



August 5, 2026

JRW Family Limited Partnership LLLP
5975 East Jamison Place
Centennial, CO 80112

Attn: Mr. Kurt Walker, M.A.
Principal Project Manager

Re: Traffic Compliance Letter Update
Pine Canyon – Planning Areas 2 & 3 (Rising Sun Drive and Founders Parkway)
Castle Rock, Colorado

Dear Mr. Walker,

This letter documents the results of a trip generation analysis to identify traffic compliance with the originally completed master traffic impact study for the proposed Planning Area 2 and 3 of the overall Pine Canyon development located along the west side of Founders Parkway (SH 86) at the Crimson Sky Drive and Rising Sun Drive intersections in Castle Rock, Colorado. In addition, this study has been updated to provide an operational, queueing, and turn lane evaluation of the Founders Parkway (SH-86) intersections with Crimson Sky Drive and Rising Sun Drive due to the internal street network change internal to Pine Canyon. The updated Pine Canyon site plan shows that more traffic will use the northern street connection that aligns with Crimson Sky Drive instead of Rising Sun Drive based on the proposed street network planned. Therefore, the previous trip distribution and project traffic assignment was updated so that an updated analysis could be performed.

SITE CHARACTERISTICS

Planning Area 2 of the overall Pine Canyon is currently proposed to contain 50 single family detached houses while Planning Area 3 is proposed with 85 single family detached houses for a total of 135 single family detached houses among the current application. A conceptual site plan for the current proposal of Pine Canyon Planning Areas 2 and 3 project is attached. There were 22 Planning Areas evaluated in the *Pine Canyon Traffic Impact Study* completed by Kimley-Horn and Associates in November 2021. The current proposal consists of Planning Areas 2 and 3 (PA-2 and PA-3) which were previously evaluated as a total of 145 single family detached dwelling units in the original traffic study. As such, the traffic generation of PA-2 and PA-3 with the current proposal of 135 single family detached houses will be compared to the 145 single family detached houses originally evaluated within the original master traffic impact study. Applicable documents from the master study are attached.

TRIP GENERATION COMPARISON

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.

For this study, Kimley-Horn used the ITE Trip Generation Manual fitted curve equations that apply to Single-Family Detached Housing (ITE Land Use Code 210) for traffic associated with this

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Twelfth Edition, Washington DC, 2025.

development. Trip generation for the currently proposed uses within Planning Areas 2 and 3 were calculated using the 12th Edition of the ITE Trip Generation Manual while the trip generation in the original master traffic study utilized the 10th Edition (current edition at the time) due to the project being initiated in 2018 and finalized in 2021. The following **Table 1** compares the trip generation of the applicable Planning Area 2 and 3 from the original master traffic impact study to the trip generation for the current proposals of Planning Area 2 and 3 (calculations attached).

Table 1 – Trip Generation Comparison: Original Study vs Current Proposal

Land Use and Size	Weekday Vehicles Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Original Study – ITE 10 th Edition: Pine Canyon Planning Areas 2 & 3							
Single-Family Detached Housing (ITE 210) – 145 Dwelling Units	1,370	26	75	101	85	51	136
Current Proposal – ITE 12 th Edition: Pine Canyon Planning Areas 2 & 3							
Single-Family Detached Housing (ITE 210) – 135 Dwelling Units	1,356	26	70	96	79	48	127
Net Difference in Trips	-14	0	-5	-5	-6	-3	-9

As shown in the table and based on ITE Trip Generation calculations, the Pine Canyon – Planning Areas 2 & 3 development is anticipated to generate approximately 1,356 weekday daily trips, with 96 of these trips occurring during the morning peak hour and 127 of these trips occurring during the afternoon peak hour. The previous traffic study with 145 single-family detached housing dwelling units using ITE 10th Edition equations anticipated these same Planning Areas 2 and 3 to generate 1,370 weekday daily trips, with 101 of these trips occurring during the morning peak hour and 136 of these trips occurring during the afternoon peak hour.

Based on these results, the current proposal is calculated to generate 14 fewer weekday daily trips, with five (5) fewer morning peak hour trips and nine (9) fewer afternoon peak hour trips when compared to what was evaluated for the same development area in the original traffic study. As such, it is believed this current proposal is in traffic compliance with the originally completed traffic study for the overall Pine Canyon area and that no further traffic analysis is needed.

UPDATED TRIP DISTRIBUTION AND PROJECT TRAFFIC ASSIGNMENT

With the internal street network configuration modification which will make the northern Pine Canyon access street more used by the public and residents, the project trip distribution and subsequent project traffic assignment was modified. It was calculated that over 90 percent of the traffic accessing Founders Parkway through these two intersections would use the roadway aligning with Crimson Sky Drive. Revised traffic study figures are attached to this letter. The revised **Figures 8** and **9** illustrate the modified project trip distribution for Zone 2 in 2025 and 2040 (previous study horizons) through the Founders Parkway/Crimson Sky Drive (#9) and Founders Parkway/ Rising Sun Drive (#12) intersections. Revised **Figures 10** and **11** illustrate the updated project traffic assignment in 2025 and 2040, respectively. The updated traffic volume totals to the previously evaluated 2025 and 2040 horizons are shown in revised **Figures 12** and **13** attached.

OPERATIONAL 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 1** shows the definition of level of service for signalized and unsignalized intersections.

Table 1 – Level of Service Definitions

Level of Service	Signalized Intersection Average Control Delay (sec/veh)	Unsignalized Intersection Average Control 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, Seventh Edition, Transportation Research Board, 2022.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. LOS for signalized intersections are defined for each approach and for the overall intersection.

KEY INTERSECTION OPERATIONAL ANALYSIS

Calculations for the operational level of service at the key intersections with the updated trip distribution and traffic assignment are attached. Existing peak hour factors were utilized in the analysis. The signalized intersection analysis utilizes the observed cycle lengths with optimized phasing and timing. Synchro traffic analysis software was used to analyze the signalized key intersections for HCM level of service. Lane geometry is provided by the recommended geometry for both the short-term 2025 and long-term 2040 analyses from the *Pine Canyon Traffic Impact Study*. The recommended geometry was analyzed to ensure that the change in traffic distribution complies with the previously recommended geometry provided in the original report. Applicable pages from the *Pine Canyon Traffic Impact Study* are attached.

Founders Parkway (SH-86) & Crimson Sky Drive (#9)

In the short-term 2025 background plus project analysis, the intersection of Founders Parkway (SH-86) & Crimson Sky Drive (#9) is planned to operate with a traffic signal and protected-permissive left-turn phasing with a left turn lane, two through lanes, and one right turn lane on the northbound and southbound approaches. The future eastbound approach is proposed to provide a left turn lane with left turn movements that will operate with permissive only left-turn phasing, one through lane, and a right turn lane. The westbound approach is proposed to be modified to provide a left turn lane with the left turn movements operating with permissive only left-turn phasing and a shared through/right turn lane. In the long-term 2040 background plus analysis, the signalized intersection of Founders Parkway (SH-86) & Crimson Sky Drive (#9) is anticipated to be improved to include three through lanes with the outside through lane being a shared through/right turn lane on the northbound and southbound Founders Parkway approaches.

With project traffic, the intersection is anticipated operate at an acceptable level of service of C or better throughout the 2040 horizon. Therefore, no modifications to the previously recommended intersection control and lane configuration are anticipated to be needed based on the increase in project traffic accessing the intersection and this operational level of service analysis. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 2 – Founders Parkway (SH-86) & Crimson Sky Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project	22.2	C	10.4	B
2040 Background Plus Project	17.0	B	12.5	B

Founders Parkway (SH-86) & Rising Sun Drive (#12)

In the short-term 2025 background plus project analysis, the signalized intersection of Founders Parkway (SH-86) & Rising Sun Drive (#12) will operate with permissive only left-turn phasing with a left turn lane, two through lanes, and one right turn lane on the northbound/southbound approaches. The eastbound/westbound approaches will provide a left turn lane with left turn movements that operate with permissive only left-turn phasing and a shared through/right turn lane. By the long-term 2040 horizon, Founders Parkway (SH-86) is expected to provide three through lanes in each direction through this Rising Sun Drive (#12) intersection. The outside through lane will act as a shared through/right turn lane on the northbound/southbound approaches.

With project traffic, the intersection is anticipated operate at an acceptable level of service of B or better throughout the 2040 horizon. Therefore, no modifications are anticipated to be needed at this intersection based on the updated project traffic volume assigned to this intersection and the operational level of service analysis. **Table 4** provides the LOS analysis results for this intersection.

Table 3 – Founders Parkway (SH-86) & Rising Sun Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project	11.9	B	6.0	A
2040 Background Plus Project	10.7	B	7.3	A

Therefore, the lane geometry that is recommended for both the short-term 2025 and long-term 2040 analyses from the *Pine Canyon Traffic Impact Study* adequately accommodate the change in traffic distribution.

CDOT AUXILIARY TURN LANE WARRANT & LENGTH EVALUATION

The threshold for requiring an access permit along CDOT roadways occurs when a new access is proposed or if project traffic is anticipated to increase an existing access's traffic volumes by more than 20 percent. Based on these two being new accesses, the addition of proposed west legs at the intersections of Founders Parkway/Crimson Sky Drive and Founders Parkway/Rising Sun Drive will require CDOT access permits for these intersections in association with this project. In the *Pine Canyon Traffic Impact Study*, CDOT access permits have been provided for both intersections in association with this project.

Auxiliary turn lanes along CDOT controlled highways are to be implemented based on volume threshold requirements set forth in the State Highway Access Code. Further, turn lane lengths should be designed based on the State Highway Access Code. SH-86 (Founders Parkway) is categorized as an R-A: Regional Highway with a speed limit of 50 miles per hour adjacent to the site. According to the State Highway Access Code for category Regional Highway (R-A) roadways, the turn lane warrants are as follows:

- A left turn deceleration lane and taper with storage length is required for any access with a projected peak hour ingress turning volume greater than 10 vehicles per hour (vph). The taper length will be included within the required deceleration length.
- A right turn deceleration lane and taper is required for any access with a projected peak hour ingress turning volume greater than 25 vph. The taper length will be included within the required deceleration length.
- Right turn acceleration lane and taper is required for any access with a projected peak hour right turning volume greater than 50 vph when the posted speed on the highway is greater than 40 mph. The taper length will be included within the required acceleration length.

Based on the traffic volume projections, turn lane requirements at the existing project access intersections along Founders Parkway (SH-86) are as follows:

Founders Parkway (SH-86) & Crimson Sky Drive (#9)

- A northbound left turn deceleration lane **is** warranted based on projected 2025 background plus project traffic being 62 northbound left turns during the peak hour and the threshold being 10 vph. Since Founders Parkway has a category of R-A, the left turn lane requirement is storage length plus deceleration length, with taper length included within the required deceleration length. The storage length required is one (1) foot per vehicle. Founders Parkway should be reconstructed to include a northbound left-turn lane in place of the existing median. Based on a speed limit of 50 mph and a projected 62 vehicles in the peak hour, the required total northbound left turn lane length is 562 feet (a 320-foot deceleration lane, plus a 180-foot taper length (15 to 1 ratio), plus a storage length of 62 feet). The recommended left turn lane from the *Pine Canyon Traffic Impact Study* provides approximately 370 feet of lane length plus an approximate 180-foot taper and meets CDOT Length Requirements.
- A southbound right turn deceleration lane **is** warranted based on projected 2025 background plus project traffic being 96 southbound right turns during the peak hour and the threshold being 25 vph. Since Founders Parkway has a category of R-A, the right turn lane requirement is deceleration length with taper length included within the required deceleration length. Based on a speed limit of 50 mph, the required southbound right turn deceleration length is 500 feet (a 320-foot deceleration length plus a 180-foot taper length, at a 15 to 1 ratio). The recommended southbound right turn lane from the *Pine Canyon Traffic Impact Study* provides approximately 320 feet of lane length plus an approximate 180-foot taper and meets CDOT Length Requirements.
- An acceleration lane from the eastbound to southbound right turn **is** warranted based on projected 2025 background plus project traffic being 62 eastbound right turns during the peak hour and the threshold being 50 vph. Since Founders Parkway has a category of R-A, the acceleration lane requirement is acceleration length with taper length included within the required acceleration length. Based on a speed limit of 50 mph, the required eastbound to southbound right turn acceleration length is 760 feet (580-foot acceleration length plus a 180-foot taper length, at a 15 to 1 ratio). The recommended right turn acceleration lane from eastbound to southbound from the *Pine Canyon Traffic Impact Study* provides approximately 580 feet of lane length plus an approximate 180-foot taper and meets CDOT Length Requirements.

Founders Parkway (SH-86) & Rising Sun Drive (#12)

- A northbound left turn deceleration lane **is not** warranted based on projected 2040 background plus project traffic being 7 northbound left turns during the peak hour and the threshold being 10 vph. In the original *Pine Canyon Traffic Impact Study*, it is recommended that a northbound left turn lane be provided with a 345-foot deceleration lane with a 180-foot taper. Even though the left turn lane is not warranted, it is recommended that a northbound

left turn lane occur at this intersection for traffic signal efficiency as well as for safety reasons at this intersection.

- A southbound right turn deceleration lane **is not** warranted based on projected 2040 background plus project traffic being 7 southbound right turns during the peak hour and the threshold being 25 vph. In the original *Pine Canyon Traffic Impact Study*, it is recommended that a southbound right turn lane be provided with a 320-foot deceleration lane with a 180-foot taper. Even though the right turn lane is not warranted, it is recommended to be constructed with the project to accommodate the future widening of Founders Parkway to three through lanes and due to the high through volume along southbound Founders Parkway today.
- A southbound acceleration lane from the eastbound right turn to southbound through **is not** warranted based on projected 2025 background plus project traffic being 7 eastbound right turns during the peak hour and the threshold being 50 vph.

VEHICLE QUEUING ANALYSIS

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 6** with calculations provided within the level of service operational sheets for signalized intersections are attached. The proposed turn lane lengths are provided by the recommended geometry for both the short-term 2025 and long-term 2040 analysis from the *Pine Canyon Traffic Impact Study*. The recommended geometry was analyzed to ensure that the change in traffic distribution complies with the previously recommended geometry provided in the original report.

Table 4 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	2025 Proposed Turn Lane Length	2025 Calculated Queue (AM/PM)	2025 Recommended Length	2040 Proposed Turn Lane Length	2040 Calculated Queue (AM/PM)	2040 Recommended Length
SH-86 & Crimson Dr (#9)						
Eastbound Left	150'	168' /86'	175'	150'	162'/103'	175'
Eastbound Right	150'	25'/25'	150'	150'	25'/25'	150'
Westbound Left	275'	25'/26'	275'	275'	25'/25'	275'
Northbound Left	370'	25'/25'	370'	370'	29'/94'	370'
Northbound Right	425'	25'/25'	425'	C	C	C
Southbound Left	525'	25'/25'	525'	525'	28'/56'	525'
Southbound Right	320'	25'/25'	320'	C	C	C
SH-86 & Rising Sun Dr (#12)						
Eastbound Left	150'	25'/25'	150'	150'	25'/25'	150'
Westbound Left	C	107'/94'	C	C	107'/91'	C
Westbound Through/Right	C	193'/91'	C	C	197'/135'	C
Northbound Left	345'	25'/25'	345'	345'	25'/25'	345'
Northbound Right	475'	25'/25'	475'	C	C	C
Southbound Left	525'	42'/73'	525'	525'	83'/243'	525'
Southbound Right	320'	25'/25'	320'	C	C	C

C = Continuous Lane; **Red** Text = Turn Lane Constraint; **Blue** Text = Recommendation, **Green** Text = Changed to be Through/right turn lane in *Pine Canyon Traffic Impact Study*

The vehicle queues are anticipated to remain within the existing or recommended turn lane lengths throughout the 2040 horizon except the eastbound left turn lane queue at SH-86 and Crimson Drive (#9). It is recommended that the eastbound left turn lane at the SH-86 and Crimson Drive (#9) intersection be extended from the previously recommended 150 feet to 175 feet of lane length.

IMPROVEMENT SUMMARY

Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control are attached as shown in **Figures 14 and 15 – Revised**.

SITE ACCESS AND IMPROVEMENTS

As part of the project, the west leg of the existing Rising Sun Drive and Founders Parkway (SH-86) intersection will be constructed and provide direct access to the currently proposed Planning Area 3. The extension of Rising Sun Drive to the west of Founders Parkway will bisect Planning Area 3. Likewise, the west leg of the existing Crimson Sky Drive and Founders Parkway (SH-86) intersection will be constructed as part of the project and provide additional access to both Planning Areas 2 and 3. The intersection of Rising Sun Drive and Founders Parkway (SH-86) is currently signalized. It is understood that the Town of Castle Rock plans to install a traffic signal at the intersection of Crimson Sky Drive and Founders Parkway (SH-86) soon. With the proposal, the new west leg of the Rising Sun Drive and Founders Parkway (SH-86) intersection will provide access only to PA-2 and PA-3. Whereas the original master plan included access to PA-4 and PA-5. However, the improvements outlined below and in the original master traffic study remain applicable.

With access being provided to the west leg of the Crimson Sky Drive and Founders Parkway (SH-86) as part of this application, the following improvements to the intersection will be necessary and are mostly consistent with the original master traffic study:

- A three-lane eastbound approach consisting of a 175-foot left turn, one through lane, and a 150-foot right turn lane,
- A 370-foot northbound left turn lane plus an 180-foot taper,
- A 320-foot southbound right turn lane plus an 180-foot taper, and
- A southbound acceleration lane extending from eastbound right turn movements consisting of 580 feet of lane length plus an 180-foot taper.

With direct access being provided to the west leg of the Rising Sun Drive and Founders Parkway (SH-86) as part of Pine Canyon Planning Areas 2 and 3, the following improvements to the intersection will be necessary consistent with the original master traffic study:

- A two-lane eastbound approach consisting of a 150-foot left turn and shared through/right turn lane,
- A 345-foot northbound left turn lane plus an 180-foot taper, and
- A 320-foot southbound right turn lane plus an 180-foot taper.

CONCLUSIONS

Based on the traffic analysis presented in this report, Kimley-Horn and Associates, Inc. believes that Pine Canyon – Planning Areas 2 & 3 is in traffic compliance with the originally completed master traffic impact study and that the project will be successfully incorporated into the existing and future roadway network. The following outlines the conclusions from our traffic evaluation:

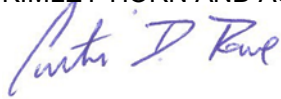
- The Pine Canyon Planning Areas 2 & 3 site is proposed to include 135 Single-Family Detached Housing dwelling units. This site would be expected to generate 1,356 weekday daily trips, with 96 of these trips occurring during the morning peak hour and 127 of these trips occurring during the afternoon peak hour.
- The current proposal would be expected to generate approximately 14 fewer weekday daily trips, with five (5) fewer morning peak hour trips, and nine (9) fewer afternoon peak hour trips than the use evaluated in the original master traffic study for the same development Planning Areas 2 and 3.

- With Planning Areas 2 & 3 initiating the west legs at both the intersections of Crimson Sky Drive/Founder Parkway and Rising Sun Drive/Founders Parkway, the improvements identified as summarized in this traffic letter should be implemented at these two intersections. It is understood that the Town of Castle Rock plans to install a traffic signal at the intersection of Crimson Sky Drive and Founders Parkway (SH-86) soon.

If you have any questions or require anything further, please feel free to call me at (303) 228-2304.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



Curtis D. Rowe, P.E., PTOE
Senior Vice President



Conceptual Site Plan



PA-2
MINIMUM LOT SIZE
DEPICTED IS
60' X 120'

PA-3
MINIMUM LOT SIZE
DEPICTED IS
50' X 120'

Master Traffic Study Excerpts

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

Pine Canyon

Douglas County, Colorado

Prepared for

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One Tabor Center, Suite 3000
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November 2021

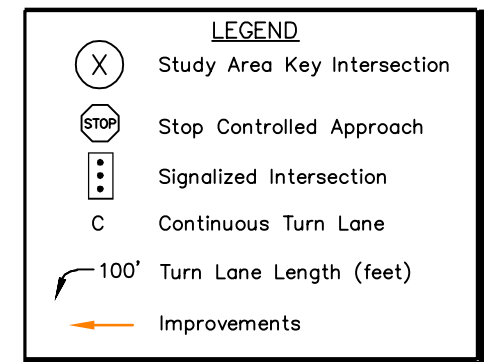
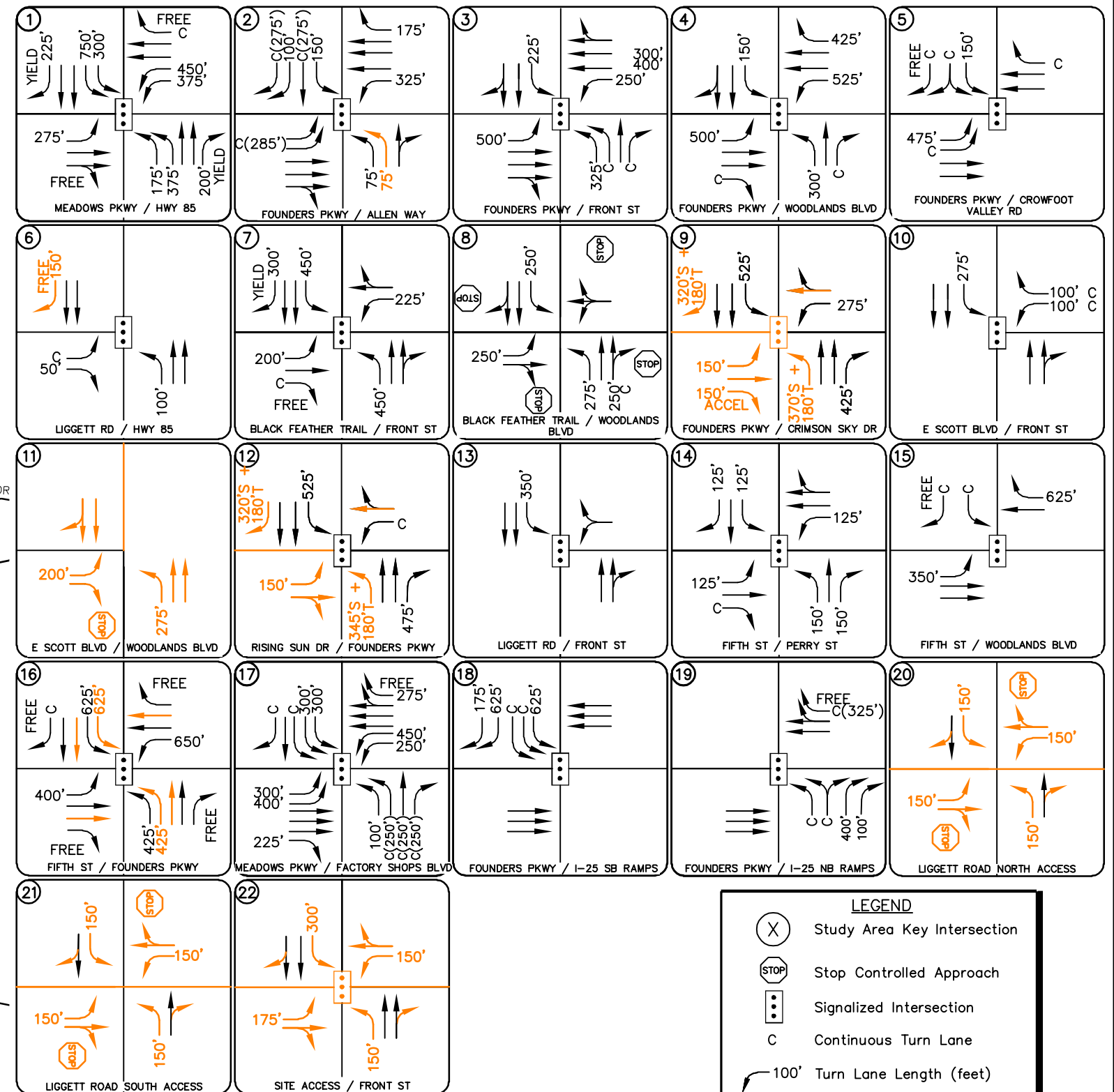
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

elementary school is proposed to be located near the center of the project site and it will serve the anticipated residents of Pine Canyon and Pioneer Ranch, 50 percent internal capture trips are expected from the residents of these communities. It is believed that 50 percent of external traffic being assigned to the elementary school is appropriate as elementary schools draw more localized traffic. These internal capture trips are shared trips from vehicles already within the internal street network. These shared trips reduce the number of total external trips. The total site generated external trips, Zones 1 and 2, are anticipated at 22,052 external daily trips, with 2,110 of these trips occurring during the morning peak hour and 2,109 trips occurring during the afternoon peak hour. **Table 1** provides the estimated trip generation for the project. The trip generation worksheets/calculations are included in **Appendix C**.

Table 1 – Pine Canyon Project Traffic Generation

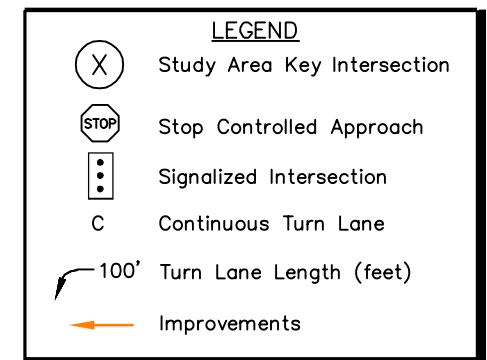
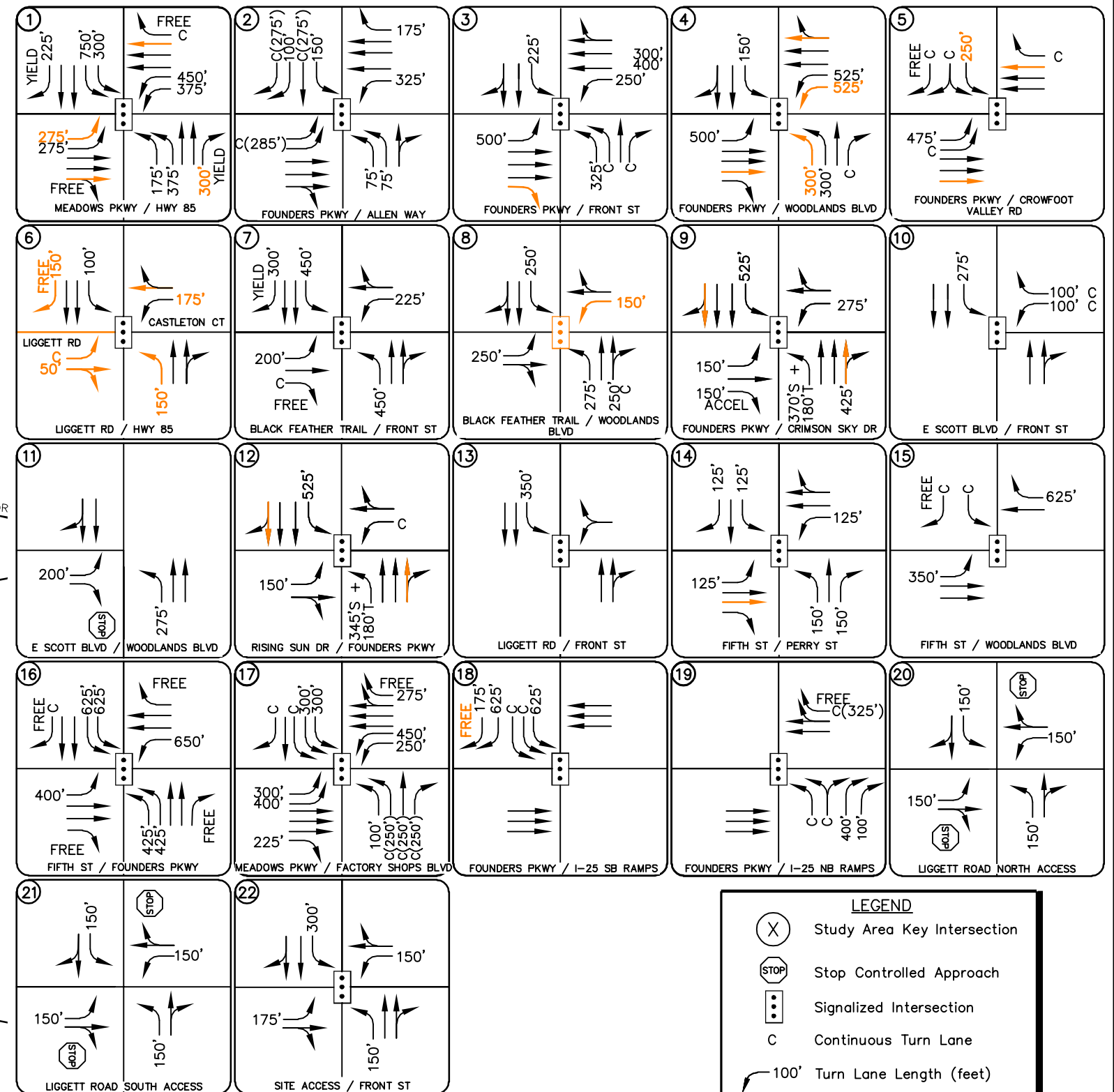
Zone	Land Use	Trips / Trip Rates	Weekday Vehicle Trips						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
1	Mid-Rise Multifamily Housing (ITE 221) – 600 Dwelling Units	Trips	3,270	51	147	198	151	96	247
		Trip Rates	Eqn*	26%	74%	Eqn*	61%	39%	Eqn*
	Industrial Park (ITE Code 130) – 100,000 Square Feet	Trips	338	32	8	40	8	32	40
		Trip Rates	3.37	81%	19%	0.4	21%	79%	0.4
	Office Park (ITE Code 750) – 500,000 Square Feet	Trips	5,536	641	79	720	37	498	535
		Trip Rates	11.07	89%	11%	1.44	75	93%	1.07
	Park and Ride (Count Data) – 350 Spaces	Trips	580	45	30	75	50	95	145
		Trip Rates	1.66	60%	40%	0.214	34%	66%	0.414
Total Trips for Zone 1			9,724	769	264	1,033	246	721	967
2	Single-Family Detached Housing (ITE Code 210) – 800 Units	Trips	7,044	143	430	573	471	277	748
		Trip Rates	Eqn*	25%	75%	Eqn*	63%	37%	Eqn*
	Mid-Rise Multifamily Housing (ITE Code 221) – 400 Units	Trips	2,180	35	98	133	102	66	168
		Trip Rates	Eqn*	26%	74%	Eqn*	61%	39%	Eqn*
	Hotel (ITE Code 310) – 250 Rooms	Trips	2,396	71	49	120	82	79	161
		Trip Rates	Eqn*	59%	41%	Eqn*	51%	49%	Eqn*
	Elementary School (ITE 520) – 750 Students	Trips	1,418	272	230	502	61	67	128
		Trip Rates	1.89	54%	46%	0.67	48%	52%	0.17
Elementary School Trips after Internal Capture			710	136	115	251	31	34	65
Total Trips for Zone 2			13,038	521	807	1,328	716	489	1,205
Total Site Generated Trips			22,762	1,290	1,071	2,361	962	1,210	2,172
Total External Trips after Internal Capture			22,052	1,154	956	2,110	932	1,177	2,109

Eqn* = see Appendix for use of fitted curve equation



PINE CANYON
DOUGLAS COUNTY, CO
2025 RECOMMENDED LANE CONFIGURATIONS AND CONTROL

FIGURE 14



PINE CANYON
DOUGLAS COUNTY, CO
2040 RECOMMENDED LANE CONFIGURATIONS AND CONTROL

FIGURE 15

Project Pine Canyon
 Subject Trip Generation for Single-Family Detached Housing
 Designed by JRP Date 03-34-2020 Job No. 096628001
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independant Variable - Dwelling Units (X)

$$X = 800$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 3)

Average Weekday	Directional Distribution:	25% ent.	75% exit.
(T) = 0.71 (X) + 4.80	T = 573	Average Vehicle Trip Ends	
(T) = 0.71 * (800) + 4.80	143 entering	430	exiting
	143 + 430 = 573		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 4)

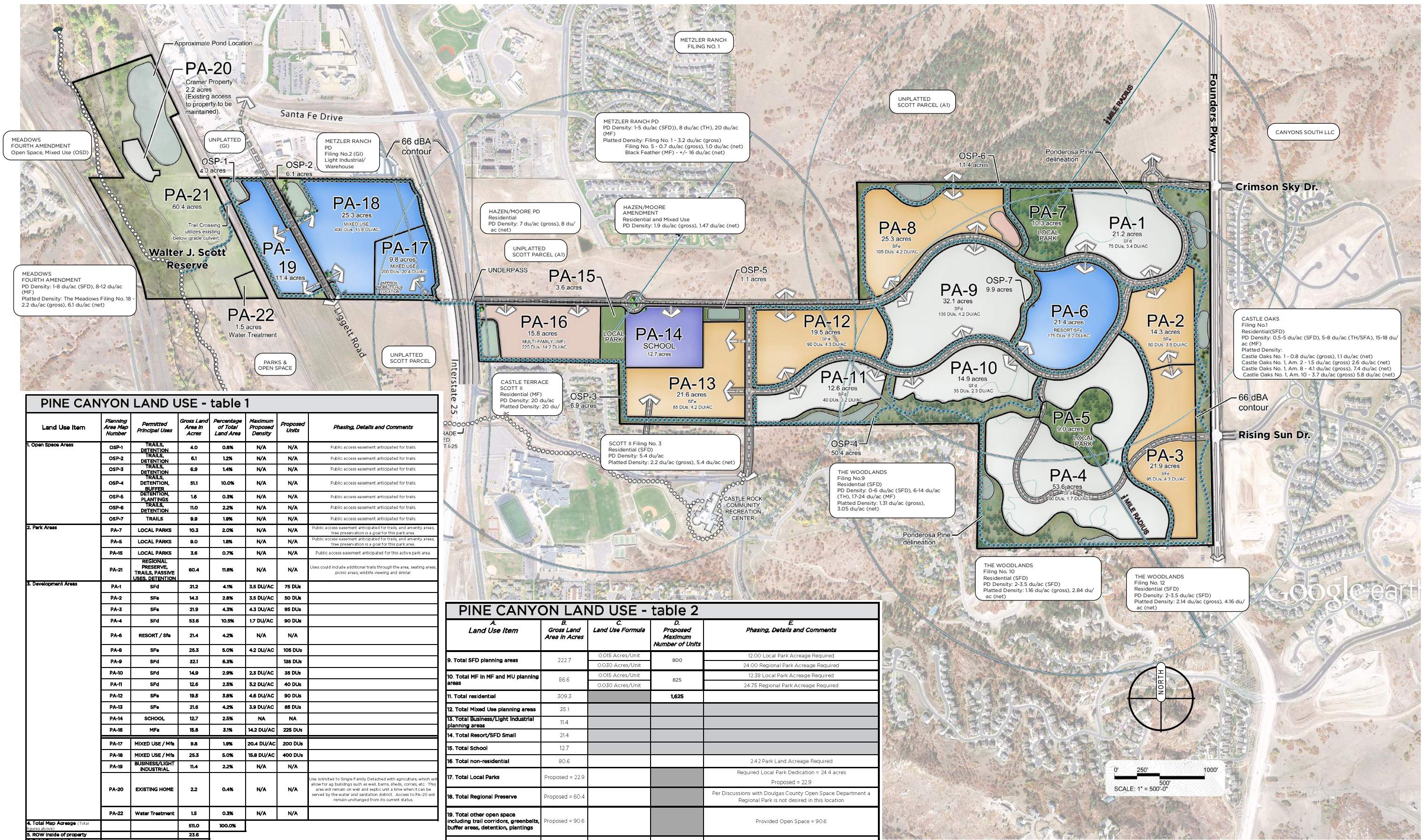
Average Weekday	Directional Distribution:	63% ent.	37% exit.
Ln(T) = 0.96 Ln(X) + 0.20	T = 748	Average Vehicle Trip Ends	
Ln(T) = 0.96 * Ln(800) + 0.20	471 entering	277	exiting
	471 + 277 = 748		

Peak Hour of Generator, Saturday (200 Series Page 8)

Average Saturday	Directional Distribution:	54% ent.	46% exit.
(T) = 0.84 (X) + 17.99	T = 690	Average Vehicle Trip Ends	
(T) = 0.84 * (800) + 17.99	373 entering	317	exiting
	373 + 317 = 690		

Weekday (200 Series Page 2)

Average Weekday	Directional Distribution:	50% entering, 50% exiting
Ln(T) = 0.92 Ln(X) + 2.71	T = 7044	Average Vehicle Trip Ends
Ln(T) = 0.92 * Ln(800) + 2.71	3522 entering	3522 exiting
	3522 + 3522 = 7044	



PINE CANYON LAND USE - table 1

Land Use Item	Planning Area Map Number	Permitted Principal Uses	Gross Land Area in Acres	Percentage of Total Land Area	Maximum Proposed Density	Proposed Units	Phasing, Details and Comments
1. Open Space Areas	OSP-1	TRAILS, DETENTION	4.0	0.8%	N/A	N/A	Public access easement anticipated for trails
	OSP-2	TRAILS, DETENTION	6.1	1.2%	N/A	N/A	Public access easement anticipated for trails
	OSP-3	TRAILS, DETENTION	6.9	1.4%	N/A	N/A	Public access easement anticipated for trails
	OSP-4	TRAILS, DETENTION, BUFFER	51.1	10.0%	N/A	N/A	Public access easement anticipated for trails
	OSP-5	DETENTION PLANTINGS	1.6	0.3%	N/A	N/A	Public access easement anticipated for trails
	OSP-6	TRAILS, DETENTION	11.0	2.2%	N/A	N/A	Public access easement anticipated for trails
	OSP-7	TRAILS	9.9	1.9%	N/A	N/A	Public access easement anticipated for trails
2. Park Areas	PA-7	LOCAL PARKS	10.3	2.0%	N/A	N/A	Public access easement anticipated for trails, and amenity areas, tree preservation is a goal for this park area.
	PA-5	LOCAL PARKS	9.0	1.8%	N/A	N/A	Public access easement anticipated for trails, and amenity areas, tree preservation is a goal for this park area.
	PA-15	LOCAL PARKS	3.6	0.7%	N/A	N/A	Public access easement anticipated for this active park area.
	PA-21	REGIONAL PRESERVE, TRAILS, PASSIVE USES, DETENTION	60.4	11.8%	N/A	N/A	Uses could include additional trails through the area, seating areas, picnic areas, wildlife viewing and similar.
3. Development Areas	PA-1	SF	21.2	4.1%	3.5 DU/AC	75 DUs	
	PA-2	SF	14.3	2.8%	3.5 DU/AC	50 DUs	
	PA-3	SF	21.9	4.3%	4.3 DU/AC	95 DUs	
	PA-4	SF	53.6	10.5%	1.7 DU/AC	90 DUs	
	PA-6	RESORT / SF	21.4	4.2%	N/A	N/A	
	PA-8	SF	25.3	5.0%	4.2 DU/AC	105 DUs	
	PA-9	SF	32.1	6.3%		135 DUs	
	PA-10	SF	14.9	2.9%	2.3 DU/AC	35 DUs	
	PA-11	SF	12.6	2.5%	3.2 DU/AC	40 DUs	
	PA-12	SF	19.5	3.8%	4.6 DU/AC	90 DUs	
	PA-13	SF	21.6	4.2%	3.9 DU/AC	85 DUs	
	PA-14	SCHOOL	12.7	2.5%	NA	NA	
	PA-16	MF	15.8	3.1%	14.2 DU/AC	225 DUs	
	PA-17	MIXED USE / Mf	9.8	1.9%	20.4 DU/AC	200 DUs	
	PA-18	MIXED USE / Mf	25.3	5.0%	15.8 DU/AC	400 DUs	
	PA-19	BUSINESS/LIGHT INDUSTRIAL	11.4	2.2%	N/A	N/A	
	PA-20	EXISTING HOME	2.2	0.4%	N/A	N/A	Use is limited to Single Family Detached with agriculture, which will allow for as buildings such as well, barns, sheds, corrals, etc. This area will remain on well and septic unit a time when it can be served by the water and sanitation district. Access to PA-20 will remain unchanged from its current status.
	PA-22	Water Treatment	1.5	0.3%	N/A	N/A	
4. Total Map Acreage (Total figures above)			511.0	100.0%			
5. ROW inside of property			23.6				
6. Total Property Acreage			534.6				

PINE CANYON LAND USE - table 2

A. Land Use Item	B. Gross Land Area in Acres	C. Land Use Formula	D. Proposed Maximum Number of Units	E. Phasing, Details and Comments
9. Total SFD planning areas	222.7	0.015 Acres/Unit 0.030 Acres/Unit	800	12.00 Local Park Acreage Required 24.00 Regional Park Acreage Required
10. Total MF in MF and MU planning areas	86.6	0.015 Acres/Unit 0.030 Acres/Unit	825	12.39 Local Park Acreage Required 24.75 Regional Park Acreage Required
11. Total residential	309.3		1,625	
12. Total Mixed Use planning areas	35.1			
13. Total Business/Light Industrial planning areas	11.4			
14. Total Resort/SFD Small	21.4			
15. Total School	12.7			
16. Total non-residential	80.6			2.42 Park Land Acreage Required
17. Total Local Parks	Proposed = 22.9			Required Local Park Dedication = 24.4 acres Proposed = 22.9
18. Total Regional Preserve	Proposed = 60.4			Per Discussions with Douglas County Open Space Department a Regional Park is not desired in this location
19. Total other open space including trail corridors, greenbelts, buffer areas, detention, plantings	Proposed = 90.6			Provided Open Space = 90.6
20. Total Open Space	173.9			

PINE CANYON

PLANNED DEVELOPMENT PLAN - 3-25-2021

- TRANSITION TO ADJACENT DEVELOPMENT: Pine Canyon will match or exceed the lot size within 300' of any existing adjacent Single Family Dwelling Unit along the southern property boundary.
- Streets and access points are conceptual in nature.



Trip Generation Worksheet

Pine Canyon PA 2 & 3 Daily Trip Generation Calculations

TRIP GENERATION CHARACTERISTICS						DIRECTIONAL DISTRIBUTION		NEW EXTERNAL VEHICLE TRIPS		
	Land Use + Code	Source	Scale	ITE Unit	Equation/Rate	Entering %	Exiting %	Net New In	Out	Total
1	(210) Single-Family Detached Housing	ITE 12th Ed	135	DU	$T = 8.07(X) + 265.45$	50%	50%	678	678	1,356

Pine Canyon PA 2 & 3 AM Peak Hour Trip Generation Calculations

TRIP GENERATION CHARACTERISTICS						DIRECTIONAL DISTRIBUTION		NEW EXTERNAL VEHICLE TRIPS		
	Land Use + Code	Source	Scale	ITE Unit	Equation/Rate	Entering %	Exiting %	Net New In	Out	Total
1	(210) Single-Family Detached Housing	ITE 12th Ed	135	DU	$T = 0.67(X) + 5.59$	27%	73%	26	70	96

Pine Canyon PA 2 & 3 PM Peak Hour Trip Generation Calculations

TRIP GENERATION CHARACTERISTICS						DIRECTIONAL DISTRIBUTION		NEW EXTERNAL VEHICLE TRIPS		
	Land Use + Code	Source	Scale	ITE Unit	Equation/Rate	Entering %	Exiting %	Net New In	Out	Total
1	(210) Single-Family Detached Housing	ITE 12th Ed	135	DU	$\ln(T) = 0.92 \ln(X) + 0.33$	62%	38%	79	48	127

Figures



1 MEADOWS PKWY / HWY 85	2 FOUNDERS PKWY / ALLEN WAY	3 FOUNDERS PKWY / FRONT ST	4 FOUNDERS PKWY / WOODLANDS BLVD	5 FOUNDERS PKWY / CROWFOOT VALLEY RD
6 LIGGETT RD / HWY 85	7 BLACK FEATHER TRAIL / FRONT ST	8 BLACK FEATHER TRAIL / WOODLANDS BLVD	9 FOUNDERS PKWY / CRIMSON SKY DR	10 E SCOTT BLVD / FRONT ST
11 E SCOTT BLVD / WOODLANDS BLVD	12 RISING SUN DR / FOUNDERS PKWY	13 LIGGETT RD / FRONT ST	14 FIFTH ST / PERRY ST	15 FIFTH ST / WOODLANDS BLVD
16 FIFTH ST / FOUNDERS PKWY	17 MEADOWS PKWY / FACTORY SHOPS BLVD	18 FOUNDERS PKWY / I-25 SB RAMPs	19 FOUNDERS PKWY / I-25 NB RAMPs	20 LIGGETT ROAD NORTH ACCESS
21 LIGGETT ROAD SOUTH ACCESS	22 FRONT STREET SITE ACCESS			

 UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

LEGEND

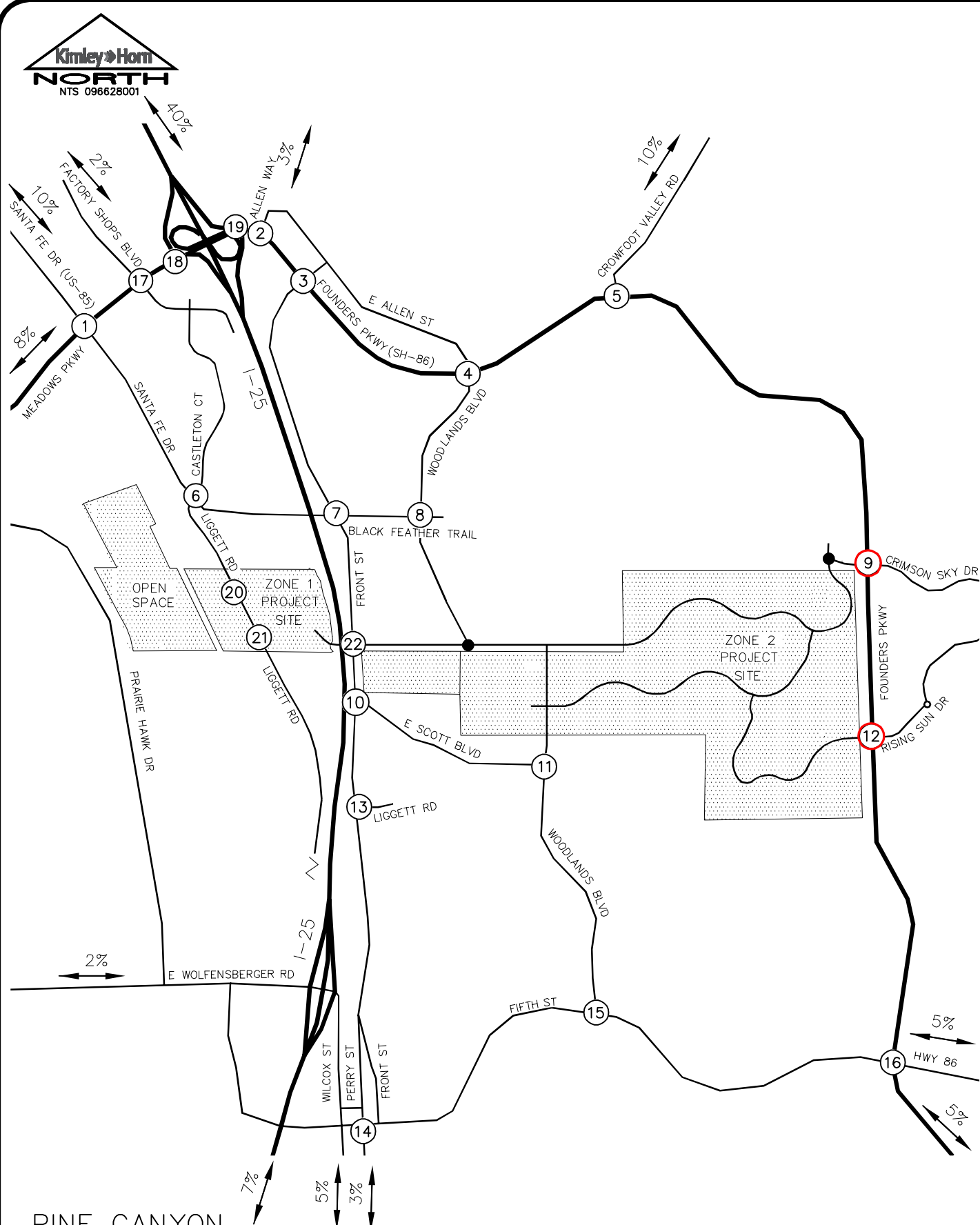
● Study Area Key Intersection

● Analyzed Intersection

XX%[XX%] Entering[Exiting] Trip Distribution Percentage

PINE CANYON
DOUGLAS COUNTY, CO
ZONE 2 – 2025 PROJECT TRIP DISTRIBUTION – REVISED

FIGURE 8 – REVISED



1 MEADOWS PKWY / HWY 85 8% 2% 2% 3% 5%	2 FOUNDERS PKWY / ALLEN WAY 1% 1% 40%	3 FOUNDERS PKWY / FRONT ST 2% 28% 13%	4 FOUNDERS PKWY / WOODLANDS BLVD 8% 20% 8% 20%	5 FOUNDERS PKWY / CROWFOOT VALLEY RD 3% 7% 3% 8%
6 SANTA FE DR / CASTLETON CT 5% 15% 5%	7 BLACK FEATHER TRAIL / FRONT ST 12% 3% 10% 5%	8 BLACK FEATHER TRAIL / WOODLANDS BLVD 23% 13% 13% 23%	9 FOUNDERS PKWY / CRIMSON SKY DR 14% 1% 14% 9%	10 E SCOTT BLVD / FRONT ST 4% 4%
11 E SCOTT BLVD / WOODLANDS BLVD 13% 13%	12 RISING SUN DR / FOUNDERS PKWY 1% 9% 1% 9%	13 LIGGETT RD / FRONT ST 4% 4%	14 FIFTH ST / PERRY ST 3% 11% 3% 1%	15 FIFTH ST / WOODLANDS BLVD 10% 3% 3% 3%
16 FIFTH ST / FOUNDERS PKWY 3% 4% 3% 3% 2%	17 MEADOWS PKWY / FACTORY SHOPS BLVD 2% 2% 5% 5%	18 FOUNDERS PKWY / I-25 SB RAMP 5% 35% 5%	19 FOUNDERS PKWY / I-25 NB RAMP 40% 5%	20 LIGGETT ROAD NORTH ACCESS 1% 4% 1%
21 LIGGETT ROAD SOUTH ACCESS 1% 1%	22 FRONT STREET SITE ACCESS 17% 5% 4%			

UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

LEGEND

● Study Area Key Intersection

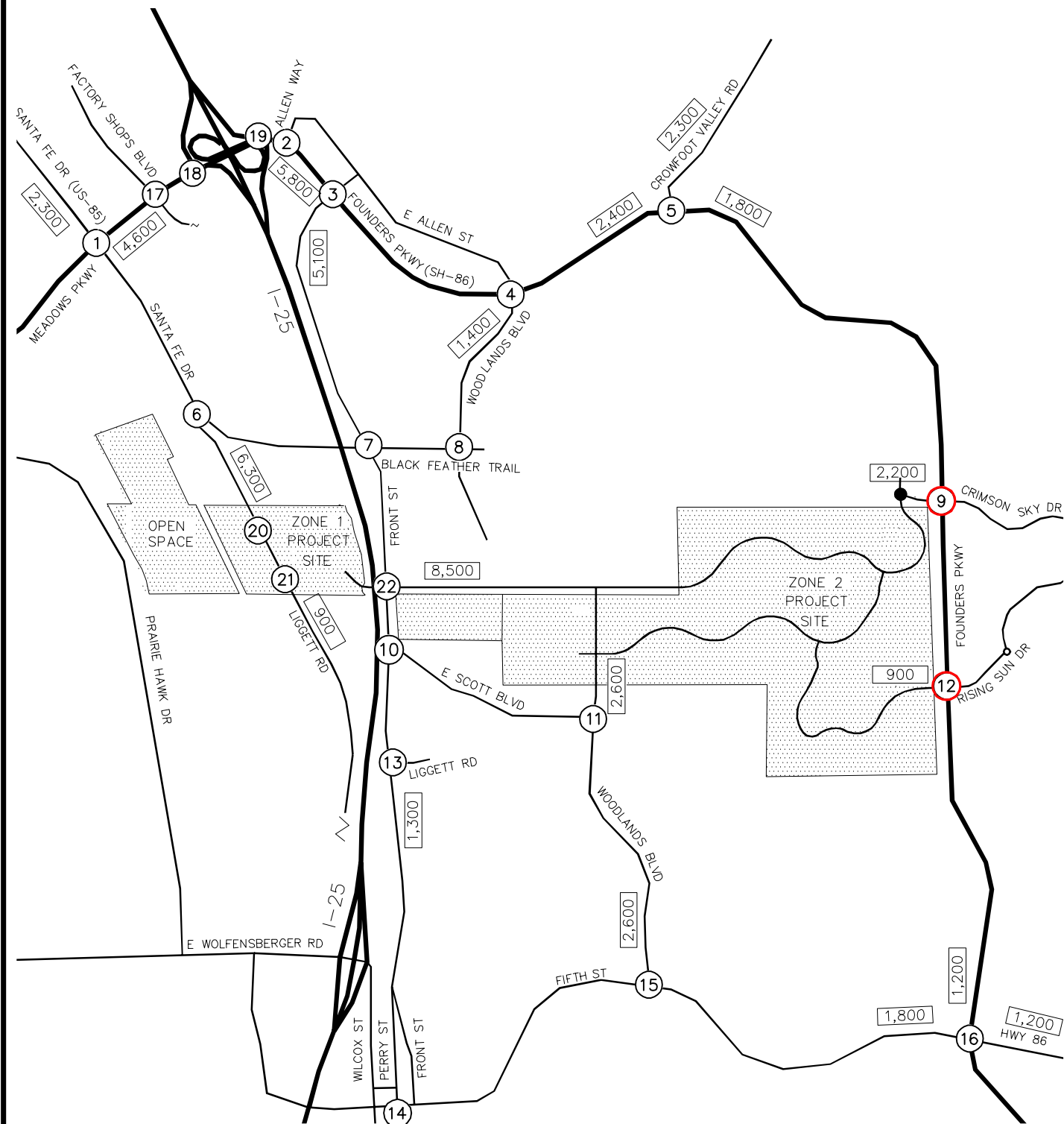
● Analyzed Intersection

XX%[XX%]

Entering[Exiting] Trip Distribution Percentage

FIGURE 9 – REVISED

PINE CANYON
DOUGLAS COUNTY, CO
ZONE 2 – 2040 PROJECT TRIP DISTRIBUTION – REVISED



1 ← 116(94) ← 21(14) ← 300(153) 12(21) → 81(54) ↘ MEADOWS PKWY / HWY 85	2 ↘ 15(5) ↘ 4(7) ↗ 7(5) ← 282(268) 5(14) ↗ 212(265) → FOUNDERS PKWY / ALLEN WAY	3 ← 16(16) ← 55(36) 31(55) → 185(217) ↘ 234(236) ↗ 17(16) ↗ FOUNDERS PKWY / FRONT ST	4 ← 55(36) ↘ 89(46) 31(55) → 47(86) ↗ FOUNDERS PKWY / WOODLANDS BLVD	5 ↘ 89(46) ↘ 27(48) ↗ 48(32) ← 55(36) 47(86) ↗ 31(55) → FOUNDERS PKWY / CROWFOOT VALLEY RD
6 ↘ 419(162) ↘ 77(137) 159(362) ↗ 26(72) ↘ LIGGETT RD / HWY 85	7 ← 201(233) ↘ 89(46) 13(36) ↗ 13(36) → 77(137) ↘ 138(91) ↗ 237(216) ↗ 34(50) ↗ BLACK FEATHER TRAIL / FRONT ST	8 ↘ 89(46) 47(86) ↗ BLACK FEATHER TR/WOODLANDS BLVD	9 ↘ 54(96) ↘ 4(7) 97(64) ↗ 62(41) ↘ 35(62) ↗ 7(5) ↗ FOUNDERS PKWY / CRIMSON SKY DR	10 ← 46(68) ↗ 69(44) E SCOTT BLVD / FRONT ST
11 ← 116(131) 127(114) → E SCOTT BLVD / WOODLANDS BLVD	12 ↘ 4(7) ↘ 62(41) 7(5) ↗ 7(5) ↗ 4(7) ↗ 35(62) ↗ RISING SUN DR / FOUNDERS PKWY	13 ← 46(68) 69(44) → LIGGETT RD / FRONT ST	14 ↘ 32(43) ↘ 15(27) 43(31) ↗ 42(75) → 76(50) ← 14(9) ↗ 27(14) ↗ 8(14) ↗ FIFTH ST / PERRY ST	15 ↘ 69(46) ↘ 47(86) ↗ 89(46) ← 21(14) 39(69) ↗ 12(21) → FIFTH ST / WOODLANDS BLVD
16 ↘ 21(14) ↘ 28(18) 21(14) ↗ ↗ 12(21) ← 46(26) FIFTH ST / FOUNDERS PKWY	17 ↘ 23(19) ← 298(148) 19(23) ↗ 138(252) → MEADOWS PKWY / FACTORY SHOPS BLVD	18 ↘ 262(129) ↘ 200(245) ← 36(19) 138(252) → FOUNDERS PKWY / I-25 SB RAMP	19 ↗ 261(254) ← 36(19) 217(279) → 121(216) ↘ FOUNDERS PKWY / I-25 NB RAMP	20 ↘ 23(7) ↘ 157(59) ↘ 246(101) ↗ 120(270) 8(22) ↗ 3(7) ↘ 8(2) ↗ 50(137) ↗ 23(7) ↗ LIGGETT ROAD NORTH ACCESS
21 ↘ 15(5) ↘ 11(29) ↘ 135(49) ↗ 52(128) ← 13(36) 5(14) ↗ 3(7) ↘ 8(2) ↗ 31(10) ↗ 38(12) ↗ LIGGETT ROAD SOUTH ACCESS	22 ↘ 161(52) ↘ 204(364) ↗ 367(242) ← 112(48) ← 28(18) 42(115) ↗ 45(106) → 18(50) ↘ 54(17) ↗ 15(27) ↗ FRONT STREET SITE ACCESS			

LEGEND

Analyzed Intersection

X

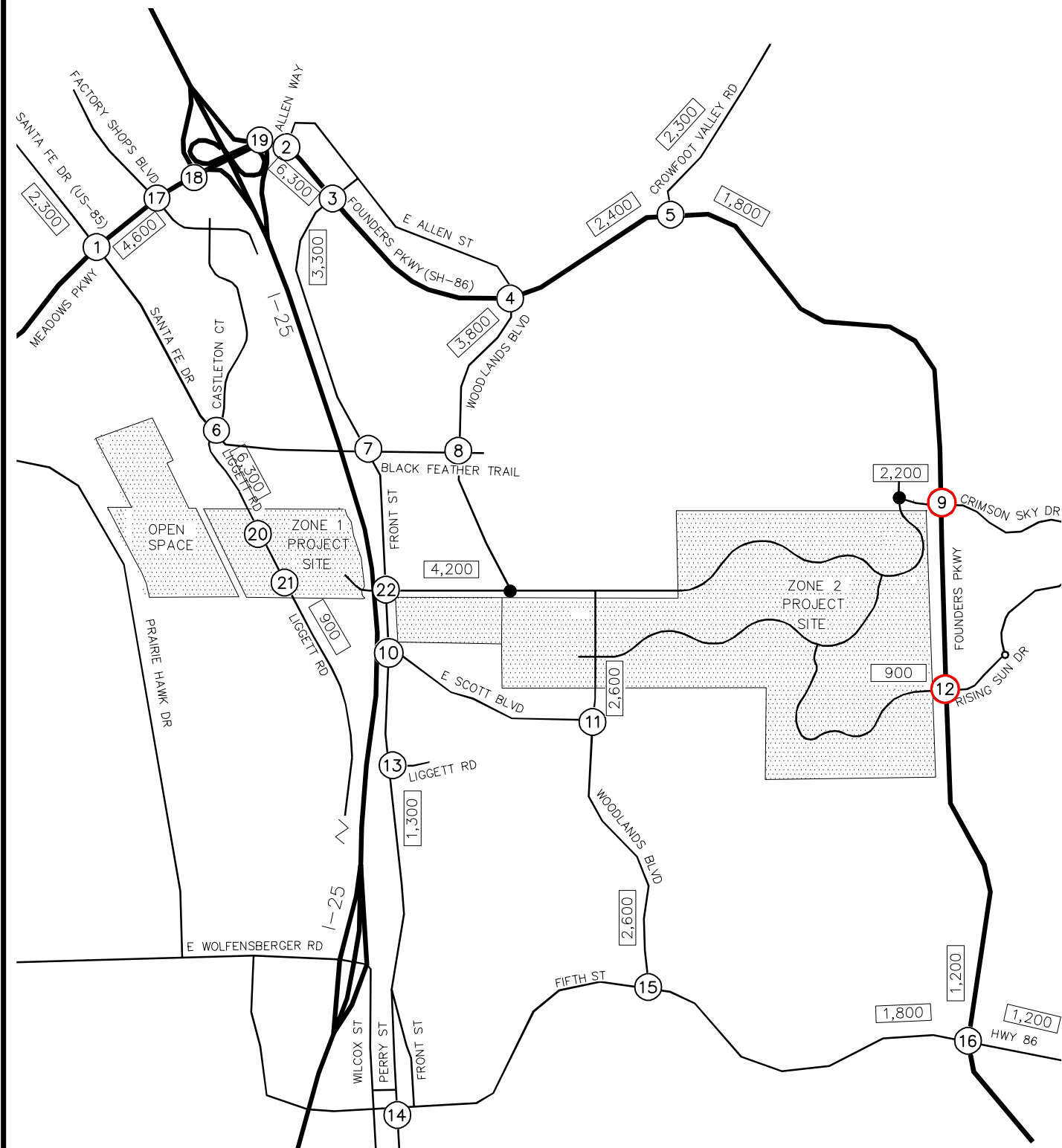
Study Area Key Intersection

UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

LEGEND	
●	Analyzed Intersection
⊗	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

PINE CANYON
DOUGLAS COUNTY, CO
2025 PROJECT TRAFFIC ASSIGNMENT – REVISED

FIGURE 10 – REVISED



1 108(80) ← 8(14) ↖ 14(9) ↗ 21(14) ← 288(132) ↘ 12(21) → 81(54) ↘ 56(81) ↗ 81(108) → 125(241) ↗ MEADOWS PKWY / HWY 85	2 15(5) ↖ 4(7) ↘ 7(5) ↗ 317(290) ← 5(14) ↗ 231(299) → FOUNDERS PKWY / ALLEN WAY	3 16(16) ↖ 194(128) ← 108(192) → 127(114) ↘ 130(167) ↗ 17(16) → FOUNDERS PKWY / FRONT ST	4 55(36) ← 89(46) ↘ 31(55) → 77(137) ↘ 138(91) ↗ 47(86) ↗ FOUNDERS PKWY / WOODLANDS BLVD	5 89(46) ↖ 27(48) ↘ 48(32) ↗ 55(36) ← 47(86) ↗ 31(55) → FOUNDERS PKWY / CROWFOOT VALLEY RD
6 SANTA FE DR ↖ 419(162) ↖ 58(103) ↘ 159(362) ↗ 26(72) ↘ LIGGETT RD CASTLETON CT SANTA FE DR ↗ 104(68) → LIGGETT RD / HWY 85	7 131(109) ↖ 12(21) ↘ 21(14) ↗ 69(46) ← 77(25) ↘ 13(36) ↗ 52(105) → 19(34) ↘ 35(23) ↗ 112(134) → 13(36) ↗ BLACK FEATHER TRAIL / FRONT ST	8 77(25) ↖ 89(158) ↘ 26(72) ↗ 50(89) ↘ 90(59) ↗ 159(105) → BLACK FEATHER TR / WOODLANDS BLVD	9 54(96) ↖ 4(7) ↘ 97(64) ↗ 62(41) ↘ 35(62) ↗ 7(5) ↗ FOUNDERS PKWY / CRIMSON SKY DR	10 46(68) ↖ 69(44) ↗ E SCOTT BLVD / FRONT ST
11 116(131) ← 127(114) → E SCOTT BLVD / WOODLANDS BLVD	12 4(7) ↖ 62(41) ↘ 7(5) ↗ 7(5) ↗ 4(7) ↗ 35(62) ↗ RISING SUN DR / FOUNDERS PKWY	13 46(68) ↖ 69(44) → LIGGETT RD / FRONT ST	14 32(43) ↖ 15(27) ↘ 76(50) ← 14(9) ↗ 43(31) ↗ 42(75) → 27(14) ↗ 8(14) ↗ FIFTH ST / PERRY ST	15 69(46) ↖ 47(86) ↘ 89(46) ↗ 21(14) ← 39(69) ↗ 12(21) → FIFTH ST / WOODLANDS BLVD
16 21(14) ↖ 28(18) ↘ 21(14) ↗ 12(21) ↗ 46(26) ← 12(21) → 27(45) → 20(41) ↘ 42(19) ↗ 15(27) → FIFTH ST / FOUNDERS PKWY	17 23(19) ↖ 300(136) ← 19(23) ↗ 125(252) → MEADOWS PKWY / FACTORY SHOPS BLVD	18 250(108) ↖ 212(265) ↘ 50(28) ← 125(252) → FOUNDERS PKWY / I-25 SB RAMP	19 282(268) ↖ 50(28) ← 236(313) → 101(203) ↘ FOUNDERS PKWY / I-25 NB RAMP	20 23(7) ↖ 150(54) ↘ 246(101) ↗ 120(270) ↗ 8(22) ↗ 3(7) ↘ 8(2) ↗ 57(142) ↗ 23(7) ↗ LIGGETT ROAD NORTH ACCESS
21 15(5) ↖ 11(29) ↘ 135(49) ↗ 52(128) ↗ 5(14) ↗ 3(7) ↘ 8(2) ↗ 31(10) ↗ 38(12) ↗ LIGGETT ROAD SOUTH ACCESS	22 161(52) ↖ 65(117) ↘ 118(78) ↗ 112(48) ← 28(18) ↗ 42(115) ↗ 45(106) → 18(50) ↘ 54(17) ↗ 15(27) ↗ FRONT STREET SITE ACCESS			

LEGEND

Analyzed Intersection

X

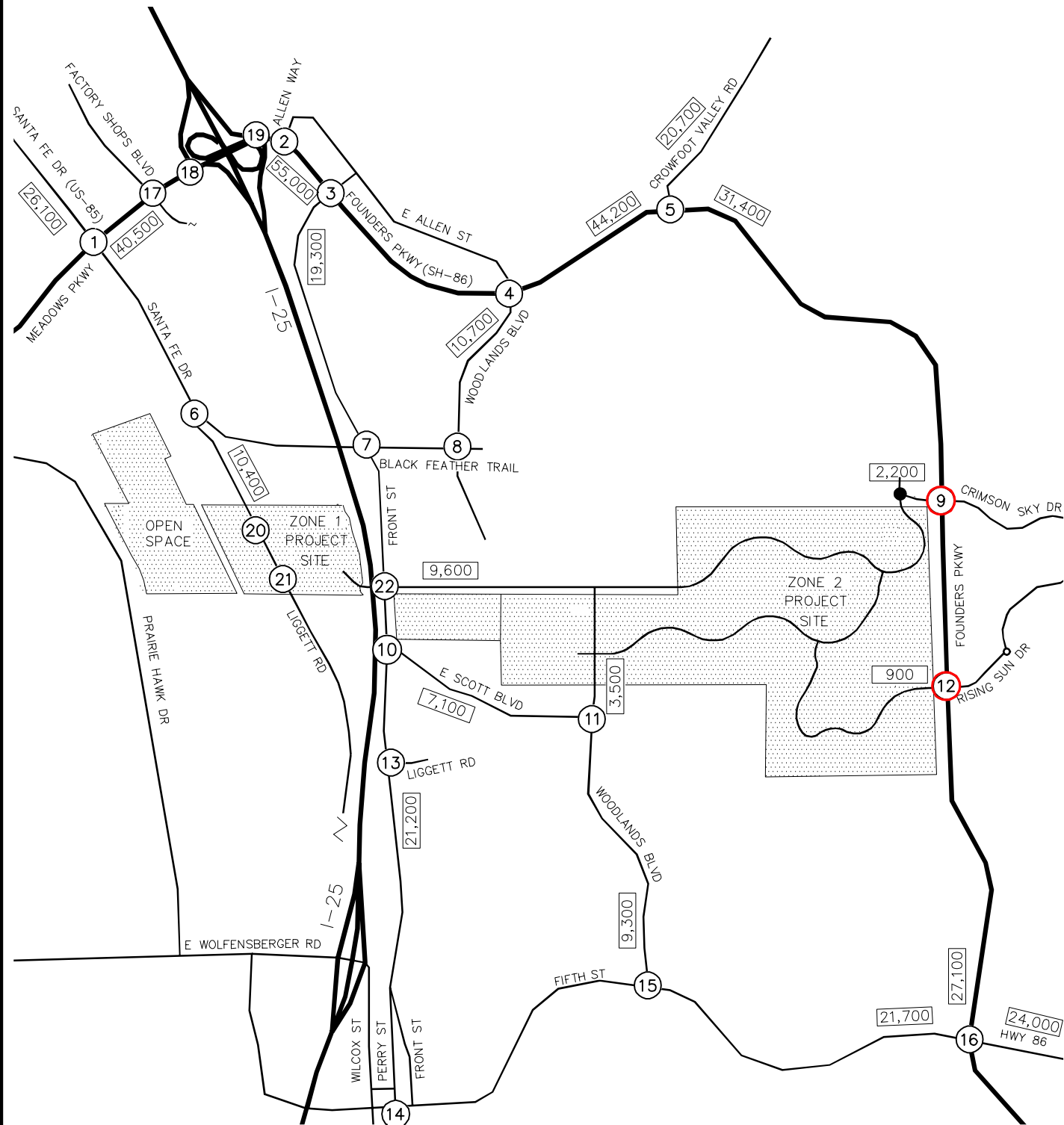
Study Area Key Intersection

UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

LEGEND

- Analyzed Intersection
- ⊗ Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

FIGURE 11 – REVISED



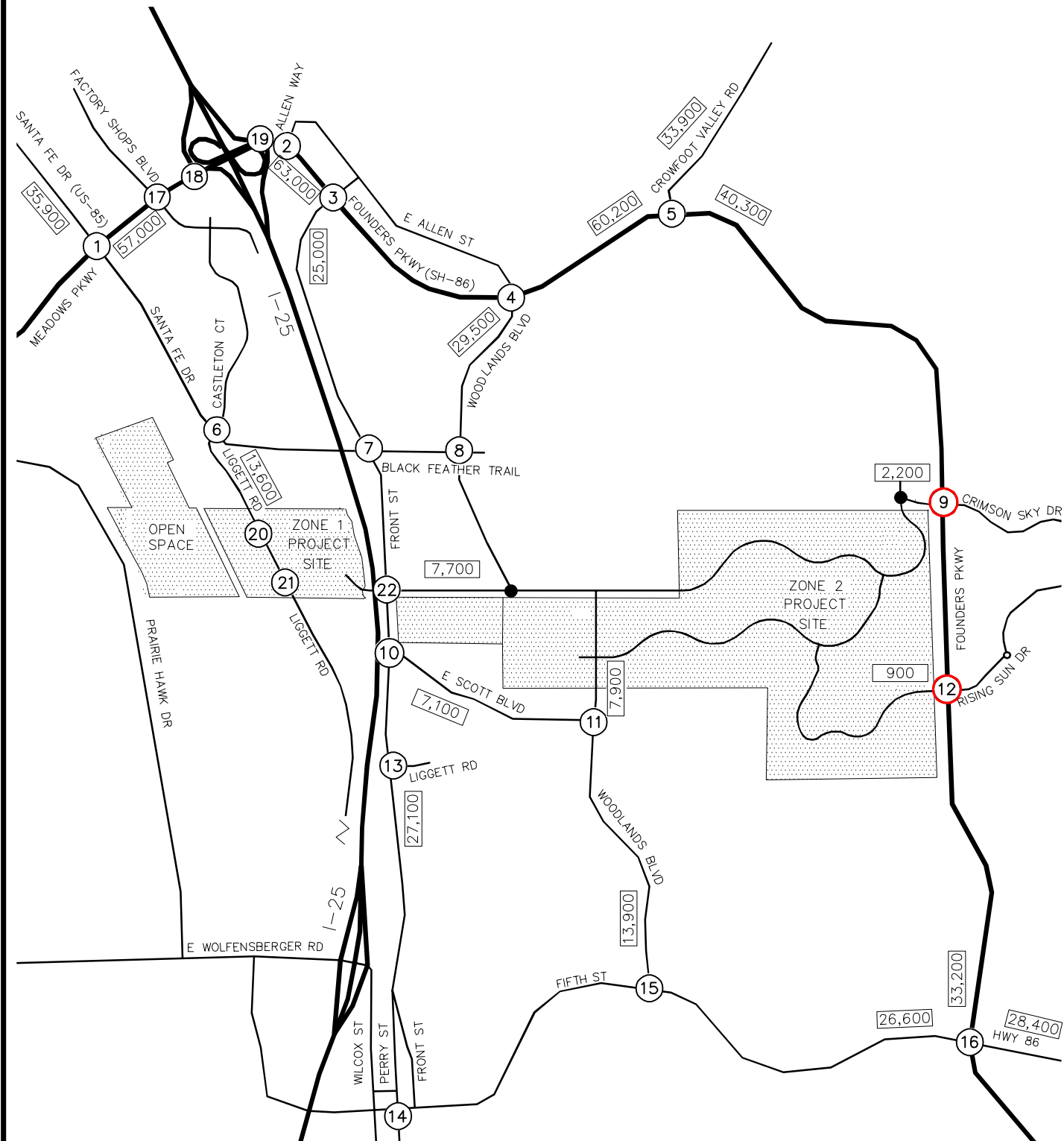
1 146(222) 464(496) 405(427) 232(231) 983(908) 315(257) MEADOWS PKWY / HWY 85	2 358(423) 14(36) 71(133) 226(362) 1193(2569) 130(211) FOUNDERS PKWY / ALLEN WAY	3 94(68) 60(111) 3(50) 62(187) 909(1979) 342(612) FOUNDERS PKWY / FRONT ST	4 2(8) 11(36) 40(162) 1(2) 767(1903) 74(131) FOUNDERS PKWY / WOODLANDS BLVD	5 955(580) 112(195) 473(926) 538(1586) FOUNDERS PKWY / CROWFOOT VALLEY RD
6 567(283) 594(833) 308(527) 55(98) LIGGETT RD / HWY 85	7 45(118) 420(836) 11(56) 74(150) 139(290) 363(712) BLACK FEATHER TRAIL / FRONT ST	8 384(260) 15(22) 6(30) 211(365) 26(54) 29(52) BLACK FEATHER TR / WOODLANDS BLVD	9 54(96) 530(1487) 56(183) 97(64) 62(41) FOUNDERS PKWY / CRIMSON SKY DR	10 746(1157) 117(379) 267(166) 147(43) E SCOTT BLVD / FRONT ST
11 10(5) 136(171) 5(10) 160(352) E SCOTT BLVD / WOODLANDS BLVD	12 4(7) 478(1277) 63(180) 7(5) 7(5) RISING SUN DR / FOUNDERS PKWY	13 505(1070) 138(41) 117(82) 63(38) LIGGETT RD / FRONT ST	14 139(193) 156(314) 17(67) 97(162) 346(831) 51(56) FIFTH ST / PERRY ST	15 126(93) 230(418) 82(133) 291(870) FIFTH ST / WOODLANDS BLVD
16 210(152) 187(605) 271(674) 96(195) 263(527) 193(542) FIFTH ST / FOUNDERS PKWY	17 211(408) 48(69) 292(933) 241(261) 1391(1382) 92(148) MEADOWS PKWY / FACTORY SHOPS BLVD	18 897(1013) 1006(1628) 1692(2724) FOUNDERS PKWY / I-25 SB RAMP	19 2047(1275) 1042(1450) 1370(2951) 121(216) FOUNDERS PKWY / I-25 NB RAMP	20 23(7) 334(196) 246(101) 8(22) 3(7) LIGGETT ROAD / NORTH ACCESS
21 15(5) 188(166) 135(49) 5(14) 3(7) LIGGETT ROAD / SOUTH ACCESS	22 161(52) 771(1395) 224(404) 42(115) 45(106) 18(50) FRONT STREET SITE ACCESS			

UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

LEGEND

- Analyzed Intersection
- Study Area Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

FIGURE 12 – REVISED



1 196(298) 576(621) 589(679) 646(745) 982(1600) 461(356) 312(311) 1368(1349) 396(328) MEADOWS PKWY / HWY 85	2 367(443) 19(48) 75(152) 144(198) 3106(2549) 54(53) 252(382) 1527(3241) 150(225) FOUNDERS PKWY / ALLEN WAY	3 102(91) 75(144) 5(60) 17(28) 2513(2013) 93(158) 73(202) 1239(2499) 390(819) FOUNDERS PKWY / FRONT ST	4 3(11) 15(98) 54(178) 127(119) 2384(1613) 589(523) 2(3) 942(2287) 346(683) FOUNDERS PKWY / WOODLANDS BLVD	5 1265(990) 135(326) 218(393) 1986(1257) 525(1334) 683(2051) FOUNDERS PKWY / CROWFOOT VALLEY RD
6 SANTA FE DR 620(329) 785(1081) 95(15) CASTLETON CT 20(100) 65(65) 50(280) 360(585) 65(65) 60(125) LIGGETT RD / HWY 85	7 60(159) 461(1011) 27(97) 84(73) 332(204) 262(234) 90(188) 222(447) 401(800) BLACK FEATHER TRAIL / FRONT ST	8 324(238) 517(732) 15(55) 50(50) 80(60) 60(40) 172(298) 25(50) 90(160) BLACK FEATHER TR/ WOODLANDS BLVD	9 69(141) 645(1843) 56(183) 235(108) 12(13) 127(94) 112(91) FOUNDERS PKWY / CRIMSON SKY DR	10 943(1453) 119(397) 258(120) 198(57) 1009(1097) 139(63) E SCOTT BLVD / FRONT ST
11 10(5) 301(366) 5(10) 169(366) 407(139) 332(329) E SCOTT BLVD / WOODLANDS BLVD	12 4(7) 685(1746) 63(180) 178(121) 83(62) 7(5) 7(5) 4(7) 1708(1175) 38(84) RISING SUN DR / FOUNDERS PKWY	13 691(1442) 185(52) 163(107) 85(51) 1005(1027) 284(48) LIGGETT RD / FRONT ST	14 206(276) 205(413) 23(90) 25(14) 1153(817) 91(119) 131(252) 489(1192) 68(76) FIFTH ST / PERRY ST	15 211(174) 323(563) 711(269) 1072(660) 131(246) 390(1173) FIFTH ST / WOODLANDS BLVD
16 299(228) 253(805) 367(895) 906(565) 723(391) 115(173) 136(288) 354(690) 266(725) FIFTH ST / FOUNDERS PKWY	17 277(543) 65(93) 398(1270) 480(1187) 1853(2148) 340(470) 317(343) 1897(1998) 124(199) MEADOWS PKWY / FACTORY SHOPS BLVD	18 1105(1298) 1258(1921) 1327(1970) 2003(3115) FOUNDERS PKWY / I-25 SB RAMPS	19 2352(1487) 1374(1776) 1688(3440) 101(203) FOUNDERS PKWY / I-25 NB RAMPS	20 23(7) 391(242) 246(101) 120(270) 8(22) 8(22) 3(7) LIGGETT ROAD / NORTH ACCESS
21 15(5) 252(217) 135(49) 52(128) 13(36) 5(14) 3(7) LIGGETT ROAD / SOUTH ACCESS	22 161(52) 1042(1891) 120(252) 238(163) 112(48) 58(48) 42(115) 45(106) 18(50) FRONT STREET / SITE ACCESS			

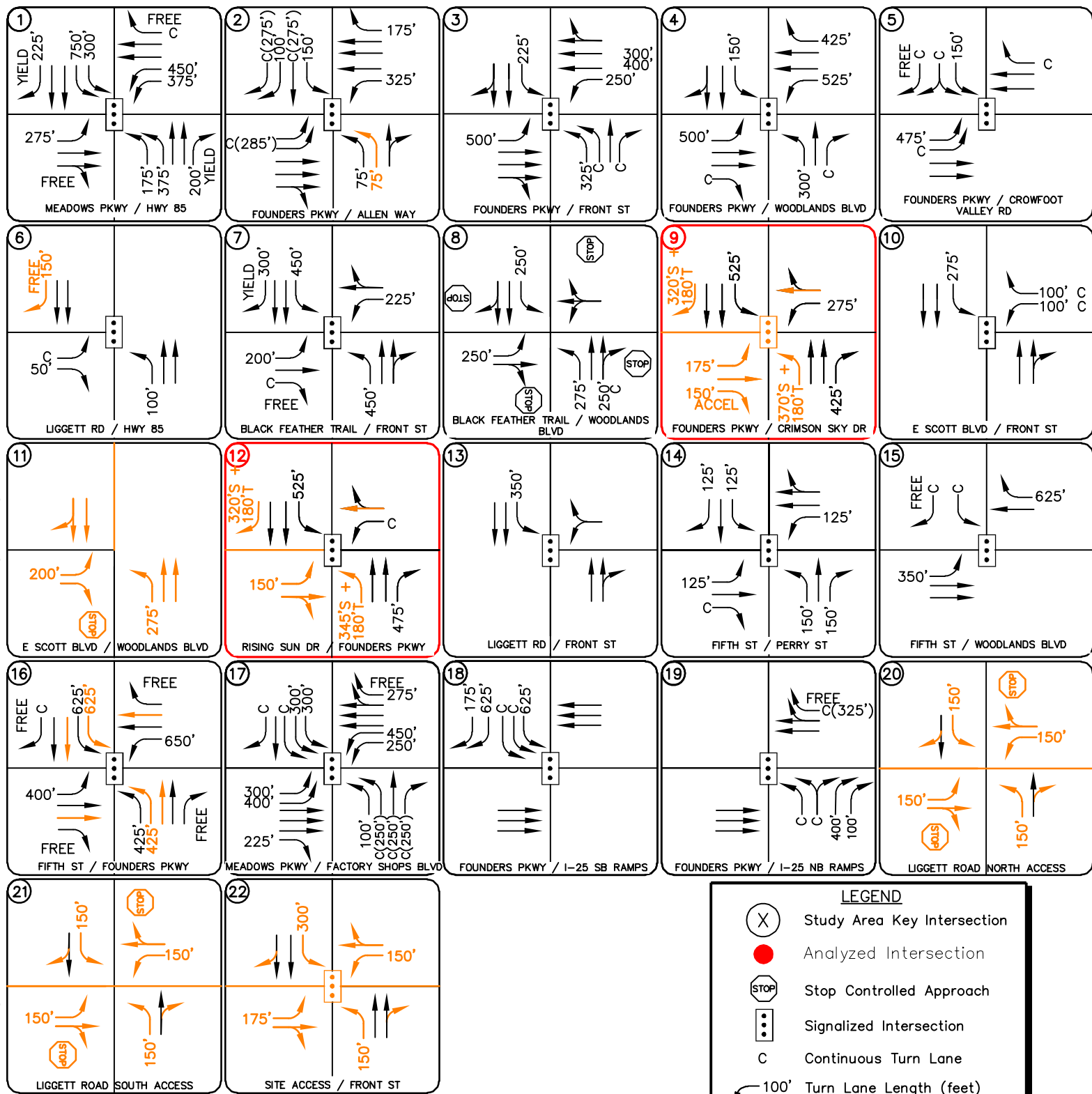
UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

LEGEND

- Analyzed Intersection
- Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

PINE CANYON
DOUGLAS COUNTY, CO
2040 TOTAL TRAFFIC VOLUMES – REVISED

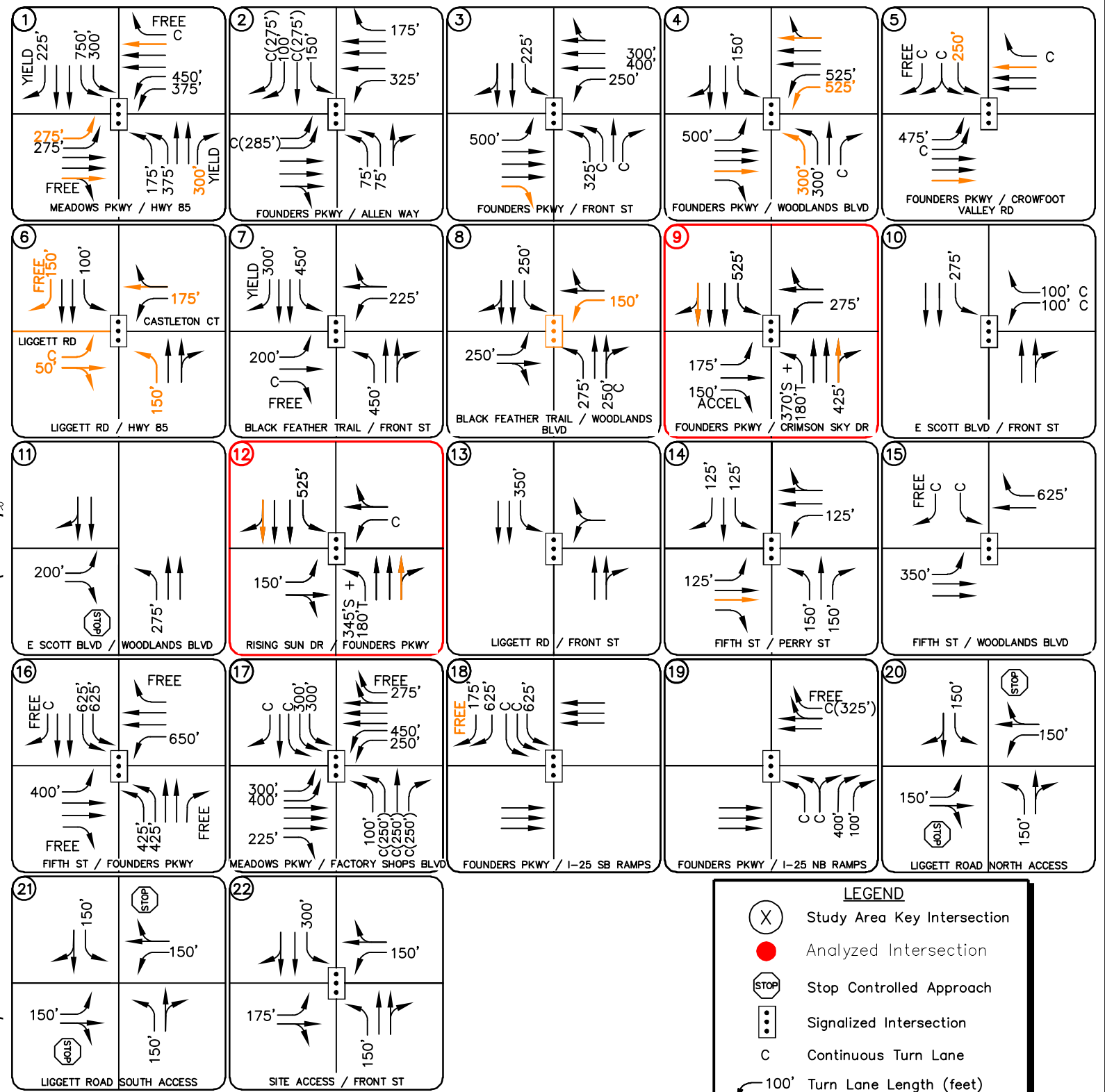
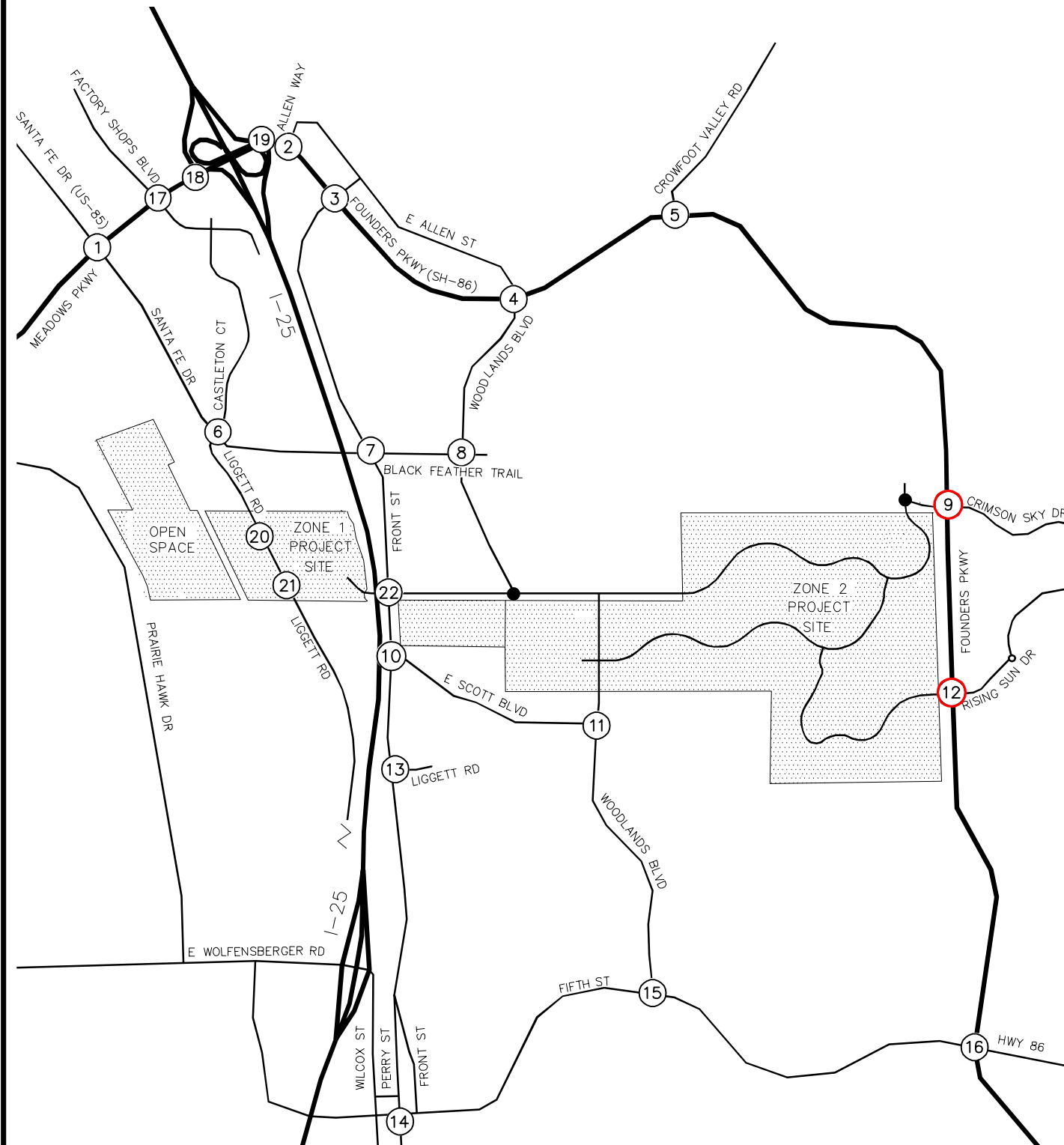
FIGURE 13 – REVISED



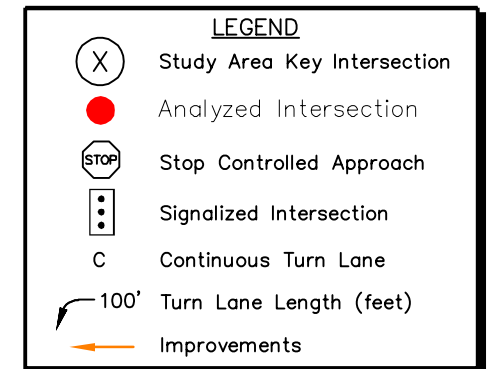
UPDATED DISTRIBUTION AND TRAFFIC VOLUMES

PINE CANYON
DOUGLAS COUNTY, CO
2025 RECOMMENDED LANE CONFIGURATIONS AND CONTROL – REVISED

FIGURE 14 – REVISED



UPDATED DISTRIBUTION AND TRAFFIC VOLUMES



PINE CANYON
DOUGLAS COUNTY, CO
2040 RECOMMENDED LANE CONFIGURATIONS AND CONTROL – REVISED

FIGURE 15 – REVISED

Level of Service (LOS) Sheets

										
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	97	62	12	0	35	1420	10	56	530	54
Future Volume (vph)	97	62	12	0	35	1420	10	56	530	54
Turn Type	Perm	Free	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases				8	5	2		1	6	
Permitted Phases	4	Free	8		2		2	6		6
Detector Phase	4		8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	46.4		46.4	46.4	9.5	43.6	43.6	9.5	43.6	43.6
Total Split (%)	46.6%		46.6%	46.6%	9.5%	43.8%	43.8%	9.5%	43.8%	43.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	16.0	99.5	16.0	16.0	70.5	65.5	65.5	72.1	67.9	67.9
Actuated g/C Ratio	0.16	1.00	0.16	0.16	0.71	0.66	0.66	0.72	0.68	0.68
v/c Ratio	1.33	0.04	0.06	0.69	0.06	0.65	0.01	0.24	0.23	0.05
Control Delay (s/veh)	245.4	0.0	32.1	28.1	4.8	13.9	0.0	6.9	7.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	245.4	0.0	32.1	28.1	4.8	13.9	0.0	6.9	7.9	2.4
LOS	F	A	C	C	A	B	A	A	A	A
Approach Delay (s/veh)				28.3		13.6			7.4	
Approach LOS				C		B			A	

Intersection Summary

Cycle Length: 99.5

Actuated Cycle Length: 99.5

Offset: 90 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay (s/veh): 22.2

Intersection LOS: C

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

#9 	#9 	#9 
Ø1	Ø2 (R)	Ø4
9.5 s	43.6 s	46.4 s
#9 	#9 	#9 
Ø5	Ø6 (R)	Ø8
9.5 s	43.6 s	46.4 s

HCM 7th Signalized Intersection Summary
9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

2025 Total AM
08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	0	62	12	0	235	35	1420	10	56	530	54
Future Volume (veh/h)	97	0	62	12	0	235	35	1420	10	56	530	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	0	0	13	0	250	38	1511	11	60	564	59
Peak Hour Factor	0.92	0.92	0.92	0.94	0.92	0.94	0.92	0.94	0.94	0.94	0.94	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	474		431	0	402	530	2029	905	231	2057	918
Arrive On Green	0.25	0.00	0.00	0.25	0.00	0.25	0.03	0.57	0.57	0.04	0.58	0.58
Sat Flow, veh/h	1130	1870	1585	1418	0	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	105	0	0	13	0	250	38	1511	11	60	564	59
Grp Sat Flow(s),veh/h/ln	1130	1870	1585	1418	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.1	0.0	0.0	0.7	0.0	14.0	0.9	31.7	0.3	1.4	7.9	1.6
Cycle Q Clear(g_c), s	23.1	0.0	0.0	0.7	0.0	14.0	0.9	31.7	0.3	1.4	7.9	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	474		431	0	402	530	2029	905	231	2057	918
V/C Ratio(X)	0.52	0.00		0.03	0.00	0.62	0.07	0.74	0.01	0.26	0.27	0.06
Avail Cap(c_a), veh/h	387	784		666	0	664	561	2029	905	248	2057	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	0.0	28.1	0.0	33.1	8.3	16.0	9.3	13.9	10.5	9.2
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.0	0.0	1.6	0.1	2.5	0.0	0.6	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.2	0.0	5.5	0.3	12.6	0.1	0.5	3.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.4	0.0	0.0	28.1	0.0	34.7	8.4	18.5	9.3	14.5	10.9	9.3
LnGrp LOS	D			C		C	A	B	A	B	B	A
Approach Vol, veh/h	105			263			1560			683		
Approach Delay, s/veh	45.4			34.3			18.2			11.1		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	61.6		29.8	7.8	62.4		29.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	39.1		41.9	5.0	39.1		41.9				
Max Q Clear Time (g_c+l1), s	3.4	33.7		25.1	2.9	9.9		16.0				
Green Ext Time (p_c), s	0.0	4.2		0.3	0.0	4.4		1.7				

Intersection Summary

HCM 7th Control Delay, s/veh 19.1
HCM 7th LOS B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

										
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	64	41	13	0	62	864	22	183	1487	96
Future Volume (vph)	64	41	13	0	62	864	22	183	1487	96
Turn Type	Perm	Free	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases				8	5	2		1	6	
Permitted Phases	4	Free	8		2		2	6		6
Detector Phase	4		8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	46.4		46.4	46.4	9.5	43.6	43.6	9.5	43.6	43.6
Total Split (%)	46.6%		46.6%	46.6%	9.5%	43.8%	43.8%	9.5%	43.8%	43.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.9	99.5	10.9	10.9	69.9	63.6	63.6	79.5	70.8	70.8
Actuated g/C Ratio	0.11	1.00	0.11	0.11	0.70	0.64	0.64	0.80	0.71	0.71
v/c Ratio	0.59	0.03	0.09	0.36	0.26	0.41	0.02	0.37	0.63	0.09
Control Delay (s/veh)	60.7	0.0	38.7	5.2	6.1	10.3	0.0	4.7	10.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.7	0.0	38.7	5.2	6.1	10.3	0.0	4.7	10.2	1.8
LOS	E	A	D	A	A	B	A	A	B	A
Approach Delay (s/veh)				8.8		9.7			9.2	
Approach LOS				A		A			A	

Intersection Summary

Cycle Length: 99.5

Actuated Cycle Length: 99.5

Offset: 90 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 10.4

Intersection LOS: B

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

#9 	#9 	#9 
Ø1	Ø2 (R)	Ø4
9.5 s	43.6 s	46.4 s
#9 	#9 	#9 
Ø5	Ø6 (R)	Ø8
9.5 s	43.6 s	46.4 s

HCM 7th Signalized Intersection Summary
9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

2025 Total PM
08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	0	41	13	0	108	62	864	22	183	1487	96
Future Volume (veh/h)	64	0	41	13	0	108	62	864	22	183	1487	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	0	0	14	0	115	67	919	23	195	1582	104
Peak Hour Factor	0.92	0.92	0.92	0.94	0.92	0.94	0.92	0.94	0.94	0.94	0.94	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	266		273	0	225	271	2392	1067	494	2419	1079
Arrive On Green	0.14	0.00	0.00	0.14	0.00	0.14	0.04	0.67	0.67	0.05	0.68	0.68
Sat Flow, veh/h	1277	1870	1585	1418	0	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	70	0	0	14	0	115	67	919	23	195	1582	104
Grp Sat Flow(s),veh/h/ln	1277	1870	1585	1418	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.4	0.0	0.0	0.9	0.0	6.7	1.1	11.4	0.5	3.4	25.6	2.2
Cycle Q Clear(g_c), s	12.1	0.0	0.0	0.9	0.0	6.7	1.1	11.4	0.5	3.4	25.6	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	266		273	0	225	271	2392	1067	494	2419	1079
V/C Ratio(X)	0.42	0.00		0.05	0.00	0.51	0.25	0.38	0.02	0.40	0.65	0.10
Avail Cap(c_a), veh/h	521	784		666	0	664	285	2392	1067	494	2419	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	0.0	0.0	37.2	0.0	39.7	8.2	7.2	5.4	5.3	9.2	5.5
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.1	0.0	1.8	0.5	0.5	0.0	0.5	1.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.3	0.0	2.7	0.4	4.0	0.2	1.1	9.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.9	0.0	0.0	37.3	0.0	41.5	8.7	7.7	5.5	5.8	10.6	5.6
LnGrp LOS	D			D		D	A	A	A	A	B	A
Approach Vol, veh/h	70			129			1009			1881		
Approach Delay, s/veh	46.9			41.0			7.7			9.8		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	71.8		18.7	8.7	72.6		18.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	39.1		41.9	5.0	39.1		41.9				
Max Q Clear Time (g_c+I1), s	5.4	13.4		14.1	3.1	27.6		8.7				
Green Ext Time (p_c), s	0.0	7.4		0.2	0.0	8.4		0.8				

Intersection Summary

HCM 7th Control Delay, s/veh 11.3
HCM 7th LOS B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

								
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	127	112	12	0	60	1881	56	645
Future Volume (vph)	127	112	12	0	60	1881	56	645
Turn Type	Perm	Free	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases				8	5	2	1	6
Permitted Phases	4	Free	8		2		6	
Detector Phase	4		8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	30.0		30.0	30.0	10.0	50.0	10.0	50.0
Total Split (%)	33.3%		33.3%	33.3%	11.1%	55.6%	11.1%	55.6%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	None	C-Max
Act Effect Green (s)	18.8	90.0	18.8	18.8	58.7	53.6	58.6	53.6
Actuated g/C Ratio	0.21	1.00	0.21	0.21	0.65	0.60	0.65	0.60
v/c Ratio	0.94	0.08	0.04	0.59	0.13	0.66	0.30	0.25
Control Delay (s/veh)	93.8	0.1	25.2	20.6	6.6	15.4	10.1	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	93.8	0.1	25.2	20.6	6.6	15.4	10.1	10.0
LOS	F	A	C	C	A	B	B	A
Approach Delay (s/veh)				20.9		15.1		10.0
Approach LOS				C		B		A

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 17.0

Intersection LOS: B

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

#9 	#9 	#9 
Ø1	Ø2 (R)	Ø4
10 s	50 s	30 s
#9 	#9 	#9 
Ø5	Ø6 (R)	Ø8
10 s	50 s	30 s

HCM 7th Signalized Intersection Summary
 9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

2040 Total AM
 08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	0	112	12	0	235	60	1881	10	56	645	69
Future Volume (veh/h)	127	0	112	12	0	235	60	1881	10	56	645	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	0	0	13	0	250	65	2001	11	60	686	75
Peak Hour Factor	0.92	0.92	0.92	0.94	0.92	0.94	0.92	0.94	0.94	0.94	0.94	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	519		473	0	439	474	2775	15	208	2470	268
Arrive On Green	0.28	0.00	0.00	0.28	0.00	0.28	0.04	0.53	0.53	0.04	0.53	0.53
Sat Flow, veh/h	1130	1870	1585	1418	0	1585	1781	5240	29	1781	4676	507
Grp Volume(v), veh/h	138	0	0	13	0	250	65	1300	712	60	498	263
Grp Sat Flow(s),veh/h/ln	1130	1870	1585	1418	0	1585	1781	1702	1865	1781	1702	1779
Q Serve(g_s), s	10.7	0.0	0.0	0.6	0.0	12.2	1.5	26.1	26.2	1.3	7.3	7.4
Cycle Q Clear(g_c), s	22.9	0.0	0.0	0.6	0.0	12.2	1.5	26.1	26.2	1.3	7.3	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.29
Lane Grp Cap(c), veh/h	240	519		473	0	439	474	1803	988	208	1798	940
V/C Ratio(X)	0.57	0.00		0.03	0.00	0.57	0.14	0.72	0.72	0.29	0.28	0.28
Avail Cap(c_a), veh/h	247	530		482	0	449	503	1803	988	240	1798	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	0.0	0.0	23.7	0.0	27.9	8.9	16.1	16.1	13.8	11.7	11.8
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.0	0.0	1.6	0.1	2.5	4.5	0.8	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	0.2	0.0	4.7	0.5	10.0	11.5	0.5	2.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.8	0.0	0.0	23.7	0.0	29.5	9.0	18.6	20.7	14.6	12.1	12.5
LnGrp LOS	D			C		C	A	B	C	B	B	B
Approach Vol, veh/h	138			263			2077			821		
Approach Delay, s/veh	40.8			29.3			19.0			12.4		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	52.2		29.5	8.5	52.0		29.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	45.5		25.5	5.5	45.5		25.5				
Max Q Clear Time (g_c+I1), s	3.3	28.2		24.9	3.5	9.4		14.2				
Green Ext Time (p_c), s	0.0	12.9		0.0	0.0	5.8		1.2				

Intersection Summary

HCM 7th Control Delay, s/veh 19.1
 HCM 7th LOS B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings

9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

2040 Total PM

08/04/2026

								
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations						  		  
Traffic Volume (vph)	94	91	13	0	132	1157	183	1843
Future Volume (vph)	94	91	13	0	132	1157	183	1843
Turn Type	Perm	Free	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases				8	5	2	1	6
Permitted Phases	4	Free	8		2		6	
Detector Phase	4		8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	22.8		22.8	22.8	16.0	49.0	18.2	51.2
Total Split (%)	25.3%		25.3%	25.3%	17.8%	54.4%	20.2%	56.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None		None	None	None	C-Max	None	C-Max
Act Effect Green (s)	12.6	90.0	12.3	12.3	65.4	57.3	66.9	58.1
Actuated g/C Ratio	0.14	1.00	0.14	0.14	0.73	0.64	0.74	0.65
v/c Ratio	0.62	0.06	0.07	0.26	0.59	0.39	0.50	0.65
Control Delay (s/veh)	52.1	0.1	31.8	1.5	24.5	10.0	8.1	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.1	0.1	31.8	1.5	24.5	10.0	8.1	12.8
LOS	D	A	C	A	C	A	A	B
Approach Delay (s/veh)				4.8		11.5		12.4
Approach LOS				A		B		B

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay (s/veh): 12.5

Intersection LOS: B

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

#9  Ø1 18.2 s	#9  Ø2 (R) 49 s	#9  Ø4 22.8 s
#9  Ø5 16 s	#9  Ø6 (R) 51.2 s	#9  Ø8 22.8 s

HCM 7th Signalized Intersection Summary
 9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

2040 Total PM
 08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	0	91	13	0	108	132	1157	22	183	1843	141
Future Volume (veh/h)	94	0	91	13	0	108	132	1157	22	183	1843	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	0	0	14	0	115	143	1231	23	195	1961	153
Peak Hour Factor	0.92	0.92	0.92	0.94	0.92	0.94	0.92	0.94	0.94	0.94	0.94	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	310		315	0	263	248	3200	60	416	3045	236
Arrive On Green	0.17	0.00	0.00	0.17	0.00	0.17	0.05	0.62	0.62	0.06	0.63	0.63
Sat Flow, veh/h	1277	1870	1585	1418	0	1585	1781	5161	96	1781	4832	375
Grp Volume(v), veh/h	102	0	0	14	0	115	143	812	442	195	1379	735
Grp Sat Flow(s),veh/h/ln	1277	1870	1585	1418	0	1585	1781	1702	1853	1781	1702	1803
Q Serve(g_s), s	7.0	0.0	0.0	0.7	0.0	5.9	2.6	10.7	10.7	3.5	22.7	22.9
Cycle Q Clear(g_c), s	12.9	0.0	0.0	0.7	0.0	5.9	2.6	10.7	10.7	3.5	22.7	22.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		0.21
Lane Grp Cap(c), veh/h	208	310		315	0	263	248	2111	1149	416	2145	1136
V/C Ratio(X)	0.49	0.00		0.04	0.00	0.44	0.58	0.38	0.38	0.47	0.64	0.65
Avail Cap(c_a), veh/h	256	380		368	0	322	380	2111	1149	573	2145	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	0.0	0.0	31.6	0.0	33.8	14.0	8.5	8.5	6.2	10.3	10.4
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.1	0.0	1.1	2.1	0.5	1.0	0.8	1.5	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	0.3	0.0	2.3	2.0	3.7	4.1	1.2	7.8	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.3	0.0	0.0	31.7	0.0	34.9	16.1	9.1	9.5	7.0	11.8	13.2
LnGrp LOS	D			C		C	B	A	A	A	B	B
Approach Vol, veh/h	102			129			1397			2309		
Approach Delay, s/veh	41.3			34.6			9.9			11.9		
Approach LOS	D			C			A			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	60.3		19.4	9.4	61.2		19.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	13.7	44.5		18.3	11.5	46.7		18.3				
Max Q Clear Time (g_c+I1), s	5.5	12.7		14.9	4.6	24.9		7.9				
Green Ext Time (p_c), s	0.3	10.6		0.1	0.2	16.1		0.4				

Intersection Summary

HCM 7th Control Delay, s/veh 12.7
 HCM 7th LOS B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2025 Total AM
08/04/2026

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	7	0	83	0	4	1272	38	63	478	4
Future Volume (vph)	7	0	83	0	4	1272	38	63	478	4
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.5	60.5	60.5	60.5	59.5	59.5	59.5	59.5	59.5	59.5
Total Split (%)	50.4%	50.4%	50.4%	50.4%	49.6%	49.6%	49.6%	49.6%	49.6%	49.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	18.6	18.6	18.6	18.6	92.4	92.4	92.4	92.4	92.4	92.4
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.77	0.77	0.77	0.77	0.77	0.77
v/c Ratio	0.07	0.02	0.40	0.72	0.01	0.49	0.03	0.26	0.18	0.00
Control Delay (s/veh)	41.0	0.0	49.5	57.4	4.8	6.4	1.6	8.3	4.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.0	0.0	49.5	57.4	4.8	6.4	1.6	8.3	4.4	0.8
LOS	D	A	D	E	A	A	A	A	A	A
Approach Delay (s/veh)		20.5		54.9		6.3			4.8	
Approach LOS		C		D		A			A	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay (s/veh): 11.9
Intersection LOS: B
Intersection Capacity Utilization 61.8%
ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

#12 	#12 
Ø2 (R)	Ø4
59.5 s	60.5 s
#12 	#12 
Ø6 (R)	Ø8
59.5 s	60.5 s

HCM 7th Signalized Intersection Summary
12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2025 Total AM
08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	7	83	0	178	4	1272	38	63	478	4
Future Volume (veh/h)	7	0	7	83	0	178	4	1272	38	63	478	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	0	8	87	0	187	4	1339	40	66	503	4
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	0	228	256	0	228	725	2776	1238	315	2776	1238
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	1196	0	1585	1407	0	1585	892	3554	1585	393	3554	1585
Grp Volume(v), veh/h	8	0	8	87	0	187	4	1339	40	66	503	4
Grp Sat Flow(s),veh/h/ln	1196	0	1585	1407	0	1585	892	1777	1585	393	1777	1585
Q Serve(g_s), s	0.8	0.0	0.5	6.8	0.0	13.7	0.1	15.9	0.7	8.5	4.3	0.1
Cycle Q Clear(g_c), s	14.5	0.0	0.5	7.3	0.0	13.7	4.5	15.9	0.7	24.4	4.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	0	228	256	0	228	725	2776	1238	315	2776	1238
V/C Ratio(X)	0.08	0.00	0.04	0.34	0.00	0.82	0.01	0.48	0.03	0.21	0.18	0.00
Avail Cap(c_a), veh/h	481	0	740	711	0	740	725	2776	1238	315	2776	1238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	44.2	47.3	0.0	49.9	3.9	4.6	3.0	8.9	3.3	2.9
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.8	0.0	7.1	0.0	0.6	0.0	1.5	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	2.4	0.0	5.9	0.0	5.0	0.2	0.8	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.3	0.0	44.3	48.1	0.0	57.0	3.9	5.2	3.0	10.4	3.5	2.9
LnGrp LOS	E		D	D		E	A	A	A	B	A	
Approach Vol, veh/h	16			274			1383			573		
Approach Delay, s/veh	50.8			54.2			5.1			4.3		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	98.2			21.8			98.2			21.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	55.0			56.0			55.0			56.0		
Max Q Clear Time (g_c+I1), s	17.9			16.5			26.4			15.7		
Green Ext Time (p_c), s	14.0			0.0			5.0			1.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	11.2											
HCM 7th LOS	B											

Timings
12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2025 Total PM
08/04/2026

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	5	0	62	0	7	831	84	180	1277	7
Future Volume (vph)	5	0	62	0	7	831	84	180	1277	7
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.5	60.5	60.5	60.5	59.5	59.5	59.5	59.5	59.5	59.5
Total Split (%)	50.4%	50.4%	50.4%	50.4%	49.6%	49.6%	49.6%	49.6%	49.6%	49.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	11.0	11.0	11.0	11.0	100.0	100.0	100.0	100.0	100.0	100.0
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.83	0.83	0.83	0.83	0.83	0.83
v/c Ratio	0.07	0.03	0.50	0.57	0.03	0.30	0.07	0.38	0.46	0.01
Control Delay (s/veh)	49.0	1.6	64.3	29.1	2.6	2.7	0.6	5.5	3.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.0	1.6	64.3	29.1	2.6	2.7	0.6	5.5	3.5	0.9
LOS	D	A	E	C	A	A	A	A	A	A
Approach Delay (s/veh)		25.3		41.1		2.5			3.7	
Approach LOS		C		D		A			A	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay (s/veh): 6.0

Intersection LOS: A

Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

#12 	#12 
Ø2 (R)	Ø4
59.5 s	60.5 s
#12 	#12 
Ø6 (R)	Ø8
59.5 s	60.5 s

HCM 7th Signalized Intersection Summary
12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2025 Total PM
08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	5	62	0	121	7	831	84	180	1277	7
Future Volume (veh/h)	5	0	5	62	0	121	7	831	84	180	1277	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	0	5	65	0	127	8	875	88	189	1344	8
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	0	164	202	0	164	348	2920	1303	505	2920	1303
Arrive On Green	0.10	0.00	0.10	0.10	0.00	0.10	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1264	0	1585	1411	0	1585	403	3554	1585	583	3554	1585
Grp Volume(v), veh/h	5	0	5	65	0	127	8	875	88	189	1344	8
Grp Sat Flow(s),veh/h/ln	1264	0	1585	1411	0	1585	403	1777	1585	583	1777	1585
Q Serve(g_s), s	0.5	0.0	0.3	5.2	0.0	9.4	0.7	7.0	1.3	13.6	13.0	0.1
Cycle Q Clear(g_c), s	9.8	0.0	0.3	5.6	0.0	9.4	13.7	7.0	1.3	20.6	13.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	0	164	202	0	164	348	2920	1303	505	2920	1303
V/C Ratio(X)	0.05	0.00	0.03	0.32	0.00	0.78	0.02	0.30	0.07	0.37	0.46	0.01
Avail Cap(c_a), veh/h	551	0	740	715	0	740	348	2920	1303	505	2920	1303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	0.0	48.4	50.9	0.0	52.5	5.0	2.5	2.0	5.0	3.1	1.9
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.9	0.0	7.7	0.1	0.3	0.1	2.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	1.9	0.0	4.1	0.1	1.9	0.3	1.7	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.5	0.0	48.5	51.8	0.0	60.1	5.2	2.8	2.1	7.1	3.6	1.9
LnGrp LOS	E		D	D		E	A	A	A	A	A	A
Approach Vol, veh/h	10			192			971			1541		
Approach Delay, s/veh	53.0			57.3			2.8			4.0		
Approach LOS	D			E			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	103.1			16.9			103.1			16.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	55.0			56.0			55.0			56.0		
Max Q Clear Time (g_c+I1), s	15.7			11.8			22.6			11.4		
Green Ext Time (p_c), s	8.1			0.0			16.1			1.0		
Intersection Summary												
HCM 7th Control Delay, s/veh				7.5								
HCM 7th LOS				A								

Timings

2040 Total AM

12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

08/04/2026

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	7	0	83	0	4	1708	63	685
Future Volume (vph)	7	0	83	0	4	1708	63	685
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.5	60.5	60.5	60.5	59.5	59.5	59.5	59.5
Total Split (%)	50.4%	50.4%	50.4%	50.4%	49.6%	49.6%	49.6%	49.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	19.0	19.0	19.0	19.0	92.0	92.0	92.0	92.0
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.77	0.77	0.77	0.77
v/c Ratio	0.07	0.02	0.39	0.71	0.01	0.47	0.47	0.19
Control Delay (s/veh)	40.6	0.1	48.9	58.6	4.8	6.1	20.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.6	0.1	48.9	58.6	4.8	6.1	20.7	4.4
LOS	D	A	D	E	A	A	C	A
Approach Delay (s/veh)		20.4		55.5		6.1		5.7
Approach LOS		C		E		A		A
Intersection Summary								
Cycle Length: 120								
Actuated Cycle Length: 120								
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 60								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.71								
Intersection Signal Delay (s/veh): 10.7					Intersection LOS: B			
Intersection Capacity Utilization 60.5%					ICU Level of Service B			
Analysis Period (min) 15								

Splits and Phases: 12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

#12 	#12 
Ø2 (R)	Ø4
59.5 s	60.5 s
#12 	#12 
Ø6 (R)	Ø8
59.5 s	60.5 s

HCM 7th Signalized Intersection Summary
 12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2040 Total AM
 08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	7	83	0	178	4	1708	38	63	685	4
Future Volume (veh/h)	7	0	7	83	0	178	4	1708	38	63	685	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	0	8	87	0	187	4	1798	40	66	721	4
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	0	228	256	0	228	604	4014	89	227	4093	23
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	1196	0	1585	1407	0	1585	729	5140	114	252	5240	29
Grp Volume(v), veh/h	8	0	8	87	0	187	4	1191	647	66	468	257
Grp Sat Flow(s),veh/h/ln	1196	0	1585	1407	0	1585	729	1702	1850	252	1702	1865
Q Serve(g_s), s	0.8	0.0	0.5	6.8	0.0	13.7	0.2	14.1	14.1	14.3	4.2	4.2
Cycle Q Clear(g_c), s	14.5	0.0	0.5	7.3	0.0	13.7	4.4	14.1	14.1	28.5	4.2	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		0.02
Lane Grp Cap(c), veh/h	95	0	228	256	0	228	604	2659	1445	227	2659	1457
V/C Ratio(X)	0.08	0.00	0.04	0.34	0.00	0.82	0.01	0.45	0.45	0.29	0.18	0.18
Avail Cap(c_a), veh/h	481	0	740	711	0	740	604	2659	1445	227	2659	1457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	44.2	47.3	0.0	49.9	3.9	4.4	4.4	9.2	3.3	3.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.8	0.0	7.1	0.0	0.5	1.0	3.2	0.1	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	2.4	0.0	5.9	0.0	4.2	4.8	0.9	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.3	0.0	44.3	48.1	0.0	57.0	3.9	5.0	5.4	12.4	3.5	3.6
LnGrp LOS	E		D	D		E	A	A	A	B	A	A
Approach Vol, veh/h	16			274			1842			791		
Approach Delay, s/veh	50.8			54.2			5.1			4.3		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	98.2			21.8			98.2			21.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	55.0			56.0			55.0			56.0		
Max Q Clear Time (g_c+I1), s	16.1			16.5			30.5			15.7		
Green Ext Time (p_c), s	19.8			0.0			7.2			1.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	9.7											
HCM 7th LOS	A											

Timings

12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2040 Total PM

08/04/2026

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	5	0	62	0	7	1175	180	1746
Future Volume (vph)	5	0	62	0	7	1175	180	1746
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.5	60.5	60.5	60.5	59.5	59.5	59.5	59.5
Total Split (%)	50.4%	50.4%	50.4%	50.4%	49.6%	49.6%	49.6%	49.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	13.2	13.2	13.2	13.2	97.8	97.8	97.8	97.8
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.82	0.82	0.82	0.82
v/c Ratio	0.05	0.03	0.42	0.64	0.05	0.32	0.66	0.45
Control Delay (s/veh)	45.4	8.2	56.6	53.5	4.0	3.3	20.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.4	8.2	56.6	53.5	4.0	3.3	20.1	3.9
LOS	D	A	E	D	A	A	C	A
Approach Delay (s/veh)		26.8		54.5		3.3		5.4
Approach LOS		C		D		A		A
Intersection Summary								
Cycle Length: 120								
Actuated Cycle Length: 120								
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 90								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.66								
Intersection Signal Delay (s/veh): 7.3					Intersection LOS: A			
Intersection Capacity Utilization 59.4%					ICU Level of Service B			
Analysis Period (min) 15								

Splits and Phases: 12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

#12 	#12 
Ø2 (R)	Ø4
59.5 s	60.5 s
#12 	#12 
Ø6 (R)	Ø8
59.5 s	60.5 s

HCM 7th Signalized Intersection Summary
12: Founders Pkwy & Rising Sun Dr Access/Rising Sun Dr

2040 Total PM
08/04/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	5	62	0	121	7	1175	84	180	1746	7
Future Volume (veh/h)	5	0	5	62	0	121	7	1175	84	180	1746	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	0	5	65	0	127	8	1237	88	189	1838	8
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	0	164	202	0	164	242	3999	284	375	4312	19
Arrive On Green	0.10	0.00	0.10	0.10	0.00	0.10	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1264	0	1585	1411	0	1585	250	4866	346	414	5247	23
Grp Volume(v), veh/h	5	0	5	65	0	127	8	865	460	189	1192	654
Grp Sat Flow(s),veh/h/ln	1264	0	1585	1411	0	1585	250	1702	1808	414	1702	1866
Q Serve(g_s), s	0.5	0.0	0.3	5.2	0.0	9.4	1.1	7.3	7.3	24.1	11.5	11.5
Cycle Q Clear(g_c), s	9.8	0.0	0.3	5.6	0.0	9.4	12.6	7.3	7.3	31.4	11.5	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.01
Lane Grp Cap(c), veh/h	92	0	164	202	0	164	242	2797	1486	375	2797	1534
V/C Ratio(X)	0.05	0.00	0.03	0.32	0.00	0.78	0.03	0.31	0.31	0.50	0.43	0.43
Avail Cap(c_a), veh/h	551	0	740	715	0	740	242	2797	1486	375	2797	1534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	0.0	48.4	50.9	0.0	52.5	4.7	2.6	2.6	6.3	2.9	2.9
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.9	0.0	7.7	0.3	0.3	0.5	4.8	0.5	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	1.9	0.0	4.1	0.1	1.9	2.1	2.3	3.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.5	0.0	48.5	51.8	0.0	60.1	4.9	2.8	3.1	11.1	3.4	3.8
LnGrp LOS	E		D	D		E	A	A	A	B	A	A
Approach Vol, veh/h	10			192			1333			2035		
Approach Delay, s/veh	53.0			57.3			2.9			4.2		
Approach LOS	D			E			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	103.1			16.9			103.1			16.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	55.0			56.0			55.0			56.0		
Max Q Clear Time (g_c+I1), s	14.6			11.8			33.4			11.4		
Green Ext Time (p_c), s	12.7			0.0			16.3			1.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	6.8											
HCM 7th LOS	A											

Intersection Queues

										
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	105	67	13	250	38	1511	11	60	564	59
v/c Ratio	1.33	0.04	0.06	0.69	0.06	0.65	0.01	0.24	0.23	0.05
Control Delay (s/veh)	245.4	0.0	32.1	28.1	4.8	13.9	0.0	6.9	7.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	245.4	0.0	32.1	28.1	4.8	13.9	0.0	6.9	7.9	2.4
Queue Length 50th (ft)	~88	0	7	73	5	292	0	8	73	0
Queue Length 95th (ft)	#168	0	22	144	18	484	0	25	130	16
Internal Link Dist (ft)				391		460			703	
Turn Bay Length (ft)	150	150	275		370		425	525		300
Base Capacity (vph)	208	1583	593	740	634	2328	1063	248	2413	1100
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.04	0.02	0.34	0.06	0.65	0.01	0.24	0.23	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

										
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	70	45	14	115	67	919	23	195	1582	104
v/c Ratio	0.59	0.03	0.09	0.36	0.26	0.41	0.02	0.37	0.63	0.09
Control Delay (s/veh)	60.7	0.0	38.7	5.2	6.1	10.3	0.0	4.7	10.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.7	0.0	38.7	5.2	6.1	10.3	0.0	4.7	10.2	1.8
Queue Length 50th (ft)	44	0	8	0	7	136	0	22	261	1
Queue Length 95th (ft)	86	0	26	19	19	225	0	49	411	20
Internal Link Dist (ft)				391		469			703	
Turn Bay Length (ft)	150	150	275		370		425	525		300
Base Capacity (vph)	459	1583	593	762	259	2261	1035	523	2516	1153
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.03	0.02	0.15	0.26	0.41	0.02	0.37	0.63	0.09
Intersection Summary										

Queues

2040 Total AM

9: Founders Pkwy & Crimson Sky Dr Access/Crimson Sky Dr

08/04/2026

								
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	122	13	250	65	2012	60	761
v/c Ratio	0.94	0.08	0.04	0.59	0.13	0.66	0.30	0.25
Control Delay (s/veh)	93.8	0.1	25.2	20.6	6.6	15.4	10.1	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	93.8	0.1	25.2	20.6	6.6	15.4	10.1	10.0
Queue Length 50th (ft)	78	0	6	63	11	289	10	74
Queue Length 95th (ft)	#162	0	20	129	29	396	28	111
Internal Link Dist (ft)				391		260		842
Turn Bay Length (ft)	150	150	275		370		525	
Base Capacity (vph)	200	1583	399	535	486	3026	202	2994
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.08	0.03	0.47	0.13	0.66	0.30	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

								
Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	99	14	115	143	1254	195	2114
v/c Ratio	0.62	0.06	0.07	0.26	0.59	0.39	0.50	0.65
Control Delay (s/veh)	52.1	0.1	31.8	1.5	24.5	10.0	8.1	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.1	0.1	31.8	1.5	24.5	10.0	8.1	12.8
Queue Length 50th (ft)	56	0	7	0	28	121	24	255
Queue Length 95th (ft)	103	0	23	0	94	206	56	415
Internal Link Dist (ft)				391		190		703
Turn Bay Length (ft)	150	150	275		370		525	
Base Capacity (vph)	238	1583	286	524	309	3230	482	3252
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.06	0.05	0.22	0.46	0.39	0.40	0.65
Intersection Summary								

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	8	8	87	187	4	1339	40	66	503	4
v/c Ratio	0.07	0.02	0.40	0.72	0.01	0.49	0.03	0.26	0.18	0.00
Control Delay (s/veh)	41.0	0.0	49.5	57.4	4.8	6.4	1.6	8.3	4.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.0	0.0	49.5	57.4	4.8	6.4	1.6	8.3	4.4	0.8
Queue Length 50th (ft)	6	0	63	127	1	172	0	13	46	0
Queue Length 95th (ft)	19	0	107	193	4	285	10	42	84	1
Internal Link Dist (ft)		420		453		711			2120	
Turn Bay Length (ft)	150				300		475	525		300
Base Capacity (vph)	338	878	653	749	668	2725	1228	250	2725	1222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.01	0.13	0.25	0.01	0.49	0.03	0.26	0.18	0.00
Intersection Summary										

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	5	5	65	127	8	875	88	189	1344	8
v/c Ratio	0.07	0.03	0.50	0.57	0.03	0.30	0.07	0.38	0.46	0.01
Control Delay (s/veh)	49.0	1.6	64.3	29.1	2.6	2.7	0.6	5.5	3.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.0	1.6	64.3	29.1	2.6	2.7	0.6	5.5	3.5	0.9
Queue Length 50th (ft)	4	0	50	31	1	60	0	28	113	0
Queue Length 95th (ft)	16	2	94	91	4	102	10	73	185	2
Internal Link Dist (ft)		420		453		711			2111	
Turn Bay Length (ft)	150				300		475	525		300
Base Capacity (vph)	385	749	655	784	288	2948	1333	491	2948	1321
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.10	0.16	0.03	0.30	0.07	0.38	0.46	0.01
Intersection Summary										

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	8	87	187	4	1838	66	725
v/c Ratio	0.07	0.02	0.39	0.71	0.01	0.47	0.47	0.19
Control Delay (s/veh)	40.6	0.1	48.9	58.6	4.8	6.1	20.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.6	0.1	48.9	58.6	4.8	6.1	20.7	4.4
Queue Length 50th (ft)	5	0	62	131	1	163	16	47
Queue Length 95th (ft)	19	0	107	197	4	254	83	80
Internal Link Dist (ft)		420		453		500		2320
Turn Bay Length (ft)	150				300		525	
Base Capacity (vph)	345	811	653	746	518	3888	140	3895
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.01	0.13	0.25	0.01	0.47	0.47	0.19
Intersection Summary								

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	5	65	127	8	1325	189	1846
v/c Ratio	0.05	0.03	0.42	0.64	0.05	0.32	0.66	0.45
Control Delay (s/veh)	45.4	8.2	56.6	53.5	4.0	3.3	20.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.4	8.2	56.6	53.5	4.0	3.3	20.1	3.9
Queue Length 50th (ft)	4	0	49	75	1	73	47	120
Queue Length 95th (ft)	16	6	91	135	6	121	#243	193
Internal Link Dist (ft)		420		453		530		2390
Turn Bay Length (ft)	150				300		525	
Base Capacity (vph)	427	746	655	753	154	4105	285	4141
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.10	0.17	0.05	0.32	0.66	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.