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June 14, 2022

Brian Bucher | Architect, President

Bucher Design Studio
12325 Oracle Blvd, Suite 101
Colorado Springs, CO 80921

RE: James Irwin Charter School
Traffic Technical Memorandum
El Paso County, Colorado
LSC #224370

Dear Mr. Bucher,

LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum for the proposed James Irwin Charter School in El Paso County, Colorado. The site is located northeast of the intersection of Powers Boulevard & Waynoka Road at 2460 Waynoka Place (El Paso County parcel ID 5331301024).

Access to the site would be to Waynoka Place. No direct access is proposed to Powers Boulevard or Waynoka Road..

This report has been prepared for submittal to El Paso County.

REPORT CONTENTS

- Inventory of the existing adjacent and nearby area road system. This included surface conditions, functional classifications, roadway widths, lane configurations, traffic control, posted speed limits, pavement markings, intersection and access spacing, roadway and intersection alignments, auxiliary left-turn and right-turn lanes, intersection sight distances, etc.;

- Morning and afternoon peak-hour turning-movement traffic counts at the following "study-area" intersections: Powers Boulevard/Waynoka Road and Waynoka Road/Waynoka Place

- Estimates of average weekday and peak-hour trip generation for the proposed school;

- Estimation of directional distribution of site-generated vehicle trips on the area road system.

- Projections of site-generated turning-movement traffic volumes

- Short term total traffic (site traffic plus existing traffic) projections at the study-area intersections;

- Level of service (LOS) analysis at the study-area intersections;

- Evaluation of existing and short-term total projected intersection volumes with respect to criteria for auxiliary right-/left-turn lanes on Powers Boulevard, Waynoka Road, and Waynoka Place, based on the criteria in CDOT's *State Highway Access Code* and the County's *Engineering Criteria Manual;*

- Other recommendations and the El Paso County Road Impact Fee Program requirement;

- Summary of compiled data, analysis, findings, and recommendations.

SCHOOL LOCATION, ACCESS, AND CIRCULATION

Site Location

Figure 1 shows the location of the proposed James Irwin Charter School site relative to the adjacent and nearby streets. The site is in unincorporated El Paso County, adjacent to the city limits of the City of Colorado Springs, Colorado. The site is located at 2460 Waynoka Place (El Paso County parcel ID 5331301024 and is bordered by Powers Boulevard to the west, Waynoka Place to the east, Waynoka Road to the south, and a shopping center to the north. The school campus plan, including buildings, access points, parking areas, and circulation, is shown in Figure 2.

Site Access

Access to the site would be provided via two of three existing accesses to Waynoka Place. No direct access would be provided to Powers Boulevard or Waynoka Road.

- 156 feet north of Waynoka Place/Waynoka Road (south parking lot only)
- 380 feet north of Waynoka Place/Waynoka Road

The north access will be the primary access. The south access may be used for overflow parking and potentially staff parking. The existing middle access to the property is planned to be closed.

Will there be any restrictions with the flow of traffic? Cars making a left turn into the school will conflict with traffic making a right turn into the school. Provide mitigation for potential back up on the south side of Waynoka Place

Parent Drop-Off/Pick-Up Circulation

The preliminary parent pick-up and drop-off loop is shown on the attached site plan.

EXISTING AND PROJECTED FUTURE STUDENT ENROLLMENT

Please provide a narrative for the traffic control that is recommended during drop off and pick up hours.

School Enrollment and Operations

During the short-term, James Irwin Charter Academy will serve 359 students. Maximum future enrollment is planned to be about 720 students. . Projected enrollment by school year is shown in Table 1, as well as the projected number of buses serving the school and faculty/staff numbers.

Table 1: James Irwin Charter Academy Projected Enrollment, Number of Buses, and Staff

School Year	Student Enrollment	Staff	Buses	Total
2022-2023	359	39	4	402
2023-2024	395	43	4	442
2024-2025	489	55	5	549
2025-2026	525	58	5	588
2026-2027	574	62	6	642
2027-2028	623	68	7	698
Max Enrollment	720	80	8	808

School Operations

Up to 720 students between grades 6-12 will be permitted to enroll at James Irwin Charter Academy. Students in grades 11-12 will generally spent 50-75 percent of their time at the proposed campus in this report, with the remainder of their schedule split between either an internship or at Pikes Peak Community College (PPCC). Each academic classroom will have 25 student desks and one teacher workstation to accommodate 20-25 students at any given time.

Although eligible to enroll at the school, students in grades 13-14 will never attend classes at this proposed campus (studied in this report), as they will attend PPCC full-time. Enrollment numbers for grades 13-14 were not included in Table 1.

SCHOOL BELL + BUS OPERATIONS

The school day would begin at 7:30 a.m. and would end at 3:15 p.m. Buses (which would transport approximately 100 students from other campuses to the Waynoka Place site) are scheduled to arrive between 7:10 a.m. to 7:15 a.m. and leave between 3:45 p.m. to 4:00 p.m.

Explain where buses are going to go once they arrive at the campus. Will they follow the same path as parents that are dropping off kids? How many buses are going to pick up kids?

LSC has analyzed the following peak hour periods to coincide with the arrival/dismissal of students during the school day and the peak hour of adjacent street traffic on Powers Boulevard:

- AM peak hour – 7:00 a.m. to 8:00 a.m.
- Mid-day school peak hour – 2:30 p.m. to 3:30 p.m.
- PM peak hour – 4:00 p.m. to 5:00 p.m.

AREA PEDESTRIAN AND BICYCLE FACILITIES

Sidewalks exist along Waynoka Place, but generally not along Waynoka Road. Sidewalks exist along Constitution Avenue to the north and along Palmer Park Boulevard east of Waynoka.

Please address whether there are any expectations for kids to walk or bike to any areas in the vicinity when the school opens up. Sidewalk should be extended on the southwest side of Waynoka Place.

nsions of two major regional trails (Sand Creek Trail and the Rock Island Trail) are close proximity to the site. These future major regional trail connections would nectivity to other trails and intersecting roadways (most with sidewalks and some lanes).

Per ECM B.2.3 add a narrative to clearly identify the study area this traffic study is focusing on. Identify the boundaries for the area in a narrative. Are these the only roads the school will have an impact on?

AND TRAFFIC CONDITIONS

ways

ows the roadways in the vicinity of the site. Major roadways are identified below, followed by a brief description.

Powers Boulevard (State Highway 21) classified by CDOT as a 6-lane F-W: Freeway in the vicinity of the site. No auxiliary turn lanes currently exist at the stop sign-controlled, right-in/right-out (RIRO) intersection of Powers Boulevard/Waynoka Road. Adjacent to the site, Powers has a posted speed limit of 55 miles per hour (mph).

Constitution Avenue is shown on the County MTCP as a four-lane Principal Arterial (County portion). Overall, Constitution extends east-to-west between Paseo Road and US 24. Auxiliary left- and right-turn lanes currently exist on all approaches at the signalized intersection of Constitution Avenue/Waynoka Place.

Waynoka Road is shown on the MTCP as a two-lane Collector (The street is an Urban, Non Residential Collector). Waynoka Road extends generally north/south for 1.1 miles between Powers Boulevard and Palmer Park Boulevard. . The posted speed limit on Waynoka Road is 30 mph.

Waynoka Place is a local road that extends generally north/south for 0.4 miles between Waynoka Road and Constitution Avenue. No auxiliary turn lanes are striped/marked at the stop sign-controlled T-intersection of Waynoka Road/Waynoka Place.. Much of Waynoka Rd and Waynoka Place will likely combine to form portions of the planned future Powers Blvd frontage Road.

ACCESS SIGHT DISTANCE

The site access points are in good locations for sight distance. The site improvements (existing-to-remain and proposed new) must not impede sight distance lines of sight, as the access points will need to meet El Paso County's *Engineering Criteria Manual* (*ECM*) standards for sight distance.

Existing site landscaping, lower tree branches, bushes, signs, buildings, parking areas, etc. should be removed, if necessary, and new site improvements should not be placed within the *ECM*-required line of sight "triangles."

Provide an exhibit showing sight distance lines for access points.

Existing Traffic Volumes

Existing traffic volumes at the following intersections are shown on Figure 3. Detailed traffic count reports are attached.

- Powers Road/Waynoka Road
  - Thursday, June 9, 2022, from 6:45 – 8:00 a.m.
  - Thursday, June 9, 2022, from 2:30 – 3:30 p.m.
  - Thursday, June 9, 2022, from 4:00 – 6:00 p.m.
- Waynoka Road/Waynoka Place
  - Thursday, June 9, 2022, from 6:45 – 8:00 a.m.
  - Thursday, June 9, 2022, from 2:30 – 3:30 p.m.
  - Thursday, June 9, 2022, from 4:00 – 6:00 p.m.

TRIP GENERATION

Estimates of the existing and projected vehicle trips to be generated by a site are typically made using the following nationally-published average trip-generation rates in *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). LSC used rates for ITE land use code "538 – Charter School (K-12)" to estimate the school trip generation. LSC has also included a comparison to the trip generation for the previous land use at this site (estimated), for reference.

Table 2 below presents a summary of the estimated site trip generation. This includes a reduction for the 100 students who will be transported via four shuttle bus/van each day from other campuses in Colorado Springs. A detailed trip-generation estimate for the school, including ITE rates for the proposed land use, is presented in Table 3 (attached).

Table 2: Estimated Site Vehicle-Trip Generation

Analysis Period	Weekday		
	In	Out	Total
Morning Peak Hour	131	116	247
Mid-Day Peak Hour	96	96	192
Evening Peak Hour	5	50	55
Daily/24-hour	393	393	785

Based on the ITE estimate for the proposed James Irwin Charter Academy, the site would generate about 785 external vehicle trips on the average weekday. During the weekday morning peak hour, approximately 131 vehicles would enter and 116 vehicles would exit the site. Approximately 96 entering vehicles and 96 exiting vehicles are projected for the weekday school afternoon peak hour. During the weekday late afternoon "commuter" peak hour, approximately 5 vehicles would enter and 50 vehicles would exit the site.

Comparison to Previous Land Use

Compared to the previous land use for the site (an 82,235-square-foot office building), the proposed James Irwin Charter Academy would generate:

- AM peak hour – 21 additional entering and 101 additional exiting trips
- Mid-day peak hour – 86 additional entering and 47 additional exiting trips
- PM peak hour – 15 fewer entering and 93 fewer exiting trips

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Directional Distribution

Estimating the directional distribution of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 4 the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: the proposed new land use, the area street and road system serving the site, and the site's geographic location relative to the balance of the City of Colorado Springs and unincorporated areas of El Paso County.

Additionally, the applicant provided a list of zip codes in which currently-enrolled students reside. LSC utilized these data as part of the trip distribution estimate. Please refer to Appendix Figure 1 for more details.

It appears figure 1 is a vicinity map. Figure 4 shows directional distribution for the area. Please describe in the narrative what zip codes students are expected to travel from.

Site-Generated Traffic (Short Term)

Figure 5 shows the projected site-generated traffic volumes for the weekday morning and evening peak hours. Site-generated traffic volumes have been calculated by applying directional-

distribution percentages estimated by LSC (from Figure 4) to the trip-generation estimates (from Table 3). The 2022-2023 school year estimates have been used for the short-term school site generated traffic volume estimates.

SHORT-TERM TOTAL TRAFFIC

Figure 6 shows the projected short-term total traffic volumes, which are the sum of existing traffic volumes (from Figure 3) plus estimated James Irwin Charter Academy short-term (2022-2023 school year) site-generated traffic (from Figure 5).

FUTURE LONG TERM TRAFFIC SCENARIO

Several potential future changes to the area roadway network will affect future traffic volumes in the study area.

- Powers Boulevard is planned as a future freeway. Although Powers Boulevard volumes are likely to continue to increase, the corridor already currently carries high volumes.
- Waynoka Road is planned for future closure at Powers Boulevard (no connection).
- Much of Waynoka Rd and Waynoka Place will likely combine to form portions of the planned future Powers Blvd frontage road.
- Some currently-vacant parcels along Waynoka Road may be developed in the future. Although this will add some additional traffic to Waynoka, the roadway is under-capacity and will be able to accommodate additional trips.

LEVEL OF SERVICE ANALYSIS

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 3 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 3: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections Average Control Delay (seconds per vehicle)	Unsignalized Intersections Average Control Delay (seconds per vehicle)[(1)]
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

Detailed Synchro reports are attached. A summary of LOS during the weekday morning and evening peak hours for the following unsignalized intersections is shown in the following figures:

- Figure 3: Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 6: Existing + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: 2042 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2042 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

Powers Boulevard/Waynoka Road

The westbound-right turning movement at Powers Boulevard/Waynoka Road currently operates at LOS D during the morning peak hour but LOS F during the mid-day and PM peak hours. The HCM unsignalized intersection methodology indicates LOS F for the short term total traffic scenario for this turning movement during peak hours, assuming the **current laneage**. Further analysis of the effect of the upstream signal at Palmer Park and Powers may suggest better LOS due to traffic gaps from the upstream signal.

Waynoka Road/Waynoka Place

All single-lane approaches at this intersection currently operate at and are projected to remain at LOS B or better during all peak periods, with or without the addition of site-generated traffic. Note This analysis has been conducted based on the current laneage of single lane approaches. Please refer to the following Auxiliary Turn Lane Needs Analysis section of this report.

Waynoka Place/North Site Access

All single-lane approaches at this intersection are projected to operate at LOS B or better during all peak periods with the addition of site-generated traffic. LSC has assumed that Waynoka Road would be restriped with a painted left turn median. This would either be striping for dedicated

left turn bays or a center two-way left-turn lane (TWLTL) in conjunction with the opening of the charter school.

AUXILIARY TURN-LANE NEEDS ANALYSIS

Powers Boulevard/Waynoka Road

Powers Boulevard is classified as "F-W: Freeway" with a posted speed limit of 55 mph in the vicinity of the site. Waynoka Road is classified as a Non-Residential Collector. No auxiliary right-turn lanes currently exist on Powers Boulevard at Waynoka Road.

Northbound-Right Deceleration Lane

Based on criteria in the *State Highway Access Code*, right-turn deceleration lanes are required on designated "F-W: Freeway" roadways with right-turn ingress volumes exceeding 10 vehicles per hour (vph). Right-turn deceleration lanes on 55-mph roadways should be 822 feet total, consisting of 600 feet of full-width lane and a 222-foot transition taper (18.5-to-1 ratio).

Per count data from June 2022, the northbound-right turn lane currently exceeds the 10-vph threshold for a right-turn deceleration lane, as 56-129 vehicles were observed to make this turn during all three peak hours. This is an existing deficiency. The school land use is anticipated to add turning movements at this intersection.

Northbound-Right Acceleration Lane

Based on criteria in the *State Highway Access Code*, right-turn acceleration lanes are required on "F-W: Freeway" roadways with right-turn egress volumes exceeding 10 vehicles per hour. Right-turn acceleration lanes on 55-mph roadways should be 1,182 feet total, consisting of 960 feet of full-width lane and a 222-foot transition taper (18.5-to-1 ratio). In this case, an acceleration lane would likely be configured as a continuous lane north to Constitution.

Per count data from June 2022, the westbound to northbound-right turn movement currently exceeds the 10-vph threshold for a right-turn acceleration lane, as 22-49 vehicles were observed to make this turn during all three peak hours. This is an existing deficiency. The school land use is anticipated to add turning movements at this intersection.

Waynoka Road at Waynoka Place

LSC recommends striping Waynoka Road for an eastbound left turn lane at this intersection. The roadway is sufficiently wide. Redirect tapers would be needed on the east side of the intersection. Details would be determined with a signing/striping plan at the design stage. Volumes indicate that a westbound right turn deceleration lane would meet ECM thresholds requiring a right turn lane.

Waynoka Place/Site Access Points

ECM Thresholds for right and left turn lanes would be met at the main access, and depending on the level of use of the south parking lot, thresholds for a northbound left and/or a southbound right turn lane at the south access may also met/exceeded. The configuration of the access points and associated laneage, striping of Waynoka Place, etc. should be detailed at the design stage.

Configuration of access points and signing and striping will be required with this application. Provide recommendations in the next submittal.

ON-SITE QUEUING ANALYSIS

School On-Site Queueing Research

The North Carolina Municipal School Transportation Assistance (MSTA) performs studies that address the safety concerns with the overall pedestrian safety and traffic operations on a school campus, and how traffic affects adjacent roadways. To calculate school operations, MSTA has developed a database of specific data related to school operations, including required queue lengths and trip-generation estimates by mode (parent drop-off/pick-up, bus, etc.). LSC has used the MSTA's spreadsheet in several similar school operations studies, as it has typically been required by jurisdictions as a preferred alternative to ITE rates for schools.

Data indicates that AM traffic operations on a school campus usually operate safely and efficiently due to parent traffic arriving at a broader range of times. PM traffic operations are quite different, as parents often arrive well before the school dismissal and park or queue (back up) along campus driveways. The PM queue often results with vehicles stopped in the roadway or along the shoulder of a major through route, which increase the chances of accidents and similar traffic-related safety concerns.

Provide recommendations for striping at loading zone.

Required On-Site Queue Lengths

As shown in Table 4, the required total "high-demand" stacking length on-site in the proposed parent drop-off/pick-up loop for the maximum enrollment (720 students) would be 4,024 feet based on the maximum enrollment. The site plan shows proposed shows approximately 1,250 feet of on-site stacking distance for parent drop off/pick up. The length for stacking would be 1,075 feet when accounting for 175 feet of active loading/unloading zone distance (NC MSTA guidelines). Depending on the site operational characteristics, the necessary on-site queue lengths could potentially be adjusted. Also, the parent on-site car line could be modified from the version on the site plan to provide additional stacking length.

Site development shows 470' of drop-off length. Provide recommendation of stacking length so cars do not back into road.

Staff recommends providing additional stacking distance to avoid cars backing up into Waynoka Place. Per City of Colorado Springs 1800 feet is more appropriate.

Table 4: Estimated Future Stacking Demand

School Year	Student Enrollment	Necessary Stacking Based on NC MSTA Guidelines	
		Average Queue (ft)	High-Demand Queue (ft)
2022-2023	359	1,446	1,880
2023-2024	395	1,602	2,083
2024-2025	489	2,003	2,605
2025-2026	525	2,181	2,836
2026-2027	574	2,404	3,125
2027-2028	623	2,604	3,386
Max Enrollment	720	3,095	4,024

This queue distance is exclusive of a recommended 5-7-vehicle-long drop-off/pick-up zone. The empirical formula adds an additional 30 percent to a base queue-length calculation of required total queue length as a precaution for atypical events, including bad weather, school performances, and other special events. Formula-generated queue lengths are based on afternoon school peak-hour empirical queuing data.

ROADWAY CLASSIFICATIONS

Powers Boulevard is a designated Freeway, Waynoka Road is a Non-Residential Collector, and Waynoka Place is a Local Road, but by County classification, it would likely be considered a Non-Residential Collector.

CONFORMANCE WITH THE MTCP

No reimbursable roadway improvement projects have been identified as being needed by the year 2040, per Map 13 and Table 4 of El Paso County's 2016 *MTCP*. See the attached *MTCP* maps for reference.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

The applicant will be required to participate in this program.

MULTI-MODAL/TRANSPORTATION DEMAND MANAGEMENT (TDM) OPPORTUNITIES

No multi-modal/transportation demand management (TDM) roadway improvement projects have been identified as being needed by the year 2040 per Map 15 and Table 5 of El Paso County's 2016 *MTCP*.

Please refer to the Pedestrian and Bicycle section above for details on sidewalk facilities and two nearby future regional trail extensions/connections.

SUMMARY

Trip Generation

- The site is projected to generate about 785 vehicle trips on the average weekday, with about 393 vehicles entering and 393 vehicles exiting the site in a 24-hour period.

- During the morning peak hour, about 131 vehicles would enter and 116 vehicles would exit the site.

- Approximately 96 vehicles would enter and 96 vehicles would exit the site during the school afternoon peak hour.

- During the PM peak hour, about 5 vehicles would enter and 5 vehicles would exit the site.

Pedestrian and Bicycle Accessibility

Please refer to the section of the report for details on existing sidewalk locations in the area. Two planned major regional trail corridors intersect near the site. This will provide excellent pedestrian and bicycle accessibility in the future once these trails are established.

Projected Levels of Service

- Please refer to the LOS section of the report for complete details. The HCM unsignalized intersection methodology indicates LOS F for the short term total traffic scenario for this turning movement during peak hours, assuming the current laneage. Further analysis of the effect of the upstream signal at Palmer Park and Powers may suggest better LOS due to traffic gaps from the upstream signal.

Auxiliary Turn Lane Needs Analysis

- Please refer to the “Auxiliary Turn-Lane Analysis” section for details.

- Regarding the site access points and adjacent section of Waynoka Place, LSC will assist the design team with the detailed configuration of the access points, access radii, alignment and width, associated laneage, striping of Waynoka Place, etc. at the design stage.

* * * * *

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.
Principal

JCH:JAB

ENCLOSURES: TABLE 4
Figure 1 - Figure 8
Traffic Count Reports
Synchro Level of Service Reports

Table 5: Detailed Trip Generation Estimate

School Year	ITE		Students Dropped Off by Parents [1]	Students from Off-Campus Buses [2]	Total		Trip Generation Rates [4]							Driveway Trips Generated					
					Value	Units [3]	Average Weekday	A.M.		Mid-Day [5]		P.M. [6]		Average Weekday	A.M.		Mid-Day		P.M.	
	Code	Description						In	Out	In	Out	In	Out		In	Out	In	Out	In	Out
Previous Land Use																				
-	710	General Office	-	-	82.235	KSF	10.84	1.34	0.18	0.12	0.60	0.24	1.20	891	110	15	10	49	20	98
Based on ITE Rates																				
2022-2023 (Short Term)	**538**	**Charter School (K-12)**	**259**	**100**	**359**	**Students**	**-**	**0.50**	**0.44**	**0.37**	**0.37**	**0.02**	**0.02**	**-**	**179**	**159**	**131**	**131**	**7**	**7**
2023-2024	538	Charter School (K-12)	295	100	395	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	197	175	144	144	7	7
2024-2025	538	Charter School (K-12)	389	100	489	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	244	216	178	178	9	9
2025-2026	538	Charter School (K-12)	425	100	525	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	262	232	192	192	10	10
2026-2027	538	Charter School (K-12)	474	100	574	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	286	254	210	210	10	10
2027-2028	538	Charter School (K-12)	523	100	623	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	310	275	227	227	11	11
Max Enrollment (Long Term)	538	Charter School (K-12)	620	100	720	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	359	318	263	263	13	13
Based on ITE Rates, But With Site-Specific Trip Adjustments [7]																				
2022-2023 (Short Term)	538	Charter School (K-12)	259	4	263	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	131	116	96	96	5	5
Based on North Carolina MSTA Trip Generation Methodology [8]																				
2022-2023 (Short Term)	538	Charter School (K-12)	259	100	359	Students	-	-	-	-	-	-	-	785	259	176	129	222	5	50
Trip Generation Comparison																				
-	710	General Office	-	-	82.235	KSF	10.84	1.34	0.18	0.12	0.60	0.24	1.20	891	110	15	10	49	20	98
2022-2023 (Short Term)	538	Charter School (K-12)	259	100	359	Students	-	0.50	0.44	0.37	0.37	0.02	0.02	-	131	116	96	96	5	5
												Difference		**-**	**21**	**101**	**86**	**47**	**-15**	**-93**

[1] Assumes 1.5 students per vehicle for on-campus students

[2] Does not include approximately 100 students who will be transported from/to other campuses to this site at the start/end of each school day from 2 buses and 2 vans off-campus

[3] KSF = 1,000 square feet

[4] Source: *Trip Generation, 11th Edition (2021)* by the Institute of Transportation Engineers (ITE)

[5] Assumes PM peak trip generation is 5% of School PM (mid-day) trip generation

[6] Assumes mid-day peak trip generation is 50% of PM trip generation

[7] Includes reduction for 100 students who will arrive via shuttle bus/van to only include parent pick-up/drop-off trips for students

[8] Source: North Carolina *Municipal School and Transportation Assistance (MSTA)* school traffic calculator

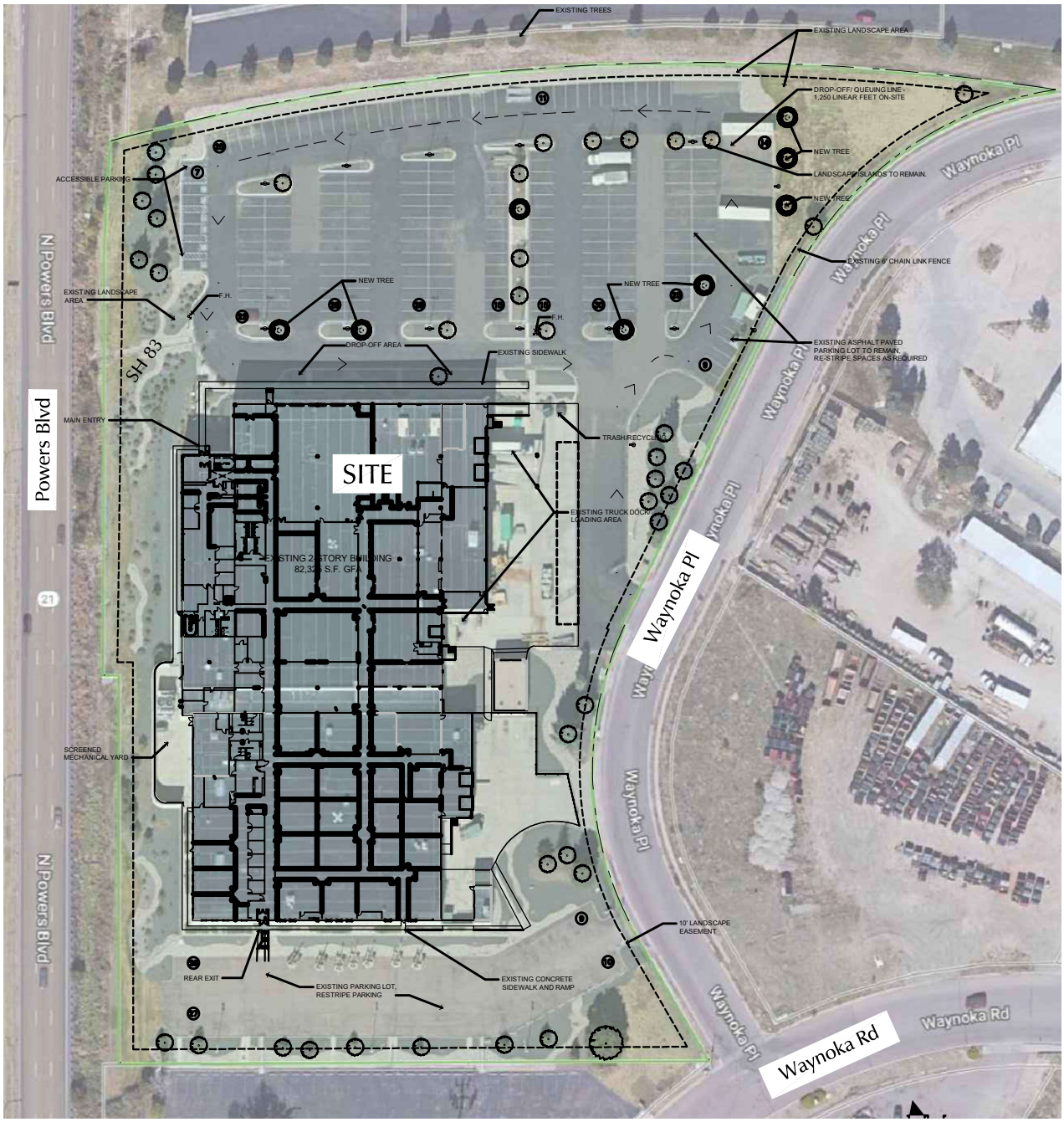
Not to scale

TRANSPORTATION CONSULTANTS, INC.

Figure 1

Vicinity Map

James Irwin Charter (LSC# S224370)



1" = 1,500'
scale

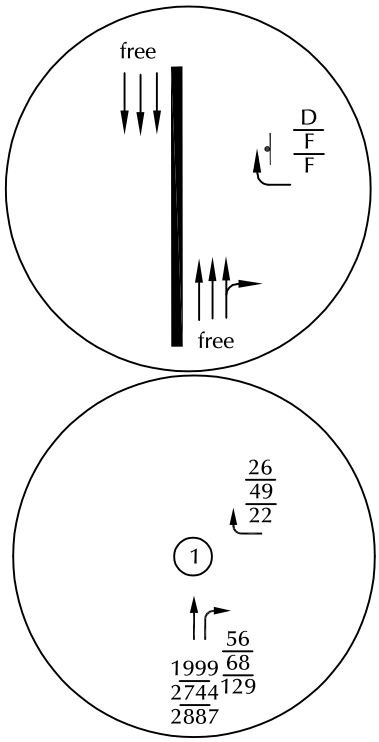
See attached full site plan sheet

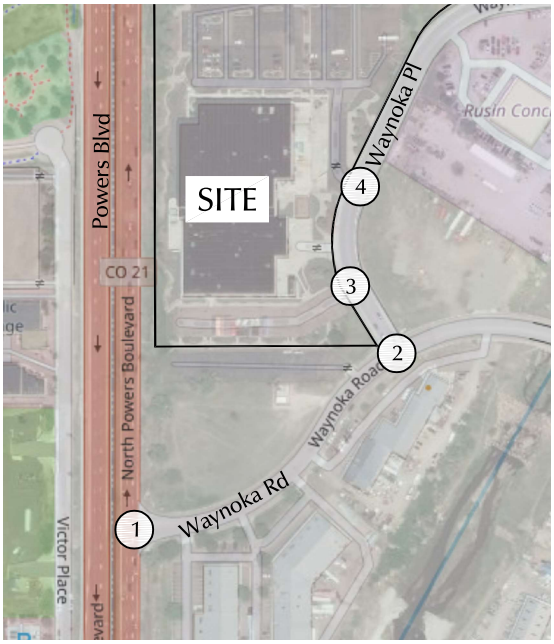
TRANSPORTATION CONSULTANTS, INC.

Figure 2

Site Plan

James Irwin Charter (LSC# S224370)





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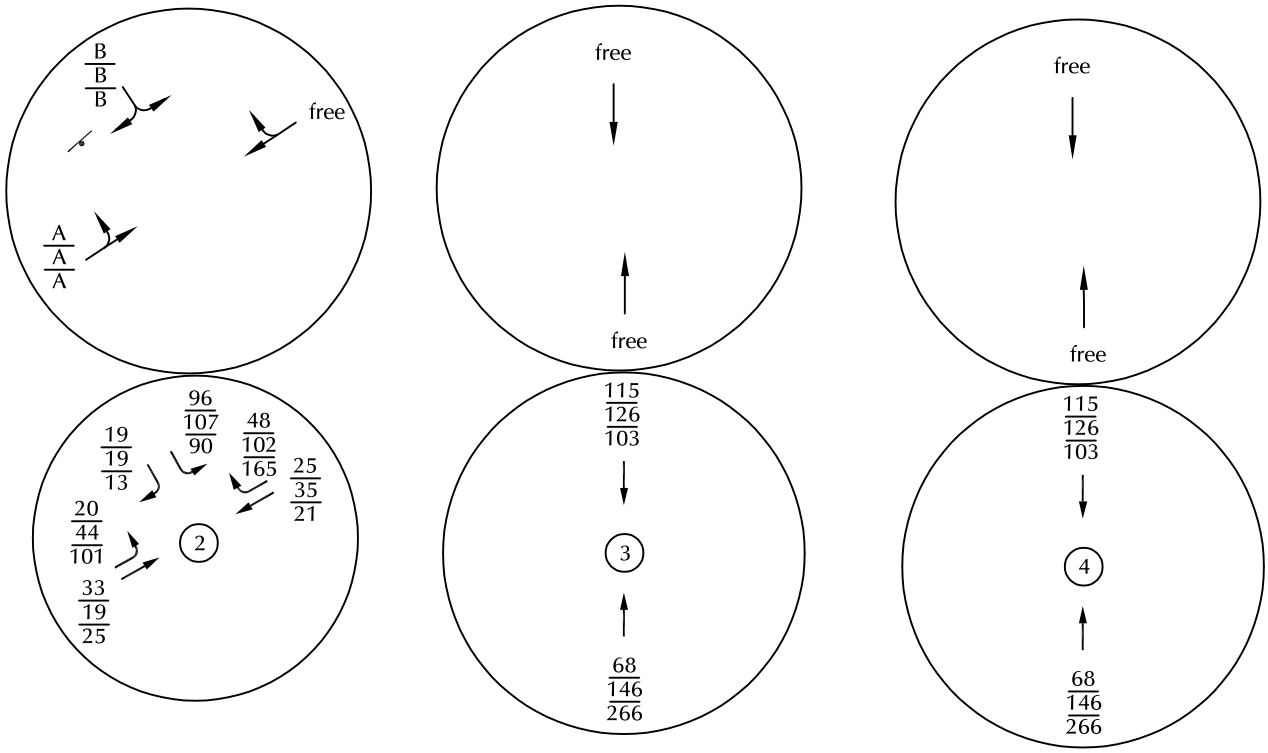


= Stop Sign

Figure 3

Existing Traffic, Lane Geometry, Traffic Control, and LOS

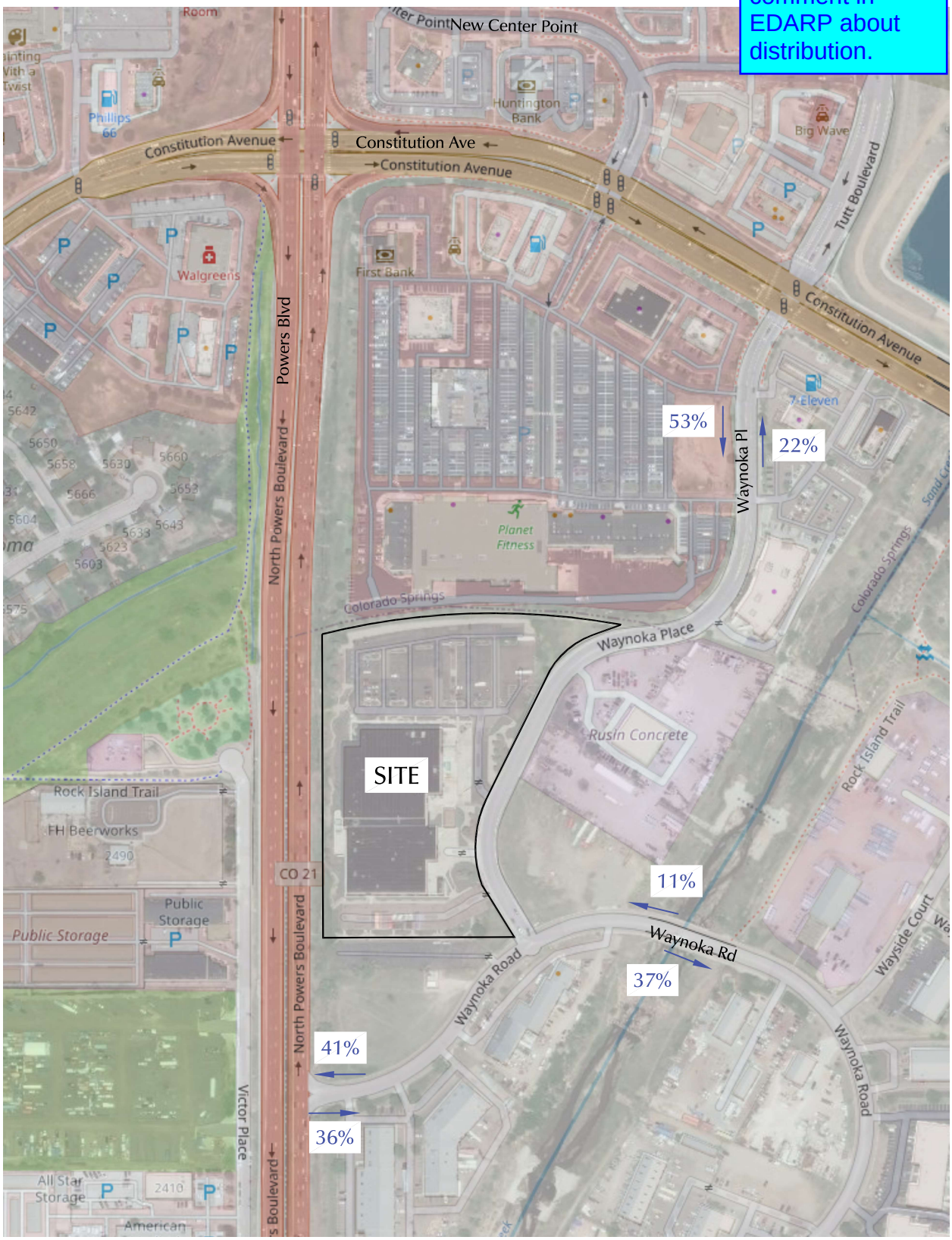
James Irwin Charter (LSC# S224370)

TRANSPORTATION CONSULTANTS, INC.

X / X / X = AM Peak-Hour LOS (7:00 - 8:00 am) / School PM Peak-Hour LOS (2:30 - 3:30 pm) / PM Peak-Hour LOS (4:00 - 5:00 pm)

XX / XX / XX = AM Peak-Hour Traffic (Veh/Hr, 7:00 - 8:00 am) / School PM Peak-Hour Traffic (Veh/Hr, 2:30 - 3:30 am) / PM Peak-Hour Traffic (Veh/Hr, 4:00 - 5:00 pm)

See Colorado Springs PW comment in EDARP about distribution.



Not to scale

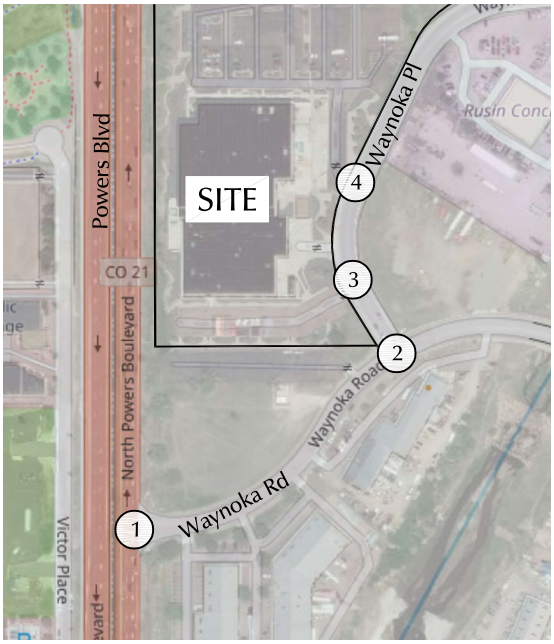
XX% = Estimated % Distribution of Site-Generated Trips

Figure 4

Directional Distribution

James Irwin Charter (LSC# S224370)

LSC TRANSPORTATION CONSULTANTS, INC.



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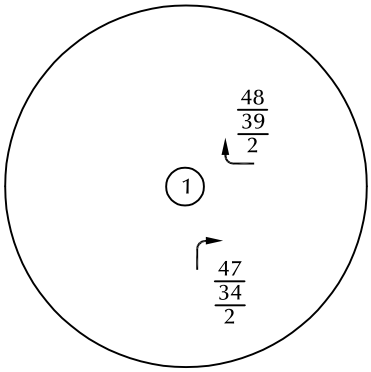
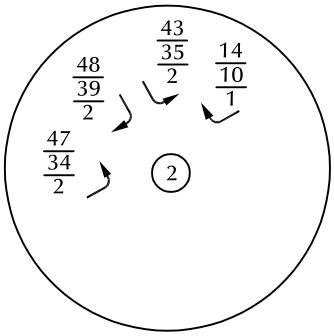
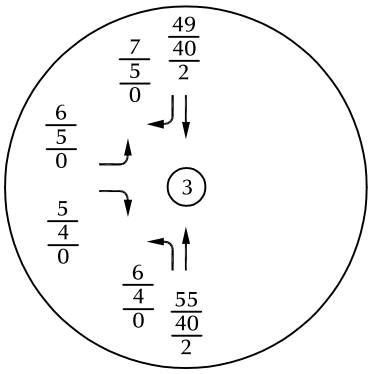
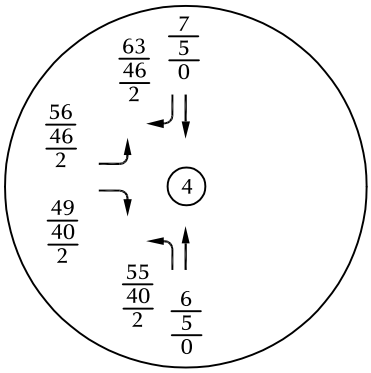
Not to scale









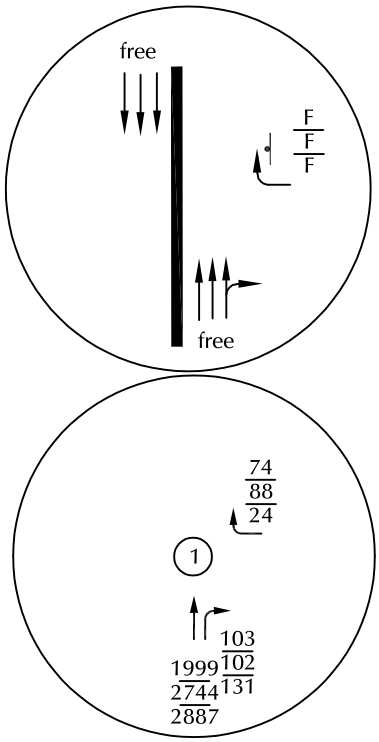
TRANSPORTATION CONSULTANTS, INC.

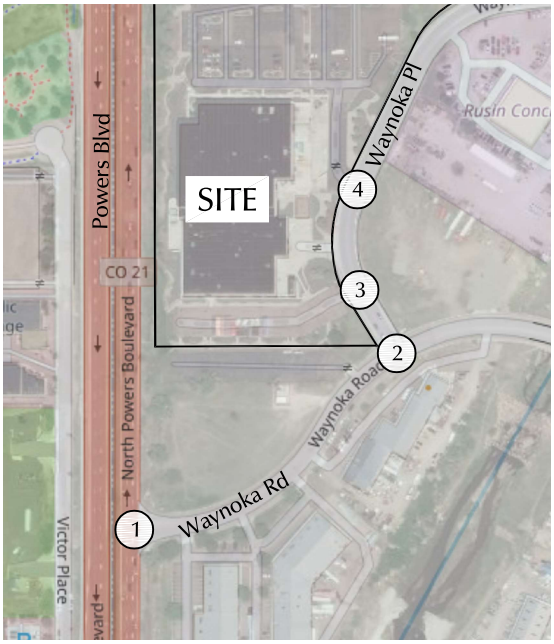
XX AM Peak-Hour Traffic (Veh/Hr, 7:00 - 8:00 am)
XX = School PM Peak-Hour Traffic (Veh/Hr, 2:30 - 3:30 am)
XX PM Peak-Hour Traffic (Veh/Hr, 4:00 - 5:00 pm)

Figure 5

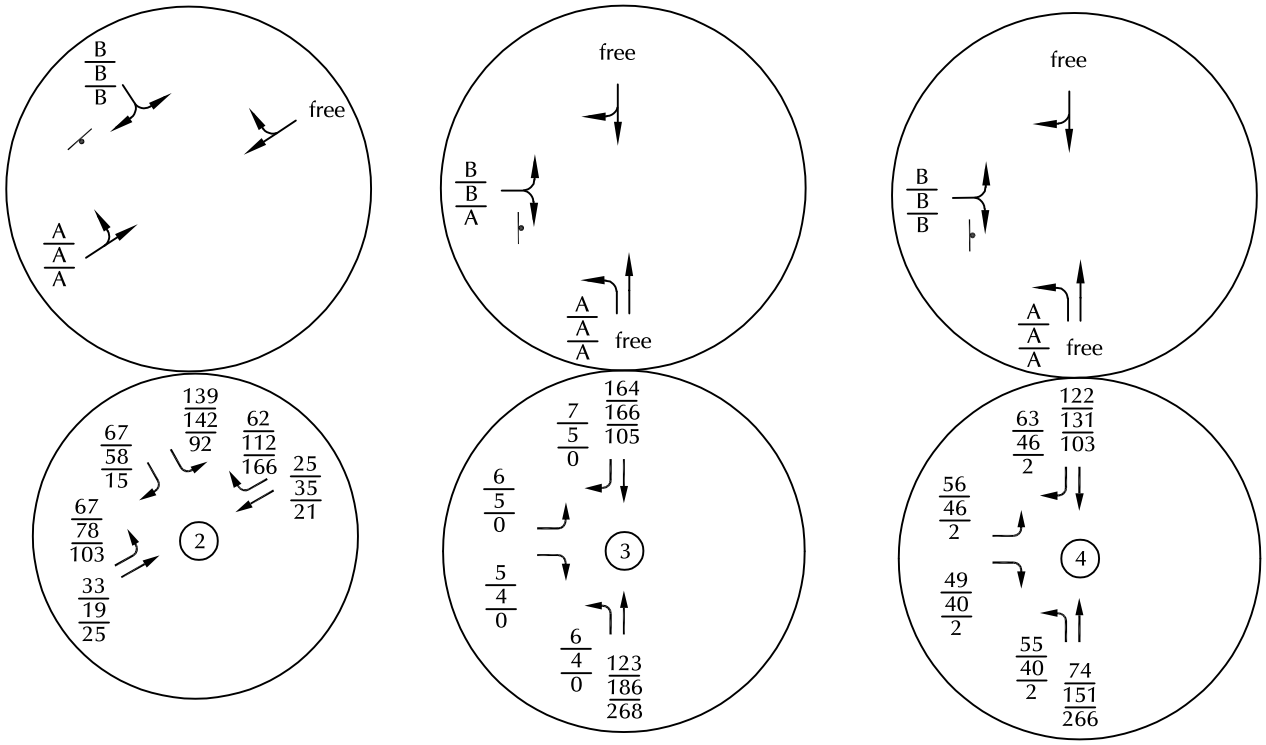
Site-Generated Traffic

James Irwin Charter (LSC# S224370)





Not to scale



| = Stop Sign

Figure 6

Existing + Site Generated Traffic, Lane Geometry, Traffic Control, and LOS

James Irwin Charter (LSC# S224370)

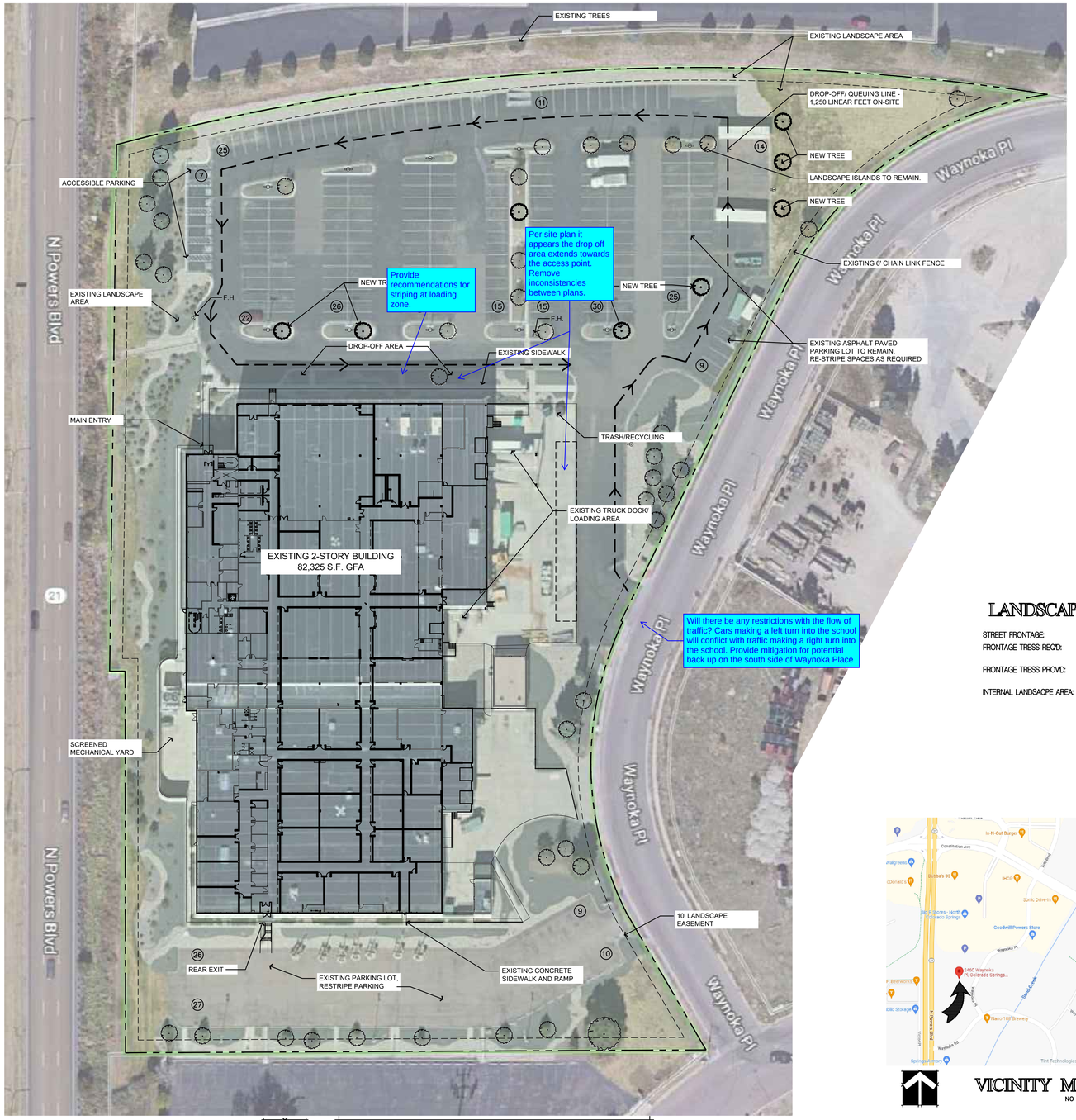
TRANSPORTATION CONSULTANTS, INC.

X / X / X = AM Peak-Hour LOS (7:00 - 8:00 am) / School PM Peak-Hour LOS (2:30 - 3:30 pm) / PM Peak-Hour LOS (4:00 - 5:00 pm)

XX / XX / XX = AM Peak-Hour Traffic (Veh/Hr, 7:00 - 8:00 am) / School PM Peak-Hour Traffic (Veh/Hr, 2:30 - 3:30 am) / PM Peak-Hour Traffic (Veh/Hr, 4:00 - 5:00 pm)

JAMES IRWIN CHARTER SCHOOLS / P-TEC INTERIOR REMODEL

2460 WAYNOKA PLACE
COLORADO SPRINGS, CO 80915



REFERENCE SITE PLAN
SCALE: 1" = 40'-0"

LANDSCAPE DATA

STREET FRONTAGE:	230' (APPROX)
FRONTAGE TRESS REQ'D:	130' (NON-ARTERIAL) 8 TREES REQUIRED
FRONTAGE TRESS PROV'D:	130' (NON-ARTERIAL) 14 TREES PROVIDED
INTERNAL LANDSCAPE AREA:	5% REQUIRED (17,445 SF)

VICINITY MAP
NO SCALE

PROJECT DATA

PROJECT NAME:	**P-TEC INTERIOR REMODEL / CHANGE OF USE**
PROJECT DESCRIPTION:	INTERIOR REMODEL OF AN EXISTING FABRICATION FACILITY FOR A NEW CHARTER HIGH SCHOOL, INCLUDING VOCATIONAL TRAINING AREAS. SITE WORK LIMITED TO ACCESSIBLE ACCESS UPGRADES.
PROJECT ADDRESS:	2460 WAYNOKA PLACE COLORADO SPRINGS, CO 80915
CURRENT TAX SCHEDULE NO:	5331301024
CURRENT LEGAL DESCRIPTION:	LOT 4 CIMARRON-NORTHWEST INDUSTRIAL FIL NO 3A, TOG W/ VAC POWERS BLVD ADJ BY REC #206028177
CITY ZONING:	I-2 CAD-0
LOT SIZE:	348,915 SF (8.01 ACRES)
LOT COVERAGE:	86,201 SF (24.7%)
BLDG. HEIGHT:	30' FEET
PARKING REQUIREMENTS:	EDUCATION, SENIOR HIGH: 1 SPACE / 4 STUDENTS 720 MAX STUDENTS / 4 = 180 SPACES REQUIRED TOTAL PARKING PROVIDED = 227 (NORTH LOT, EXISTING) ACCESSIBLE PARKING REQUIRED = 7 ACCESSIBLE PARKING PROVIDED = 7 ADDITIONAL STAFF PARKING PROVIDED AT SOUTH LOT SOUTH LOT PROVIDES AN ADDITIONAL 72 SPACES

CODE DATA

CONSTRUCTION TYPE:	II-B
SPRINKLER SYSTEM:	YES
FIRE ALARM SYSTEM:	YES
EXISTING OCCUP. GROUP:	B/ F-1
PROPOSED OCCUP. GROUP:	E (EDUCATION)
TOTAL BUILDING AREA:	1ST FLOOR = 82,325 SF 2ND FLOOR = 5,282 SF TOTAL AREA = 87,607 SF
(EXIST) BUILDING HEIGHT:	2 STORIES (3 ALLOWED PER IBC TABLE 504.4) 30' (55' ALLOWED PER IBC TABLE 504.3)
ALLOWABLE AREA:	SINGLE OCCUPANT, MULTI-STORY BLDG (PER IBC 506.2.3) E- BASIC, SPRINKLERED = 43,500 SF INCREASE FOR FRONTAGE: MINIMUM YARD DISTANCE = 48' 0.75 FACTOR USED [43,500+(14,500 X 0.75)] X 2 = 108,750 SF PER FLOOR ALLOWED

PROJECT TEAM

OWNER
JAMES IRWIN CHARTER SCHOOLS
5525 ASTROZON BLVD.
COLORADO SPRINGS, CO 80916
CONTACT: ROB DAUGHERTY
(719) 302-9003

CONTRACTOR
ELDER CONSTRUCTION
4870 CENTENNIAL BLVD., SUITE 100
COLORADO SPRINGS, CO 80919

ARCHITECT
BUCHER DESIGN STUDIO, INC.
BRIAN K. BUCHER, AIA, NCARB
12325 ORACLE BLVD., SUITE 101
COLORADO SPRINGS, CO 80921
(719) 484-0480

MPE ENGINEER
CHAVEZ, TIFFANY, AND AYERS
611 N. NEVADA AVE., STE 4
COLORADO SPRINGS, CO 80903
(719) 636-0021

GENERAL NOTES

1. Common access drive shall be for the common use of all users, public and private, and owners of the development.
2. Applicable Codes: 2017 Pikes Peak Regional Building Code (PPRBC)
   2015 International Building Code (IBC)
   2020 National Electrical Code (NEC)
   2018 International Plumbing Code (IPC)
   2015 International Mechanical Code (IMC)
   2015 International Energy Conservation Code (IECC)
   2009 ICC / ANSI 117.1 Accessibility Standard
   2015 International Fire Code (IFC)
3. Reference, discrepancies and omissions: These notes shall apply to all drawings unless otherwise shown or noted. Features of construction shown are typical and they shall apply generally throughout similar conditions. In the event of omissions, their construction shall be similar to conditions shown and detailed.
4. All work and materials shall be in full accordance with the rules and regulations of the Applicable Codes noted above, and all local codes and ordinances. Nothing in these plans is to be construed to permit work not conforming to these codes.
5. Dimensions:
   a. Do not scale these drawings.
   b. Contractor to verify overall building layout dimensions prior to construction.
   c. Unless otherwise indicated, dimensions shown are to face of concrete, face masonry, face of stud lines; or, in case of steel construction, to the center line of member.
6. Upon completion of each sub-contractor's work, remove all waste, debris, excess materials, tools and equipment from the premises. Leave entire structure and involved portions of the site in a neat, clean and acceptable condition.
7. All roofing and flashing materials shall be installed to form a waterproof system per the applicable codes
8. Lathing, plastering and drywall construction, shall be in full accordance with the HANDBOOK OF RECOMMENDED SPECIFICATIONS FOR LATHING, FURRING AND PLASTERING of the National Foundation for Lathing and Plastering, Inc.
9. Site is not within a FEMA designated floodplain per flood map **08041C0751G, effective 12/7/2018**

DRAWING INDEX

SHT. #	DESCRIPTION	
A0	COVER SHEET / CODE DATA	
AD1.0	OVERALL DEMOLITION FLOOR PLAN	
AD1.1	ENLARGED DEMO PLAN - NORTHWEST	
AD1.2	ENLARGED DEMO PLAN - SOUTHWEST	
AD1.3	ENLARGED DEMO PLAN - SOUTHEAST	
AD1.4	ENLARGED DEMO PLAN - NORTHEAST	
AD2.1	ENLARGED DEMO RCP - NORTHWEST	
AD2.2	ENLARGED DEMO RCP - SOUTHWEST	
AD2.3	ENLARGED DEMO RCP - SOUTHEAST	
AD2.4	ENLARGED DEMO RCP - NORTHEAST	
A1.0	OCCUPANCY/LIFE SAFETY PLAN	ARCHITECTURAL
A1.1	OVERALL FLOOR PLAN	
A1.2	ENLARGED PLAN - NORTHWEST	
A1.3	ENLARGED PLAN - SOUTHWEST	
A1.4	ENLARGED PLAN - SOUTHEAST	
A1.5	ENLARGED PLAN - NORTHEAST	
A1.6	ENLARGED PLAN - RESTROOM	
A2.1	ENLARGED RCP - NORTHWEST	
A2.2	ENLARGED RCP - SOUTHWEST	
A2.3	ENLARGED RCP - SOUTHEAST	
A2.4	ENLARGED RCP - NORTHEAST	
A3.1	EXTERIOR ELEVATIONS	
A6.1	ROOM FINISH SCHEDULE	

STRL. MECH. PLUMB. ELECT. EQUIPMENT

PROGRESS SET
5/25/22

20 YEARS ANNIVERSARY
BUCHER DESIGN STUDIO
2002 - 2022
architecture • planning
12325 Oracle Blvd. Suite 101
Colorado Springs, CO 80921
(719) 484-0480
Brian K. Bucher, AIA
Architect
CO license no. C-4889

A PROPOSED REMODEL FOR

PTEC
JAMES IRWIN CHARTER SCHOOLS

2460 WAYNOKA PL.
COLORADO SPRINGS, CO

Sheet Title:
COVER SHEET/ CODE DATA

Drawing Status:
DESIGN DEVELOPMENT
NOT FOR CONSTRUCTION

Revisions:

No.	Description	By	Date
1			

Date: 5/25/22
Drawn by:
Checked by:
Scale: AS NOTED
Job No.:

Sheet No.: A0
Of

File Name: P:\James Irwin-PTEC\1-cam\a\CAD\Waynoka\Waynoka A0.dwg
May 25, 2022 - 10:06am

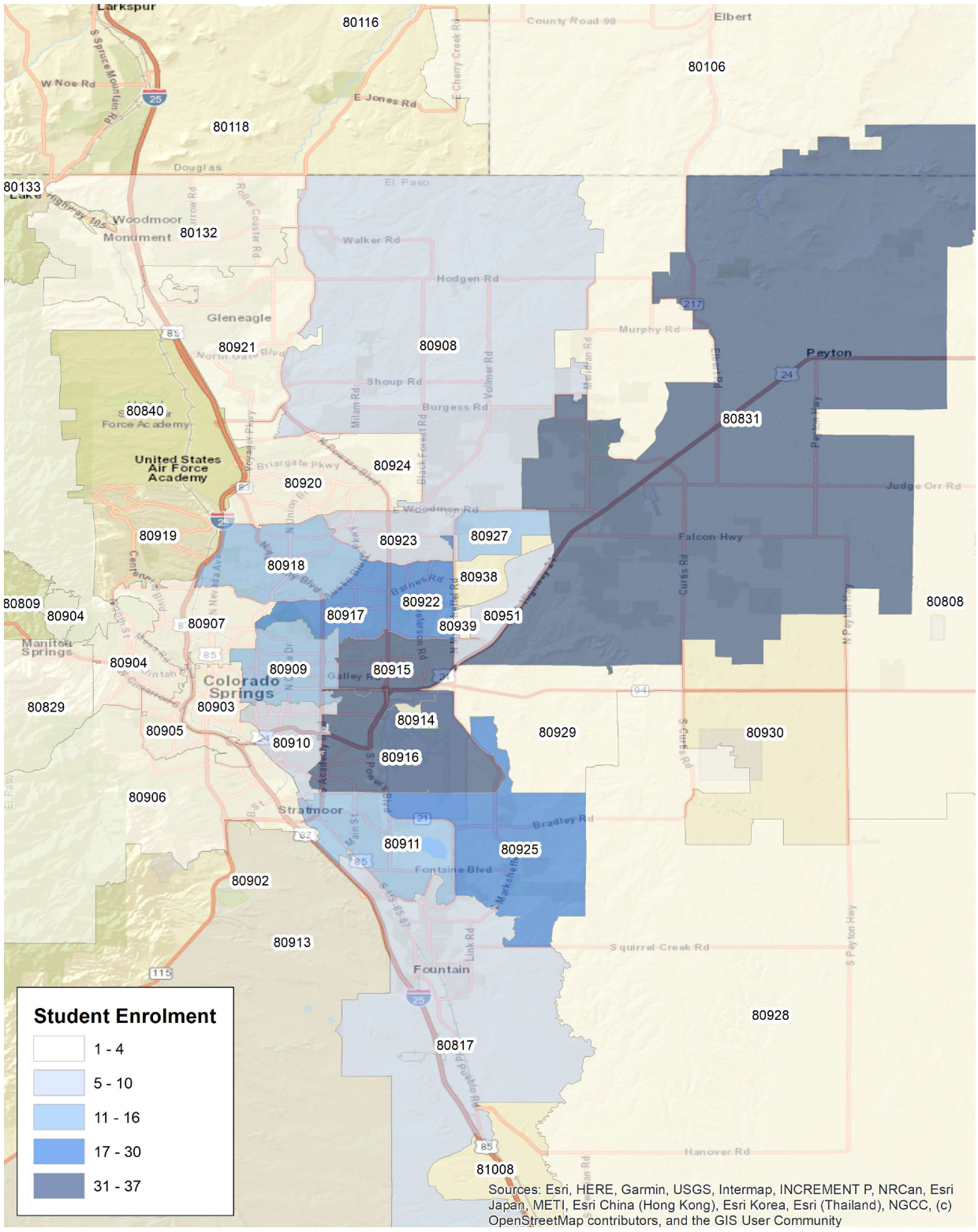
LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd AM
Site Code : S224370
Start Date : 6/9/2022
Page No : 1

Groups Printed- Unshifted

	Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:45	0	0	0	0	0	7	0	0	0	7	19	451	0	0	470	0	0	0	0	0	477
Total	0	0	0	0	0	7	0	0	0	7	19	451	0	0	470	0	0	0	0	0	477
07:00	0	0	0	0	0	10	0	0	0	10	23	455	0	0	478	0	0	0	0	0	488
07:15	0	0	0	0	0	3	0	0	0	3	7	484	0	0	491	0	0	0	0	0	494
07:30	0	0	0	0	0	8	0	0	0	8	10	536	0	0	546	0	0	0	0	0	554
07:45	0	0	0	0	0	5	0	0	0	5	16	524	0	0	540	0	0	0	0	0	545
Total	0	0	0	0	0	26	0	0	0	26	56	1999	0	0	2055	0	0	0	0	0	2081
Grand Total	0	0	0	0	0	33	0	0	0	33	75	2450	0	0	2525	0	0	0	0	0	2558
Apprch %	0	0	0	0		100	0	0	0		3	97	0	0		0	0	0	0		
Total %	0	0	0	0	0	1.3	0	0	0	1.3	2.9	95.8	0	0	98.7	0	0	0	0	0	



Not to scale

TRANSPORTATION CONSULTANTS, INC.

Appendix Figure 1

Student Enrolment by Zip Code

James Irwin Charter (LSC# S224370)

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd AM
Site Code : S224370
Start Date : 6/9/2022
Page No : 2

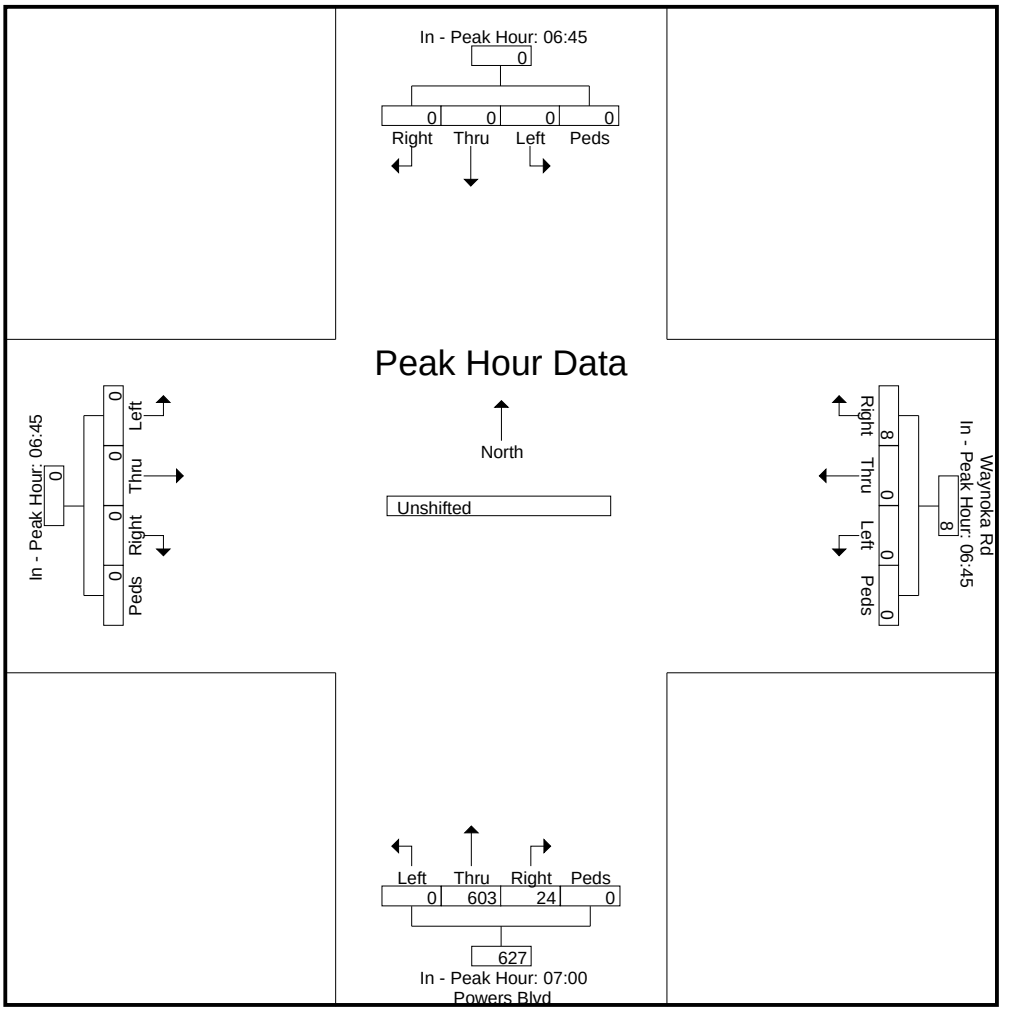
	Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:45:00 AM to 7:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:00:00 AM																					
7:00:00 AM	0	0	0	0	0	**10**	0	0	0	**10**	**23**	455	0	0	478	0	0	0	0	0	488
7:15:00 AM	0	0	0	0	0	3	0	0	0	3	7	484	0	0	491	0	0	0	0	0	494
7:30:00 AM	0	0	0	0	0	8	0	0	0	8	10	**536**	0	0	**546**	0	0	0	0	0	**554**
7:45:00 AM	0	0	0	0	0	5	0	0	0	5	16	524	0	0	540	0	0	0	0	0	545
Total Volume	0	0	0	0	0	26	0	0	0	26	56	1999	0	0	2055	0	0	0	0	0	2081
% App. Total	0	0	0	0		100	0	0	0		2.7	97.3	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.650	.000	.000	.000	.650	.609	.932	.000	.000	.941	.000	.000	.000	.000	.000	.939

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd AM
Site Code : S224370
Start Date : 6/9/2022

	Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:45:00 AM to 7:45:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	6:45:00 AM					6:45:00 AM					7:00:00 AM					6:45:00 AM					
+0 mins.	0	0	0	0	0	7	0	0	0	7	**23**	455	0	0	478	0	0	0	0	0	
+5 mins.	0	0	0	0	0	**10**	0	0	0	**10**	7	484	0	0	491	0	0	0	0	0	
+10 mins.	0	0	0	0	0	3	0	0	0	3	10	**536**	0	0	**546**	0	0	0	0	0	
+15 mins.	0	0	0	0	0	8	0	0	0	8	16	524	0	0	540	0	0	0	0	0	
Total Volume	0	0	0	0	0	28	0	0	0	28	56	1999	0	0	2055	0	0	0	0	0	
% App. Total	0	0	0	0		100	0	0	0		2.7	97.3	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.700	.000	.000	.000	.700	.609	.932	.000	.000	.941	.000	.000	.000	.000	.000	



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd Mid
Site Code : S224370
Start Date : 6/9/2022
Page No : 1

Groups Printed- Unshifted

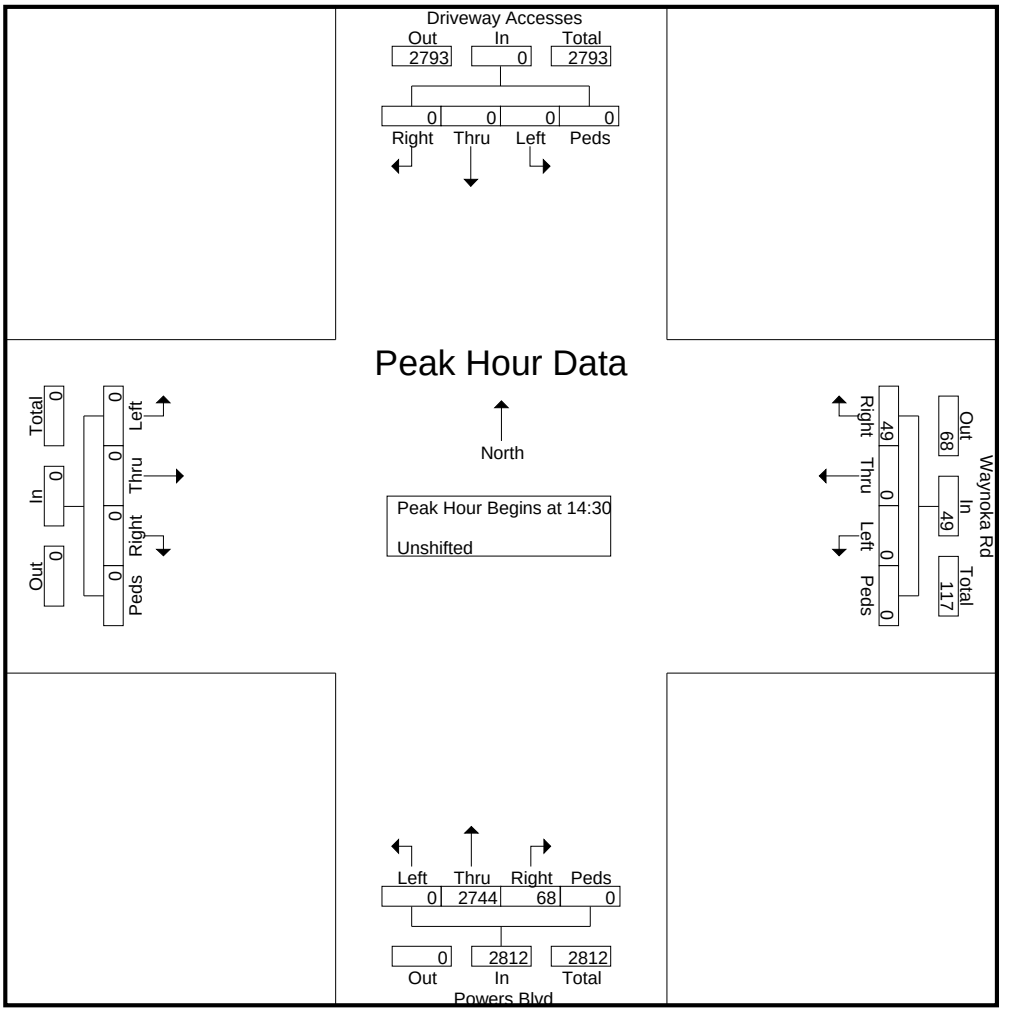
	Driveway Accesses Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
14:30	0	0	0	0	0	13	0	0	0	13	13	621	0	0	634	0	0	0	0	0	647
14:45	0	0	0	0	0	8	0	0	0	8	16	672	0	0	688	0	0	0	0	0	696
Total	0	0	0	0	0	21	0	0	0	21	29	1293	0	0	1322	0	0	0	0	0	1343
15:00	0	0	0	0	0	21	0	0	0	21	17	722	0	0	739	0	0	0	0	0	760
15:15	0	0	0	0	0	7	0	0	0	7	22	729	0	0	751	0	0	0	0	0	758
Grand Total	0	0	0	0	0	49	0	0	0	49	68	2744	0	0	2812	0	0	0	0	0	2861
Apprch %	0	0	0	0		100	0	0	0		2.4	97.6	0	0		0	0	0	0		
Total %	0	0	0	0	0	1.7	0	0	0	1.7	2.4	95.9	0	0	98.3	0	0	0	0	0	

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd Mid
Site Code : S224370
Start Date : 6/9/2022
Page No : 2

	Driveway Accesses Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 2:30:00 PM to 3:15:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 2:30:00 PM																					
2:30:00 PM	0	0	0	0	0	13	0	0	0	13	13	621	0	0	634	0	0	0	0	0	647
2:45:00 PM	0	0	0	0	0	8	0	0	0	8	16	672	0	0	688	0	0	0	0	0	696
3:00:00 PM	0	0	0	0	0	**21**	0	0	0	**21**	17	722	0	0	739	0	0	0	0	0	**760**
3:15:00 PM	0	0	0	0	0	7	0	0	0	7	**22**	**729**	0	0	**751**	0	0	0	0	0	758
Total Volume	0	0	0	0	0	49	0	0	0	49	68	2744	0	0	2812	0	0	0	0	0	2861
% App. Total	0	0	0	0		100	0	0	0		2.4	97.6	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.583	.000	.000	.000	.583	.773	.941	.000	.000	.936	.000	.000	.000	.000	.000	.941



LSC Transportation Consultants, Inc.

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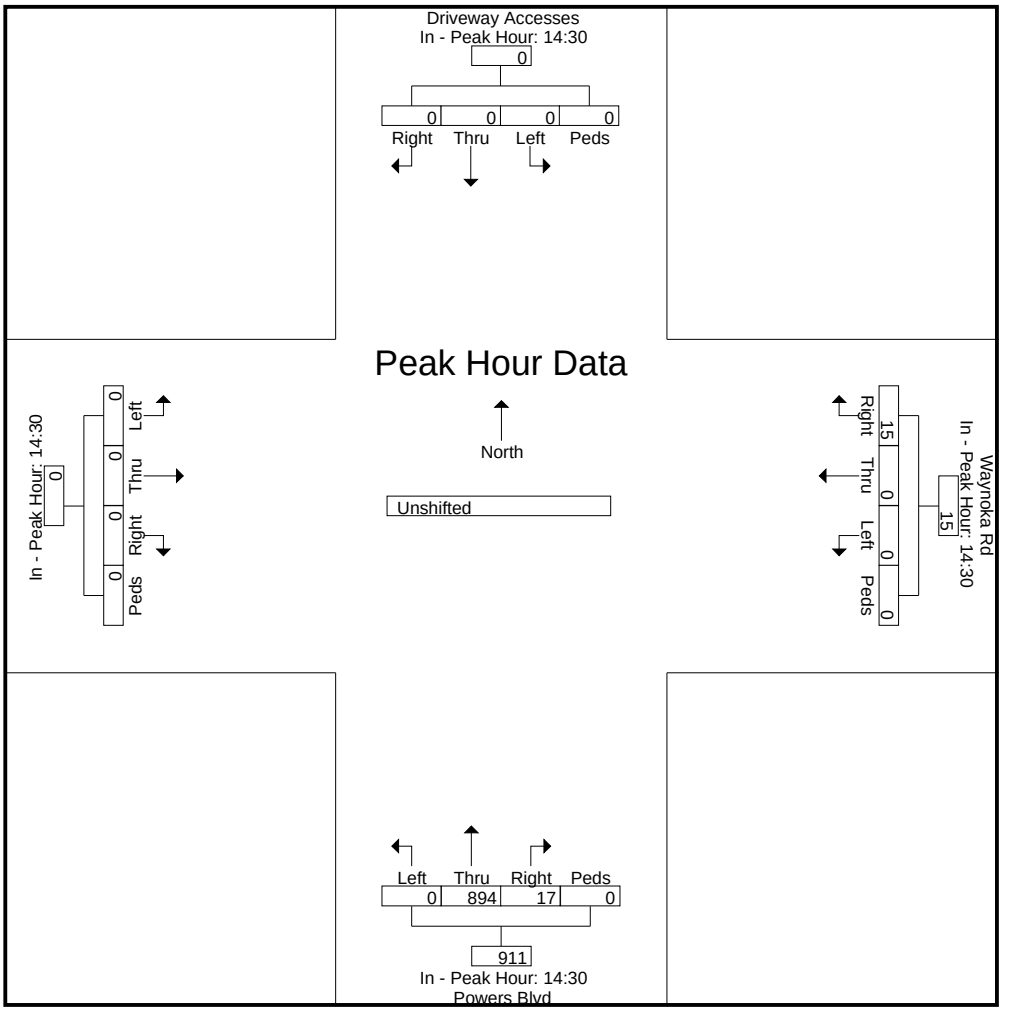
File Name : Powers Blvd - Waynoka Rd Mid
Site Code : S224370
Start Date : 6/9/2022
Page No : 3

	Driveway Accesses Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 2:30:00 PM to 3:15:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	2:30:00 PM					2:30:00 PM					2:30:00 PM					2:30:00 PM					
+0 mins.	0	0	0	0	0	13	0	0	0	13	13	621	0	0	634	0	0	0	0	0	
+5 mins.	0	0	0	0	0	8	0	0	0	8	16	672	0	0	688	0	0	0	0	0	
+10 mins.	0	0	0	0	0	**21**	0	0	0	**21**	17	722	0	0	739	0	0	0	0	0	
+15 mins.	0	0	0	0	0	7	0	0	0	7	**22**	**729**	0	0	**751**	0	0	0	0	0	
Total Volume	0	0	0	0	0	49	0	0	0	49	68	2744	0	0	2812	0	0	0	0	0	
% App. Total	0	0	0	0		100	0	0	0		2.4	97.6	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.583	.000	.000	.000	.583	.773	.941	.000	.000	.936	.000	.000	.000	.000	.000	



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd PM
Site Code : S224370
Start Date : 6/9/2022
Page No : 1

Groups Printed- Unshifted

	Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:00	0	0	0	0	0	7	0	0	0	7	34	746	0	0	780	0	0	0	0	0	787
16:15	0	0	0	0	0	6	0	0	0	6	26	718	0	0	744	0	0	0	0	0	750
16:30	0	0	0	0	0	5	0	0	0	5	25	734	0	0	759	0	0	0	0	0	764
16:45	0	0	0	0	0	4	0	0	0	4	44	689	0	0	733	0	0	0	0	0	737
Total	0	0	0	0	0	22	0	0	0	22	129	2887	0	0	3016	0	0	0	0	0	3038
17:00	0	0	0	0	0	3	0	0	0	3	48	650	0	0	698	0	0	0	0	0	701
17:15	0	0	0	0	0	6	0	0	0	6	24	649	0	0	673	0	0	0	0	0	679
17:30	0	0	0	0	0	6	0	0	0	6	16	627	0	0	643	0	0	0	0	0	649
17:45	0	0	0	0	0	3	0	0	0	3	13	714	0	0	727	0	0	0	0	0	730
Total	0	0	0	0	0	18	0	0	0	18	101	2640	0	0	2741	0	0	0	0	0	2759
Grand Total	0	0	0	0	0	40	0	0	0	40	230	5527	0	0	5757	0	0	0	0	0	5797
Apprch %	0	0	0	0		100	0	0	0		4	96	0	0		0	0	0	0		
Total %	0	0	0	0	0	0.7	0	0	0	0.7	4	95.3	0	0	99.3	0	0	0	0	0	

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Powers Blvd - Waynoka Rd PM
Site Code : S224370
Start Date : 6/9/2022

	Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:00:00 PM																					
4:00:00 PM	0	0	0	0	0	**7**	0	0	0	**7**	34	**746**	0	0	**780**	0	0	0	0	0	**787**
4:15:00 PM	0	0	0	0	0	6	0	0	0	6	26	718	0	0	744	0	0	0	0	0	750
4:30:00 PM	0	0	0	0	0	5	0	0	0	5	25	734	0	0	759	0	0	0	0	0	764
4:45:00 PM	0	0	0	0	0	4	0	0	0	4	**44**	689	0	0	733	0	0	0	0	0	737
Total Volume	0	0	0	0	0	22	0	0	0	22	129	2887	0	0	3016	0	0	0	0	0	3038
% App. Total	0	0	0	0		100	0	0	0		4.3	95.7	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.786	.000	.000	.000	.786	.733	.967	.000	.000	.967	.000	.000	.000	.000	.000	.965

LSC Transportation Consultants, Inc.

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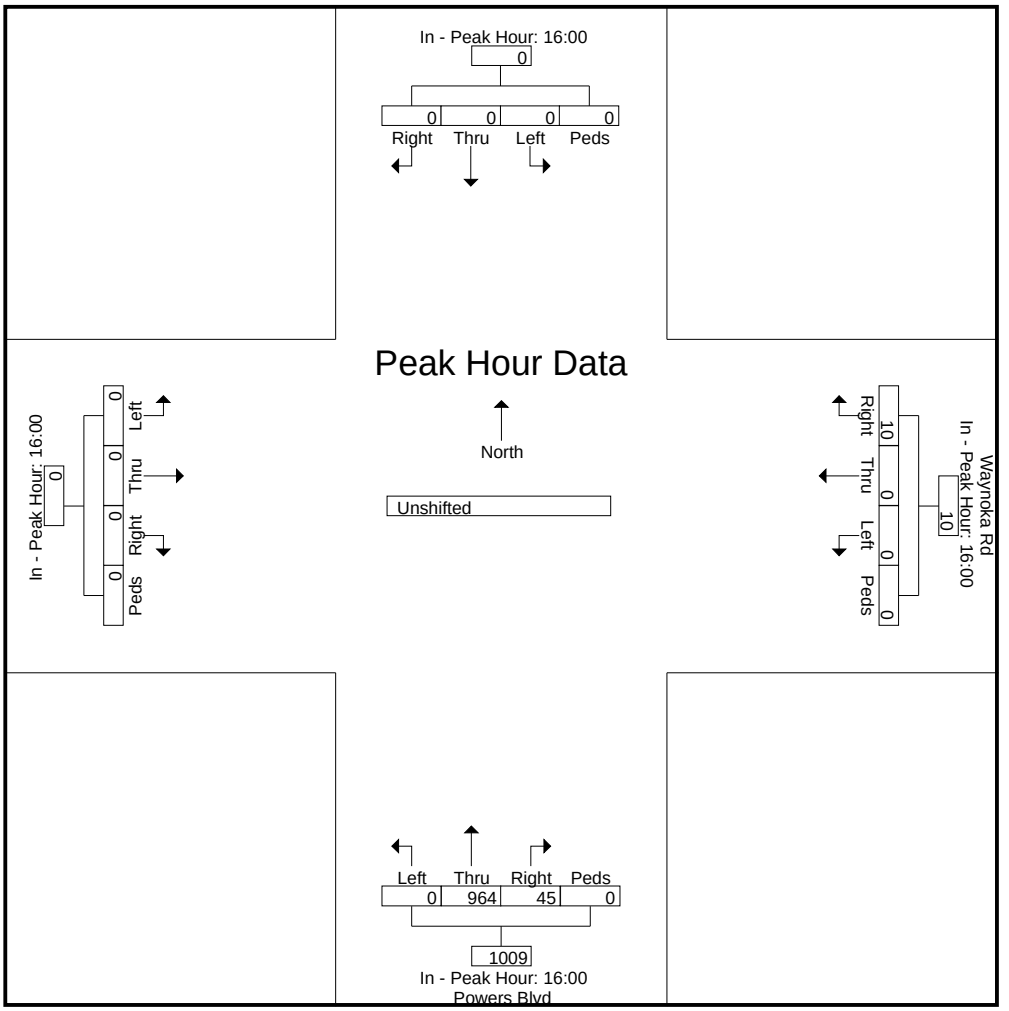
719-633-2868

File Name : Powers Blvd - Waynoka Rd PM
Site Code : S224370
Start Date : 6/9/2022
Page No : 3

	Southbound					Waynoka Rd Westbound					Powers Blvd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:00:00 PM					4:00:00 PM					4:00:00 PM					4:00:00 PM					
+0 mins.	0	0	0	0	0	**7**	0	0	0	**7**	34	**746**	0	0	**780**	0	0	0	0	0	
+5 mins.	0	0	0	0	0	6	0	0	0	6	26	718	0	0	744	0	0	0	0	0	
+10 mins.	0	0	0	0	0	5	0	0	0	5	25	734	0	0	759	0	0	0	0	0	
+15 mins.	0	0	0	0	0	4	0	0	0	4	**44**	689	0	0	733	0	0	0	0	0	
Total Volume	0	0	0	0	0	22	0	0	0	22	129	2887	0	0	3016	0	0	0	0	0	
% App. Total	0	0	0	0		100	0	0	0		4.3	95.7	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.786	.000	.000	.000	.786	.733	.967	.000	.000	.967	.000	.000	.000	.000	.000	



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd AM
Site Code : S224370
Start Date : 6/9/2022
Page No : 1

Groups Printed- Unshifted

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:45	2	0	25	0	27	13	3	0	0	16	0	0	0	0	0	0	6	1	0	7	50
Total	2	0	25	0	27	13	3	0	0	16	0	0	0	0	0	0	6	1	0	7	50
07:00	5	0	21	0	26	5	9	0	0	14	0	0	0	0	0	0	17	4	0	21	61
07:15	5	0	16	0	21	9	5	0	0	14	0	0	0	0	0	1	3	4	0	8	43
07:30	6	0	18	0	24	17	9	0	0	26	0	0	0	0	0	0	5	6	0	11	61
07:45	3	0	41	0	44	17	2	0	0	19	0	0	1	1	2	0	8	6	0	14	79
Total	19	0	96	0	115	48	25	0	0	73	0	0	1	1	2	1	33	20	0	54	244
Grand Total	21	0	121	0	142	61	28	0	0	89	0	0	1	1	2	1	39	21	0	61	294
Apprch %	14.8	0	85.2	0		68.5	31.5	0	0		0	0	50	50		1.6	63.9	34.4	0		
Total %	7.1	0	41.2	0	48.3	20.7	9.5	0	0	30.3	0	0	0.3	0.3	0.7	0.3	13.3	7.1	0	20.7	

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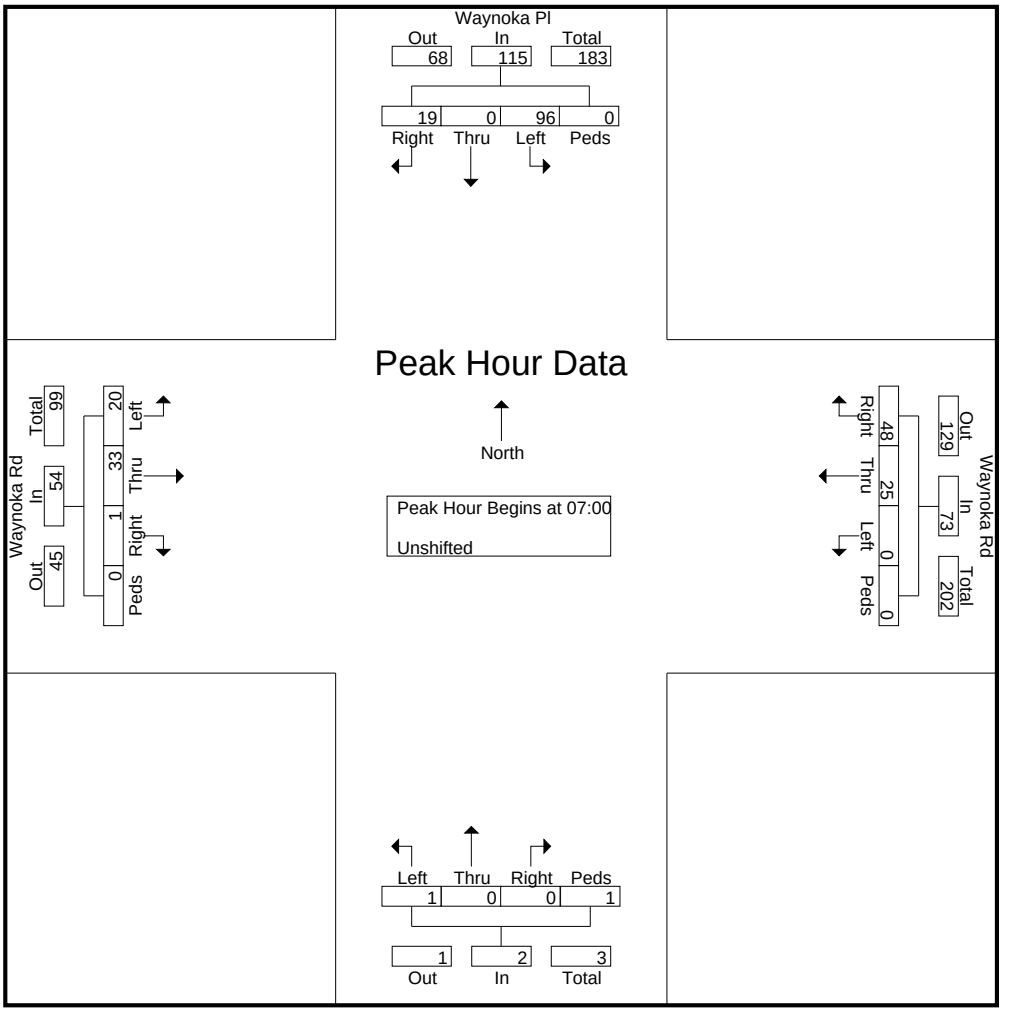
2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd AM
Site Code : S224370
Start Date : 6/9/2022
Page No : 2

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:45:00 AM to 7:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:00:00 AM																					
7:00:00 AM	5	0	21	0	26	5	**9**	0	0	14	0	0	0	0	0	0	**17**	4	0	**21**	61
7:15:00 AM	5	0	16	0	21	9	5	0	0	14	0	0	0	0	0	**1**	3	4	0	8	43
7:30:00 AM	**6**	0	18	0	24	**17**	9	0	0	**26**	0	0	0	0	0	0	5	**6**	0	11	61
7:45:00 AM	3	0	**41**	0	**44**	17	2	0	0	19	0	0	**1**	**1**	**2**	0	8	6	0	14	**79**
Total Volume	19	0	96	0	115	48	25	0	0	73	0	0	1	1	2	1	33	20	0	54	244
% App. Total	16.5	0	83.5	0		65.8	34.2	0	0		0	0	50	50		1.9	61.1	37	0		
PHF	.792	.000	.585	.000	.653	.706	.694	.000	.000	.702	.000	.000	.250	.250	.250	.250	.485	.833	.000	.643	.772

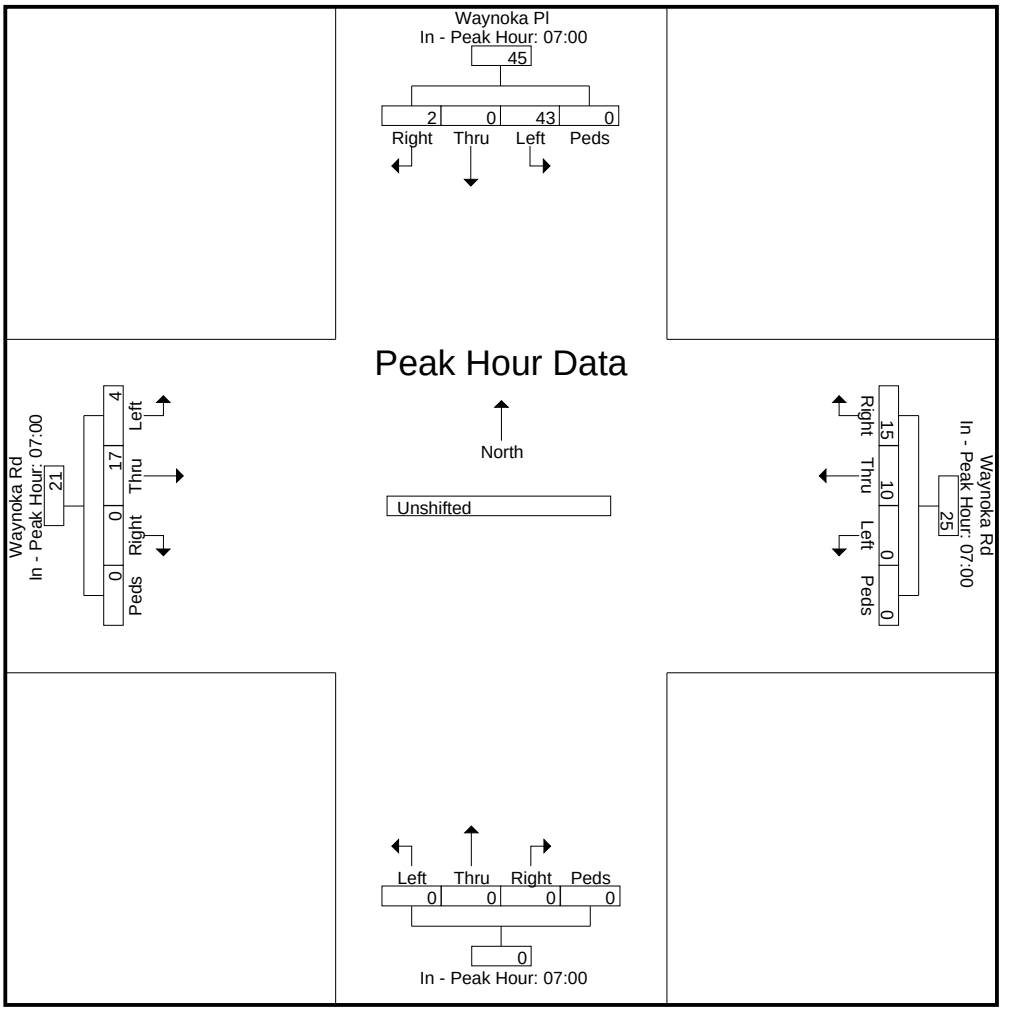


LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd AM
Site Code : S224370
Start Date : 6/9/2022
Page No : 3

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:45:00 AM to 7:45:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	7:00:00 AM					7:00:00 AM					7:00:00 AM					7:00:00 AM					
+0 mins.	5	0	21	0	26	5	**9**	0	0	14	0	0	0	0	0	0	**17**	4	0	**21**	
+5 mins.	5	0	16	0	21	9	5	0	0	14	0	0	0	0	0	**1**	3	4	0	8	
+10 mins.	**6**	0	18	0	24	**17**	9	0	0	**26**	0	0	0	0	0	0	5	**6**	0	11	
+15 mins.	3	0	**41**	0	**44**	17	2	0	0	19	0	0	**1**	**1**	**2**	0	8	6	0	14	
Total Volume	19	0	96	0	115	48	25	0	0	73	0	0	1	1	2	1	33	20	0	54	
% App. Total	16.5	0	83.5	0		65.8	34.2	0	0		0	0	50	50		1.9	61.1	37	0		
PHF	.792	.000	.585	.000	.653	.706	.694	.000	.000	.702	.000	.000	.250	.250	.250	.250	.485	.833	.000	.643	



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd Mid
Site Code : S224370
Start Date : 6/9/2022
Page No : 1

Groups Printed- Unshifted

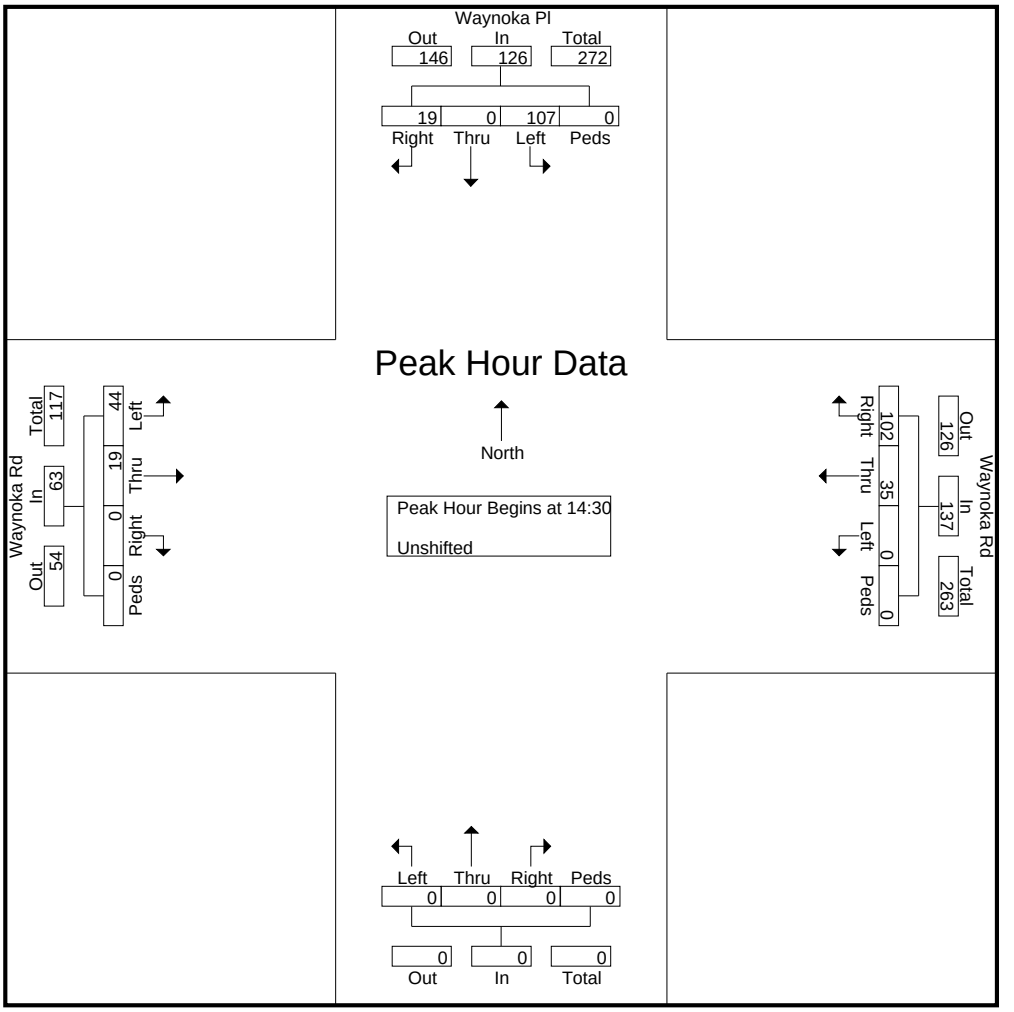
	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
14:30	5	0	20	0	25	20	9	0	0	29	0	0	0	0	0	0	6	9	0	15	69
14:45	3	0	24	0	27	16	6	0	0	22	0	0	0	0	0	0	6	11	0	17	66
Total	8	0	44	0	52	36	15	0	0	51	0	0	0	0	0	0	12	20	0	32	135
15:00	8	0	32	0	40	38	13	0	0	51	0	0	0	0	0	0	4	7	0	11	102
15:15	3	0	31	0	34	28	7	0	0	35	0	0	0	0	0	0	3	17	0	20	89
Grand Total	19	0	107	0	126	102	35	0	0	137	0	0	0	0	0	0	19	44	0	63	326
Apprch %	15.1	0	84.9	0		74.5	25.5	0	0		0	0	0	0		0	30.2	69.8	0		
Total %	5.8	0	32.8	0	38.7	31.3	10.7	0	0	42	0	0	0	0	0	0	5.8	13.5	0	19.3	

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd Mid
Site Code : S224370
Start Date : 6/9/2022
Page No : 2

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 2:30:00 PM to 3:15:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 2:30:00 PM																					
2:30:00 PM	5	0	20	0	25	20	9	0	0	29	0	0	0	0	0	0	**6**	9	0	15	69
2:45:00 PM	3	0	24	0	27	16	6	0	0	22	0	0	0	0	0	0	6	11	0	17	66
3:00:00 PM	**8**	0	**32**	0	**40**	**38**	**13**	0	0	**51**	0	0	0	0	0	0	4	7	0	11	**102**
3:15:00 PM	3	0	31	0	34	28	7	0	0	35	0	0	0	0	0	0	3	**17**	0	**20**	89
Total Volume	19	0	107	0	126	102	35	0	0	137	0	0	0	0	0	0	19	44	0	63	326
% App. Total	15.1	0	84.9	0		74.5	25.5	0	0		0	0	0	0		0	30.2	69.8	0		
PHF	.594	.000	.836	.000	.788	.671	.673	.000	.000	.672	.000	.000	.000	.000	.000	.000	.792	.647	.000	.788	.799

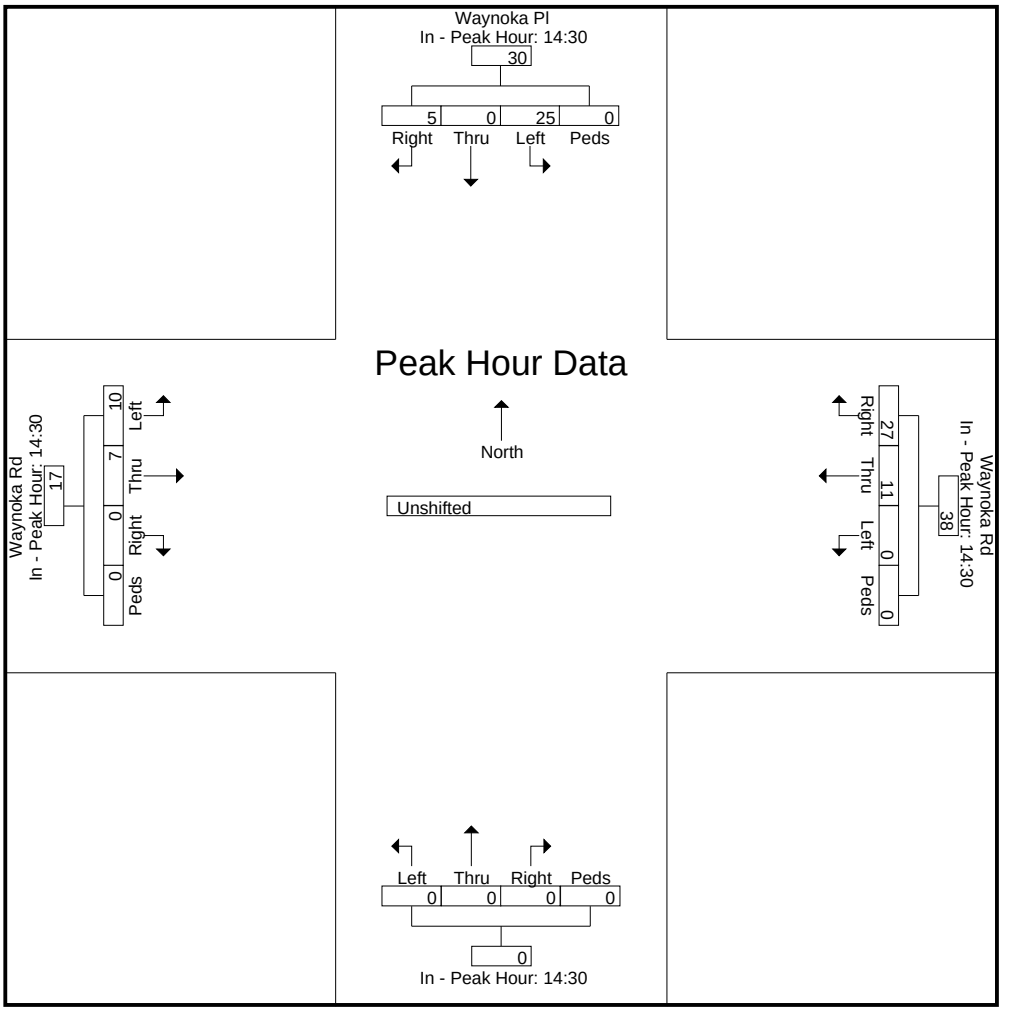


LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd Mid
Site Code : S224370
Start Date : 6/9/2022
Page No : 3

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 2:30:00 PM to 3:15:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	2:30:00 PM					2:30:00 PM					2:30:00 PM					2:30:00 PM					
+0 mins.	5	0	20	0	25	20	9	0	0	29	0	0	0	0	0	0	**6**	9	0	15	
+5 mins.	3	0	24	0	27	16	6	0	0	22	0	0	0	0	0	0	6	11	0	17	
+10 mins.	**8**	0	**32**	0	**40**	**38**	**13**	0	0	**51**	0	0	0	0	0	0	4	7	0	11	
+15 mins.	3	0	31	0	34	28	7	0	0	35	0	0	0	0	0	0	3	**17**	0	**20**	
Total Volume	19	0	107	0	126	102	35	0	0	137	0	0	0	0	0	0	19	44	0	63	
% App. Total	15.1	0	84.9	0		74.5	25.5	0	0		0	0	0	0		0	30.2	69.8	0		
PHF	.594	.000	.836	.000	.788	.671	.673	.000	.000	.672	.000	.000	.000	.000	.000	.000	.792	.647	.000	.788	



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
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719-633-2868

File Name : Waynoka Pl - Waynoka Rd PM
Site Code : S224370
Start Date : 6/9/2022
Page No : 1

Groups Printed- Unshifted

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:00	4	0	20	0	24	31	6	0	0	37	0	0	0	0	0	0	7	25	0	32	93
16:15	3	0	25	0	28	47	8	0	0	55	0	0	0	0	0	0	7	19	0	26	109
16:30	2	0	24	0	26	44	3	0	0	47	0	0	0	0	0	0	5	23	0	28	101
16:45	4	0	21	1	26	43	4	0	0	47	0	0	0	0	0	0	6	34	0	40	113
Total	13	0	90	1	104	165	21	0	0	186	0	0	0	0	0	0	25	101	0	126	416
17:00	2	0	23	0	25	32	1	0	0	33	0	0	0	0	0	0	9	50	0	59	117
17:15	3	0	20	0	23	40	3	0	0	43	0	0	0	0	0	0	8	18	0	26	92
17:30	3	0	23	0	26	42	1	0	0	43	0	0	0	0	0	0	3	8	0	11	80
17:45	3	0	28	0	31	18	2	0	0	20	0	0	0	0	0	0	3	14	0	17	68
Total	11	0	94	0	105	132	7	0	0	139	0	0	0	0	0	0	23	90	0	113	357
Grand Total	24	0	184	1	209	297	28	0	0	325	0	0	0	0	0	0	48	191	0	239	773
Apprch %	11.5	0	88	0.5		91.4	8.6	0	0		0	0	0	0		0	20.1	79.9	0		
Total %	3.1	0	23.8	0.1	27	38.4	3.6	0	0	42	0	0	0	0	0	0	6.2	24.7	0	30.9	

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2504 E. Pikes Peak Ave, Suite 304
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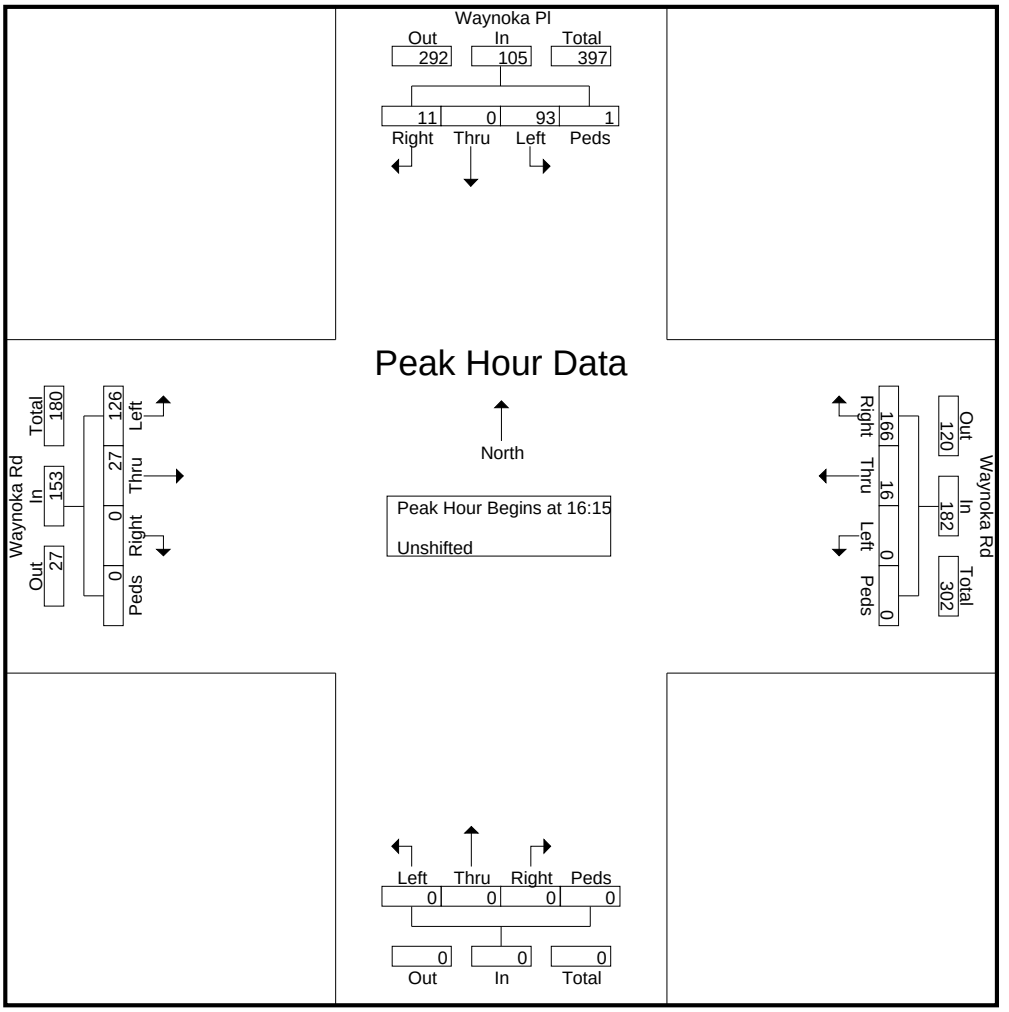
719-633-2868

File Name : Waynoka Pl - Waynoka Rd PM
Site Code : S224370
Start Date : 6/9/2022
Page No : 2

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:15:00 PM																					
4:15:00 PM	3	0	**25**	0	**28**	**47**	**8**	0	0	**55**	0	0	0	0	0	0	7	19	0	26	109
4:30:00 PM	2	0	24	0	26	44	3	0	0	47	0	0	0	0	0	0	5	23	0	28	101
4:45:00 PM	**4**	0	21	**1**	26	43	4	0	0	47	0	0	0	0	0	0	6	34	0	40	113
5:00:00 PM	2	0	23	0	25	32	1	0	0	33	0	0	0	0	0	0	**9**	**50**	0	**59**	**117**
Total Volume	11	0	93	1	105	166	16	0	0	182	0	0	0	0	0	0	27	126	0	153	440
% App. Total	10.5	0	88.6	1		91.2	8.8	0	0		0	0	0	0		0	17.6	82.4	0		
PHF	.688	.000	.930	.250	.938	.883	.500	.000	.000	.827	.000	.000	.000	.000	.000	.000	.750	.630	.000	.648	.940

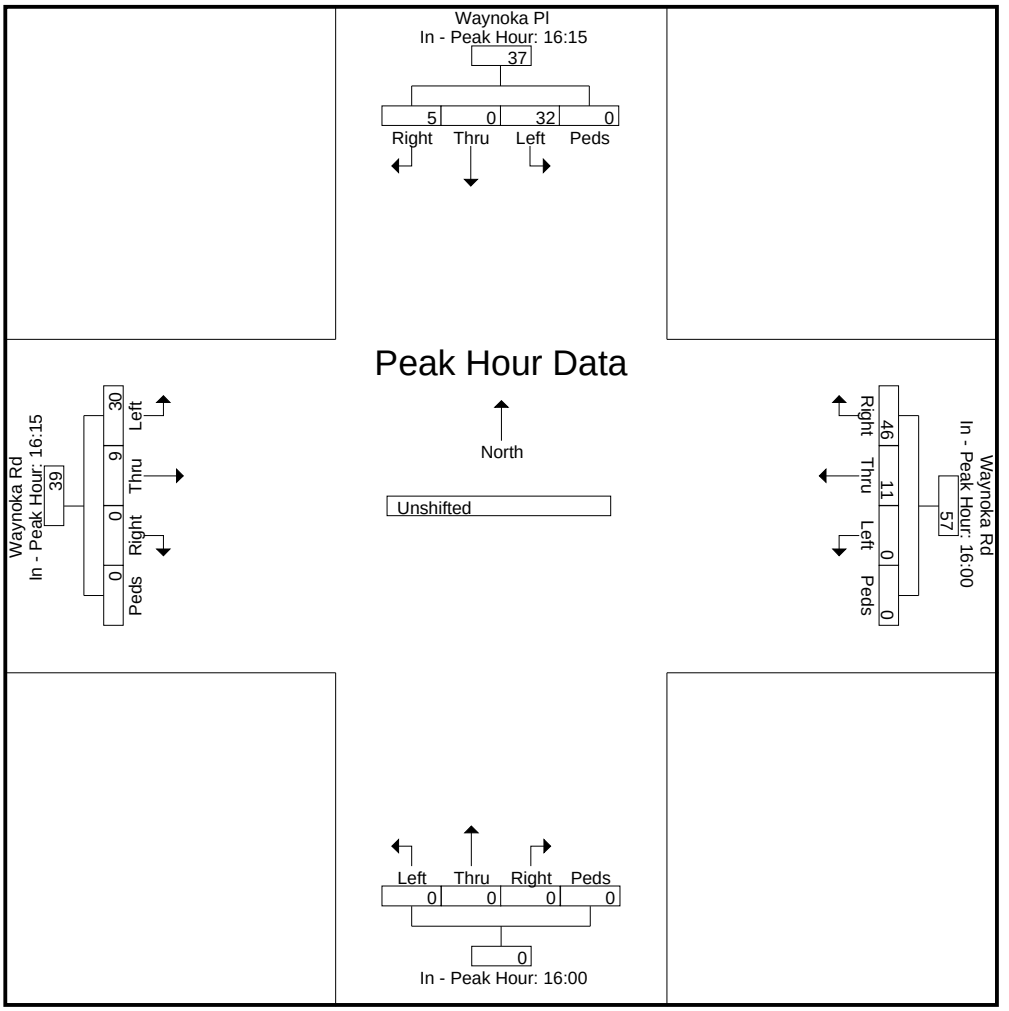


LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Waynoka Pl - Waynoka Rd PM
Site Code : S224370
Start Date : 6/9/2022
Page No : 3

	Waynoka Pl Southbound					Waynoka Rd Westbound					Northbound					Waynoka Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:15:00 PM					4:00:00 PM					4:00:00 PM					4:15:00 PM					
+0 mins.	3	0	**25**	0	**28**	31	6	0	0	37	0	0	0	0	0	0	7	19	0	26	
+5 mins.	2	0	24	0	26	**47**	**8**	0	0	**55**	0	0	0	0	0	0	5	23	0	28	
+10 mins.	**4**	0	21	**1**	26	44	3	0	0	47	0	0	0	0	0	0	6	34	0	40	
+15 mins.	2	0	23	0	25	43	4	0	0	47	0	0	0	0	0	0	**9**	**50**	0	**59**	
Total Volume	11	0	93	1	105	165	21	0	0	186	0	0	0	0	0	0	27	126	0	153	
% App. Total	10.5	0	88.6	1		88.7	11.3	0	0		0	0	0	0		0	17.6	82.4	0		
PHF	.688	.000	.930	.250	.938	.878	.656	.000	.000	.845	.000	.000	.000	.000	.000	.000	.750	.630	.000	.648	



Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	1999	56	0	0
Future Vol, veh/h	0	26	1999	56	0	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	78	78	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	2104	59	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1082	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	183	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	183	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	29	0
HCM LOS	D	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	183
HCM Lane V/C Ratio	-	-	0.182
HCM Control Delay (s)	-	-	29
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.6

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	33	25	48	96	19
Future Vol, veh/h	20	33	25	48	96	19
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	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	40	30	58	116	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	88	0	-	0	147	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1508	-	-	-	845	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1508	-	-	-	831	1007
Mov Cap-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1508	-	-	-	856
HCM Lane V/C Ratio	0.016	-	-	-	0.162
HCM Control Delay (s)	7.4	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	2744	68	0	0
Future Vol, veh/h	0	49	2744	68	0	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	78	78	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	63	2888	72	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1480	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	98	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	98	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	91.8	0
HCM LOS	F	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	98
HCM Lane V/C Ratio	-	-	0.641
HCM Control Delay (s)	-	-	91.8
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	3.1

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	19	35	102	107	19
Future Vol, veh/h	44	19	35	102	107	19
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	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	23	42	123	129	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	165	0	-	0	233	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1413	-	-	-	755	951
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1413	-	-	-	726	951
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	SB
HCM Control Delay, s	5.3	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1413	-	-	-	753
HCM Lane V/C Ratio	0.038	-	-	-	0.202
HCM Control Delay (s)	7.6	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	22	2887	129	0	0
Future Vol, veh/h	0	22	2887	129	0	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	83	83	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	3039	136	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1588	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	83	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	83	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	67.5	0
HCM LOS	F	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	83
HCM Lane V/C Ratio	-	-	0.319
HCM Control Delay (s)	-	-	67.5
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	1.2

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	25	21	165	90	13
Future Vol, veh/h	101	25	21	165	90	13
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	83	87	87	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	30	24	190	108	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	214	0	-	0	393	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	274	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1356	-	-	-	611	933
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	772	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1356	-	-	-	555	933
Mov Cap-2 Maneuver	-	-	-	-	555	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	772	-

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1356	-	-	-	585
HCM Lane V/C Ratio	0.09	-	-	-	0.212
HCM Control Delay (s)	7.9	0	-	-	12.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	74	1999	103	0	0
Future Vol, veh/h	0	74	1999	103	0	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	66	66	95	74	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	112	2104	139	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1122	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	172	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	172	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	58.4	0
HCM LOS	F	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	172
HCM Lane V/C Ratio	-	-	0.652
HCM Control Delay (s)	-	-	58.4
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	3.7

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	33	25	62	139	67
Future Vol, veh/h	67	33	25	62	139	67
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	60	83	83	76	73	59
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	40	30	82	190	114

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	112	0	-	0	335	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	264	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1478	-	-	-	660	991
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	780	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1478	-	-	-	609	991
Mov Cap-2 Maneuver	-	-	-	-	609	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	780	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1478	-	-	-	711
HCM Lane V/C Ratio	0.076	-	-	-	0.428
HCM Control Delay (s)	7.6	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	5	6	123	164	7
Future Vol, veh/h	6	5	6	123	164	7
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	68	73	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	10	12	181	225	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	437	232	239	0	-	0
Stage 1	232	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	577	807	1328	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	571	807	1328	-	-	-
Mov Cap-2 Maneuver	571	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1328	-	659	-	-
HCM Lane V/C Ratio	0.009	-	0.033	-	-
HCM Control Delay (s)	7.7	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	49	55	74	122	63
Future Vol, veh/h	56	49	55	74	122	63
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	80	81	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	98	110	93	151	126

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	527	214	277	0	-	0
Stage 1	214	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	512	826	1286	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	466	826	1286	-	-	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	741	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1286	-	585	-	-
HCM Lane V/C Ratio	0.086	-	0.359	-	-
HCM Control Delay (s)	8.1	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.6	-	-

Intersection	
Int Delay, s/veh	9.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	88	2744	102	0	0
Future Vol, veh/h	0	88	2744	102	0	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	75	75	95	80	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	117	2888	128	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1508	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	~ 94	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	~ 94	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	256.1	0
HCM LOS	F	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	94
HCM Lane V/C Ratio	-	-	1.248
HCM Control Delay (s)	-	-	256.1
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	8.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	19	35	112	142	58
Future Vol, veh/h	78	19	35	112	142	58
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	69	83	83	80	75	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	23	42	140	189	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	182	0	-	0	361	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	249	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1393	-	-	-	638	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1393	-	-	-	586	941
Mov Cap-2 Maneuver	-	-	-	-	586	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	671
HCM Lane V/C Ratio	0.081	-	-	-	0.424
HCM Control Delay (s)	7.8	0	-	-	14.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	4	186	166	5
Future Vol, veh/h	5	4	4	186	166	5
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	76	75	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	8	8	245	221	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	487	226	231	0	-	0
Stage 1	226	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	540	813	1337	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	536	813	1337	-	-	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1337	-	632	-	-
HCM Lane V/C Ratio	0.006	-	0.028	-	-
HCM Control Delay (s)	7.7	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	46	40	40	151	131	46
Future Vol, veh/h	46	40	40	151	131	46
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	82	82	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	80	80	184	160	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	550	206	252	0	-	0
Stage 1	206	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	496	835	1313	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	462	835	1313	-	-	-
Mov Cap-2 Maneuver	462	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	718	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	2.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1313	-	583	-	-
HCM Lane V/C Ratio	0.061	-	0.295	-	-
HCM Control Delay (s)	7.9	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	24	2887	131	0	0
Future Vol, veh/h	0	24	2887	131	0	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	76	76	95	94	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	3039	139	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	1589	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	7.14	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.92	-	-
Pot Cap-1 Maneuver	0	83	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	83	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	72.9	0
HCM LOS	F	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	83
HCM Lane V/C Ratio	-	-	0.38
HCM Control Delay (s)	-	-	72.9
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	1.5

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	25	21	166	92	15
Future Vol, veh/h	103	25	21	166	92	15
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	82	83	83	83	82	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	126	30	25	200	112	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	225	0	-	0	407	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1344	-	-	-	600	926
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	543	926
Mov Cap-2 Maneuver	-	-	-	-	543	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	766	-

Approach	EB	WB	SB
HCM Control Delay, s	6.4	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	578
HCM Lane V/C Ratio	0.093	-	-	-	0.227
HCM Control Delay (s)	8	0	-	-	13
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.9

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	268	105	0
Future Vol, veh/h	0	0	0	268	105	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	83	82	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	323	128	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	451	128	128	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	566	922	1458	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	566	922	1458	-	-	-
Mov Cap-2 Maneuver	566	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	734	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1458	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	2	266	103	2
Future Vol, veh/h	2	2	2	266	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	92	83	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	4	289	124	4

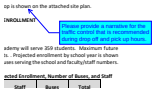
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	423	126	128	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	297	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	588	924	1458	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	586	924	1458	-	-	-
Mov Cap-2 Maneuver	586	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	754	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1458	-	717	-	-
HCM Lane V/C Ratio	0.003	-	0.011	-	-
HCM Control Delay (s)	7.5	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

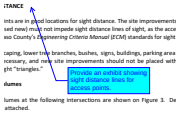
TIS_V1 redlines.pdf Markup Summary

lpackman (16)



Author: lpackman
Subject: Callout
Page Label: 3
Date: 6/28/2022 2:25:15 PM
Status:
Color:
Layer:
Space:

Please provide a narrative for the traffic control that is recommended during drop off and pick up hours.



Author: lpackman
Subject: Callout
Page Label: 5
Date: 7/5/2022 4:13:36 PM
Status:
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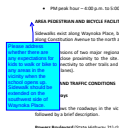
Space:

Provide an exhibit showing sight distance lines for access points.



Author: lpackman
Subject: Callout
Page Label: 4
Date: 7/5/2022 5:16:57 PM
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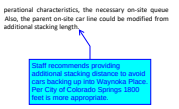
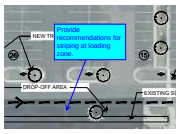
Space:

Please address whether there are any expectations for kids to walk or bike to any areas in the vicinity when the school opens up. Sidewalk should be extended on the southwest side of Waynoka Place.



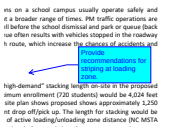
Author: lpackman
Subject: Callout
Page Label: 10
Date: 7/6/2022 1:14:13 PM
Status:
Color:
Layer:
Space:

Staff recommends providing additional stacking distance to avoid cars backing up into Waynoka Place. Per City of Colorado Springs 1800 feet is more appropriate.



Author: lpackman
Subject: Callout
Page Label: 21
Date: 7/6/2022 1:14:44 PM
Status:
Color:
Layer:
Space:

Provide recommendations for striping at loading zone.

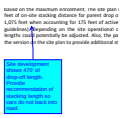


Author: lpackman
Subject: Callout
Page Label: 10
Date: 7/6/2022 1:14:56 PM
Status:
Color:
Layer:
Space:

Provide recommendations for striping at loading zone.

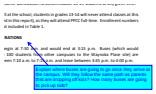
Author: lpackman
Subject: Callout
Page Label: 10
Date: 7/6/2022 10:01:59 AM
Status:
Color:
Layer:
Space:

Configuration of access points and signing and striping will be required with this application. Provide recommendations in the next submittal.



Author: lpackman
Subject: Callout
Page Label: 10
Date: 7/6/2022 10:24:05 AM
Status:
Color:
Layer:
Space:

Site development shows 470' of drop-off length. Provide recommendation of stacking length so cars do not back into road.



Author: lpackman
Subject: Callout
Page Label: 3
Date: 7/6/2022 10:51:03 AM
Status:
Color:
Layer:
Space:

Explain where buses are going to go once they arrive at the campus. Will they follow the same path as parents that are dropping off kids? How many buses are going to pick up kids?

Author: lpackman
Subject: Callout
Page Label: 3
Date: 7/6/2022 11:00:30 AM
Status:
Color:
Layer:
Space:

Will there be any restrictions with the flow of traffic? Cars making a left turn into the school will conflict with traffic making a right turn into the school. Provide mitigation for potential back up on the south side of Waynoka Place

---

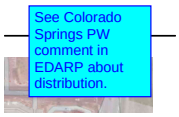
Author: lpackman
Subject: Callout
Page Label: 21
Date: 7/6/2022 11:00:58 AM
Status:
Color:
Layer:
Space:

Will there be any restrictions with the flow of traffic? Cars making a left turn into the school will conflict with traffic making a right turn into the school. Provide mitigation for potential back up on the south side of Waynoka Place

---

Author: lpackman
Subject: Callout
Page Label: 21
Date: 7/6/2022 11:05:27 AM
Status:
Color:
Layer:
Space:

Per site plan it appears the drop off area extends towards the access point. Remove inconsistencies between plans.

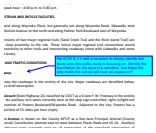


Author: lpackman
Subject: Text Box
Page Label: 18
Date: 7/6/2022 3:02:32 PM
Status:
Color:
Layer:
Space:

See Colorado Springs PW comment in EDARP about distribution.

Author: lpackman
Subject: Callout
Page Label: 1
Date: 7/6/2022 3:19:40 PM
Status:
Color:
Layer:
Space:

Add COM-2222



Author: lpackman
Subject: Callout
Page Label: 4
Date: 7/6/2022 9:27:30 AM
Status:
Color:
Layer:
Space:

Per ECM B.2.3 add a narrative to clearly identify the study area this traffic study is focusing on. Identify the boundaries for the area in a narrative. Are these the only roads the school will have an impact on?

Author: lpackman
Subject: Callout
Page Label: 6
Date: 7/6/2022 9:31:57 AM
Status:
Color:
Layer:
Space:

It appears figure 1 is a vicinity map. Figure 4 shows directional distribution for the area. Please describe in the narrative what zip codes students are expected to travel from.