

The page features a large light blue rectangle on the left side, a red rectangle below it, and a dark grey rectangle at the bottom right. The title and other text are positioned to the right of the blue rectangle.

Traffic Impact Study

Mayberry Communities

Sketch Plan

El Paso County, Colorado

August 30, 2023

Traffic Impact Studies

Traffic Engineer's Statement

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

Joshua Hoffmann, P.E. # 0062304

[Name, P.E. #]

August 30, 2023

Date

Developer's Statement

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

[Name, Title]

[Business Name]

[Address]

Date

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Introduction

Mayberry Communities have retained HDR Engineering, Inc. to perform a Traffic Impact Study (TIS) for the proposed Sketch Plan development located in the southeast quadrant of Mayberry Drive and SH 94, as shown in Figure 1. The development is anticipated to consist of the following:

- Between 900-1800 single-family detached housing,
- Between 750-1410 mid-rise and multifamily housing.
- 105.7 KSF commercial and industrial (commercial service, retail, and groceries)

The project site is has 98 lots platted, with another 142 lots pending recording, and the development is expected to be complete by 2034. This study serves as part of an update to the approved 2020 - June - Ellicott Town Center Commercial Rezone TIS Report (LSC 194060) (Ref 1) and uses assumptions and traffic data from the 2022 - September - Mayberry Filing No. 3 (Ref 2) TIS. The Sketch Plan is the ultimate proposed vision for the Mayberry Communities Development just west of Ellicott between Peyton Highway and Log Road. This community is being developed in phases; however, this report details the traffic impacts of the entire proposed site.

Summary of Findings

Through the iterative process of analyzing the traffic impact of the Sketch Plan development, two main recommendations have emerged to ensure efficient traffic flow and management in the area.

Internal Signalized Controls: The analysis indicates that implementing signalized controls at the intersections of N Mayberry Dr & Village Main St and S Mayberry Dr & Village Main St can effectively improve mobility after the full build-out of the commercial district. Therefore, it is recommended to implement signalized controls at these intersections to manage the increased traffic flow.

SH 94 and Mayberry Dr: A threshold analysis was conducted for the intersection of SH 94 and Mayberry Dr and SH 94. The summary of those findings is provided in the following table.

Table 1: Trigger Analysis Summary

Stages	Improvement	Configuration Description	Dwelling Units and Commerical Area
Stage 1	“Florida T” Configuration	westbound left-turn lane with a westbound acceleration lane	728 DU 26.5 KSF
Stage 2a	Highway Improvement to SH 94	Add capacity to SH 94, which will accommodate the generated traffic for entire build-out	739 DU 105.7 KSF
Stage 2b	Signalized intersection	Add signals to existing T-Intersection configuration	959 DU 105.7 KSF
Stage 3	Added capacity	Increase capacity to northbound dual left-turn, Add additional eastbound through lane	Final Development

Monitor and Adjust: As the full Sketch Plan is built out, it is essential to regularly monitor intersections' performance. The analysis shows increased delays at both signalized and stop-controlled intersections in the full Sketch Plan scenario. Depending on the actual traffic patterns and congestion levels, adjustments to signal timings or further improvements to intersection designs may be required.



LEGEND
X VPD = VEHICLES PER DAY

Background Map Copyrighted by Google, 2022

FIGURE 1
AREA LOCATION MAP

Existing Conditions

This section provides an overview of the existing major roads near the proposed development.

Description of Existing Major Roads

SH 94

CDOT classifies SH 94 as a Minor Arterial functional type. The highway is an access control type Non-Rural Principal Highway (NR-A) west of County Road 493 and a Regional Highway (R-A) east of County Road 493. The posted speed limit is 65 miles per hour near the development. An OTIS straight-line diagram of SH 94 near the project site is provided in Appendix A. According to CDOT's traffic volume database, the existing daily traffic volume on SH 94 is listed below:

- 4,000 vpd between Peyton Highway and Ellicott Highway
- 3,000 vpd east of Ellicott Highway

Peyton Highway

The El Paso County 2040 Major Transportation Corridor Plan (MTCP)(Ref. 3) classifies Peyton Highway as a Minor Arterial with a speed limit of 55 mph.

Ellicott Highway

The El Paso County MTCP classifies Ellicott Highway as a Minor Arterial and has a speed limit of 55 mph.

Proposed Development and Trip Generation

The proposed sketch plan is set to be developed incrementally from 2024 to 2034. The traffic impact study is structured in three stages to assess the effects of each development phase: first, the development of the north sketch plan; second, the addition of the commercial district; and finally, the addition of the south sketch plan as the ultimate configuration. This approach enables a thorough evaluation of the traffic impacts for each stage of development.

Trip Generation and Adjustments

Determining site-generated traffic, or traffic resulting from the development of the Sketch Plan, is a crucial component of this analysis. Unadjusted daily trips and peak hour traffic associated with these filings were estimated using recommendations and data from the Institute of Transportation Engineers Trip Generation, 11th Edition (Ref. 4). Upon build-out, the Sketch Plan is expected to generate approximately 38,497 unadjusted daily trips. A detailed traffic generation summary of the assumed land use plan is provided in Table 2.

The traffic impact analysis process relies on primary data and engineering judgment applied to transferable parameters. In particular, engineering judgment is necessary to estimate background traffic growth, pass-by capture, and internal capture. Pass-by trips are assumed for specific land uses, such as gas stations and grocery stores, within the analysis. Internal capture is also considered due to the commercial land use anticipated to serve the development's residents. Considering the Sketch Plan's intention to develop a live, work, and play

development, engineering judgment was applied to adjust the trips to and from the development. Utilizing the internal capture and pass-by trip adjustments for land use code 945 from the ITE Trip Generation, the development is estimated to generate approximately 31,043 adjusted daily trips upon build-out. Table 3 also presents a comprehensive traffic generation summary of the assumed land use plan, considering these adjustments.

Table 2: Summary of Unadjusted Daily and Peak Hour Trip Generation for the Mayberry Sketch Plan

Land Use Code	Land Use Description	Trip Generation Units		Average Weekday	AM			PM		
					Total	In	Out	Total	In	Out
210	Single Family Detached Housing	1,527	DU	14,726	1,084	282	802	1,467	924	543
110	General Light Industrial	250	KSF	990	174	153	21	78	11	67
220	Multifamily Housing (Low-Rise)	788	DU	5,461	359	86	272	442	278	163
215	Single Family Attached Housing	473	KSF	3,402	223	69	154	268	153	115
630	Clinic	4	KSF	178	17	14	3	17	5	12
712	Small Office Building	4	KSF	58	7	5	1	9	3	6
814	Variety Store	8.5	KSF	541	26	14	12	57	29	28
815	Free-Standing Discount Store	4	KSF	454	7	5	2	32	16	16
850	Supermarket	40	KSF	3,875	114	67	47	368	184	184
876	Apparel Store	4	KSF	266	4	3	1	16	8	8
880	Pharmacy/Drug Store without Drive-Through Window	13	KSF	1,152	57	37	20	111	54	56
899	Liquor Store	3.6	DU	612	2	2	0	91	46	46
912	Drive-In Bank	4	KSF	401	40	23	17	84	42	42
930	Fast Casual Restaurant	4	DU	389	6	3	3	56	31	25
932	High Turnover (Sit-Down) Restaurant	4	DU	429	38	21	17	36	22	14
934	Fast-Food Restaurant with Drive-Through Window	3.6	KSF	1,683	161	82	79	119	62	57
945	Convenience Store/Gas Station	6	DU	3,914	339	170	170	327	164	164

Table 3: Summary of Pass-by and Internally Captured Adjusted Daily and Peak Hour Trip Generation for the Mayberry Sketch Plan

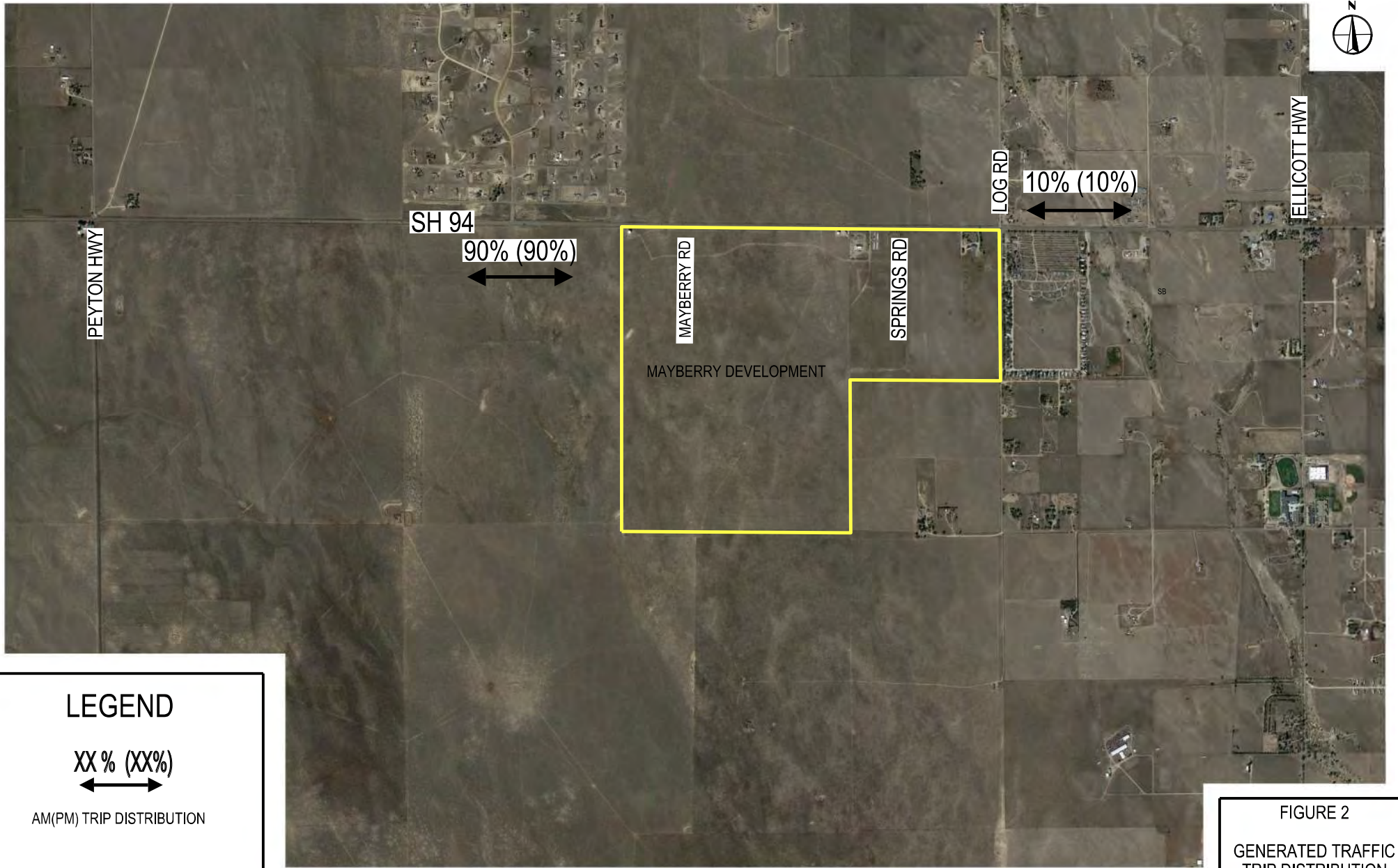
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					Total	In	Out	Total	In	Out
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110	General Light Industrial	250	KSF	990	174	153	21	78	11	67
220	Multifamily Housing (Low-Rise)	788	DU	5,461	359	86	272	442	278	163
215	Single Family Attached Housing	473	KSF	3,402	223	69	154	268	153	115
630	Clinic	4	KSF	178	17	14	3	17	5	12
712	Small Office Building	4	KSF	58	7	5	1	9	3	6
814	Variety Store	8.5	KSF	541	26	14	12	57	29	28
815	Free-Standing Discount Store	4	KSF	454	7	5	2	32	16	16
850	Supermarket	40	KSF	3,875	114	67	47	368	184	184
876	Apparel Store	4	KSF	266	4	3	1	16	8	8
880	Pharmacy/Drug Store without Drive-Through Window	13	KSF	1,152	57	37	20	111	54	56
899	Liquor Store	3.6	DU	612	2	2	0	91	46	46
912	Drive-In Bank	4	KSF	401	40	23	17	84	42	42
930	Fast Casual Restaurant	4	DU	389	6	3	3	56	31	25
932	High Turnover (Sit-Down) Restaurant	4	DU	429	38	21	17	36	22	14
934	Fast-Food Restaurant with Drive-Through Window	3.6	KSF	1,683	161	82	79	119	62	57
945	Convenience Store/Gas Station	6	DU	939	81	41	41	79	39	39

Site Distribution

The study follows the assumption established in the September 2022 Mayberry Filing No. 3, which states that 90% of vehicle trips originate from and are destined for points west of the development, while 10% are associated with points east of the development. Figure 2 provides a detailed summary of the AM and PM site distribution.

Other Traffic Studies in the Area

As no relevant studies were available in the area, data or methods were only used from other TIS within the ones mentioned in this report.



LEGEND

XX % (XX%)
↔

AM(PM) TRIP DISTRIBUTION

FIGURE 2
GENERATED TRAFFIC TRIP DISTRIBUTION

Intersection and Roadway Evaluation

Roadway Sizing and Classification

The roadway sizing and classification criteria are found in the Engineering Criteria Manual County of El Paso Chapter 2, Table 2-7 (Ref 5). Below is a brief overview of the criteria.

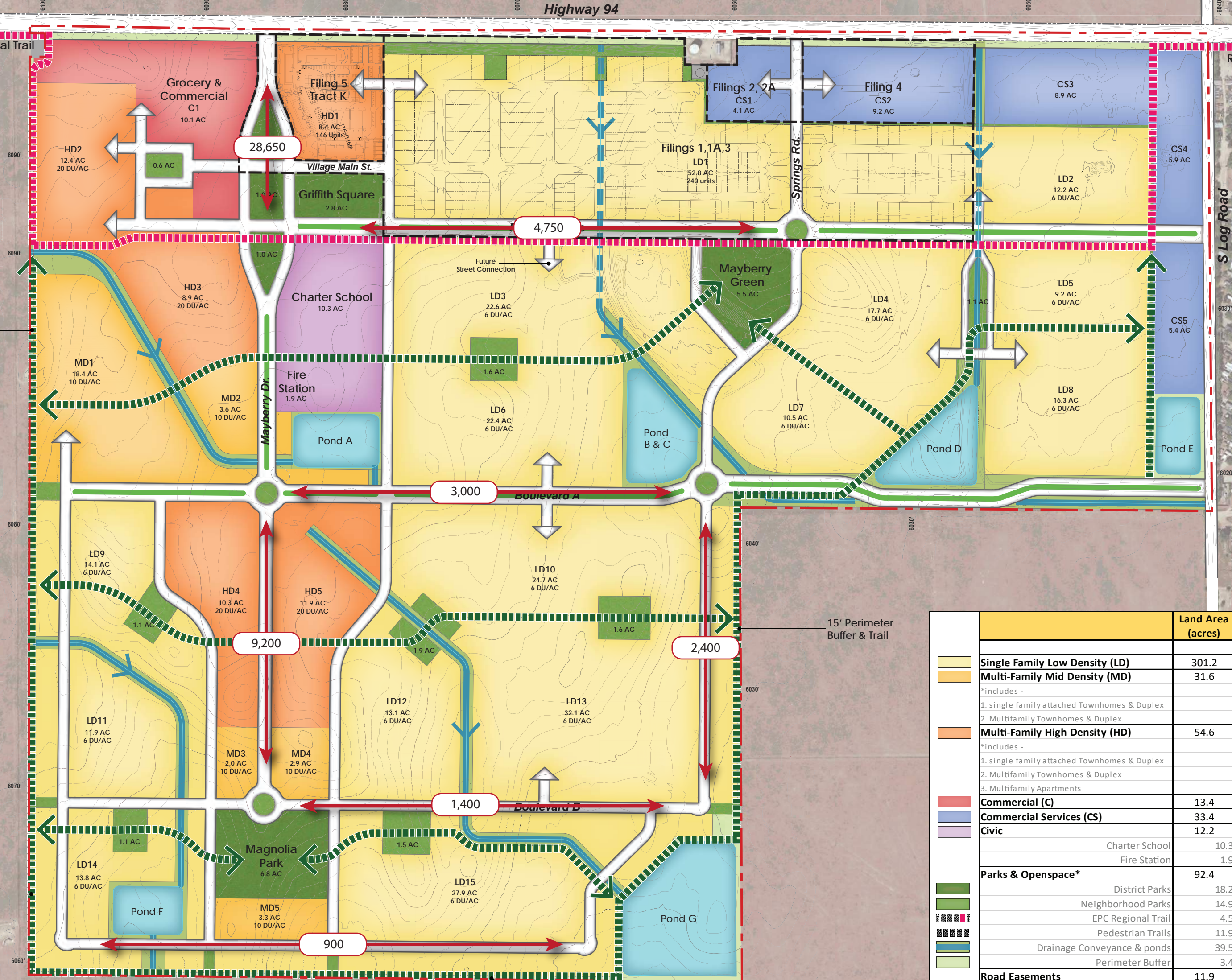
- Major arterials: These roads provide major travel routes within urban areas and connect to other major arterials or freeways. Major arterials are typically classified as such if they have a daily average traffic volume (ADT) of 20,000 or more vehicles.
- Minor arterials: These roads provide secondary travel routes within urban areas and connect to major arterials or collectors. Minor arterials are typically classified as such if they have an ADT of 10,000 to 20,000 vehicles.
- Collectors: These roads provide access to individual properties within urban areas and connect to major or minor arterials. Collectors are typically classified as such if they have 5,000 to 10,000 vehicles ADT.
- Locals: These roads provide access to individual properties within urban areas and connect to collectors or other locals. Locals are typically classified as such if they have less than 5,000 vehicles ADT.

From this set of criteria, the roadways within the Sketch Plan range from Urban Collectors to Urban Locals. Figure 4 provides the ADT and classification for the studied roadways.

MAYBERRY COMMUNITIES

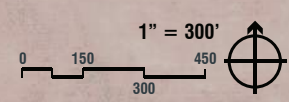
SECTION 14 & 15, IN TOWNSHIP 14 SOUTH, RANGE 63 WEST OF THE 6TH PRINCIPAL MERIDIAN,
EL PASO COUNTY, COLORADO.

SKETCH PLAN

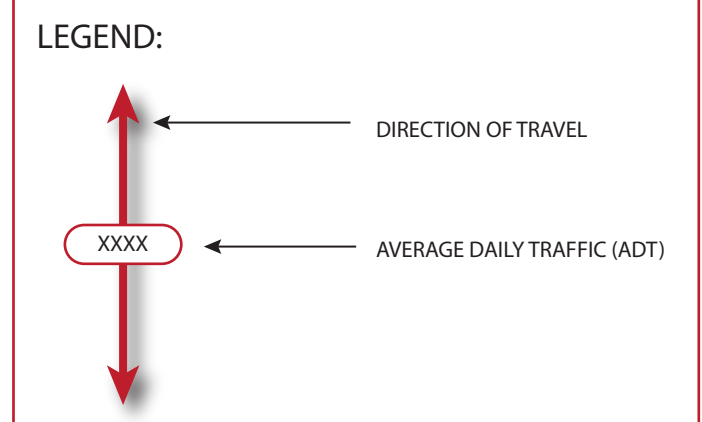


	Land Area (acres)	Land Area (%)	Density (DU/AC)	Units
Single Family Low Density (LD)	301.2	47.7%	3-6	900-1800
Multi-Family Mid Density (MD)	31.6	5.0%	6-10	210-320
*Includes - 1. Single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex				
Multi-Family High Density (HD)	54.6	8.6%	10-20	540-1090
*Includes - 1. Single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex 3. Multifamily Apartments				
Commercial (C)	13.4	2.1%		
Commercial Services (CS)	33.4	5.3%		
Civic	12.2	1.9%		
Charter School	10.3	1.6%		
Fire Station	1.9	0.3%		
Parks & Openspace*	92.4	14.6%		
District Parks	18.2	2.9%		
Neighborhood Parks	14.9	2.4%		
EPC Regional Trail	4.5	0.7%		
Pedestrian Trails	11.9	1.9%		
Drainage Conveyance & ponds	39.5	6.3%		
Perimeter Buffer	3.4	0.5%		
Road Easements	11.9	1.9%		
Major R.O.Ws	80.7	12.8%		
Total	631.4	100%	4.4	2800

*Commercial uses are allowed in all areas designated as park to accommodate private business providing complementary services



NORTH SKETCH PLAN TRAFFIC CIRCLE TURN VOLUMES



PREPARED BY: _____
 IN ASSOCIATION WITH: _____
 DATE: July 7, 2023
 PROJECT MGR.: S. Steuders
 PREPARED BY: V. Kalliam
 SHEET TITLE: SKETCH PLAN
 SHEET NUMBER: 2 OF 6
 PLAN FILE #: _____

MAYBERRY COMMUNITIES



Mayberry Communities, LLC
3296 Devine Heights, # 208
Colorado Springs, CO 80922

Trigger Analysis

A trigger analysis was performed on the adjacent intersection of the development site, focusing on the intersection of Mayberry Drive and SH 94 and the SH 94 Roadway. This analysis determined the number of dwelling units and commercial square footage that the intersection can accommodate before improvements are required to mitigate the impacts of the development. An indepth analysis and findings are provided in Appendix B. The summary of those findings are provided in the following table.

Table 4: Trigger Analysis Summary

Stages	Improvement	Configuration Description	Dwelling Units and Commerical Area
Stage 1	“Florida T” Configuration	westbound left-turn lane with a westbound acceleration lane	728 DU 26.5 KSF
Stage 2a	Highway Improvement to SH 94	Add capacity to SH 94, which will accommodate the generated traffic for entire build-out	739 DU 105.7 KSF
Stage 2b	Signalized intersection	Add signals to existing T-Intersection configuration	959 DU 105.7 KSF
Stage 3	Added capacity	Increase capacity to northbound dual left-turn, Add additional eastbound through lane	Final Development

On-Site Intersection Analysis

The intersections assessed for the on-site analysis, including the initial geometric design, are described below:

N Mayberry Drive and Village Main Street is a stopped-control intersection with the following lane assignments.

- Northbound Mayberry Drive has one shared lane for the left-turn, through, and right-turn traffic.
- Eastbound Village Main Street has one shared left-turn and through lane.
- Westbound Village Main Street has one shared through and right-turn lane.

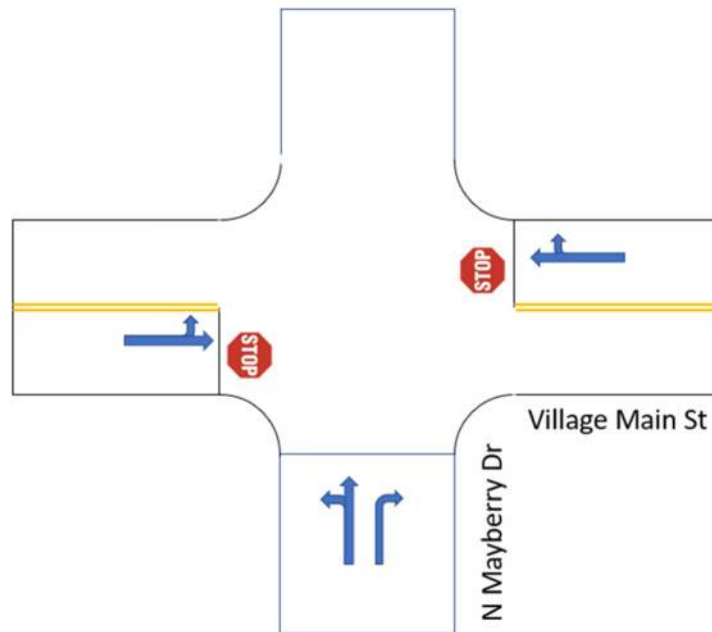


Figure 4: N Mayberry Dr and Village Main St Lane Designations

S Mayberry Drive and Village Main Street is a stopped-control intersection with the following lane assignments.

- Southbound Mayberry Drive has one shared lane for the left-turn, through, and right-turn traffic.
- Village Main Street has one shared through and right-turn lane.
- Village Main Street has one shared left-turn and through lane.

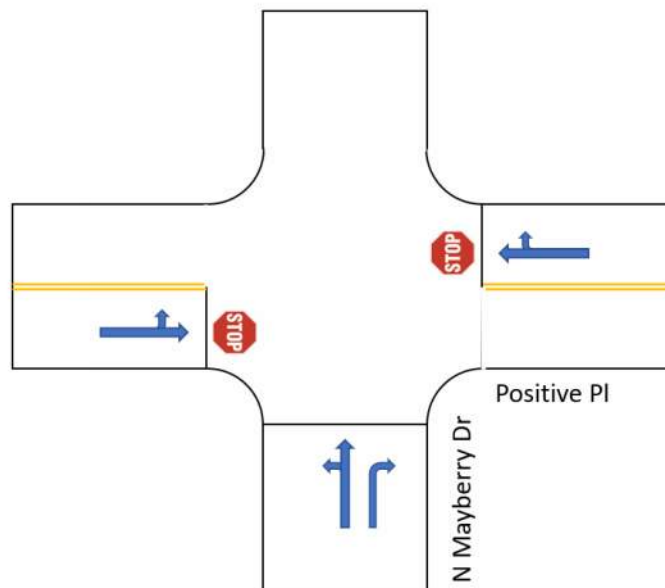


Figure 5: S Mayberry Dr and Village Main St Lane Designation

N Mayberry Drive and Postive Place is a stopped-control intersection with the following lane assignments.

- Northbound Mayberry Drive has one shared lane for the left-turn, through, and right-turn traffic.
- Eastbound Village Main Street has one shared left-turn and through lane.
- Westbound Village Main Street has one shared through and right-turn lane.

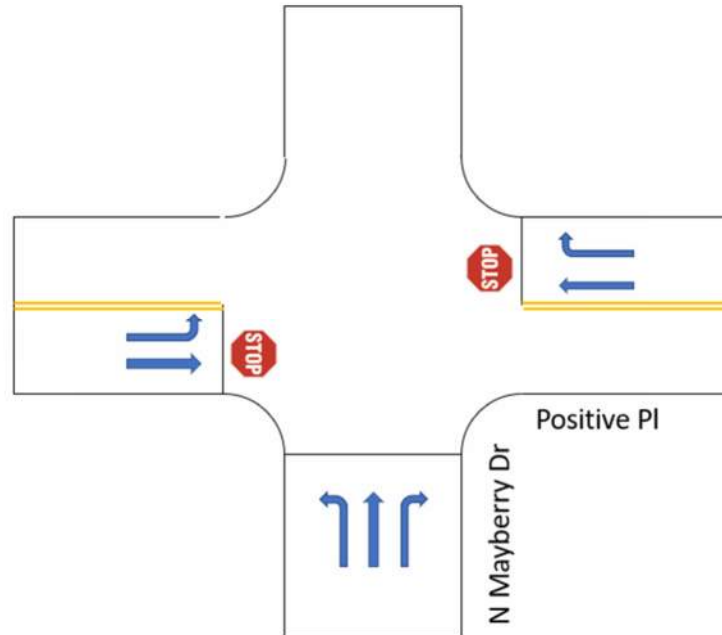


Figure 6: N Maryberry Dr and Positive PI Lane Designation

S Mayberry Drive and Postive Place is a stopped-control intersection with the following lane assignments.

- Southbound Mayberry Drive has one shared lane for the left-turn, through, and right-turn traffic.
- Eastbound Postive Place has one shared through and right-turn lane.
- Westbound Postive Place has one shared left-turn and through lane.

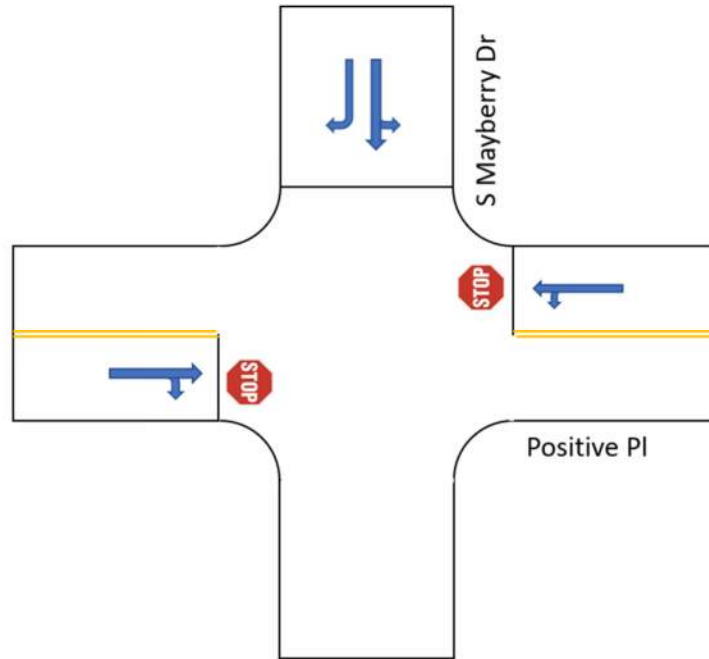


Figure 7: S Mayberry Dr and Postive PI Lane Designation

Mayberry Drive and Boulevard A is a single-lane roundabout with shared movements on all approaches.

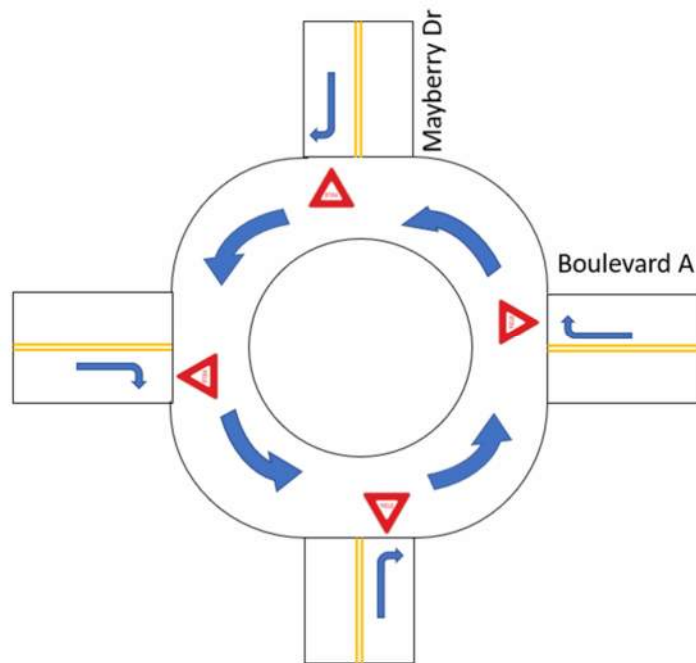


Figure 8: Mayberry Dr and Boulevard A Lane Designation

Positive Place and Springs Road is a single-lane roundabout with shared movements on all approaches.

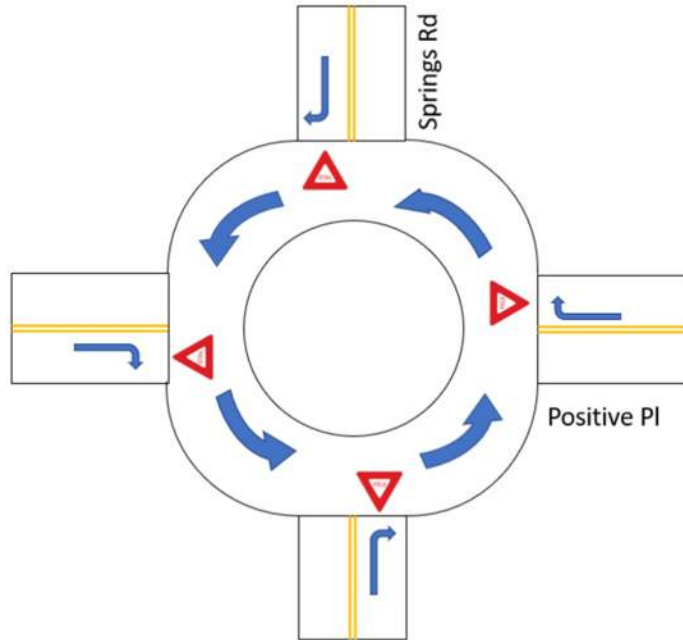


Figure 9: Spring Rd and Positive PI Lane Designation

Springs Road and Boulevard A is a single-lane roundabout with shared movements on all approaches.

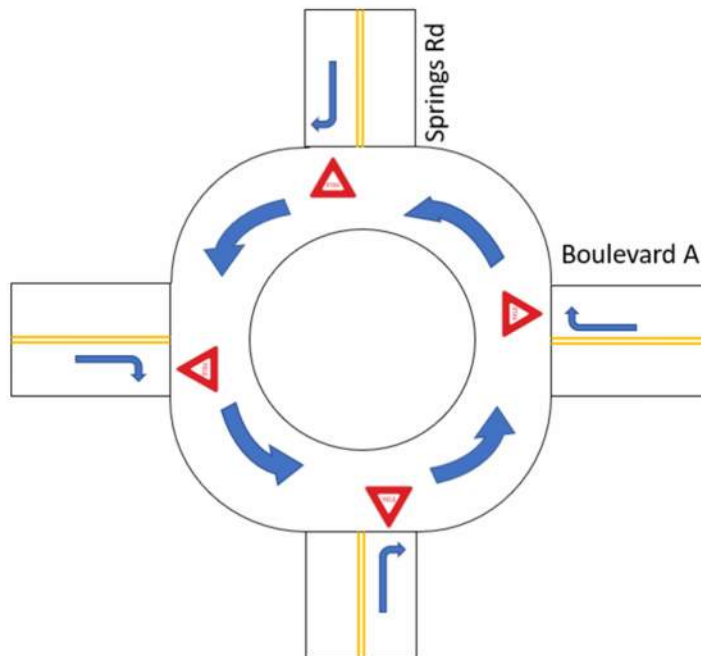


Figure 10: Springs Rd and Boulevard A Lane Designation

Mayberry Drive Boulevard B is a single-lane roundabout with shared movements on all approaches. The intersection is a T-intersection on the south side.

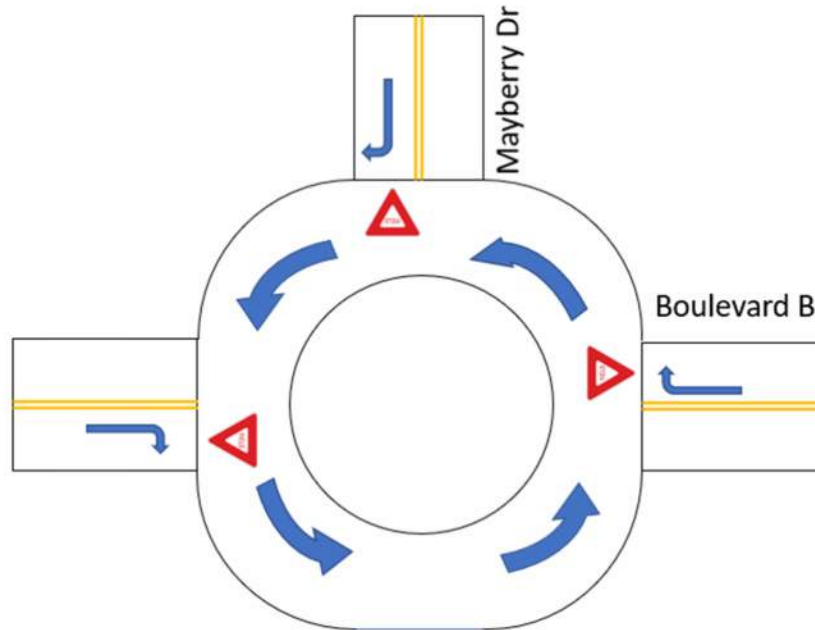


Figure 11: Mayberry Dr and Boulevard B Lane Designation

These intersections were analyzed for the three stages corresponding to the assumed phased development of the Sketch Plan. A detailed analysis is provided in the following sections.

North Sketch Plan

The north Sketch Plan encompasses a development area defined by Mayberry Drive to the west, Boulevard 2 to the south, Log Road to the east, and SH 94 to the north. This area is anticipated to primarily consist of residential units, with a detailed breakdown of the number of units for each land use provided in Table 4 and Figure 5 provides the turning movement volumes for the North Sketch Plan intersections.

Table 5: Land Use for North Sketch Plan

Land Use Code	Land Use Description	Trip Generation Units	
210	Single-Family Detached Housing	842	DU
110	General Light Industrial	250	KSF
220	Multifamily Housing (Low-Rise)	572	DU
215	Single Family Attached Housing	220	KSF

MAYBERRY COMMUNITIES

SECTION 14 & 15, IN TOWNSHIP 14 SOUTH, RANGE 63 WEST OF THE 6TH PRINCIPAL MERIDIAN,
EL PASO COUNTY, COLORADO.

SKETCH PLAN



2095 Rose St. Suite 201
Berkeley, CA. 94709

PREPARED BY:

PLANNING ASSOCIATION WITH:

MAYBERRY COMMUNITIES



Mayberry Communities, LLC
3298 Denine Heights, # 208
Colorado Springs, CO. 80922

PROJECT INFO:

DATE: July 7, 2023
PROJECT MGR: S. Scuders
PREPARED BY: V. Kalliam

SEAL

ISSUE INFO:

DATE:	BY:	DESCRIPTION:

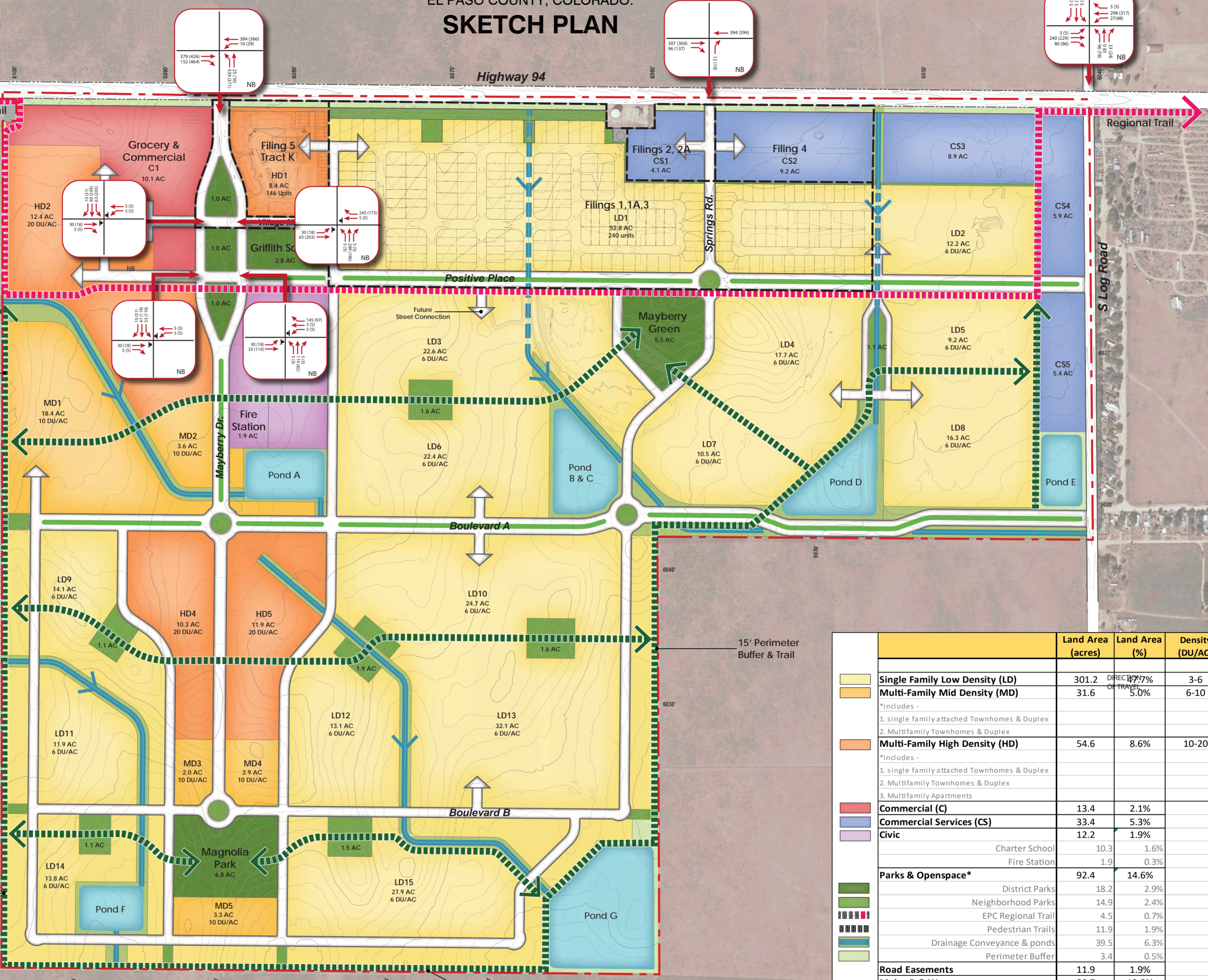
ISSUE REVISION:

SKETCH PLAN

2

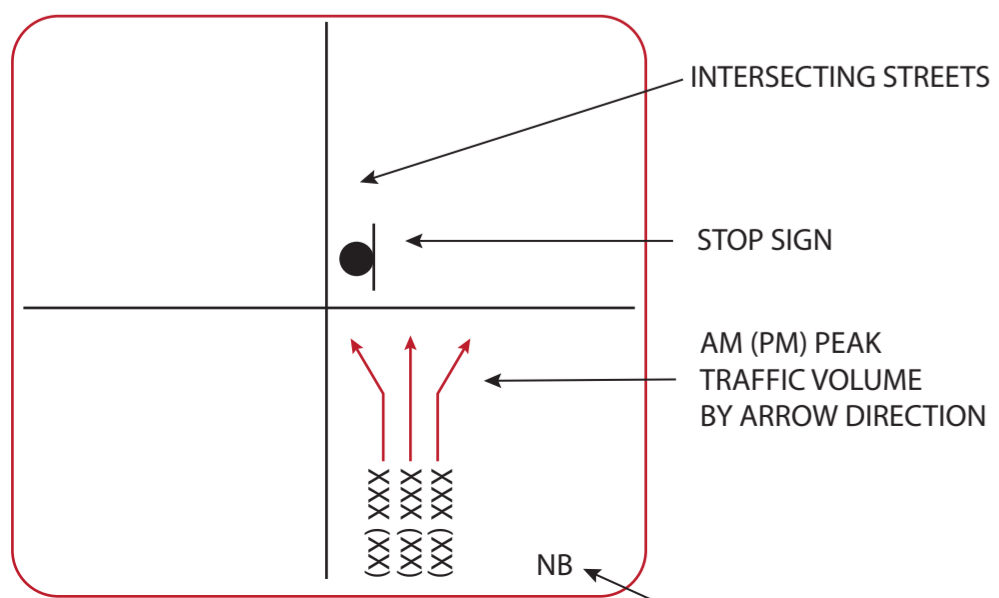
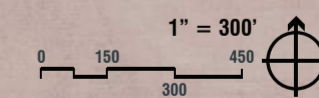
2 OF 6

PLAN FILE # SHEET NUMBER



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■ Single Family Low Density (LD)	301.2	49.7%	3-6	900-1800
■ Multi-Family Mid Density (MD)	31.6	5.0%	6-10	210-320
*Includes - 1. Single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex				
■ Multi-Family High Density (HD)	54.6	8.6%	10-20	540-1090
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■ Commercial (C)	13.4	2.1%		
■ Commercial Services (CS)	33.4	5.3%		
■ Civic	12.2	1.9%		
Charter School 10.3 1.6%				
Fire Station 1.9 0.3%				
■ Parks & Openspace*	92.4	14.6%		
District Parks 18.2 2.9%				
Neighborhood Parks 14.9 2.4%				
EPC Regional Trail 4.5 0.7%				
Pedestrian Trails 11.9 1.9%				
Drainage Conveyance & ponds 39.5 6.3%				
Perimeter Buffer 3.4 0.5%				
Road Easements	11.9	1.9%		
Major R.O.Ws	80.7	12.8%		
Total	631.4	100%	4.4	2800

*Commercial uses are allowed in all areas designated as park to accommodate private business providing complementary services

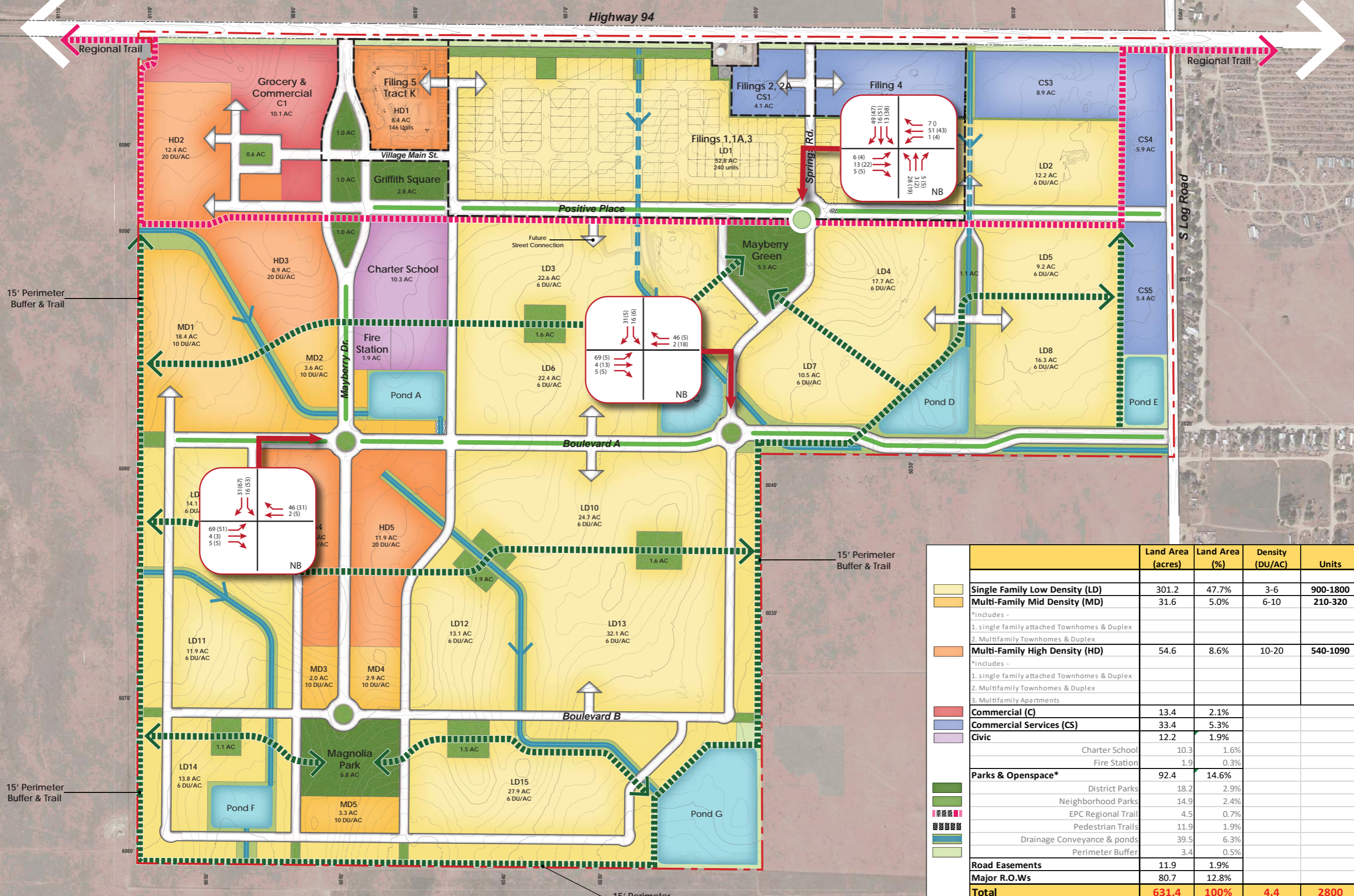


MAYBERRY COMMUNITIES

SECTION 14 & 15, IN TOWNSHIP 14 SOUTH, RANGE 63 WEST OF THE 6TH PRINCIPAL MERIDIAN,
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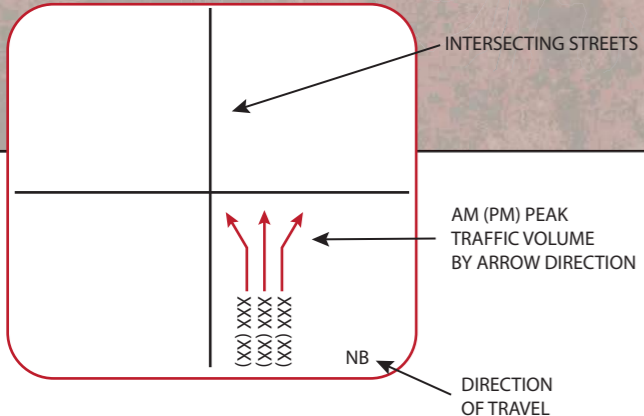
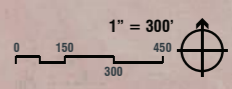
SKETCH PLAN

HR
2095 Rose St. Suite 201
Berkeley, CA. 94709



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Charter School	10.3	1.6%		
Fire Station	1.9	0.3%		
Parks & Openspace*	92.4	14.6%		
District Parks	18.2	2.9%		
Neighborhood Parks	14.9	2.4%		
EPC Regional Trail	4.5	0.7%		
Pedestrian Trails	11.9	1.9%		
Drainage Conveyance & ponds	39.5	6.3%		
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 SEAL: [Redacted]
 ISSUE INFO: [Redacted]
 SHEET NUMBER: [Redacted]

MAYBERRY COMMUNITIES

 Mayberry Communities, LLC
 3296 Devine Heights, # 208
 Colorado Springs, CO. 80922

July 7, 2023
S. Souder
V. Katsam

SKETCH PLAN

2

2 OF 6

NORTH SKETCH PLAN LEVEL OF SERVICE ANALYSIS

With the development of the North Sketch Plan, the LOS analysis for the key intersections is summarized in Table 6. The intersections include a mix of stop-controlled intersections and roundabouts. The stop-controlled intersections at N Mayberry Dr & Village Main St, S Mayberry Dr & Village Main St, N Mayberry Dr & Positive PI, and S Mayberry Dr & Positive PI exhibit LOS B during the AM peak hour and LOS B or C during the PM peak hour, indicating acceptable traffic flow with moderate delays.

On the other hand, the roundabout intersections at Mayberry Dr & Boulevard A, Springs Rd & Boulevard A, Positive PI & Springs Rd maintain a LOS A during both AM and PM peak hours, indicating smooth traffic flow with minimal delays. Table 5 provides a summary of the LOS for the North Sketch Plan.

Table 6: North Sketch Plan Level of Service Summary

Intersection	Intersection Type	AM Peak Hour (Sec/veh)	PM Peak Hour (Sec/veh)
N Mayberry Dr & Village Main St	Stop	B (14.9)	B (13.7)
S Mayberry Dr & Village Main St	Stop	B (10.5)	C (16.6)
N Mayberry Dr & Positive PI	Stop	B (10.9)	B (10.7)
S Mayberry Dr & Positive PI	Stop	A (9.8)	B (11.8)
Mayberry Dr & Boulevard A	Roundabout	A (3.2)	A (3.3)
Mayberry Dr & Boulevard AB	Roundabout	A (2.8)	A (2.9)
Positive PI & Springs Rd	Roundabout	A (3.3)	A (3.5)

Commercial Development

The commercial development encompasses an area defined by Mayberry Drive to the east, Boulevard B to the south and SH 94 to the north. This area is anticipated to primarily consist of retail and commercial space. A detailed breakdown of anticipated land uses is provided in Table 6. These land uses provide a conservative estimate of daily trip. If a commercial business goes beyond that of the estimated total trips for the commercial development, then that business will need to be reevaluated for County approval. Figure 6 provides the turning movement volume with the additional traffic.

Table 7: Land Use for Commerical District

Land Use Code	Land Use Description	Trip Generation Units	
630*	Clinic	4	KSF
712*	Small Office Building	4	KSF
814*	Variety Store	8.5	KSF
815*	Free-Standing Discount Store	4	KSF
850	Supermarket	40	KSF
876*	Apparel Store	4	KSF
880	Pharmacy/Drug Store without Drive-Through Window	13	KSF
899	Liquor Store	3.6	KSF
912*	Drive-In Bank	4	KSF
930	Fast Casual Restaurant	4	KSF
932	High Turnover (Sit-Down) Restaurant	4	KSF
934*	Fast-Food Restaurant with Drive-Through Window	3.6	KSF
945	Convenience Store/Gas Station	6	KSF

Figure 13: North Sketch Plan + Commercial District Turning Movement Volume

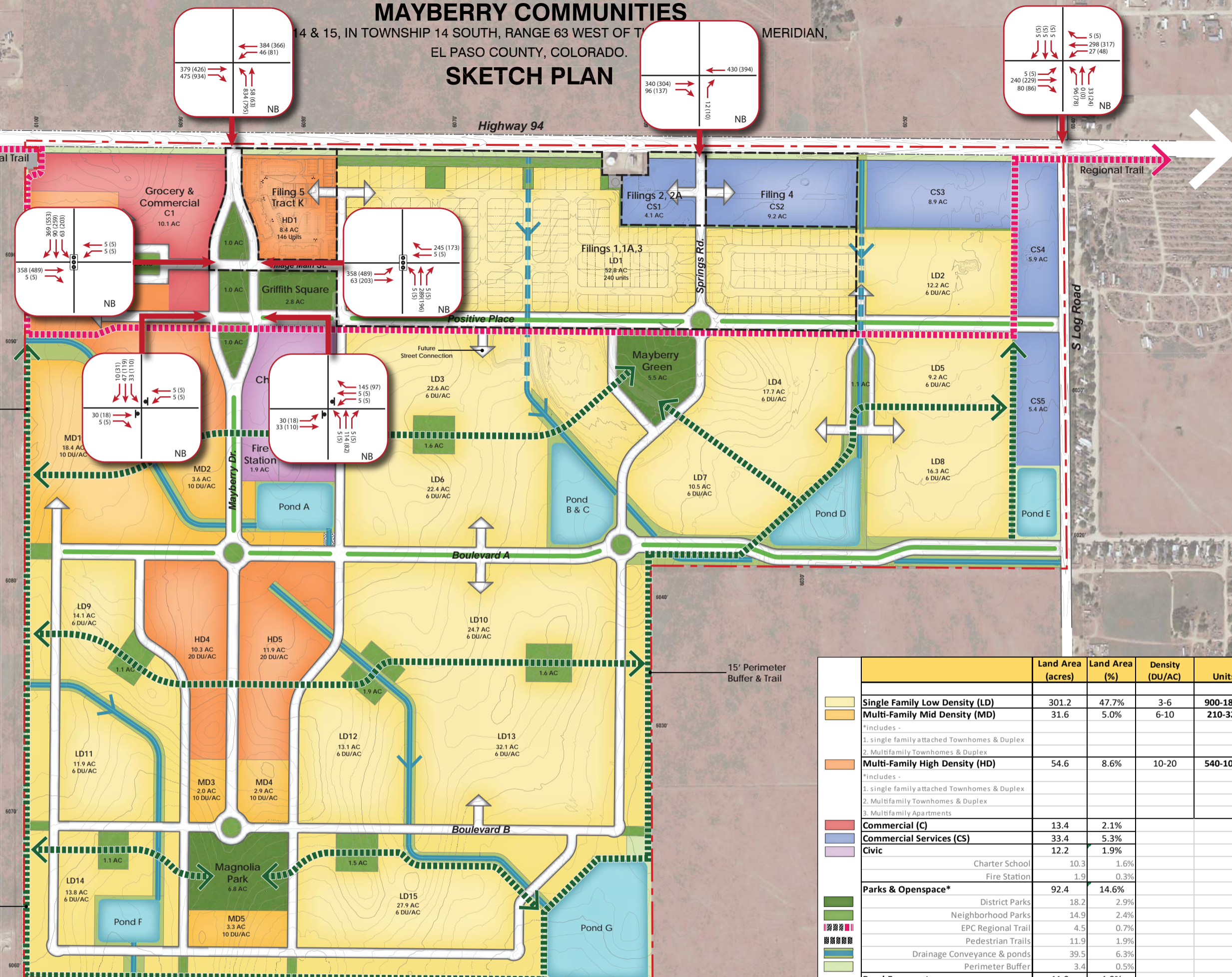
MAYBERRY COMMUNITIES

14 & 15, IN TOWNSHIP 14 SOUTH, RANGE 63 WEST OF THE 10TH MERIDIAN,
EL PASO COUNTY, COLORADO.

SKETCH PLAN

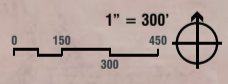


2095 Rose St. Suite 201
Berkeley, CA. 94709

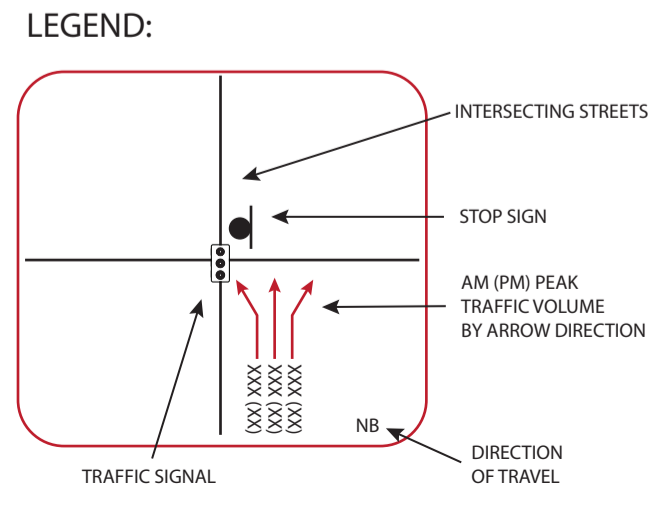


	Land Area (acres)	Land Area (%)	Density (DU/AC)	Units
Single Family Low Density (LD)	301.2	47.7%	3-6	900-1800
Multi-Family Mid Density (MD)	31.6	5.0%	6-10	210-320
*includes - 1. single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex				
Multi-Family High Density (HD)	54.6	8.6%	10-20	540-1090
*includes - 1. single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex 3. Multifamily Apartments				
Commercial (C)	13.4	2.1%		
Commercial Services (CS)	33.4	5.3%		
Civic	12.2	1.9%		
Charter School	10.3	1.6%		
Fire Station	1.9	0.3%		
Parks & Openspace*	92.4	14.6%		
District Parks	18.2	2.9%		
Neighborhood Parks	14.9	2.4%		
EPC Regional Trail	4.5	0.7%		
Pedestrian Trails	11.9	1.9%		
Drainage Conveyance & ponds	39.5	6.3%		
Perimeter Buffer	3.4	0.5%		
Road Easements	11.9	1.9%		
Major R.O.Ws	80.7	12.8%		
Total	631.4	100%	4.4	2800

*Commercial uses are allowed in all areas designated as park to accommodate private business providing complementary services



NORTH SKETCH PLAN + COMMERCIAL DEVELOPMENTS: TURN VOLUMES



PREPARED BY: **MAYBERRY COMMUNITIES**
 IN ASSOCIATION WITH:
 PROJECT INFO: DATE: July 7, 2023; PROJECT MGR: S Souders; PREPARED BY: V Kalasam
 SEAL:
 ISSUE INFO: DATE: BY: DESCRIPTION:
 ISSUE REVISION:
 SHEET TITLE: **SKETCH PLAN**
 SHEET NUMBER: **2**
 PLAN FILE #: **2 OF 6**

NORTH SKETCH PLAN PLUS COMMERCIAL DISTRICT LEVEL OF SERVICE ANALYSIS

With the full build-out of the commercial district, it is anticipated that the stop-controlled intersections on Mayberry Drive and Village Main Street will be unable to handle the generated traffic entering and exiting the district. Signalized controls at these two intersections will have the ability to increase mobility into and out of the district and the development.

With the addition of the commercial district, the LOS at the intersections experiences some changes, as shown in Table 8. The signals at N Mayberry Dr & Village Main St and S Mayberry Dr & Village Main St exhibit improved mobility, with LOS A and B during the AM and PM peak hours, respectively. Meanwhile, the stop-controlled intersections at N Mayberry Dr & Positive Pl and S Mayberry Dr & Positive Pl maintain their LOS, with slightly increased delays during the peak periods. The roundabout intersections at Mayberry Dr & Boulevard A, Mayberry Dr & Boulevard B, and Positive Pl & Springs Rd maintain excellent LOS A during AM and PM peak hours. A summary of the LOS and delay data can be found in Table 7.

Table 8: North Sketch Plan Plus Commercial District Level of Service Summary

Intersection	Intersection Type	AM Peak Hour (Sec/veh)	PM Peak Hour (Sec/veh)
N Mayberry Dr & Village Main St	Signals	A (9.9)	A (9.6)
S Mayberry Dr & Village Main St	Signals	A (9.9)	B (18.1)
N Mayberry Dr & Positive Pl	Stop	B (10.9)	B (10.8)
S Mayberry Dr & Positive Pl	Stop	A (9.8)	B (12.3)
Mayberry Dr & Boulevard A	Roundabout	A (3.2)	A (3.3)
Mayberry Dr and Boulevard B	Roundabout	A (2.8)	A (2.9)
Positive Pl & Springs Rd	Roundabout	A (3.3)	A (3.5)

Full Build Out

The south Sketch Plan encompasses a development area defined by Boulevard 2 to the north. This area is anticipated to primarily consist of residential units, with a detailed breakdown of the number of units for each land use provided in Table 8 and Figure 7 provides the turning movement volume for the full build out.

Table 9: Land Use for South Sketch Plan

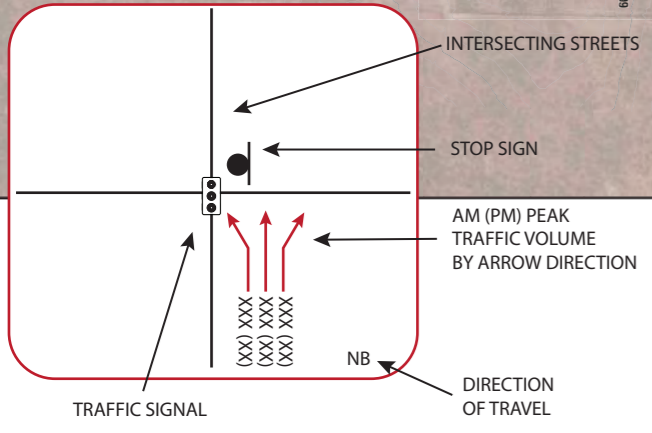
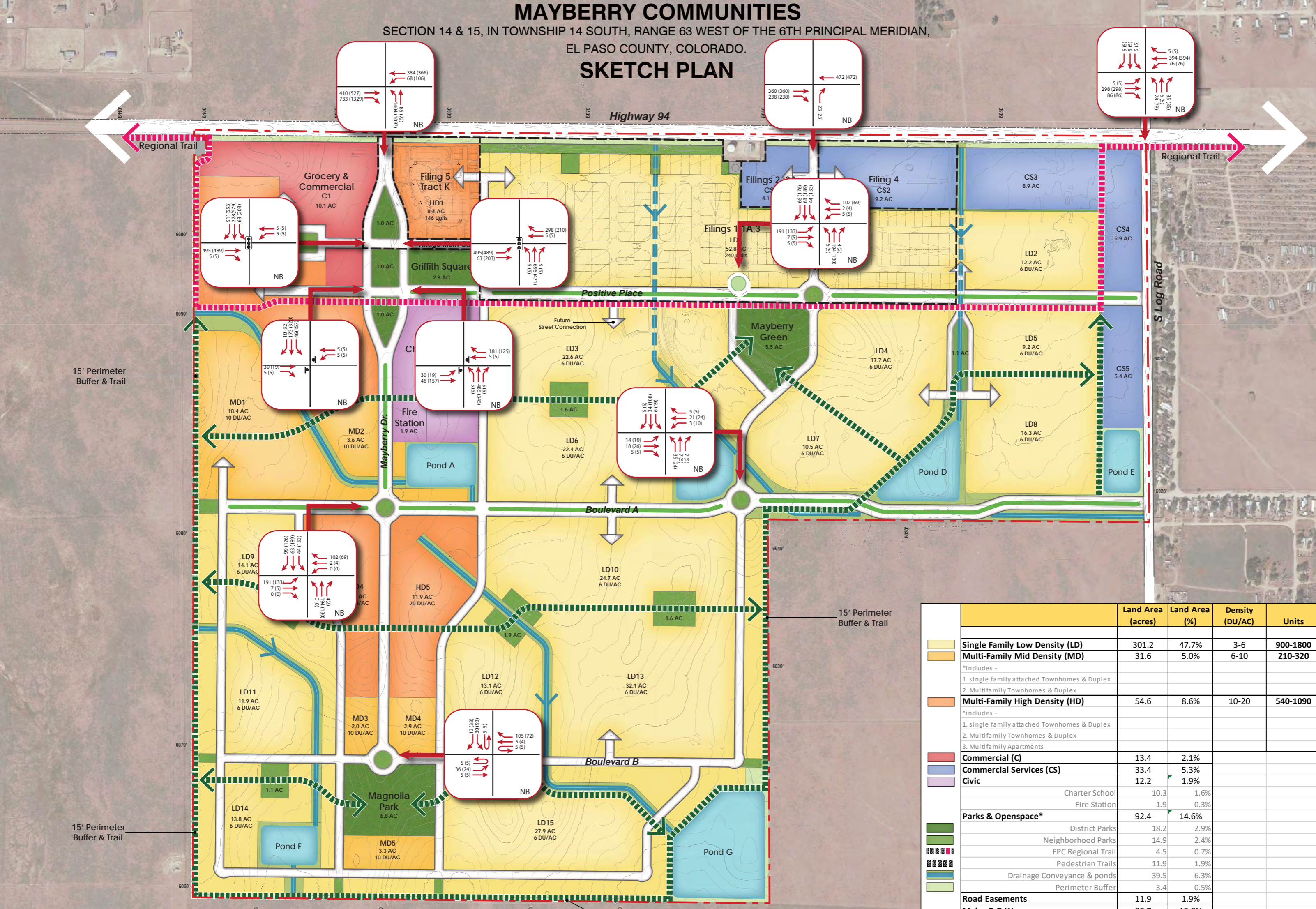
Land Use Code	Land Use Description	Trip Generation Units	
210	Single-Family Detached Housing	685	DU
220	Multifamily Housing (Low-Rise)	216	DU
215	Single Family Attached Housing	253	DU

MAYBERRY COMMUNITIES

SECTION 14 & 15, IN TOWNSHIP 14 SOUTH, RANGE 63 WEST OF THE 6TH PRINCIPAL MERIDIAN,
EL PASO COUNTY, COLORADO.

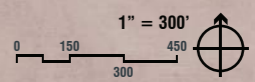
SKETCH PLAN

HR
2095 Rose St. Suite 201
Berkeley, CA. 94709



	Land Area (acres)	Land Area (%)	Density (DU/AC)	Units
Single Family Low Density (LD)	301.2	47.7%	3-6	900-1800
Multi-Family Mid Density (MD)	31.6	5.0%	6-10	210-320
*Includes - 1. single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex				
Multi-Family High Density (HD)	54.6	8.6%	10-20	540-1090
*Includes - 1. single family attached Townhomes & Duplex 2. Multifamily Townhomes & Duplex 3. Multifamily Apartments				
Commercial (C)	13.4	2.1%		
Commercial Services (CS)	33.4	5.3%		
Civic	12.2	1.9%		
Charter School	10.3	1.6%		
Fire Station	1.9	0.3%		
Parks & Openspace*	92.4	14.6%		
District Parks	18.2	2.9%		
Neighborhood Parks	14.9	2.4%		
EPC Regional Trail	4.5	0.7%		
Pedestrian Trails	11.9	1.9%		
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Perimeter Buffer	3.4	0.5%		
Road Easements	11.9	1.9%		
Major R.O.W.s	80.7	12.8%		
Total	631.4	100%	4.4	2800

*Commercial uses are allowed in all areas designated as park to accommodate private business providing complementary services



PREPARED BY: IN ASSOCIATION WITH: SEAL: ISSUE INFO: DATE: BY: DESCRIPTION: SHEET TITLE: SKETCH PLAN SHEET NUMBER: 2 OF 6 PLAN FILE #

MAYBERRY COMMUNITIES
 Mayberry Communities, LLC
 3296 Devine Heights, # 208
 Colorado Springs, CO. 80922

DATE: July 7, 2023
 PROJECT MGR: S. Souders
 PREPARED BY: V. Kattasam

FULL SKETCH PLAN LEVEL OF SERVICE ANALYSIS

Upon the completion of the full Sketch Plan development, the LOS at the analyzed intersections is expected to change further, as summarized in Table 10. With the full Sketch Plan development, the signalized intersections at N Mayberry Dr & Village Main St and S Mayberry Dr & Village Main St experience increased delays but maintain acceptable LOS during the AM and PM peak hours, with LOS C and B for the former and LOS B and C for the latter.

The stop-controlled intersections at N Mayberry Dr & Positive PI and S Mayberry Dr & Positive PI also show increased delays. Both intersections operate at LOS C during the PM peak period while maintaining LOS B and C during the AM peak period. The roundabout intersections at Mayberry Dr & Boulevard 2, Springs Rd & Boulevard 2, Positive PI & Springs Rd, and Springs Rd & Mayberry Dr exhibit excellent LOS A during both AM and PM peak hours. Table 9 provides the summary of the LOS for the internal intersection of the Sketch Plan

Table 10: Full Sketch Plan Level of Service Summary

Intersection	Intersection Type	AM Peak Hour (Sec/veh)	PM Peak Hour (Sec/veh)
N Mayberry Dr & Village Main St	Signals	C (23.7)	B (15.3)
S Mayberry Dr & Village Main St	Signals	B (12.2)	C (23.3)
N Mayberry Dr & Positive PI	Stop	C (19.1)	C (15.7)
S Mayberry Dr & Positive PI	Stop	B (11.0)	C (20.4)
Mayberry Dr & Boulevard A	Roundabout	A (4.9)	A (6.0)
Mayberry Dr & Boulevard B	Roundabout	A (3.1)	A (3.5)
Positive PI & Springs Rd	Roundabout	A (3.4)	A (4.2)
Springs Rd & Mayberry Dr	Roundabout	A (3.4)	A (3.5)

Recommendations

Through the iterative process of analyzing the traffic impact of the Sketch Plan development, two main recommendations have emerged to ensure efficient traffic flow and management in the area.

Signalized Controls: The analysis indicates that implementing signalized controls at the intersections of N Mayberry Dr & Village Main St and S Mayberry Dr & Village Main St can effectively improve mobility after the full build-out of the commercial district. Therefore, it is recommended to implement signalized controls at these intersections to manage the increased traffic flow.

Monitor and Adjust: As the full Sketch Plan is built out, it is essential to regularly monitor intersections' performance. The analysis shows increased delays at both signalized and stop-controlled intersections in the full Sketch Plan scenario. Depending on the actual traffic patterns and congestion levels, adjustments to signal timings or further improvements to intersection designs may be required.

References

1. 2020 - June - Ellicott Town Center Commercial Rezone TIS Report
2. 2022 - September - Mayberry Filing No. 3
3. El Paso County 2016 Major Transportation Corridor Plan Update
4. Institute of Transportation Engineers 2017 Trip Generation Manual, An Informational Report, 11th Edition, Washington D.C.
5. Engineering Criteria Manual County of El Paso, 2020
6. Transportation Research Board 2016 Highway Capacity Manual, 6th Edition, Washington, D.C.
7. Trafficware Ltd 2017 Synchro 11, Sugar Land, Texas

Appendices

Appendix A - Highway Capacity Manual

Signalized Intersection Level of Service

Intersection level of service (LOS) is determined by delay, which measures driver discomfort, frustration, fuel consumption, and lost travel time. LOS is based on driver acceptability of various delays, with factors such as lane geometrics, percentage of trucks, peak hour factor, number of lanes, signal progression, volume, signal green time to total cycle time ratio, roadway grades, parking conditions, and pedestrian flows affecting the delay calculation.

Delay and its relationship to capacity are complex. Table 1 summarizes the service levels for different average control delays and provides a qualitative description for each. The HCM 6th Edition uses the average control delay criteria, including initial deceleration, delay, queue move-up time, stopped delay, and final acceleration delay (Ref. 6).

Table 11. Signalized Intersection: Level of Service Measurement and Qualitative Descriptions

Level of Service	Control Delay Per Vehicle (sec)	Qualitative Description
A	< 10	Good progression and short cycle lengths
B	> 10 and < 20	Good progression or short cycle lengths, more vehicle stops
C	> 20 and < 35	Fair progression and/or longer cycle lengths, some cycle failures
D	> 35 and < 55	Congestion becomes noticeable, high volume to capacity ratio
E	> 55 and < 80	Limit of acceptable delay, poor progression, long cycles, and/or high volume
F	> 80	Unacceptable to drivers, volume greater than capacity

Unsignalized Intersection Level of Service

Unsignalized intersection LOS is determined by average control delay and, in some cases, v/c ratio. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay and is attributed to traffic control measures such as traffic signals or stop signs.

At two-way stop-controlled intersections, the traffic on the major approach remains unaffected by minor street flows, with stop or yield signs assigning right-of-way to the major street. Controlled leg capacity relies on gap distribution in the major street traffic stream and driver judgment in selecting gaps for executing maneuvers. The LOS procedure computes movement capacity based on critical time gap and opposing traffic volume. The average control delay is calculated as a function of approach capacity and degree of saturation (v/c ratio).

The HCM 6th Edition methodology bases overall intersection LOS on minor street movement average control delay and adjusts individual movement delay for v/c ratios greater than 1.0. Engineering judgment determines overall intersection LOS and whether unacceptable minor street movement LOS reflects overall intersection LOS.

Table 2 presents the relationship between average control delay and LOS, with unsignalized intersections having different LOS ranges than signalized intersections due to different performance expectations and traffic volumes. Overall approach LOS, computed as a weighted average of vehicle delay for each movement, may differ from individual movement LOS.

Analysis was performed using the microcomputer program "Synchro 11" by Trafficware (Ref. 5), based on the procedures in the Highway Capacity Manual.

Table 12. Unsignalized Intersection: Level of Service Measurement

Level of Service	Control Delay Per Vehicle (sec)
A	< 10
B	> 10 and < 15
C	> 15 and < 25
D	> 25 and < 35
E	> 35 and < 50
F	> 50

Appendix B – Threshold Analysis

Appendix C – Level of Service Outputs

Appendix B – Threshold Analysis

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New Log Road SH 94 Threshold Analysis

Mayberry Communities

EL Paso County, CO
December 29, 2022

Introduction

HDR conducted a threshold analysis for the New Log Road and SH 94 intersection, analyzing two (2) different alternatives. Each alternative provides three (3) stages that will accommodate increasing levels of development. This report includes assumptions used in the threshold analysis and detailed analysis findings.

Assumptions

To begin the threshold analysis, HDR reviewed the Mayberry Filing Number 3 documentation submitted in September 2022 and used the base data for the analysis. The total planned development includes 3,422 dwelling units as a mixture of single-family and multi-family low-rise, as well as 105,700 square feet of retail space. HDR followed the phasing proposed in the sketch plan, which outlines the construction of 728 dwelling units, then 105,700 square feet of retail space before constructing the remaining 2,694 dwelling units. To guide the threshold analysis, HDR used three criteria:

- Colorado Access Permit Code
- Level of Service (LOS) of D/E for both unsignalized and signalized intersections
- LOS D/E for a two-lane highway

To generate additional traffic on top of the existing traffic for all development phases, the ITE Trip Generation Manual 11th Edition was used.

The following sections discuss the different alternatives in the analysis and the amount of development that each stage for each alternative will accommodate.

Base Stage

The base stage configuration has the capacity to handle 163 dwelling units. However, based on the Colorado Access Permit Code, this intersection will need to be modified to accommodate the 65 DU of Filing 3. Once unit 65 is occupied, the westbound left-turn is anticipated to have ten vehicles in the peak hour, necessitating a westbound left-turn lane per the Colorado Access Permit Code. Figure 1 shows the existing geometry of the New Log Road and SH 94 intersection, which is Stage 0.



HDR analyzed two different alternatives for the progression of the intersection configuration beyond Stage 0, described in the following sections.

Alternative 1

Stage 1

After adding a westbound left turn lane, the intersection will have the capacity for an additional 565 dwelling units and one 5,000-square-foot retail facility. Current phasing plans indicate retail space development will begin after constructing 728 total dwelling units. The capacity of the stop-controlled intersection with a westbound left turn lane is shown in Figure 1.



Figure 1: Intersection Alternative 1 Stage 1 Threshold

Stage 2

After building 728 dwelling units and 5,000 square feet of retail, the intersection will need to be signalized to accommodate development traffic volume. Intersection signalization will accommodate the full scope of planned commercial development to 105,700 square feet and accommodate an additional 231 dwelling units. Figure 3 provides the threshold for the signalized intersection.

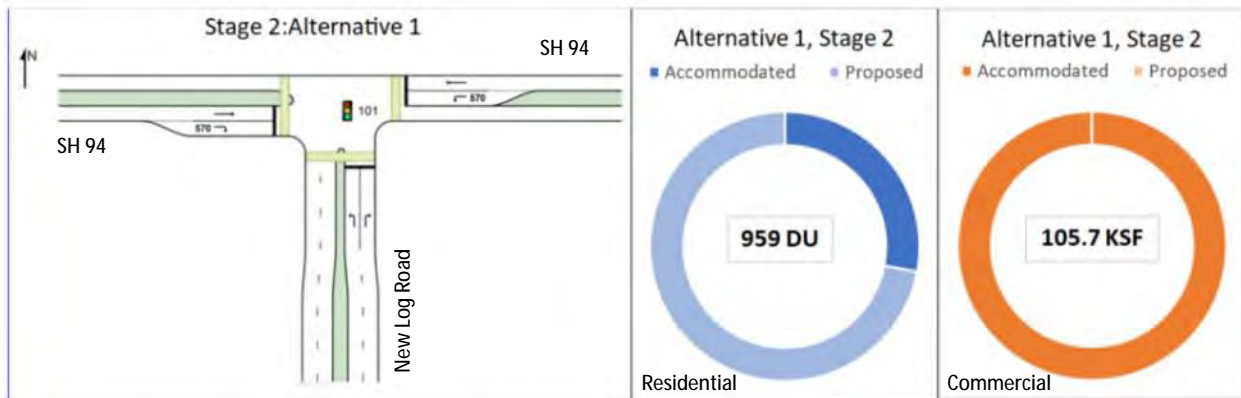


Figure 2: Alternative 1 Stage 2 Signalized Intersection Threshold

HIGHWAY 94 CAPACITY IMPROVEMENT

Although the Alternative 1 Stage 2 intersection will accommodate the traffic generated from 959 DU and 105.7 sqft of retail, State Highway 94 between Ellicott and Colorado Springs will reach

capacity before the Alternative 1 Stage 2 intersection. This limits development to 739 DU and 105.7 sqft of retail, after which the highway will need to be improved. Figure 4 provides the threshold for the two-lane roadway.

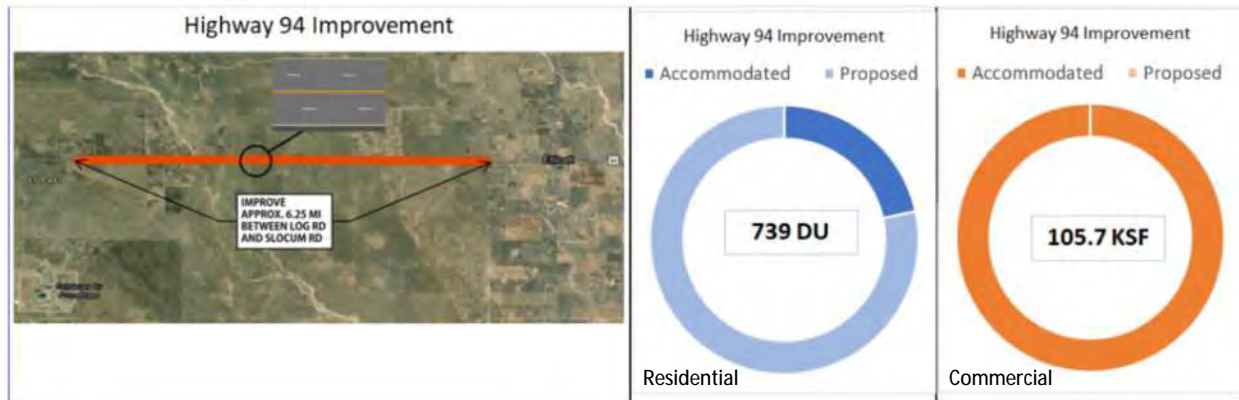


Figure 3: Highway 94 Improvement Threshold

Stage 3

Stage 3 will incorporate SH 94 improvements and further add capacity to the intersection and is anticipated to accommodate the generated traffic of the whole development build-out.

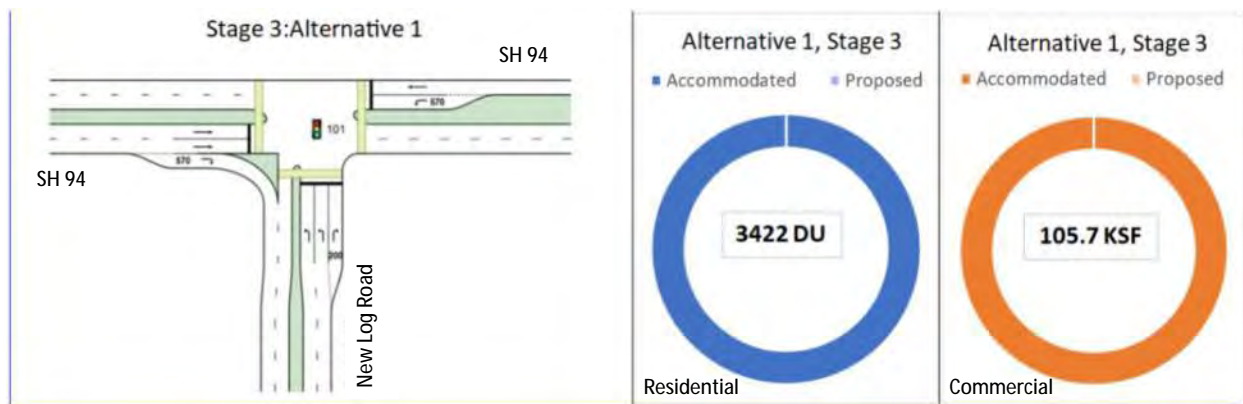


Figure 4: Stage 3 Ultimate Buildout Configuration

Alternative 2

Stage 1

Alternative 2 Stage 1 will incorporate the warranted westbound left-turn lane with a westbound acceleration lane. This geometric design is anticipated to accommodate 728 dwelling units; however, what sets this alternative apart from Alternative 1 is that 26,500 square feet of commercial development can be developed before additional improvements are needed. The capacity of the stop-controlled intersection with a westbound left turn lane is shown in Figure 5: Alternative 2 Stage 1 “Florida T” Configuration.

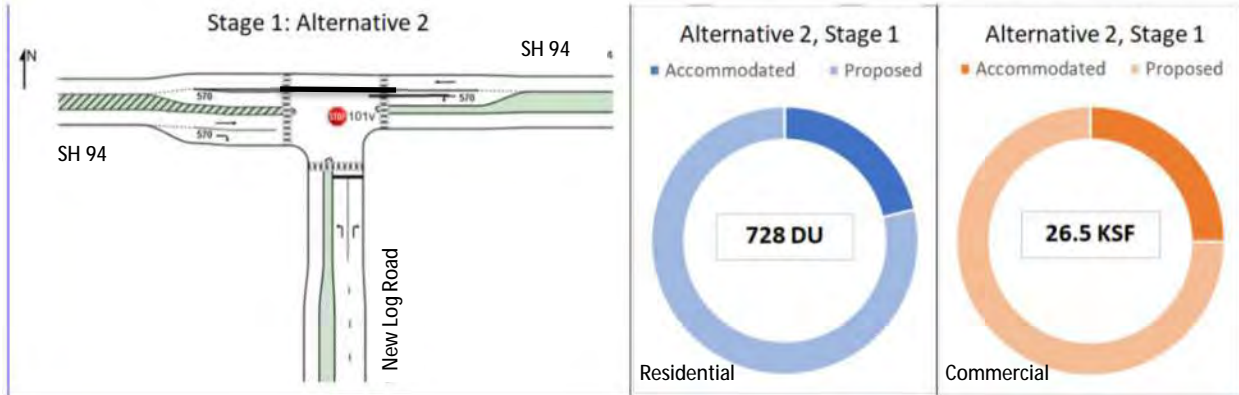


Figure 5: Alternative 2 Stage 1 “Florida T” Configuration

Stage 2/Highway 94 Capacity Improvement

After building 728 dwelling units and 26,500 square feet of retail, the intersection will need to be signalized to accommodate development traffic volume. Intersection signalization will accommodate the full scope of planned commercial development to 105,700 square feet and accommodate an additional 231 dwelling units. Figure 7 provides the threshold for the signalized intersection.

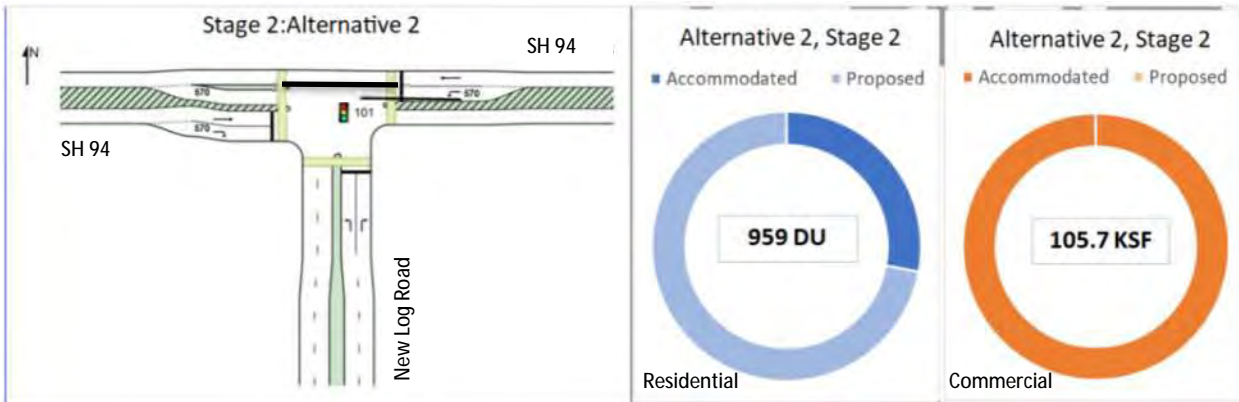


Figure 6: Alternative 2 Stage 2 Threshold

HIGHWAY 94 CAPACITY IMPROVEMENT

Similar to the anticipated progression of Alternative 1, the Alternative 2 Stage 2 intersection will accommodate the traffic generated from 959 DU and 105,700 sqft of retail. Still, SH 94 will likely need to be expanded before reaching the intersection’s capacity. Development is limited to 739 DU and 105.7 sqft of commercial development until the highway is expanded. Figure 8 provides the threshold for the two-lane roadway.

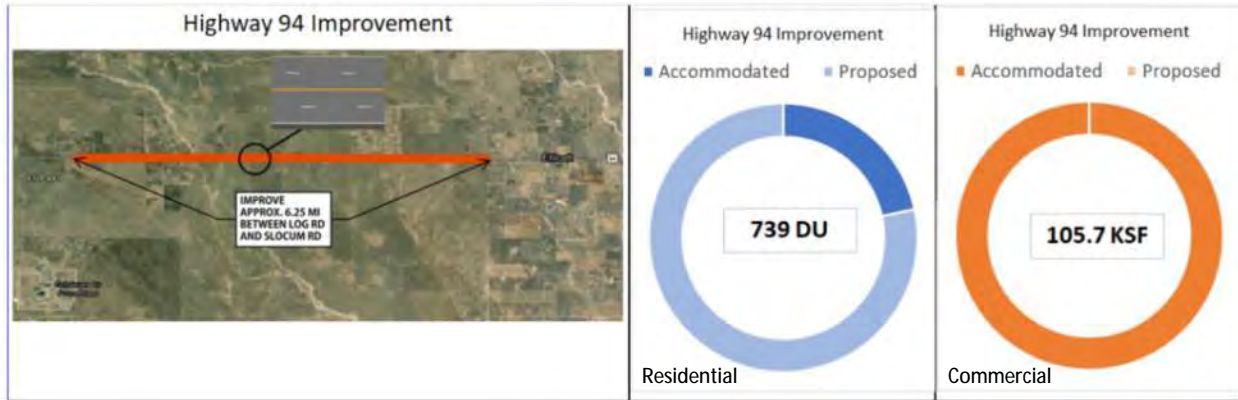


Figure 7: Highway 94 Improvement Threshold

Stage 3

Stage 3 will incorporate SH 94 improvements and add further capacity to the intersection and is anticipated to accommodate the generated traffic of the whole development build-out.



Figure 8: Alternative 2 Ultimate Configuration

Appendix C – Level of Service Outputs

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Boulevard 2
Date Performed	4/26/2023		N/S Street Name	Mayberry Drive
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	Mayberry Community North...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LTR				LTR								LR			
Volume (V), veh/h	0	69	4	0	0	0	2	46					0	16		31
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	77	4	0	0	0	2	52					0	18		35
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763						4.9763	
Follow-Up Headway, s		2.6087			2.6087						2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		81			54						53	
Entry Volume, veh/h		79			52						51	
Circulating Flow (v _c), pc/h	18			77			99			2		
Exiting Flow (v _{ex}), pc/h	22			37			129			0		
Capacity (c _{PCE}), pc/h		1355			1276						1377	
Capacity (c), veh/h		1315			1239						1337	
v/c Ratio (x)		0.06			0.04						0.04	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.2			3.2						3.0	
Lane LOS		A			A						A	
95% Queue, veh		0.2			0.1						0.1	
Approach Delay, s/veh	3.2			3.2						3.0		
Approach LOS	A			A						A		
Intersection Delay, s/veh LOS	3.2						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Boulevard 2
Date Performed	4/26/2023		N/S Street Name	Mayberry Drive
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	PM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community North...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LTR				TR								LR			
Volume (V), veh/h	0	51	3	0	0		4	31					0	53		67
Percent Heavy Vehicles, %	3	3	3	3	3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	57	3	0	0		4	35					0	59		75
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763						4.9763	
Follow-Up Headway, s		2.6087			2.6087						2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		60			39						134	
Entry Volume, veh/h		58			38						130	
Circulating Flow (v _c), pc/h	59			57			119			4		
Exiting Flow (v _{ex}), pc/h	62			79			92			0		
Capacity (c _{PCE}), pc/h		1299			1302						1374	
Capacity (c), veh/h		1262			1264						1334	
v/c Ratio (x)		0.05			0.03						0.10	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.2			3.1						3.5	
Lane LOS		A			A						A	
95% Queue, veh		0.1			0.1						0.3	
Approach Delay, s/veh	3.2			3.1						3.5		
Approach LOS	A			A						A		
Intersection Delay, s/veh LOS	3.3						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Postive Place
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	AM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community North...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	6	13	5	0	1	51	7	0	28	3	5	0	13	16	49
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	7	15	6	0	1	57	8	0	31	3	6	0	15	18	55
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		28			66			40			88	
Entry Volume, veh/h		27			64			39			85	
Circulating Flow (v _c), pc/h	34			41			37			89		
Exiting Flow (v _{ex}), pc/h	36			143			18			25		
Capacity (c _{PCE}), pc/h		1333			1323			1329			1260	
Capacity (c), veh/h		1294			1285			1290			1224	
v/c Ratio (x)		0.02			0.05			0.03			0.07	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		2.9			3.2			3.0			3.5	
Lane LOS		A			A			A			A	
95% Queue, veh		0.1			0.2			0.1			0.2	
Approach Delay, s/veh	2.9			3.2			3.0			3.5		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	3.3						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Postive Place
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	PM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community North...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	4	22	5	0	4	43	6	0	19	2	5	0	38	51	47
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	4	25	6	0	4	48	7	0	21	2	6	0	43	57	53
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		35			59			29			153	
Entry Volume, veh/h		34			57			28			149	
Circulating Flow (v _c), pc/h	104			27			72			73		
Exiting Flow (v _{ex}), pc/h	74			122			13			67		
Capacity (c _{PCE}), pc/h		1241			1343			1282			1281	
Capacity (c), veh/h		1205			1303			1245			1244	
v/c Ratio (x)		0.03			0.04			0.02			0.12	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.2			3.1			3.1			3.9	
Lane LOS		A			A			A			A	
95% Queue, veh		0.1			0.1			0.1			0.4	
Approach Delay, s/veh	3.2			3.1			3.1			3.9		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	3.5						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Boulevard 2
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	AM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community North...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LTR				TR								LR			
Volume (V), veh/h	0	69	4	0	0		2	46					0	16		31
Percent Heavy Vehicles, %	3	3	3	3	3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	77	4	0	0		2	52					0	18		35
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763						4.9763	
Follow-Up Headway, s		2.6087			2.6087						2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		81			54						53	
Entry Volume, veh/h		79			52						51	
Circulating Flow (v _c), pc/h	18			77			99			2		
Exiting Flow (v _{ex}), pc/h	22			37			129			0		
Capacity (c _{PCE}), pc/h		1355			1276						1377	
Capacity (c), veh/h		1315			1239						1337	
v/c Ratio (x)		0.06			0.04						0.04	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.2			3.2						3.0	
Lane LOS		A			A						A	
95% Queue, veh		0.2			0.1						0.1	
Approach Delay, s/veh	3.2			3.2						3.0		
Approach LOS	A			A						A		
Intersection Delay, s/veh LOS	3.2						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Boulevard 2
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	PM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community North...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LTR				TR								LR			
Volume (V), veh/h	0	5	13	0	0		18	5					0	6		5
Percent Heavy Vehicles, %	3	3	3	3	3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	0	6	15	0	0		20	6					0	7		6
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763						4.9763	
Follow-Up Headway, s		2.6087			2.6087						2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		21			26						13	
Entry Volume, veh/h		20			25						13	
Circulating Flow (v _c), pc/h	7			6			28			20		
Exiting Flow (v _{ex}), pc/h	22			26			12			0		
Capacity (c _{PCE}), pc/h		1370			1372						1352	
Capacity (c), veh/h		1330			1332						1313	
v/c Ratio (x)		0.02			0.02						0.01	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		2.8			2.9						2.8	
Lane LOS		A			A						A	
95% Queue, veh		0.0			0.1						0.0	
Approach Delay, s/veh	2.8			2.9						2.8		
Approach LOS	A			A						A		
Intersection Delay, s/veh LOS	2.8						A					

HCM 6th TWSC
7: S Mayberry Dr & Village Main St

05/05/2023

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔	
Traffic Vol, veh/h	0	30	5	5	5	0	0	0	0	63	90	10
Future Vol, veh/h	0	30	5	5	5	0	0	0	0	63	90	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	33	5	5	5	0	0	0	0	68	98	11

Major/Minor	Minor2		Minor1			Major2				
Conflicting Flow All	-	240	104	259	245	-	-	0	0	0
Stage 1	-	240	-	0	0	-	-	-	-	-
Stage 2	-	0	-	259	245	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	661	951	694	657	0	-	-	-	-
Stage 1	0	707	-	-	-	0	-	-	-	-
Stage 2	0	-	-	746	703	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	661	951	664	657	-	-	-	-	-
Mov Cap-2 Maneuver	-	661	-	664	657	-	-	-	-	-
Stage 1	-	707	-	-	-	-	-	-	-	-
Stage 2	-	-	-	708	703	-	-	-	-	-

Approach	EB		WB			SB		
HCM Control Delay, s	10.5		10.5					
HCM LOS	B		B					

Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR
Capacity (veh/h)	691	660	-	-	-
HCM Lane V/C Ratio	0.055	0.016	-	-	-
HCM Control Delay (s)	10.5	10.5	-	-	-
HCM Lane LOS	B	B	-	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	30	5	5	5	0	0	0	0	33	47	10
Future Vol, veh/h	0	30	5	5	5	0	0	0	0	33	47	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	33	5	5	5	0	0	0	0	36	51	11

Major/Minor	Minor2		Minor1			Major2			
Conflicting Flow All	-	129	57	148	134	-	0	0	0
Stage 1	-	129	-	0	0	-	-	-	-
Stage 2	-	0	-	148	134	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	762	1009	820	757	0	-	-	-
Stage 1	0	789	-	-	-	0	-	-	-
Stage 2	0	-	-	855	785	0	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	-	762	1009	789	757	-	-	-	-
Mov Cap-2 Maneuver	-	762	-	789	757	-	-	-	-
Stage 1	-	789	-	-	-	-	-	-	-
Stage 2	-	-	-	815	785	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	9.8		9.7			
HCM LOS	A		A			

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	790	773	-	-	-
HCM Lane V/C Ratio	0.048	0.014	-	-	-
HCM Control Delay (s)	9.8	9.7	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↑	↗		↕				
Traffic Vol, veh/h	30	63	0	0	5	245	5	289	5	0	0	0
Future Vol, veh/h	30	63	0	0	5	245	5	289	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	68	0	0	5	266	5	314	5	0	0	0
Major/Minor	Minor2		Minor1		Major1							
Conflicting Flow All	462	329	-	-	327	317	0	0	0			
Stage 1	0	0	-	-	327	-	-	-	-			
Stage 2	462	329	-	-	0	-	-	-	-			
Critical Hdwy	7.12	6.52	-	-	6.52	6.22	4.12	-	-			
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-			
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-	-	-			
Follow-up Hdwy	3.518	4.018	-	-	4.018	3.318	2.218	-	-			
Pot Cap-1 Maneuver	510	590	0	0	591	724	-	-	-			
Stage 1	-	-	0	0	648	-	-	-	-			
Stage 2	580	646	0	0	-	-	-	-	-			
Platoon blocked, %												
Mov Cap-1 Maneuver	320	590	-	-	591	724	-	-	-			
Mov Cap-2 Maneuver	320	590	-	-	591	-	-	-	-			
Stage 1	-	-	-	-	648	-	-	-	-			
Stage 2	364	646	-	-	-	-	-	-	-			
Approach	EB		WB		NB							
HCM Control Delay, s	14.9		12.8									
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2						
Capacity (veh/h)	-	-	-	464	591	724						
HCM Lane V/C Ratio	-	-	-	0.218	0.009	0.368						
HCM Control Delay (s)	-	-	-	14.9	11.1	12.8						
HCM Lane LOS	-	-	-	B	B	B						
HCM 95th %tile Q(veh)	-	-	-	0.8	0	1.7						

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	30	33	0	5	5	145	5	114	5	0	0	0
Future Vol, veh/h	30	33	0	5	5	145	5	114	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	36	0	5	5	158	5	124	5	0	0	0

Major/Minor	Minor2		Minor1			Major1			
Conflicting Flow All	218	139	-	155	137	127	0	0	0
Stage 1	0	0	-	137	137	-	-	-	-
Stage 2	218	139	-	18	0	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	-	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	738	752	0	812	754	923	-	-	-
Stage 1	-	-	0	866	783	-	-	-	-
Stage 2	784	782	0	-	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	609	752	-	783	754	923	-	-	-
Mov Cap-2 Maneuver	609	752	-	783	754	-	-	-	-
Stage 1	-	-	-	866	783	-	-	-	-
Stage 2	646	782	-	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	10.9		9.8			
HCM LOS	B		A			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	676	916
HCM Lane V/C Ratio	-	-	-	0.101	0.178
HCM Control Delay (s)	-	-	-	10.9	9.8
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.3	0.6

HCM 6th TWSC
7: S Mayberry Dr & Village Main St

05/05/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	18	5	5	5	0	0	0	0	203	259	31
Future Vol, veh/h	0	18	5	5	5	0	0	0	0	203	259	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	5	5	5	0	0	0	0	221	282	34

Major/Minor	Minor2		Minor1			Major2			
Conflicting Flow All	-	741	299	754	758	-	0	0	0
Stage 1	-	741	-	0	0	-	-	-	-
Stage 2	-	0	-	754	758	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	344	741	326	336	0	-	-	-
Stage 1	0	423	-	-	-	0	-	-	-
Stage 2	0	-	-	401	415	0	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	-	344	741	310	336	-	-	-	-
Mov Cap-2 Maneuver	-	344	-	310	336	-	-	-	-
Stage 1	-	423	-	-	-	-	-	-	-
Stage 2	-	-	-	380	415	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	14.9		16.6			
HCM LOS	B		C			

Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR
Capacity (veh/h)	389	322	-	-	-
HCM Lane V/C Ratio	0.064	0.034	-	-	-
HCM Control Delay (s)	14.9	16.6	-	-	-
HCM Lane LOS	B	C	-	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	18	5	5	5	0	0	0	0	110	119	31
Future Vol, veh/h	0	18	5	5	5	0	0	0	0	110	119	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	5	5	5	0	0	0	0	120	129	34

Major/Minor	Minor2		Minor1			Major2			
Conflicting Flow All	-	386	146	399	403	-	0	0	0
Stage 1	-	386	-	0	0	-	-	-	-
Stage 2	-	0	-	399	403	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	548	901	561	536	0	-	-	-
Stage 1	0	610	-	-	-	0	-	-	-
Stage 2	0	-	-	627	600	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	548	901	542	536	-	-	-	-
Mov Cap-2 Maneuver	-	548	-	542	536	-	-	-	-
Stage 1	-	610	-	-	-	-	-	-	-
Stage 2	-	-	-	603	600	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	11.3		11.8			
HCM LOS	B		B			

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	599	539	-	-	-
HCM Lane V/C Ratio	0.042	0.02	-	-	-
HCM Control Delay (s)	11.3	11.8	-	-	-
HCM Lane LOS	B	B	-	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

Intersection

Int Delay, s/veh 8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↑	↗		↕				
Traffic Vol, veh/h	18	203	0	0	5	173	5	196	5	0	0	0
Future Vol, veh/h	18	203	0	0	5	173	5	196	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	221	0	0	5	188	5	213	5	0	0	0

Major/Minor

	Minor2	Minor1	Major1
Conflicting Flow All	322 228	- -	226 216 0 0 0
Stage 1	0 0	- -	226 - - - -
Stage 2	322 228	- -	0 - - - -
Critical Hdwy	7.12 6.52	- -	6.52 6.22 4.12 - -
Critical Hdwy Stg 1	- -	- -	5.52 - - - -
Critical Hdwy Stg 2	6.12 5.52	- -	- - - - -
Follow-up Hdwy	3.518 4.018	- -	4.018 3.318 2.218 - -
Pot Cap-1 Maneuver	631 671	0 0	673 824 - - - -
Stage 1	- -	0 0	717 - - - -
Stage 2	690 715	0 0	- - - - -
Platoon blocked, %			- - - - -
Mov Cap-1 Maneuver	484 671	- -	673 824 - - - -
Mov Cap-2 Maneuver	484 671	- -	673 - - - -
Stage 1	- -	- -	717 - - - -
Stage 2	528 715	- -	- - - - -

Approach

EB WB NB
 HCM Control Delay, s 13.7 10.7
 HCM LOS B B

Minor Lane/Major Mvmt

	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2
Capacity (veh/h)	-	-	-	651	673	824
HCM Lane V/C Ratio	-	-	-	0.369	0.008	0.228
HCM Control Delay (s)	-	-	-	13.7	10.4	10.7
HCM Lane LOS	-	-	-	B	B	B
HCM 95th %tile Q(veh)	-	-	-	1.7	0	0.9

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	18	110	0	5	5	97	5	82	5	0	0	0
Future Vol, veh/h	18	110	0	5	5	97	5	82	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	120	0	5	5	105	5	89	5	0	0	0

Major/Minor	Minor2		Minor1		Major1				
Conflicting Flow All	157	104	-	162	102	92	0	0	0
Stage 1	0	0	-	102	102	-	-	-	-
Stage 2	157	104	-	60	0	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	-	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	809	786	0	803	788	965	-	-	-
Stage 1	-	-	0	904	811	-	-	-	-
Stage 2	845	809	0	-	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	717	786	-	709	788	965	-	-	-
Mov Cap-2 Maneuver	717	786	-	709	788	-	-	-	-
Stage 1	-	-	-	904	811	-	-	-	-
Stage 2	748	809	-	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	10.7		9.3			
HCM LOS	B		A			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	776	954
HCM Lane V/C Ratio	-	-	-	0.179	0.116
HCM Control Delay (s)	-	-	-	10.7	9.3
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.7	0.4

Lanes, Volumes, Timings
7: S Mayberry Dr & Village Main St

05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	358	5	5	5	0	0	0	0	63	90	369
Future Volume (vph)	0	358	5	5	5	0	0	0	0	63	90	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998										0.850
Flt Protected					0.976						0.980	
Satd. Flow (prot)	0	1859	0	0	1818	0	0	0	0	0	1825	1583
Flt Permitted					0.887						0.980	
Satd. Flow (perm)	0	1859	0	0	1652	0	0	0	0	0	1825	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1										401
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		456			444			387			456	
Travel Time (s)		10.4			10.1			8.8			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	389	5	5	5	0	0	0	0	68	98	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	394	0	0	10	0	0	0	0	0	166	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	22.5
Total Split (s)		39.0		39.0	39.0					41.0	41.0	41.0
Total Split (%)		48.8%		48.8%	48.8%					51.3%	51.3%	51.3%
Maximum Green (s)		34.5		34.5	34.5					36.5	36.5	36.5
Yellow Time (s)		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
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		4.5			4.5						4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0					0	0	0
Act Effct Green (s)		34.5			34.5						36.5	36.5
Actuated g/C Ratio		0.43			0.43						0.46	0.46
v/c Ratio		0.49			0.01						0.20	0.43
Control Delay		19.0			21.3						13.8	3.1
Queue Delay		0.0			0.0						0.0	0.0
Total Delay		19.0			21.3						13.8	3.1

Lanes, Volumes, Timings
 7: S Mayberry Dr & Village Main St

05/05/2023

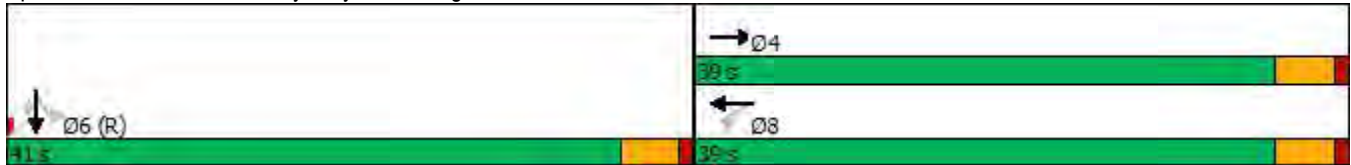


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			C						B	A
Approach Delay		19.0			21.3						6.2	
Approach LOS		B			C						A	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2: and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	11.6
Intersection LOS:	B
Intersection Capacity Utilization	34.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: S Mayberry Dr & Village Main St



Lanes, Volumes, Timings
15: Village Main St

05/05/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	63	0	0	5	245	5	289	5	0	0	0
Future Volume (vph)	358	63	0	0	5	245	5	289	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.867			0.998				
Flt Protected	0.950							0.999				
Satd. Flow (prot)	1770	1863	0	0	1615	0	0	3529	0	0	0	0
Flt Permitted	0.320							0.999				
Satd. Flow (perm)	596	1863	0	0	1615	0	0	3529	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					266			2				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		444			427			384				446
Travel Time (s)		10.1			9.7			8.7				10.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	68	0	0	5	266	5	314	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	389	68	0	0	271	0	0	324	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	100			100		20	100				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	6			6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	7	4			8			2				
Permitted Phases	4						2					

Lanes, Volumes, Timings
15: Village Main St

05/05/2023

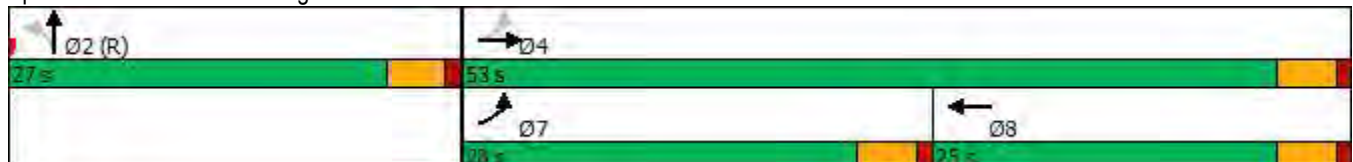


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0				
Minimum Split (s)	9.5	22.5			22.5		22.5	22.5				
Total Split (s)	28.0	53.0			25.0		27.0	27.0				
Total Split (%)	35.0%	66.3%			31.3%		33.8%	33.8%				
Maximum Green (s)	23.5	48.5			20.5		22.5	22.5				
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0			0.0				
Total Lost Time (s)	4.5	4.5			4.5			4.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		11.0			11.0		11.0	11.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	33.9	33.9			7.9			37.1				
Actuated g/C Ratio	0.42	0.42			0.10			0.46				
v/c Ratio	0.69	0.09			0.68			0.20				
Control Delay	41.9	12.3			13.9			14.3				
Queue Delay	0.0	0.0			0.0			0.0				
Total Delay	41.9	12.3			13.9			14.3				
LOS	D	B			B			B				
Approach Delay		37.5			13.9			14.3				
Approach LOS		D			B			B				

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	24.3
Intersection LOS:	C
Intersection Capacity Utilization	54.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 15: Village Main St



Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	30	5	5	5	0	0	0	0	33	47	10
Future Vol, veh/h	0	30	5	5	5	0	0	0	0	33	47	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	33	5	5	5	0	0	0	0	36	51	11

Major/Minor	Minor2		Minor1			Major2			
Conflicting Flow All	-	129	57	148	134	-	0	0	0
Stage 1	-	129	-	0	0	-	-	-	-
Stage 2	-	0	-	148	134	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	762	1009	820	757	0	-	-	-
Stage 1	0	789	-	-	-	0	-	-	-
Stage 2	0	-	-	855	785	0	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	762	1009	789	757	-	-	-	-
Mov Cap-2 Maneuver	-	762	-	789	757	-	-	-	-
Stage 1	-	789	-	-	-	-	-	-	-
Stage 2	-	-	-	815	785	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	9.8		9.7			
HCM LOS	A		A			

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	790	773	-	-	-
HCM Lane V/C Ratio	0.048	0.014	-	-	-
HCM Control Delay (s)	9.8	9.7	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	30	33	0	5	5	145	5	114	5	0	0	0
Future Vol, veh/h	30	33	0	5	5	145	5	114	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	36	0	5	5	158	5	124	5	0	0	0

Major/Minor	Minor2		Minor1			Major1			
Conflicting Flow All	218	139	-	155	137	127	0	0	0
Stage 1	0	0	-	137	137	-	-	-	-
Stage 2	218	139	-	18	0	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	-	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	738	752	0	812	754	923	-	-	-
Stage 1	-	-	0	866	783	-	-	-	-
Stage 2	784	782	0	-	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	609	752	-	783	754	923	-	-	-
Mov Cap-2 Maneuver	609	752	-	783	754	-	-	-	-
Stage 1	-	-	-	866	783	-	-	-	-
Stage 2	646	782	-	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	10.9		9.8			
HCM LOS	B		A			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	676	916
HCM Lane V/C Ratio	-	-	-	0.101	0.178
HCM Control Delay (s)	-	-	-	10.9	9.8
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.3	0.6

Lanes, Volumes, Timings
7: S Mayberry Dr & Village Main St

05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	489	5	5	5	0	0	0	0	203	259	553
Future Volume (vph)	0	489	5	5	5	0	0	0	0	203	259	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999										0.850
Flt Protected					0.976						0.979	
Satd. Flow (prot)	0	1861	0	0	1818	0	0	0	0	0	1824	1583
Flt Permitted					0.820						0.979	
Satd. Flow (perm)	0	1861	0	0	1527	0	0	0	0	0	1824	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1										601
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		456			444			387			456	
Travel Time (s)		10.4			10.1			8.8			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	532	5	5	5	0	0	0	0	221	282	601
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	537	0	0	10	0	0	0	0	0	503	601
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	100					20	100	20
Trailing Detector (ft)		0		0	0					0	0	0
Detector 1 Position(ft)		0		0	0					0	0	0
Detector 1 Size(ft)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Detector Phase		4		8	8					6	6	6
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	5.0

Lanes, Volumes, Timings
 7: S Mayberry Dr & Village Main St

05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	22.5
Total Split (s)		31.0		31.0	31.0					49.0	49.0	49.0
Total Split (%)		38.8%		38.8%	38.8%					61.3%	61.3%	61.3%
Maximum Green (s)		26.5		26.5	26.5					44.5	44.5	44.5
Yellow Time (s)		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
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		4.5			4.5						4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		C-Max	C-Max					Max	Max	Max
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0					0	0	0
Act Effect Green (s)		26.5			26.5					44.5	44.5	44.5
Actuated g/C Ratio		0.33			0.33					0.56	0.56	0.56
v/c Ratio		0.87			0.02					0.50	0.52	0.52
Control Delay		42.2			18.3					11.8	1.9	1.9
Queue Delay		0.0			0.0					0.0	0.0	0.0
Total Delay		42.2			18.3					11.8	1.9	1.9
LOS		D			B					B	A	A
Approach Delay		42.2			18.3					6.4		
Approach LOS		D			B					A		

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 70 (88%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 18.1 Intersection LOS: B
 Intersection Capacity Utilization 58.4% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 7: S Mayberry Dr & Village Main St



Lanes, Volumes, Timings
15: Village Main St

05/05/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	489	203	0	0	5	173	5	196	5	0	0	0
Future Volume (vph)	489	203	0	0	5	173	5	196	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.868			0.997				
Flt Protected	0.950							0.999				
Satd. Flow (prot)	1770	1863	0	0	1617	0	0	3525	0	0	0	0
Flt Permitted	0.525							0.999				
Satd. Flow (perm)	978	1863	0	0	1617	0	0	3525	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					188			3				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		444			427			384				446
Travel Time (s)		10.1			9.7			8.7				10.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	532	221	0	0	5	188	5	213	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	532	221	0	0	193	0	0	223	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	100			100		20	100				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	6			6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	7	4			8			2				
Permitted Phases	4						2					

Lanes, Volumes, Timings
15: Village Main St

05/05/2023

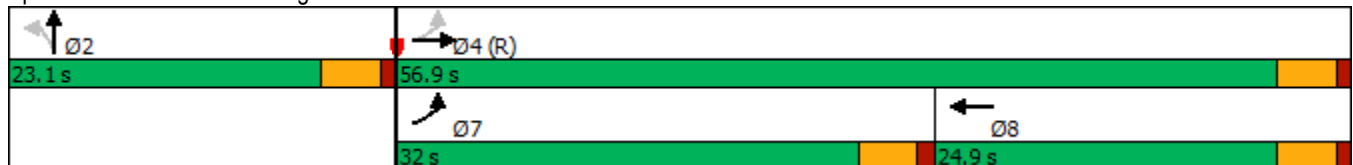


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0				
Minimum Split (s)	22.5	22.5			22.5		22.5	22.5				
Total Split (s)	32.0	56.9			24.9		23.1	23.1				
Total Split (%)	40.0%	71.1%			31.1%		28.9%	28.9%				
Maximum Green (s)	27.5	52.4			20.4		18.6	18.6				
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0			0.0				
Total Lost Time (s)	4.5	4.5			4.5			4.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	C-Max			None		Max	Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	52.4	52.4			29.9			18.6				
Actuated g/C Ratio	0.66	0.66			0.37			0.23				
v/c Ratio	0.65	0.18			0.27			0.27				
Control Delay	6.8	2.9			4.9			25.9				
Queue Delay	0.5	0.0			0.0			0.0				
Total Delay	7.2	2.9			4.9			25.9				
LOS	A	A			A			C				
Approach Delay		6.0			4.9			25.9				
Approach LOS		A			A			C				

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 68 (85%), Referenced to phase 4:EBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 55.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 15: Village Main St



Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	18	5	5	5	0	0	0	0	110	119	31
Future Vol, veh/h	0	18	5	5	5	0	0	0	0	110	119	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	5	5	5	0	0	0	0	120	129	34

Major/Minor	Minor2		Minor1			Major2			
Conflicting Flow All	-	386	146	399	403	-	0	0	0
Stage 1	-	386	-	0	0	-	-	-	-
Stage 2	-	0	-	399	403	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	548	901	561	536	0	-	-	-
Stage 1	0	610	-	-	-	0	-	-	-
Stage 2	0	-	-	627	600	0	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	-	548	901	542	536	-	-	-	-
Mov Cap-2 Maneuver	-	548	-	542	536	-	-	-	-
Stage 1	-	610	-	-	-	-	-	-	-
Stage 2	-	-	-	603	600	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	11.3		11.8			
HCM LOS	B		B			

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	599	539	-	-	-
HCM Lane V/C Ratio	0.042	0.02	-	-	-
HCM Control Delay (s)	11.3	11.8	-	-	-
HCM Lane LOS	B	B	-	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	18	110	0	5	5	97	5	82	5	0	0	0
Future Vol, veh/h	18	110	0	5	5	97	5	82	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	120	0	5	5	105	5	89	5	0	0	0

Major/Minor	Minor2		Minor1		Major1				
Conflicting Flow All	157	104	-	162	102	92	0	0	0
Stage 1	0	0	-	102	102	-	-	-	-
Stage 2	157	104	-	60	0	-	-	-	-
Critical Hdwy	7.12	6.52	-	7.12	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	-	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	3.518	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	809	786	0	803	788	965	-	-	-
Stage 1	-	-	0	904	811	-	-	-	-
Stage 2	845	809	0	-	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	717	786	-	709	788	965	-	-	-
Mov Cap-2 Maneuver	717	786	-	709	788	-	-	-	-
Stage 1	-	-	-	904	811	-	-	-	-
Stage 2	748	809	-	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	10.7		9.3			
HCM LOS	B		A			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	776	954
HCM Lane V/C Ratio	-	-	-	0.179	0.116
HCM Control Delay (s)	-	-	-	10.7	9.3
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.7	0.4

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Postive Place
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	AM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community Full Sk...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	191	7	5	0	5	2	102	0	5	194	4	0	44	63	66
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	214	8	6	0	6	2	114	0	6	217	4	0	49	71	74
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		228			122			227			194	
Entry Volume, veh/h		221			118			220			188	
Circulating Flow (v _c), pc/h	126			437			271			14		
Exiting Flow (v _{ex}), pc/h	61			82			545			83		
Capacity (c _{PCE}), pc/h		1214			884			1047			1360	
Capacity (c), veh/h		1178			858			1016			1321	
v/c Ratio (x)		0.19			0.14			0.22			0.14	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		4.7			5.6			5.6			3.9	
Lane LOS		A			A			A			A	
95% Queue, veh		0.7			0.5			0.8			0.5	
Approach Delay, s/veh	4.7			5.6			5.6			3.9		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	4.9						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Postive Place
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	PM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community Full Sk...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	133	5	5	0	5	4	69	0	5	130	2	0	133	189	176
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	149	6	6	0	6	4	77	0	6	146	2	0	149	212	197
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		161			87			154			558	
Entry Volume, veh/h		156			84			150			542	
Circulating Flow (v _c), pc/h	367			301			304			16		
Exiting Flow (v _{ex}), pc/h	157			207			372			224		
Capacity (c _{PCE}), pc/h		949			1015			1012			1358	
Capacity (c), veh/h		921			986			983			1318	
v/c Ratio (x)		0.17			0.09			0.15			0.41	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		5.6			4.4			5.1			6.7	
Lane LOS		A			A			A			A	
95% Queue, veh		0.6			0.3			0.5			2.1	
Approach Delay, s/veh	5.6			4.4			5.1			6.7		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	6.0						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Boulevard 2
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	AM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community Full Sk...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	14	18	5	0	3	21	5	0	35	7	7	0	6	34	5
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	16	20	6	0	3	24	6	0	39	8	8	0	7	38	6
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		42			33			55			51	
Entry Volume, veh/h		41			32			53			50	
Circulating Flow (v _c), pc/h	48			63			43			66		
Exiting Flow (v _{ex}), pc/h	35			69			30			47		
Capacity (c _{PCE}), pc/h		1314			1294			1321			1290	
Capacity (c), veh/h		1276			1256			1282			1253	
v/c Ratio (x)		0.03			0.03			0.04			0.04	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.1			3.1			3.1			3.2	
Lane LOS		A			A			A			A	
95% Queue, veh		0.1			0.1			0.1			0.1	
Approach Delay, s/veh	3.1			3.1			3.1			3.2		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	3.1						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Boulevard 2
Date Performed	4/26/2023		N/S Street Name	Springs
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	PM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community Full Sk...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	10	26	5	0	10	24	5	0	24	5	5	0	19	108	5
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v _{PCE}), pc/h	0	11	29	6	0	11	27	6	0	27	6	6	0	21	121	6
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway, s		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		46			44			39			148	
Entry Volume, veh/h		45			43			38			144	
Circulating Flow (v _c), pc/h	153			44			61			65		
Exiting Flow (v _{ex}), pc/h	56			60			23			138		
Capacity (c _{PCE}), pc/h		1181			1319			1297			1291	
Capacity (c), veh/h		1146			1281			1259			1254	
v/c Ratio (x)		0.04			0.03			0.03			0.11	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.5			3.1			3.1			3.8	
Lane LOS		A			A			A			A	
95% Queue, veh		0.1			0.1			0.1			0.4	
Approach Delay, s/veh	3.5			3.1			3.1			3.8		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	3.5						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Springs
Date Performed	4/26/2023		N/S Street Name	Mayberry Drive
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	AM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community Full Sk...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LT				TR								LR			
Volume (V), veh/h	5	36	5		5		5	105					5	30		13
Percent Heavy Vehicles, %	3	3	3		3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	6	40	6		6		6	118					6	34		15
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763						4.9763	
Follow-Up Headway, s		2.6087			2.6087						2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		52			130						55	
Entry Volume, veh/h		50			126						53	
Circulating Flow (v _c), pc/h	46			52			98			18		
Exiting Flow (v _{ex}), pc/h	46			27			164			0		
Capacity (c _{PCE}), pc/h		1317			1309						1355	
Capacity (c), veh/h		1278			1271						1315	
v/c Ratio (x)		0.04			0.10						0.04	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.1			3.6						3.1	
Lane LOS		A			A						A	
95% Queue, veh		0.1			0.3						0.1	
Approach Delay, s/veh	3.1			3.6						3.1		
Approach LOS	A			A						A		
Intersection Delay, s/veh LOS	3.4						A					

HCS Roundabouts Report

General Information

Site Information

Analyst	HDR		Intersection	
Agency or Co.			E/W Street Name	Springs
Date Performed	4/26/2023		N/S Street Name	Mayberry Drive
Analysis Year			Analysis Time Period, hrs	0.25
Time Analyzed	PM Peak		Peak Hour Factor	0.92
Project Description	Mayberry Community Full Sk...		Jurisdiction	El Paso County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Lane Assignment	LT				TR								LR			
Volume (V), veh/h	5	24	5		5		5	72					5	93		38
Percent Heavy Vehicles, %	3	3	3		3		3	3					3	3		3
Flow Rate (v _{PCE}), pc/h	6	27	6		6		6	81					6	104		43
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1								1			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s		4.9763			4.9763						4.9763	
Follow-Up Headway, s		2.6087			2.6087						2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		39			93						153	
Entry Volume, veh/h		38			90						149	
Circulating Flow (v _c), pc/h	116			39			155			18		
Exiting Flow (v _{ex}), pc/h	116			55			114			0		
Capacity (c _{PCE}), pc/h		1226			1326						1355	
Capacity (c), veh/h		1190			1288						1315	
v/c Ratio (x)		0.03			0.07						0.11	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.3			3.4						3.6	
Lane LOS		A			A						A	
95% Queue, veh		0.1			0.2						0.4	
Approach Delay, s/veh	3.3			3.4						3.6		
Approach LOS	A			A						A		
Intersection Delay, s/veh LOS	3.5						A					

Lanes, Volumes, Timings
7: S Mayberry Dr & Village Main St

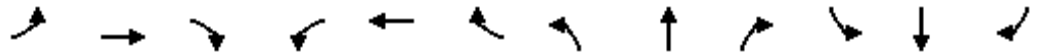
05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	495	5	5	5	0	0	0	0	63	228	511
Future Volume (vph)	0	495	5	5	5	0	0	0	0	63	228	511
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999										0.850
Flt Protected					0.976						0.989	
Satd. Flow (prot)	0	1861	0	0	1818	0	0	0	0	0	1842	1583
Flt Permitted					0.871						0.989	
Satd. Flow (perm)	0	1861	0	0	1622	0	0	0	0	0	1842	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1										555
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		456			444			387			456	
Travel Time (s)		10.4			10.1			8.8			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	538	5	5	5	0	0	0	0	68	248	555
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	543	0	0	10	0	0	0	0	0	316	555
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	100					20	100	20
Trailing Detector (ft)		0		0	0					0	0	0
Detector 1 Position(ft)		0		0	0					0	0	0
Detector 1 Size(ft)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Detector Phase		4		8	8					6	6	6
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	5.0

Lanes, Volumes, Timings
 7: S Mayberry Dr & Village Main St

05/05/2023

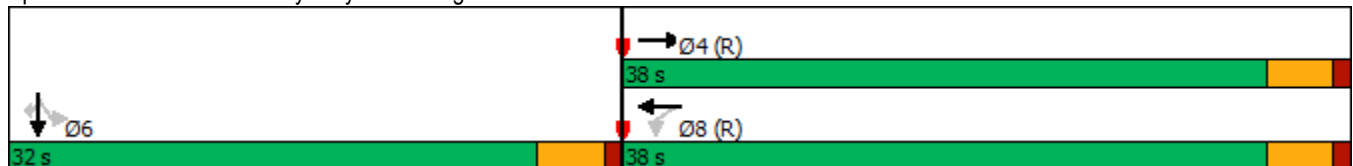


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	22.5
Total Split (s)		38.0		38.0	38.0					32.0	32.0	32.0
Total Split (%)		54.3%		54.3%	54.3%					45.7%	45.7%	45.7%
Maximum Green (s)		33.5		33.5	33.5					27.5	27.5	27.5
Yellow Time (s)		3.5		3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		4.5			4.5						4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		C-Max	C-Max					Max	Max	Max
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0					0	0	0
Act Effct Green (s)		33.5			33.5						27.5	27.5
Actuated g/C Ratio		0.48			0.48						0.39	0.39
v/c Ratio		0.61			0.01						0.44	0.58
Control Delay		17.1			9.2						18.0	4.3
Queue Delay		0.0			0.0						0.0	0.0
Total Delay		17.1			9.2						18.0	4.3
LOS		B			A						B	A
Approach Delay		17.1			9.2						9.2	
Approach LOS		B			A						A	

Intersection Summary


















Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 60 (86%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 12.2 Intersection LOS: B
 Intersection Capacity Utilization 49.3% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 7: S Mayberry Dr & Village Main St



Lanes, Volumes, Timings
15: Village Main St

05/05/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	495	63	0	0	5	298	5	696	5	0	0	0
Future Volume (vph)	495	63	0	0	5	298	5	696	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.867			0.999				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1863	0	0	1615	0	0	3536	0	0	0	0
Flt Permitted	0.330											
Satd. Flow (perm)	615	1863	0	0	1615	0	0	3536	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					92			1				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		444			427			384				446
Travel Time (s)		10.1			9.7			8.7				10.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	538	68	0	0	5	324	5	757	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	538	68	0	0	329	0	0	767	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	100			100		20	100				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	6			6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	7	4			8			2				
Permitted Phases	4						2					

Lanes, Volumes, Timings
15: Village Main St

05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0				
Minimum Split (s)	9.5	22.5			22.5		22.5	22.5				
Total Split (s)	22.0	47.0			25.0		23.0	23.0				
Total Split (%)	31.4%	67.1%			35.7%		32.9%	32.9%				
Maximum Green (s)	17.5	42.5			20.5		18.5	18.5				
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0			0.0				
Total Lost Time (s)	4.5	4.5			4.5			4.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	C-Max			None		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		11.0			11.0		11.0	11.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	42.5	42.5			21.7			18.5				
Actuated g/C Ratio	0.61	0.61			0.31			0.26				
v/c Ratio	0.84	0.06			0.58			0.82				
Control Delay	15.3	1.7			19.8			33.1				
Queue Delay	0.0	0.0			0.0			0.0				
Total Delay	15.3	1.7			19.8			33.1				
LOS	B	A			B			C				
Approach Delay		13.7			19.8			33.1				
Approach LOS		B			B			C				

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 4:EBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 23.7
 Intersection LOS: C
 Intersection Capacity Utilization 76.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 15: Village Main St



Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↷						↷	
Traffic Vol, veh/h	0	30	5	5	5	0	0	0	0	46	173	10
Future Vol, veh/h	0	30	5	5	5	0	0	0	0	46	173	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	33	5	5	5	0	0	0	0	50	188	11

Major/Minor	Minor2		Minor1			Major2			
Conflicting Flow All	-	294	194	313	299	-	0	0	0
Stage 1	-	294	-	0	0	-	-	-	-
Stage 2	-	0	-	313	299	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	617	847	640	613	0	-	-	-
Stage 1	0	670	-	-	-	0	-	-	-
Stage 2	0	-	-	698	666	0	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	-	617	847	610	613	-	-	-	-
Mov Cap-2 Maneuver	-	617	-	610	613	-	-	-	-
Stage 1	-	670	-	-	-	-	-	-	-
Stage 2	-	-	-	660	666	-	-	-	-

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

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	642	611	-	-	-
HCM Lane V/C Ratio	0.059	0.018	-	-	-
HCM Control Delay (s)	11	11	-	-	-
HCM Lane LOS	B	B	-	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	30	46	0	0	5	181	5	486	5	0	0	0
Future Vol, veh/h	30	46	0	0	5	181	5	486	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	50	0	0	5	197	5	528	5	0	0	0
Major/Minor	Minor2		Minor1		Major1							
Conflicting Flow All	642	543	-	-	541	531	0	0	0			
Stage 1	0	0	-	-	541	-	-	-	-			
Stage 2	642	543	-	-	0	-	-	-	-			
Critical Hdwy	7.12	6.52	-	-	6.52	6.22	4.12	-	-			
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-	-	-			
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-	-	-			
Follow-up Hdwy	3.518	4.018	-	-	4.018	3.318	2.218	-	-			
Pot Cap-1 Maneuver	387	447	0	0	448	548	-	-	-			
Stage 1	-	-	0	0	521	-	-	-	-			
Stage 2	463	520	0	0	-	-	-	-	-			
Platoon blocked, %												
Mov Cap-1 Maneuver	246	447	-	-	448	548	-	-	-			
Mov Cap-2 Maneuver	246	447	-	-	448	-	-	-	-			
Stage 1	-	-	-	-	521	-	-	-	-			
Stage 2	294	520	-	-	-	-	-	-	-			
Approach	EB		WB		NB							
HCM Control Delay, s	19.1		15.4									
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WB Ln1							
Capacity (veh/h)	-	-	-	338	545							
HCM Lane V/C Ratio	-	-	-	0.244	0.371							
HCM Control Delay (s)	-	-	-	19.1	15.4							
HCM Lane LOS	-	-	-	C	C							
HCM 95th %tile Q(veh)	-	-	-	0.9	1.7							

Lanes, Volumes, Timings
7: S Mayberry Dr & Village Main St

05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	489	5	5	5	0	0	0	0	203	679	553
Future Volume (vph)	0	489	5	5	5	0	0	0	0	203	679	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999										0.850
Flt Protected					0.976						0.989	
Satd. Flow (prot)	0	1861	0	0	1818	0	0	0	0	0	1842	1583
Flt Permitted					0.820						0.989	
Satd. Flow (perm)	0	1861	0	0	1527	0	0	0	0	0	1842	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1										601
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		456			444			387			456	
Travel Time (s)		10.4			10.1			8.8			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	532	5	5	5	0	0	0	0	221	738	601
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	537	0	0	10	0	0	0	0	0	959	601
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	100					20	100	20
Trailing Detector (ft)		0		0	0					0	0	0
Detector 1 Position(ft)		0		0	0					0	0	0
Detector 1 Size(ft)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Detector Phase		4		8	8					6	6	6
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0					5.0	5.0	5.0

Lanes, Volumes, Timings
7: S Mayberry Dr & Village Main St

05/05/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)		22.5		22.5	22.5					22.5	22.5	22.5
Total Split (s)		31.0		31.0	31.0					49.0	49.0	49.0
Total Split (%)		38.8%		38.8%	38.8%					61.3%	61.3%	61.3%
Maximum Green (s)		26.5		26.5	26.5					44.5	44.5	44.5
Yellow Time (s)		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
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		4.5			4.5						4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		C-Max	C-Max					Max	Max	Max
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0		11.0	11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0					0	0	0
Act Effct Green (s)		26.5			26.5					44.5	44.5	44.5
Actuated g/C Ratio		0.33			0.33					0.56	0.56	0.56
v/c Ratio		0.87			0.02					0.94	0.52	0.52
Control Delay		42.2			17.8					26.5	1.3	1.3
Queue Delay		0.0			0.0					0.0	0.0	0.0
Total Delay		42.2			17.8					26.5	1.3	1.3
LOS		D			B					C	A	A
Approach Delay		42.2			17.8					16.8		
Approach LOS		D			B					B		

Intersection Summary


















Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	70 (88%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	23.3
Intersection LOS:	C
Intersection Capacity Utilization:	80.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 7: S Mayberry Dr & Village Main St



Lanes, Volumes, Timings
15: Village Main St

05/05/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	489	203	0	0	5	210	5	471	5	0	0	0
Future Volume (vph)	489	203	0	0	5	210	5	471	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.868			0.999				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1863	0	0	1617	0	0	3536	0	0	0	0
Flt Permitted	0.481											
Satd. Flow (perm)	896	1863	0	0	1617	0	0	3536	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					187			1				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		444			427			384				446
Travel Time (s)		10.1			9.7			8.7				10.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	532	221	0	0	5	228	5	512	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	532	221	0	0	233	0	0	522	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	100			100		20	100				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	6			6		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	7	4			8			2				
Permitted Phases	4						2					

Lanes, Volumes, Timings
15: Village Main St

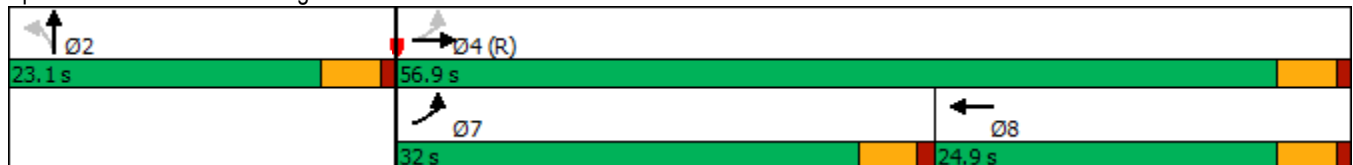
05/05/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0		5.0	5.0				
Minimum Split (s)	22.5	22.5			22.5		22.5	22.5				
Total Split (s)	32.0	56.9			24.9		23.1	23.1				
Total Split (%)	40.0%	71.1%			31.1%		28.9%	28.9%				
Maximum Green (s)	27.5	52.4			20.4		18.6	18.6				
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0			0.0				
Total Lost Time (s)	4.5	4.5			4.5			4.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	C-Max			None		Max	Max				
Walk Time (s)	7.0	7.0			7.0		7.0	7.0				
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	52.4	52.4			29.9			18.6				
Actuated g/C Ratio	0.66	0.66			0.37			0.23				
v/c Ratio	0.68	0.18			0.32			0.64				
Control Delay	7.3	3.0			7.0			31.7				
Queue Delay	0.7	0.0			0.0			0.0				
Total Delay	7.9	3.0			7.0			31.7				
LOS	A	A			A			C				
Approach Delay		6.5			7.0			31.7				
Approach LOS		A			A			C				

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 68 (85%), Referenced to phase 4:EBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 15.3
 Intersection LOS: B
 Intersection Capacity Utilization 64.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 15: Village Main St



Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	19	5	5	5	0	0	0	0	157	520	32
Future Vol, veh/h	0	19	5	5	5	0	0	0	0	157	520	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	5	5	5	0	0	0	0	171	565	35

Major/Minor	Minor2		Minor1				Major2			
Conflicting Flow All	-	925	583	938	942	-	-	0	0	0
Stage 1	-	925	-	0	0	-	-	-	-	-
Stage 2	-	0	-	938	942	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	269	512	244	263	0	-	-	-	-
Stage 1	0	348	-	-	-	0	-	-	-	-
Stage 2	0	-	-	317	342	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	269	512	227	263	-	-	-	-	-
Mov Cap-2 Maneuver	-	269	-	227	263	-	-	-	-	-
Stage 1	-	348	-	-	-	-	-	-	-	-
Stage 2	-	-	-	295	342	-	-	-	-	-

Approach	EB		WB				SB		
HCM Control Delay, s	18.2		20.4						
HCM LOS	C		C						

Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR
Capacity (veh/h)	299	244	-	-	-
HCM Lane V/C Ratio	0.087	0.045	-	-	-
HCM Control Delay (s)	18.2	20.4	-	-	-
HCM Lane LOS	C	C	-	-	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	-

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	19	157	0	0	5	125	5	346	5	0	0	0
Future Vol, veh/h	19	157	0	0	5	125	5	346	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	171	0	0	5	136	5	376	5	0	0	0

Major/Minor	Minor2		Minor1		Major1		
Conflicting Flow All	459	391	-	-	389	379	0
Stage 1	0	0	-	-	389	-	-
Stage 2	459	391	-	-	0	-	-
Critical Hdwy	7.12	6.52	-	-	6.52	6.22	4.12
Critical Hdwy Stg 1	-	-	-	-	5.52	-	-
Critical Hdwy Stg 2	6.12	5.52	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	4.018	3.318	2.218
Pot Cap-1 Maneuver	512	545	0	0	546	668	-
Stage 1	-	-	0	0	608	-	-
Stage 2	582	607	0	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	405	545	-	-	546	668	-
Mov Cap-2 Maneuver	405	545	-	-	546	-	-
Stage 1	-	-	-	-	608	-	-
Stage 2	459	607	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	15.7	11.9	
HCM LOS	C	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	525	662
HCM Lane V/C Ratio	-	-	-	0.364	0.213
HCM Control Delay (s)	-	-	-	15.7	11.9
HCM Lane LOS	-	-	-	C	B
HCM 95th %tile Q(veh)	-	-	-	1.7	0.8