX F

Summary of Crash Data

CRASH DATA

| year | system | date | time | severity | agency | road_desc | vehicles | condition | lighting | dir_1 | vehicle_1 | loc_01 | loc_02 | cycprot_1 | county |
|------|-------------|-----------|------|----------|--------|------------------|----------|-----------|----------|-------|-------------------|-------------|-----------|-------------------------------|---------|
| 2017 | COUNTY ROAD | 8/30/2017 | 1730 | INJ | CSP | NON-INTERSECTION | 2 | DRY | DAYLIGHT | E | BICYCLE | BICKLEY ST | JERSEY LN | BICYCLE HELMET (BICYCLE ONLY) | EL PASO |
| 2018 | COUNTY ROAD | 5/10/2018 | 1730 | PDO | CSP | AT INTERSECTION | 2 | DRY | DAYLIGHT | S | PASSENGER CAR/VAN | FAY DR | JERSEY LN | NONE | EL PASO |
| 2019 | COUNTY ROAD | 1/9/2019 | 0800 | PDO | CSP | AT INTERSECTION | 2 | DRY | DAYLIGHT | S | SUV | FAY DR | JERSEY LN | NONE | EL PASO |
| | COUNTY ROAD | 2/11/2019 | 0700 | PDO | CSP | AT INTERSECTION | 2 | DRY | DAYLIGHT | E | SUV | SYRACUSE ST | FAY DR | NONE | EL PASO |

APPENDIX G

Conceptual Site Plan

LEGEND

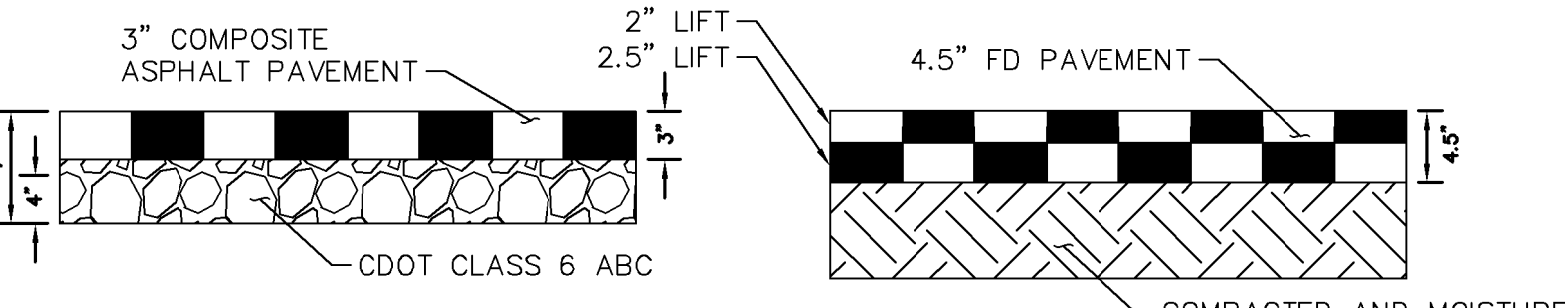
| | |
|--|--|
| | PROPERTY LINE |
| | PARCEL LINE |
| | BUILDING SETBACK |
| | LANDSCAPE SETBACK |
| | PROPOSED LANDSCAPING |
| | PROPOSED ASPHALT DRIVE LANES |
| | PROPOSED ASPHALT PARKING AREA & NON-VEHICULAR AREA |
| | EXISTING CONCRETE SIDEWALK |
| | PROPOSED CONCRETE SIDEWALK |
| | PROPOSED WOOD FIBER SAFETY SURFACING |
| | PROPOSED GRAVEL ROAD |
| | EXISTING GRAVEL PARKING AREA |
| | EXISTING GRAVEL/MULCH PLAY AREA |

GENERAL NOTES

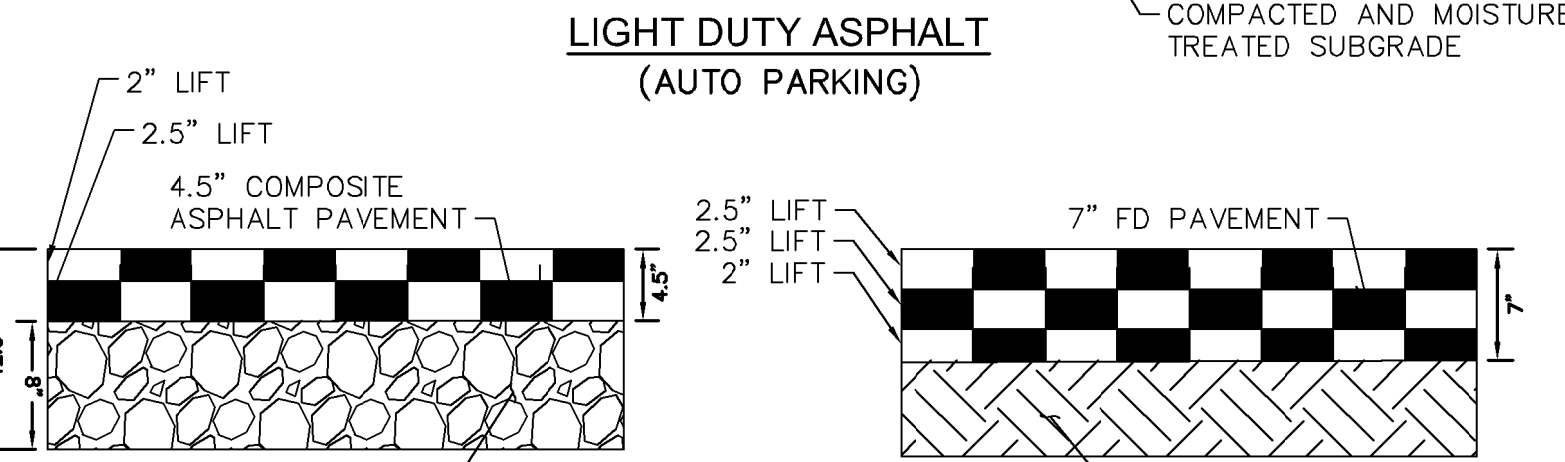
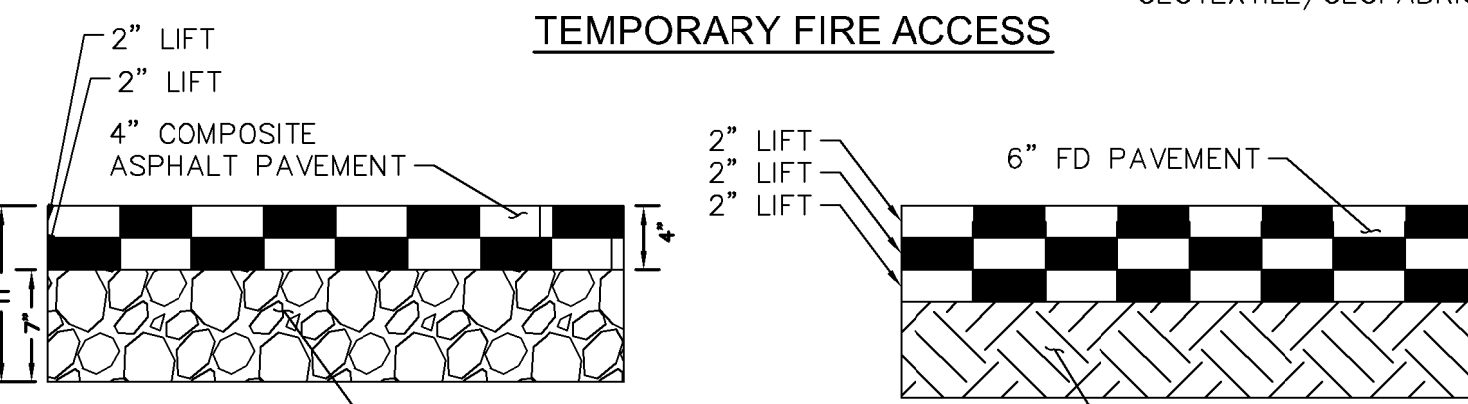
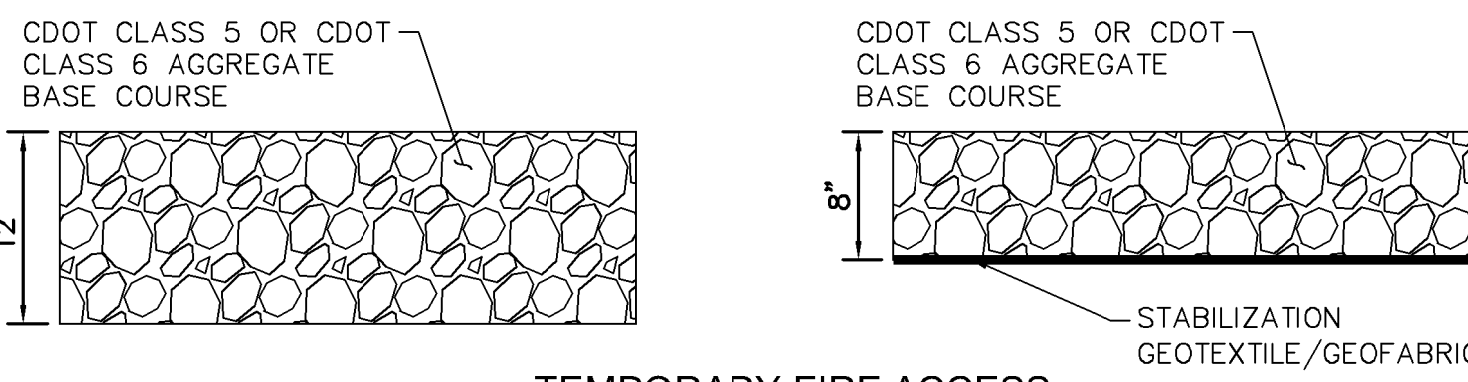
- ALL PUBLIC IMPROVEMENTS IN THE CITY'S R.O.W. SHALL MEET CITY ENGINEERING AND ADA STANDARDS.
- ALL SIGNS AND ROADWAY MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- TWO COATS WHITE TRAFFIC PAINT (4" MIN. WIDTH) REQUIRED FOR PAVEMENT STRIPING.
- REFERENCE THE GEOTECHNICAL REPORT, BY GROUND ENGINEERING, FOR PAVEMENT SECTIONS AND INFORMATION.
- ASPHALT MIX DESIGN TO BE SPECIFIED BY GEOTECH ENGINEER.

MINIMUM PAVEMENT SECTIONS

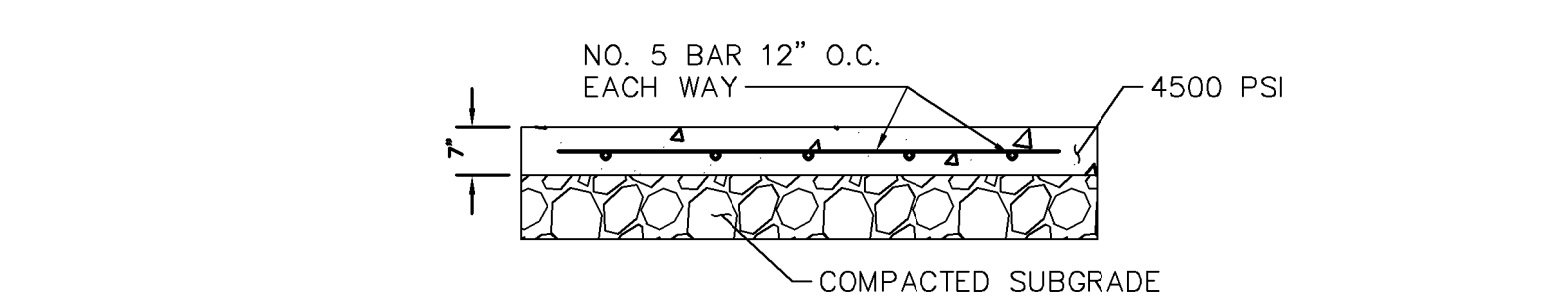
| LOCATION | FLEXIBLE PAVEMENT (INCHES ASPHALT) | COMPOSITE SECTION (IN. ASPHALT/IN. AGGREGATE BASE) | RIGID SECTION (IN. CONCRETE/IN. AGGREGATE BASE) |
|-----------------------|------------------------------------|--|---|
| ASPHALT PLAY AREA | 4.5 | 3/4 | - |
| GENERAL PARKING AREAS | 6 | 4/7 | 6/6 |
| DRIVE LANES | 7 | 4.5/8 | 6.5/6 |



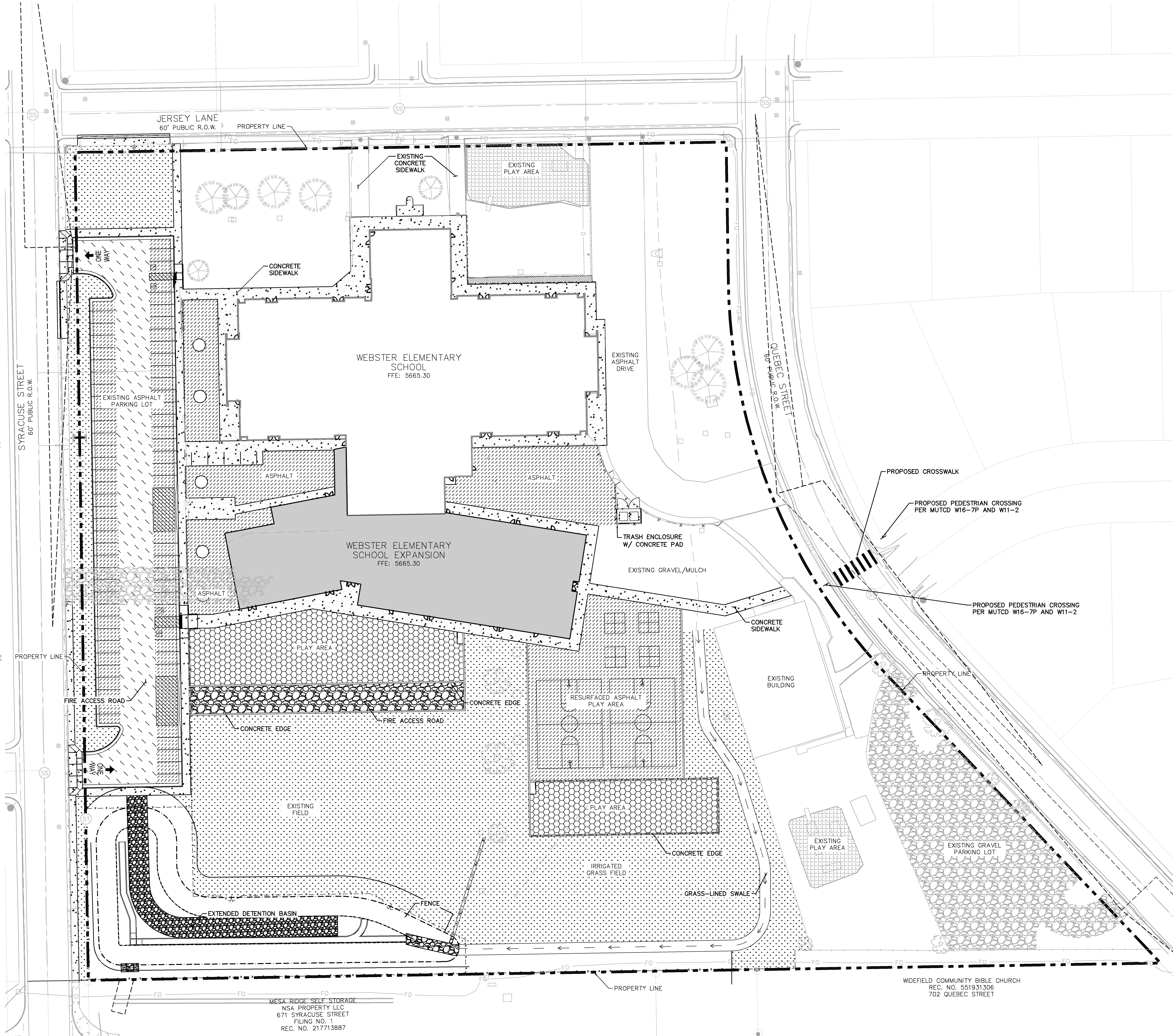
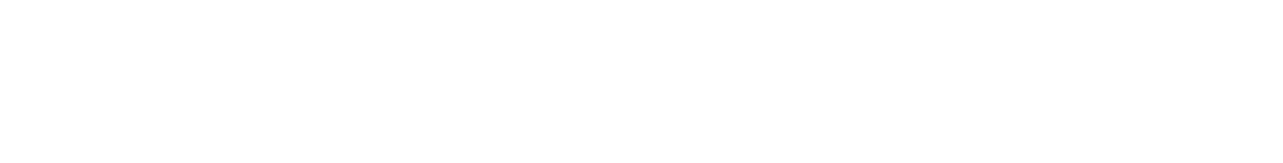
MINIMUM ASPHALT (ASPHALT PLAY AREAS/COURTYARDS)



STANDARD DUTY ASPHALT (AUTO DRIVE)



TRASH ENCLOSURE PAD DETAIL



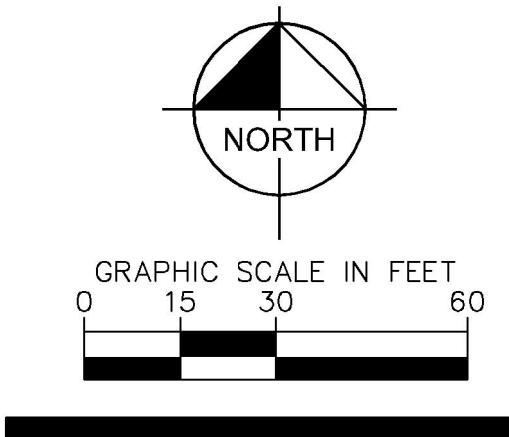
Webster Elementary School
Addition and Alterations
445 Jersey Lane, Colorado Springs, CO 80911



Construction Documents

Drawn: JAR
Checked: EJJ
Issued: 6 APRIL, 2022
Revised:

Area Key Plan



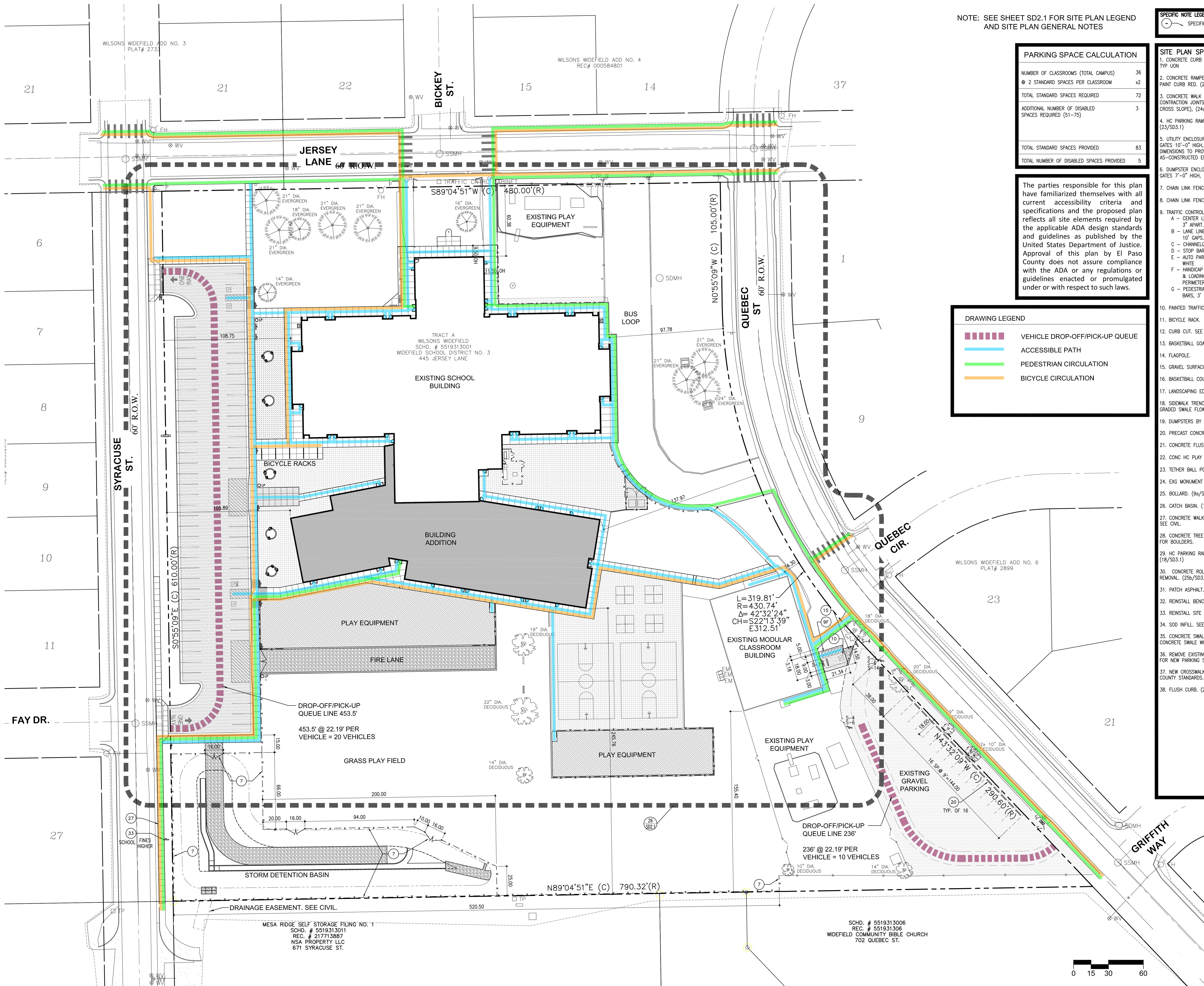
PAVING PLAN

C2.0

Project No.: PPR-22-009 21-003
The LKA Partners Incorporated

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web: www.lkpartners.com



NOTE: SEE SHEET SD2.1 FOR SITE PLAN LEGEND AND SITE PLAN GENERAL NOTES

| PARKING SPACE CALCULATION | |
|---|----|
| NUMBER OF CLASSROOMS (TOTAL CAMPUS) | 36 |
| 2 STANDARD SPACES PER CLASSROOM | x2 |
| TOTAL STANDARD SPACES REQUIRED | 72 |
| ADDITIONAL NUMBER OF DISABLED SPACES REQUIRED (51-75) | 3 |
| TOTAL STANDARD SPACES PROVIDED | 83 |
| TOTAL NUMBER OF DISABLED SPACES PROVIDED | 5 |

The parties responsible for this plan have familiarized themselves with all current accessibility criteria and specifications and the proposed plan reflects all site elements required by the applicable ADA design standards and guidelines as published by the United States Department of Justice. Approval of this plan by El Paso County does not assure compliance with the ADA or any regulations or guidelines enacted or promulgated under or with respect to such laws.

| DRAWING LEGEND | |
|----------------|--------------------------------|
| | VEHICLE DROP-OFF/PICK-UP QUEUE |
| | ACCESSIBLE PATH |
| | PEDESTRIAN CIRCULATION |
| | BICYCLE CIRCULATION |

| SPECIFIC NOTE LEGEND | |
|----------------------|---------------|
| | SPECIFIC NOTE |

| SITE PLAN SPECIFIC NOTES | |
|--------------------------|--|
| 1. | CONCRETE CURB AND GUTTER, (25a & 30a/SD3.1) TYP. UON |
| 2. | CONCRETE RAMPED/MOUNTABLE CURB & GUTTER. PAINT CURB RED. (20a/SD3.1) |
| 3. | CONCRETE WALK WITH ISOLATION, EXPANSION & CONTRACTION JOINTS AS SHOWN (1/4" PER FOOT MAX. CROSS SLOPE), (24a,b & 29a,b/SD3.1) UON. |
| 4. | HC PARKING RAMP: 2% MAX. CROSS SLOPE. (23/SD3.1) |
| 5. | UTILITY ENCLOSURE. TYPE 2 CHAIN LINK FENCE & GATES 10'-0" HIGH, UON. ADJUST ENCLOSURE DIMENSIONS TO PROVIDE REQUIRED CLEARANCES TO AS-CONSTRUCTED ELECTRICAL EQUIPMENT. (28/SD3.1) |
| 6. | DUMPSTER ENCLOSURE. TYPE 2 CHAIN LINK FENCE & GATES 7'-0" HIGH, UON. 4 SIDES. (28/SD3.1) |
| 7. | CHAIN LINK FENCE AND GATES, TYPE 1, 4'H. |
| 8. | CHAIN LINK FENCE, TYPE 2, 4'H. |
| 9. | TRAFFIC CONTROL AND PARKING STRIPING: A - CENTER LINES: 4" WIDE SOLID DOUBLE YELLOW 3" APART. NOT USED B - LANE LINES: 4" WIDE DASHED WHITE, 10' LONG 10' GAPS. NOT USED C - CHANNELIZING LINES: 8" WIDE SOLID WHITE D - STOP BARS: 24" WIDE SOLID WHITE E - AUTO PARKING STALL LINES: 4" WIDE SOLID WHITE F - HANDICAP / DISABLED PARKING STALL STRIPING & LOADING AREA LINES 4" WIDE SOLID WHITE PERMETER & 24" APART AT CROSSHATCH G - PEDESTRIAN CROSSING: 2' X 12" SOLID WHITE BARS, 3' APART. |
| 10. | PAINTED TRAFFIC GRAPHICS. (19/SD3.1) |
| 11. | BICYCLE RACK. |
| 12. | CURB CUT. SEE CIVIL. |
| 13. | BASKETBALL GOAL POST AND BACKBOARD (8/SD3.1) |
| 14. | FLAGPOLE. |
| 15. | GRAVEL SURFACING. SEE CIVIL. |
| 16. | BASKETBALL COURT/GAME STRIPING. (21/SD3.1) |
| 17. | LANDSCAPING EDGE (SEE LANDSCAPE DRAWINGS). |
| 18. | SIDEWALK TRENCH DRAIN AND COVER. CENTER ON GRADED SWALE FLOW LINE (26/SD3.1). |
| 19. | DUMPSTERS BY OWNER. |
| 20. | PRECAST CONCRETE WHEEL STOP. |
| 21. | CONCRETE FLUSH CURB. (13a/SD3.1) |
| 22. | CONC HC PLAY AREA RAMP. (11/SD3.1) |
| 23. | TETHER BALL POLE (4a & 8/SD3.1) |
| 24. | EXG MONUMENT SIGN. |
| 25. | BOLLARD. (9a/SD3.1) |
| 26. | CATCH BASIN. (12/SD3.1). |
| 27. | CONCRETE WALK PER EL PASO COUNTY STANDARDS. SEE CIVIL. |
| 28. | CONCRETE TREE RING. (14/SD3.1) SEE LANDSCAPE FOR BOLLARDS. |
| 29. | HC PARKING RAMP: 2% MAX. CROSS SLOPE. (18/SD3.1) |
| 30. | CONCRETE ROLLED CURB & GUTTER FOR SNOW REMOVAL. (25b/SD3.1) |
| 31. | PATCH ASPHALT. |
| 32. | REINSTALL BENCH. |
| 33. | REINSTALL SITE SIGN. |
| 34. | SOD INFILL. SEE LANDSCAPE. |
| 35. | CONCRETE SWALE. ALIGN WITH AND MATCH EXISTING CONCRETE SWALE WIDTH AND DEPTH. (10b/SD3.1 SIM) |
| 36. | REMOVE EXISTING PARKING STRIPING IN PREPARATION FOR NEW PARKING STRIPING. |
| 37. | NEW CROSOWALK PAVEMENT MARKING PER EL PASO COUNTY STANDARDS. SEE CIVIL. |
| 38. | FLUSH CURB. (20b/SD3.1) PAINT CURB RED. |

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**Webster Elementary School
Addition and Alterations**
445 Jersey Lane, Colorado Springs, CO 80911
Widefield School District 3
1820 Main Street
Colorado Springs, CO. 80911



Construction Documents

Drawn: _____ TEK
Checked: _____ JMS
Issued: _____ 11 January 2022
Revised: _____

Area Key Plan

True North
Plan North
Overall Site Development Plan

SD1.1
Project No. 21-003
The LKA Partners Incorporated